Collaboration in a Multimedia Environment
World-building and Design Strategy in Music Production

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Abstract

This practice-based MPhil submission contains two elements, video recordings of my current practice in collaborative art, and an exegesis that contextualizes this practice. As part of this research, three artists from different backgrounds have worked together on the transformation of a musical album into a stage performance. The transformation of a symbolic space into a Multimedia Environment has been realized through the development of three prototypes. This iterative design process, based on improvisation, is described and evaluated from the perspective of the reflective practitioner. The artefact as practical element discussed in this exegesis is presented on an accompanying DVD.

The advance and democratization of technology continuously provides new opportunities for artists to express themselves, as well as for audiences to experience and engage with works of art in new ways. This development gives rise to questions regarding human-technology interaction and has been generating an increase of interest in collaborative design and the distribution of creativity. This is clearly visible in the fields of filmmaking and game design, in which the construction of 'story worlds' and complex narrative structures has led to the development of network-based and nonlinear models for production and distribution of media. As part of an emerging discourse on design strategy for decentralized music production, this research expands the notion of transmedia storytelling and the appropriation of the concept of world-building in the field of music production.

As a result, this research presents key issues regarding design strategy and collaboration in a Multimedia Environment, in particular, key issues related to the transformation and distribution of resources, the synchronisation of design processes, and support of involvement and engagement of participants. This research has led to the conclusion that the construction of 'story worlds' as a design strategy in artistic practice, and the field of music production in particular, supports the distribution of creativity and the development of a participatory structure.

Keywords: *collaboration, world-building, music production, design strategy, participatory design, distributed creativity, transmedia storytelling, stage performance, meta-design, multimedia*

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List of Contents

1 Introduction 9

1.1 Background 9

1.2 Motivation 9

1.3 Context to the Research 10

1.4 Structure of the Exegesis 11

2 Practice-based Research and my Choice of Methods 12

2.1 Transforming my Practice 12

2.1.1 A practical and playful Approach 12

2.1.2 Action Research and Reflective Practice 13

2.1.3 Note on Describing Experience 15

2.2 Change of Discourse and Progression of Research 16

2.2.1 Progression of Research Strategy 17

2.3 The 'Darkness Walks' Project 18

2.3.1 Background to the Narrative 18

2.3.2 Note on Improvisation 19

2.3.3 Creative, Technological and Organizational Challenges 19

2.3.4 Music Production: A Process of Transformation 20

3 Critical Review 21

3.1 Understanding World-building 21

3.1.1 Building an Imaginary World 22

3.1.2 Saturn and Aquapolis 23

3.1.3 Example: Year Zero 25

3.1.4 World-building as Design Strategy 26

3.2 Collaboration, Participation and Interaction 27

3.2.1 Note on the Involvement of the Audience 27

3.2.2 Creating Room for Improvisation 28

3.2.3 Design Strategy in Music Production 29

3.2.4 Distributed Creativity and Collaborative Emergence 31

3.2.5 Developing Participatory Structures 32

3.3 Multimedia Environment 35

3.3.1 Cultural Changes and Implications for my Practice 36

3.3.2 Note on defining Multimedia 37

3.3.3 Example: Biophilia 38
3.3.4 Musical Multimedia 38
3.4 A Multimedia Environment 40

4 Designing a Case Study 42
4.1 Case Study Strategy 43
4.2 Design Cycles and Units of Analysis 45
4.3 Matters to be Considered 46
4.3.1 Aspects of Design Strategy 46
4.3.2 Performances as Musical Multimedia 47
4.4 Relating Practice to Research and Interpretation of Findings 49

5 The 'Darkness Walks' Performances 51
5.1 Presenting the Practical Element 51
5.2 Performance I: BAR 52
5.2.1 Striking Aspects of Design Strategy I 54
5.2.2 Relating Design Strategy to the Artefact I 55
5.2.3 Evaluation of Design Cycle I 56
5.3 Performance II: Kapitaal 57
5.3.1 Striking Aspects of Design Strategy II 58
5.3.2 Relating Design Strategy to the Artefact II 59
5.3.3 Evaluation of Design Cycle II 60
5.4 Performance III: Roodkapje 61
5.4.1 Striking Aspects of Design Strategy III 63
5.4.2 Relating Design Strategy to Artefact III 64
5.4.3 Evaluation of Design Cycle III 65
5.5 Evaluation and Discussion 66
5.5.1 Key Issues for Design Strategy in a Multimedia Environment 67
5.5.2 Underdesign: Anticipation of Improvisation 68
5.5.3 Distribution of Creativity and Transformation of Ownership 69
5.5.4 Learning Environment and Learning Experience 70

6 Conclusions 71
6.1 Developing a Culture of Participation 71
6.1.1 Transformation of my Practice 72
6.2 Suggestions for further Research 73
6.2.1 Call for World-building in Educational Context 73

7 References **75**

8 Appendices **81**

8.1 Contents of DVD I *81*

8.1.1 The 'Darkness Walks' Performances Explained (video) 81

8.2 Contents of DVD II *82*

8.2.1 Set of Video Files 82

8.2.2 Set of Audio Files 83

8.2.3 Sets of Images 83

8.3 The 'Darkness Walks' Project prior to the MPhil *84*

8.4 Example from my Practice: 'Asterix' *84*

8.5 Notes on Design Cycle I *86*

8.5.1 Preparation and Pre-production 86

8.5.2 Scenario for Performance I 87

8.5.3 Script for Performance I 88

8.5.4 Construction of a Backing-track 89

8.5.5 Monitoring System: Real-time Assessment of Content 91

8.5.6 Real-time Generation and Performance of Video Content 92

8.5.7 Stage Plan I 93

8.6 Notes on Design Cycle II *94*

8.6.1 Developing a Horizontal Workflow 94

8.7 Set of Scripts for Performance III *96*

8.8 Inventory of Striking Aspects of Design Strategy *99*

8.8.1 Summary of Design Cycle I 100

8.8.2 Summary of Design Cycle II 101

8.8.3 Summary of Design Cycle III 102

8.9 Comparative Evaluation of Design Cycles *103*

8.10 Captions and Subtitles (Video Artefact) *104*

8.11 Notes on Final Interview *113*

8.11.1 Interview Questions 113

8.11.2 Highlights of Interview (Dutch) 114

8.12 List of Participants *116*

8.13 About the Author *117*

List of Supplements

DVD I – The 'Darkness Walks' Performances Explained

- The 'Darkness Walks' Performances Explained (Video)

DVD II – Additional Documentation

- Sets of Audio Files
- Sets of Images
- Sets of Video Files

1 Introduction

1.1 Background

As the title of this document suggests, this thesis is about creative people working together. This document contextualizes my artistic practice and describes an interdisciplinary arts project, a collaboration that is concentrated on the translation of a musical concept into a stage performance. Secondly, this research describes the choices I made to transform my practice as a studio-based musician into a reflective practice based on collaboration, which includes a performative dimension. Several of my projects are described below. Related literature and repertoire support the practical nature of my research. This exegesis identifies key issues with regard to collaboration and interaction in a Multimedia environment.

1.2 Motivation

During recent years, I have been initiating and participating in an increasing number of creative collaborations related to music, visuals arts and design. Over the past two years I have been inviting musicians, recording artists and audio engineers, visual artists and creative professionals to collaborate in projects – or initiate new projects – to create and perform together. While working on improving my art and the way I make art (collaboration) and during earlier studies at HKU University of the Arts Utrecht, Music and Technology (HKU), I felt the need to contextualize the meaningful insights and understanding that I gained. The opportunity to progress my research to the post-graduate degree of MPhil in collaboration with the Bournemouth University (BU) enabled me to examine my creative practice intensely and substantiate my research.
In addition, and equally important, I would like to make my own contribution to the emerging fields of immersive design and world-building by way of this research, and to

the professional practice and discourse related to contemporary music production. Wholeheartedly, I embraced this opportunity to take my practice-based research a step further to the level of academic research and to develop my academic skills in the process. I started the MPhil track with one initial research question in mind: How can I transform my practice and improve the quality of my work?

1.3 Context to the Research

As a result of technological advances and cultural changes, as eloquently described by Jeroen van Iterson (2011) and Kees Went (2014), contemporary discourse on *transmedia storytelling* (Jenkins 2008) and related discourse on *world-building* (Wolf, 2013) have been concentrated on the development of symbolic space occupied by complex narrative structures: a story world. In addition, emerging design strategies aim to facilitate complex network-based collaboration between professionals from different backgrounds, and support the engagement and participation of the audience and users in nonlinear media. Such development is clearly visible in the fields of filmmaking and game design; the discourse is focussed on digital technology. A similar discourse is less apparent in music production. However, prolific artists such as Trent Reznor, Björk and Sun Ra have been substantiating narrative concepts and musical ideas through multiple types of media, across a multiplicity of channels and platforms. Their work exemplifies an artistic approach to transmedia storytelling and world-building. The intricate narratives as conceived and presented by Sun Ra (Herman Poole Blount) or Ziggy Stardust (David Bowie) that are represented and substantiated through various media and across several platforms, can be considered as quintessential examples of transmedia storytelling and world-building *avant la lettre*.

This research identifies key issues that can assist creative professionals and reflective practitioners in organizing and maintaining collaborative projects, which are based on improvisation. This research attempts to expand the *Wagnerian* notion of the *Gesamtkunstwerk*, as well as the notion of distributed creativity in the context of music and stage performance by exploring emerging design strategies and frameworks for collaboration and participation.

This exegesis describes the understanding I have gained on collaboration in music production, and, in particular, the organisation of collaborative projects and shared creative processes. This research transcends music composition and music production as individual disciplines by incorporating visual arts and design. Hence, this research can assist the contemporary musician and performer in developing performances and *Musical Multimedia* (Cook 1998) productions in the context of artistic practice and collaborative.

1.4 Structure of the Exegesis

This thesis consists of six chapters. In order to signify the practical nature of this research clearly, chapter 2 describes my initial choice of methods and clarifies my capacity (and experience) as a reflective-practitioner. In addition, the research project and the main research question are introduced in this chapter. In the third chapter the context and subject of this research is signified and discussed by literature and repertoire study. In chapter four a case study is constructed that guides the description and analysis of an iterative design process. The research is presented and the case study is evaluated in chapter five. In addition to the research description, a DVD is enclosed that contains annotated video excerpts of three stage performances (prototypes). The coda of this exegesis, the conclusions and recommendations for future research are presented in chapter six.

2 Practice-based Research and my Choice of Methods

> Homo Ludens himself will seek to transform, to recreate, those surroundings, that world, according to his new needs […] an uninterrupted process of creation and re-creation, sustained by a generalized creativity that is manifested in all domains of activity. (Nieuwenhuys 1974)

2.1 Transforming my Practice

As I began this MPhil I studied musical improvisation and performance as a means to improve my compositional and arrangement skills. By exploring improvisation as instant (or real-time) composition, as well as the collective act of making music and performing on a stage, I was able to create and perform a lot new (original) work. This practice-based approach led to the discovery of new tools and instruments, and allowed me to appropriate new technologies. In addition, this approach enabled me to expand my practice as a performing artist (musician) and collaborate with students from the HKU Conservatory, the HKU Music Technology department and other professional musicians from the Netherlands and abroad.

2.1.1 A practical and playful Approach

As I began my research I considered improvisation to be the main subject of study. Since I had experience in playing live music with other musicians as a guitar player, gaining a better understanding of improvisation in a real-life context seemed relevant. As part of my research, I participated in several projects such as the (Composition,

Improvisation and Performance) CIP project[1] and the Ubuntu[2] project – which both centred on real-time composition and improvised music performance. Through composing, improvising and performing with other musicians from different backgrounds I gained a significant amount of practical knowledge and experience of collaboration and interaction in music production, music technology, stage performance and mixed media. From participating in the CIP and Ubuntu projects, I gained a sense of inspiration that guided me in articulating an initial research question (p. 10).

2.1.2 Action Research and Reflective Practice

Initially this research started out as *learning by doing*. As I set out to develop a methodological approach to my practice-based research I became aware of the concepts of action research (McNiff and Whitehead 2011) and experiential learning (Kolb 1984). Action research is described as a form of experiential research and is credited to Kurt Lewin (1946). The *Lewinian* theory of action research can be illustrated in a cyclical model (see figure) that consists of three stages, which allow the evaluation of *learning by doing*.

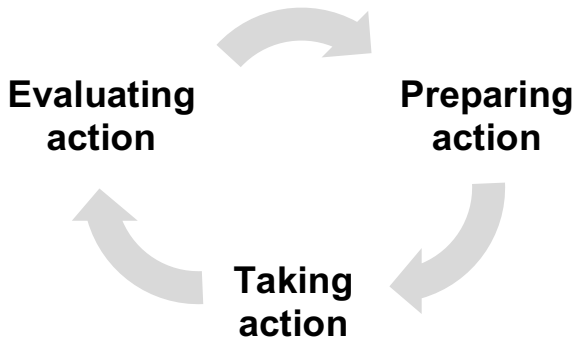

Figure 1: Model for Action Research by Kurt Lewin (n.d.)

[1] The CIP project is an educational project organized by HKU Utrecht School of Arts (HKU) in collaboration with conductor and composer Marc van Vugt. During two weeks of real-time composing and performing improvised material, bachelor and master students of HKU create a great number of musical performances in collaborations of duos or trios. In 2013 the results of this project were presented in a concluding performance at the Utrecht based venue ‘t Muziekhuis.

[2] The Ubuntu project was organised by Baixim Music Productions (Marc van Vugt and Ineke van Doorn) on request of the Peace Treaty of Utrecht in collaboration with the HKU and featured students alongside professional musicians from different nationalities.

As the practical and playful process of creating performances and working with other musicians developed, a methodical approach for evaluation and real-time improvisation in a cyclical and iterative process developed, based on the *Lewinian* notion of experiential learning.

> In action research, even though there is a conceptual difference between the 'action', the 'research' and the 'participation' involved, such differences begin to disappear during the research project itself. Remember, there is not a linear push through the project (participation research = action). Instead, there are cycles of reflection on actions (past and present), followed by new actions that then themselves become the subject of reflection. The hallmark of action research is that change does not happen at the end of the research project but throughout it. (Harrison 2012)

As the literature study on action research and related discourse progressed as part of this MPhil, this enabled me to analyse and evaluate the transformation of my practice throughout the development of collaborations and performances. As a lecturer at the Utrecht University of Applied Sciences (HU), Communication, Multimedia and Design (CMD) department, I was familiar with the notion of the reflective practitioner and various models for reflective practice (Schön 1983; Gibb 1988; Korthagen 2001). The understanding I gained from initial action-based research resulted in the awareness of a significant connection between my design practice, educational practice and my practice as a musician; as these capacities converged in an integrated practice of a reflective practitioner (Schön 1983).

As the research progressed, several reflective models were reviewed for describing the research in this exegesis. By adopting the capacity of a reflective practitioner, this perspective enabled me to formulate and articulate collaborative processes and design strategies more effectively. Notably, Experiential Learning Model (ELM) by Dieter Kolb (1984) offered a four-stage sequence that allowed for the description of experience, as a 'concrete experience', and the adequate articulation of the collaborative processes of developing performances from the perspective of the reflective practitioner (see figure).

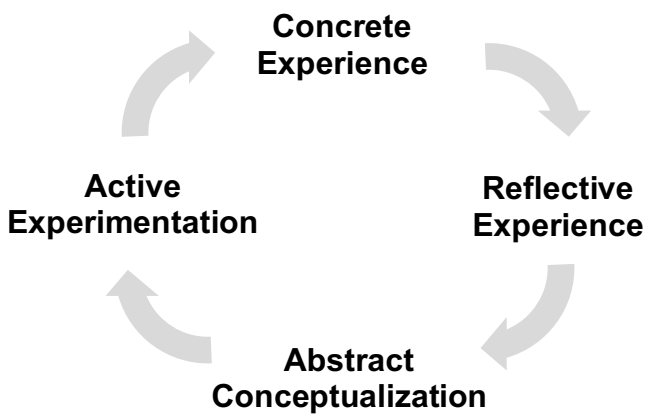

Figure 2: Experiential Learning Model (Kolb 1984)

Contrary to the *Lewinian* model for action research, Kolb identifies four stages as part of learning cycle and as individual learning styles. Therefore, the activity of *learning by doing* implies the continuous emergence of insights and activity throughout in terms of reflective practice. Or as Kolb states: "learning is the process whereby knowledge is created through the transformation of experience" (Kolb 1984, p. 38). This resonates throughout this MPhil submission and has been adopted as part of the Research Strategy.

2.1.3 Note on Describing Experience

As research progressed through the reflective practice of developing and creating improvised musical performances, a methodical approach developed in the process. The Experiential Learning Model (Figure 2) allowed focus on experience and interaction between participants. In analysing and describing experience, I found a significant challenge due to the unpredictability and complexity of human behaviour and a general focus on actions. As I gained better understanding of action research through writings by several key figures (McNiff and Whitehead 2011), I concluded that the description of 'experience' might be a possible trap for the research. In confronting this challenge, Blichfeldt and Andersen (2006) offer guidance in establishing a methodical approach in action research[3] as part of (my) reflective practice. In particular, Blichfeldt and Andersen (2006) cite Street and Meister (2004) concerning research outputs:

[3] See http://jrp.icaap.org/index.php/jrp/article/view/23/43 [Accessed 12 June 2014]

"the research outputs must have a broader interest and theoretical significance if the work is to be truly differentiated from, as many critics characterize it, consulting (Street and Meister in Blichtfeldt and Andersen 2006, p. 6)". Blichtfeldt and Andersen also state: "[…] in order to communicate to a wider audience, action researchers have to recognise and specify those results which accumulate within and between action research projects, in an incremental manner" (Ibid. p. 6).

2.2 Change of Discourse and Progression of Research

This practice-based MPhil research has been initiated as a form of action research. In order to progress the research and guide the contextualization of the practical element further, a change of discourse and methodology was appropriated in support of the transparency of this MPhil submission. In order to support the generalisation of action research and "create a wider audience" (Blichfeldt and Andersen 2006, p. 5). Blichfeldt and Andersen (ibid.) identify four key tasks:

> (a) increasing the transparency of […] research processes, (b) declaring the intellectual frameworks brought into action research projects, (c) discussing transferability of findings, and (d) defining accumulation of results. (Blichfeldt and Andersen 2006, p. 5)

To provide transparency and rigour in analysis and synthesis, a case study methodology has been adopted (Yin 1994), the design of which is presented and described in chapter 4. This progression in Research Strategy enabled this study to progress from local theories and subjective personal experience(s) towards "a broader interest and theoretical significance if the work is to be truly differentiated from […] consulting" (Street and Meister, 2004 cited in Blichfeldt and Andersen, 2006, p. 6). As a result, I initiated a change in discourse that allowed the transformation of the general field of interest – the improvement of my works or practice – into a specific and significant subject. The change of discourse allowed the articulation of the main research question: **how can world-building support collaboration and interaction in a Multimedia environment?**

2.2.1 Progression of Research Strategy

Robert Yin states "case studies are the generally preferred strategy when "how" or "why" questions are being posed (1994, p. 1)". In order to support transparency of the research and "present action research as a discussable form of research practice (Blichfeldt and Andersen 2006, p. 7)", the development of the 'Darkness Walks' performance has been analysed in a case study. To underline the progression of Research Strategy this is illustrated in the figure below (see figure).

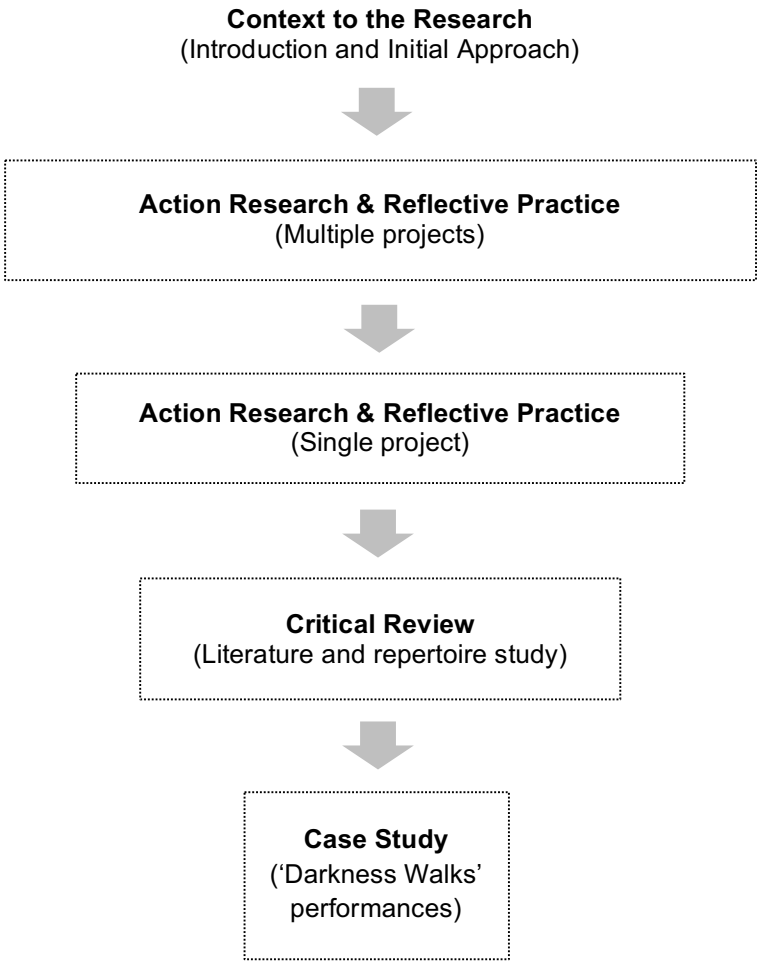

Figure III: Progression of the Research Strategy (overview)

2.3 The 'Darkness Walks' Project

In the case of this research, the transformation of my practice as described in Chapter 1 can be illustrated by the 'Darkness Walks' (DW) project. In order to clarify in what capacity this project contributed to the transformation of my creative practice, the general background and aim of the DW project is first described.

2.3.1 Background to the Narrative

As a creative experiment in transmedia storytelling, a fictional country called Ausland was conceived [by the author] in 2005. The 'Darkness Walks' narrative is one of many stories that are part of an on-going experiment in world-building (Wolf 2013) and gives shape and substance to the representation of a symbolic space: a story world. In this stage of the exegesis, world-building (WB) is referred to as a practical approach to transmedia storytelling (ibid), and as such it will be described and discussed in Chapter 3.

Due to a sense of inspiration generated by the novel *Darkness Walks: The Shadow People among us* by Jason Offutt (2009), I created several musical pieces using synthesizers and a Digital Audio Workstation (DAW)[4]. Driven by a desire to transform my practice, I produced and published[5] a musical album entitled 'Darkness Walks' in collaboration with Jasper Barendregt (drummer and percussionist) and Wesley Wong (mixing engineer). The term *album* was deliberately chosen here. It is important to note that, as such, it refers to a mix of media and multiple types of content that included music, printed matter, video and performance which were distributed across several platforms. In this sense, the traditional notion of the term 'album' as a singular musical publication format (e.g. LP, CD or Cassette) has been expanded in the context of my current practice. As a phenomenon this is often referred to as transmedia storytelling (Jenkins 2008) in contemporary media studies.

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[4] A Digital Audio Workstation (DAW) is an electronic device or computer software application for recording, editing and producing audio files such as songs, musical pieces, human speech or sound effects [Wikipedia, Accessed 09-10-2015].

[5] See Appendices on DVD II: Film Album, Musical Album, Printed Matter and Artwork

2.3.2 Note on Improvisation

The aforementioned audio content used by musicians during performance is often referred to as a backing track[6]. The pre-recorded and pre-arranged audio content was created to integrate complex musical elements that would have been difficult (or impossible) to recreate outside the context of studio production and during a real-time stage performance. As part of the performance, participants interpreted and improvised visual and musical content atop to the backing track[7]. This process can be described as a form of *top-line writing*. The notions of top-line writing and *jamming* as described by Joe Bennet (In Collins 2013) are helpful in understanding the relation between design activity and the resultant artefact. Jamming is considered by Bennet as the creation of "[…] live stimuli, typically through improvisation of accompaniment […] enabling other writers […] to improvise […] atop (Ibid, p. 158)". Whereas, top-line writing is described as a collaboration where "a complete or almost-complete backing track is supplied to […] who will create melody and lyrics in response to its stimulus. (ibid)".

2.3.3 Creative, Technological and Organizational Challenges

As we worked together, we encountered several challenges related to the organization and distribution of various content types, the synchronization of organizational and creative processes and building a shared creative vision. The issues we encountered increased in complexity after we had decided to transform the studio album into a stage performance. Dealing with these challenges required all participants to contribute in finding or creating practical solutions *ad hoc*. In doing so, the participants developed a mutual understanding through repetition and revision, as Heddon and Milling suggest in *Devising Performance: A Critical History* (2006):

> […] This idea of repetition and revision is one that holds good in theatrical, improvisational performance. A structured set of givens, rules or games can limit and contain the 'spontaneous' input of the performer. As the performance is prepared and then repeatedly performed, experience of a successful range of interactions between performers and audience inevitably builds. (Heddon and Milling 2006, p. 9)

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[6] See https://en.wikipedia.org/wiki/Backing_track [Accessed 20 June 2015]

[7] See Appendix Construction of a Backing-track (p. 86)

In the process of preparing the performances as well as during rehearsals, participants formulate and adapt design strategies in response to various practical issues. In addition, the participants deal with site-specific challenges at several locations, ranging from technicalities to event management, and from promotional activities to logistics as well as hospitality issues.

2.3.4 Music Production: A Process of Transformation

Within the context of this research, the DW project represents the collaborative development of a stage performance. As the aforementioned musical and visual content was created in studio context, three artists from different backgrounds (Roberto Auser Trio) collaborated in transforming a studio album into a stage performance. The collaborative development of this particular stage performance is described is this exegesis. Within the context of this research this process is regarded as "the transformation of studio material to stage" (Iterson 2011, p. 3). Van Iterson provides an ontology of contemporary music production that supports a framework which can be applied to assist the critical analysis of design strategies in (decentralized) music productions.

As the DW project is studied as "the transformation of musical content from one mode to another, containing creative, technological and organisational aspects (ibid, p. 15)", the main research project is examined from the perspective of the music producer as a reflective practitioner. As the DW performances have been developed through a cyclical and iterative process that resulted in three prototypes, the participants dealt with creative, organizational and technological challenges while going through three design cycles.

3 Critical Review

In order to identify and provide specificity on the subject matter of this research, an extensive literature and repertoire study was initiated. As a result, this critical review presents insights and understanding into the subject matter divided across three sections: Understanding World-building; Collaboration and Interaction, and Musical Multimedia. The 'Darkness Walks' (DW) project is part of my practice as an on-going experiment: the development of the fictional 'story world' Ausland. This critical review is initiated with a section in which the notion of (fictional) 'story worlds' is investigated and discussed.

> "All my movies are about strange worlds that you can't go into unless you build them and film them. That's what's so important about film to me. I just like going into strange worlds." – David Lynch (1984)

3.1 Understanding World-building

A tradition in the creation of fictional countries, as well as the appropriation thereof in arts, can be observed clearly in comic books, science fiction movies and related literature and media (Jenkins 2008, Wolf 2013). Notable and well-known examples of fictional countries, cities or planets include the Land of Oz, Gotham City or Krypton, Lilliput or Atlantis, SimCity or the numerous star systems in Star Wars movies. The 'world' investigated during this research is Ausland. This fictional 'world' has been constructed as a constant subject of exploration much in the same way as Marco Polo explored numerous imaginary cities in Italo Calvino's novel *Invisible Cities* (1974). Next to the seminal work of Calvino, I felt inspired by the 'New Babylon' project and the identically entitled pamphlet (1974) by Dutch artist Constant[8] – a member of the international art collective Cobra. Through sculpture and architecture studies Constant displays a conceptual approach to the notion of a fictional city.

[8] Real name: Constant Nieuwenhuys (1920–2005)

> The arena, the card-table, the magic circle, the temple, the stage, the screen, the tennis court, the court of justice, etc., are all in form and function play-grounds, i.e. forbidden spots, isolated, hedged round, hallowed, within which special rules obtain. All are temporary worlds within the ordinary world, dedicated to the performance of an act apart. (Huizinga 1998, p. 10)

3.1.1 Building an Imaginary World

A key discovery in establishing this critical review was the book *Ways of World-making* by Nelson Goodman (1978) in which Goodman describes the *art of world-making*. This led to the discovery of the book *Building Imaginary Worlds: The Theory and History of Subcreation* (Wolf 2013), which allowed me to contextualize and articulate the narrative structure of Ausland as a world-building (WB) concept. As Wolf discusses WB as *subcreation*, this should not be regarded as a discrete system or an inclusive framework. Rather, as Wolf refers to *transmedia* and *trans narrative*, he provides vocabulary to describe the connectedness or correspondence between media as a narrative structure:

> […] the term "world" is not used in the geographic sense (like planets), but in the experiential sense, meaning the sum total of a character's experiences; therefore, an imaginary world could be a planet or galaxy, or more limited in scope, like a continent, a country, or even a city. The fact that it is an imaginary (or "secondary", to use Tolkien's term) world means that it is somehow set apart from the "real" (or "Primary") world, with some boundaries between them, making the secondary world a thing of its own. (Wolf in Jenkins 2013)[9]

From seminal writings of both Jenkins (2008) and Wolf (2013) it appears that notion of WB is predominantly associated with production strategies in film production or game design, and is appropriated in the development of virtual environments using Virtual Reality (VR) technology. As an emerging discourse "the study of imaginary worlds is occurring in a variety of fields (such as philosophy, film studies, psychology, videogame studies, economics, and religion) (Wolf 2013, p. 3)". As discourse on WB in the context of music or music production appears limited to the application music and

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[9] Jenkins, H., 2013. Building Imaginary Worlds: An Interview with Mark J. P. Wolf (Part One). [online]. Available from: http://henryjenkins.org/2013/09/building-imaginary-worlds-an-interview-with-mark-j-p-wolf-part-one.html [Accessed 12 Dec 2014].

sound design in motion picture or game design, this offers possibilities for research in a broader context of music.

3.1.2 Saturn and Aquapolis

The appropriation of WB can be observed clearly in the music culture throughout the twentieth century up to today. The Afro-American artist Sun Ra (Herman Poole Blount) claimed the planet of Saturn as a *heimat*, and developed a grand narrative throughout his career span. As such, the practice of Sun Ra can be regarded as WB and transmedia storytelling (see p. 18) *avant la lettre*. This WB concept is mediated beyond recorded music published on physical media, through performances with a total event or total artwork as a result. Or as Thomas Stanley describes the Sun Ra (meta) narrative in his book *The Execution of Sun Ra Volume II*: "[…] around which he built a splendid thing of music and words, sights and sounds, pretence and performance" (Stanley 2014, p. 136). Furthermore, Stanley proceeds to relate the practice of Sun Ra to the notion of Richard Wagner's *Gesamtkunstwerk*:

> Like Richard Wagner, Sun Ra had an appreciation for the ability of the performing arts to aid and abet the historical maturation of people, not merely provide an artistic chronicle of where people have been […] expressive practice can also throw itself forward and determine, not just respond […] Sun Ra defined his myth as anything that could not be proven true or false (ibid, p. 137-138).

The substantiated ideas of Sun Ra and a culmination of his music, art, costume design and theatre can be observed in the film *Space is the Place* (2003), which was originally written by Sun Ra and published in 1974. James Stinson and Gerald Donald exemplify this tradition in recent years, a Detroit based duo known for their prolific Electronic Dance Music (EDM), often referred to as Detroit Techno. Stinson and Donald worked together under the pseudonym Drexciya, which was named after a self-conceived mythical world – with Aquapolis as capital city – located on the bottom of the Atlantic Ocean, and inhabited by African slaves who did not manage to complete the journey from Africa to America. Similar to the practice of Sun Ra, Drexciya expand their afro-futurist narrative beyond music, for example, with the registration of a celestial object and nomination of a star named 'Grava 4' (Eshun 2003, p. 301). Where Sun Ra can clearly be described as a performing musician, a performance context with regard to Drexciya appears illusive. As an example of WB, Drexciya relies on the power of a *grand* narrative: a mediated performance.

> Afro-futurism approaches contemporary digital music as an intertext of recurring literary quotations that may be cited and used as statements capable of imaginatively reordering chronology and fantasizing history. The lyrical statement is treated as a platform for historical speculation. (ibid, p. 299)

In this sense, Afro-futurism can be regarded as a cultural and a literary aesthetic that can be observed across most domains of creative and artistic practice (and beyond). Or as Eshun states: "a sono-fictional statement that fuses the metaphorical with the juridical, and the synthetic with the cartographic (ibid)", he continuous to describe Drexciya as a "Multimedia project":

> The manufacture, migration, and mutation of concepts and approaches within the fields of the theoretical and the fictional, the digital and the sonic, the visual and the architectural exemplifies the expanded field of Afro-futurism considered as a Multimedia project distributed across the nodes, hubs, rings, and stars of the Black Atlantic. (ibid, p. 301)

The results of this *grand* narrative are distributed "across multiple media platforms, with each medium making a distinctive contribution" (Jenkins 2008, p. 334). This notion of a *story world* substantiated through multiple art forms or media and multiple platforms, or "the art of world making" (ibid) is referred to as *transmedia storytelling* (ibid, p. 21). Furthermore, Henry Jenkins refers to conceptualizing devices, a term coined by New Media Theorist Janet Murray:

> Color-coded paths, time lines, family trees, maps, clocks, calendars, and so on … enables the viewer to grasp the dense psychological and cultural spaces without becoming disoriented. (Jenkins 2008, p. 118).

Wolf mentions *contextualizing devices* such as timelines, maps, cultures and virtual currency in the chapter 'Circles of Authorship' (Wolf 2013, p. 282). "Changes to a world can be categorized according to which infrastructures they affect, and the degree to which players can affect them" (ibid).

> The arena, the card-table, the magic circle, the temple, the stage, the screen, the tennis court, the court of justice, etc., are all in form and function play-grounds, i.e. forbidden spots, isolated, hedged round, hallowed, within which special rules obtain. All are temporary worlds within the ordinary world, dedicated to the performance of an act apart. (Huizinga 1998, p. 10)

Contextualizing devices are used effectively to synchronize content and process (Iterson 2011) across disciplines and platforms. This definition of contextualizing devices resonates in the DW project with the application of a scenario and scripts, which have been used to translate the musical arrangement into a mixed media manifestation. As part of this research contextual devices have been devised as part of a strategy to facilitate the decentral aspects of a design process and to synchronize content, technology and processes.

3.1.3 Example: Year Zero

A prolific example of WB, as well as of Transmedia storytelling, can be observed through *Year Zero* (2007), the Nine Inch Nails publication originally conceived by Trent Reznor. The *Year Zero* narrative is set in a dystopian country and is communicated across several media and platforms. As Frank Rose describes the cross-platform publication *Year Zero* in his book *The Art of Immersion* (2011), Rose cites Reznor:

> The problem was how to provide context for the songs […] he wanted to make sure the story he was telling got through to his fans. In the sixties, concept albums came with extensive liner notes and lots of artwork. MP3s don't have that. "So I started thinking about how to make the world's most elaborate album cover," he said, "using the media of today." (Rose 2011, p. 27)

In anticipation of the publication of the *Year Zero* album, an online (computer) game was developed and released. In addition, T-shirts that were sold at concerts contained hidden messages in the form of secret codes, which led the perceptive fan to a website that contained additional clues needed to discover the online presence of the new publication; thus constructing an intricate narrative mediated through a network environment. This provided fans to enter, access and engage in the album (or story world) at multiple points and through multiple media.

3.1.4 World-building as Design Strategy

Within the context of this research WB is considered as an approach to transmedia storytelling; it provides "a landscape where art and science, design and engineering are inseparable (World Building Institute 2015)" and "at their intersection lies the new creative laboratory for the future of our narrative practices (ibid)". As such, a discourse on WB offers vocabulary to describe a narrative structure, or in the case of this research: the contemporary mythology of Ausland. Secondly, it supports the articulation of creative and strategic choices which substantiated the process of transforming a narrative through multiple media and several types of content into a stage performance. As an emerging discourse on World-building appears closely linked to collaborative design, and the actual research project is situated in the field of music production, the junction of these domains is precisely the area of interest for this research. The term world-building has been popularized by Alex McDowell, founder of the World Building Institute. McDowell (2015) indicates WB to be based on three principles:

> World Building is founded on three beliefs, namely that storytelling is the most powerful system for the advancement of human capability due to its ability to allow the human imagination to precede the realization of thought; that all stories emerge logically and intuitively from the worlds that create them; and that new technologies powerfully enable us to sculpt the imagination into existence (World Building Institute, 2015).

World-building (WB) in the film and game industry appears to be content and technology driven, whereas the notion of WB in arts and creative research can be linked to the emerging discourse of scenario-based design as an engine for dynamic participatory structures and social change. WB provides artists and designers alike with an effective design strategy in dealing with nonlinear media and complex narrative structures. WB provides a space for shared imagination as illustrated in 'Asterix' (see Appendix x), and allows participants to transcend professional languages and idiosyncrasies, thus supporting different fields of practice in a creative collaboration to converge and interact. As such WB is also referred to as the appropriation of immersive design, a design philosophy that supports nonlinear production process in contemporary film production.

> The use of Immersive Design in film leads to a nonlinear production process. A tool like pre-visualization enables a virtual collaborative workspace in which, at an early stage, ideas from different departments can emerge around a script. Subsequently, these ideas can be integrated into the script. (Faber 2010, p. 40)

As the activity of WB is identified as a design strategy for the transformation of a symbolic environment (story world) into a (physical) Multimedia environment, as well as the development of collaborative and nonlinear production processes, this research expands the notion of WB into the fields of music production and stage performance.

3.2 Collaboration, Participation and Interaction

> We work together and we plan our work, building projects and building organizations to realize our projects. We generate communities, societies, and cultures as we do.
> — Ken Friedman (2008, p. 139)

As this research is aimed at the study of a creative collaboration from the perspective of a reflective practitioner (the performing artist) I asked myself: how do people from different backgrounds create, improvise and perform music together, and, how do the dynamics of this participatory structure influence the artistic outcome? How can this collaboration be described? How is this particular collaboration designed and how does participation and involvement develop over time? How do participants deal with organizational, technological and creative challenges?

3.2.1 Note on the Involvement of the Audience

As the notion of improvisation is discussed in the following section, it is important to point out that a musical or conceptual dissertation on improvisation would be expected to integrate interaction with the audience as a significant aspect of a Multimedia environment. The discussion concerning the significance of creative processes and improvisation in music (and art) in particular clearly has a long history and is eloquently outlined by Aaron Kozbelt (Collins 2013, p. 27). Kozbelt appropriated David Galeson's creator typology in order to discuss the "difference between conceptualists and experimentalists [composers] in terms of perceptual vs. conceptual (Ibid p. 44)". Kozbelt described Richard Wagner as the "most ambitious conceptual innovator (Ibid p. 46)" and the archetypical conceptualist approach of indeterminacy ascribed to John Cage. Where conceptualist focus conceptual innovation, experimentalists tend to a perceptual approach emphasizing creative effort and the experience thereof. The notion

of indeterminacy as appropriated by John Cage as well as the concept of *Musicking* by Chris Small (1998), both provide a holistic perspective on the ephemeral and the participatory nature of music (culture); a conceptual perspective that is similarly provided by Simon Frith as he suggests the *de facto* involvement of the audience in a performance in *Performing Rites: On the Value of Popular Music* (Frith 1996):

> […] it is not that in listening to popular music we are listening to a performance, but, further, that "listening" itself is a performance: to understand how musical pleasure, meaning, and evaluation work, we have to understand how, as listeners, we perform the music for ourselves. (ibid, p. 203)

As the relevance and complexity of the abovementioned subjects are acknowledged, this note on 'involvement of the audience' is intended to avoid a drift afield of the main subject. The creative collaboration and interaction between participants (performing artists) as they develop a participatory structure and design strategy through an iterative (cyclical) design process is the focus of this research.

3.2.2 Creating Room for Improvisation

As I started this research, many of the projects I participated in (p. 12) involved musical improvisation as real-time composition (Collins 2013). Initially, musical improvisation appeared to come forward as the main subject of this MPhil submission. As the subject of this research has been outlined in the previous section, the goal of this section is to outline the significance of improvisation in the context of this research. However, an attempt to establish an inclusive definition of improvisation[10] could prove a possible trap. Or as Gary Peters cites Derek Bailey: "there is no general or widely held theory of improvisation and I would have thought it was self-evident that improvisation has no existence outside of its practice (Bailey cited in Peters 2009, p. 146)". As much of the literature on improvisation reflected an increase in attention for improvisation in numerous domains and fields of practice, even outside music culture, the significance of improvisation and finding a practical definition for this research seemed paramount. Understanding an increase in attention for improvisation as a result of cultural change, is explained effectively by Simone Rose and Raymond MacDonald in *Improvisation as Real-time Composition* (Collins 2013, p. 191).

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[10] The notion of improvisation in the context of the research project has been previously introduced and discussed in Chapter 2 (p. 17).

> New technologies encourage us to re-evaluate models of functioning. The challenge to accepted, hierarchical models within media posed by new technology leads to an associated drift involving a more democratic engagement. In other words, new technology has encouraged us towards greater participation […] While improvisation as real-time composition is, on the one hand, an ancient practice, contemporary real-time composition also reflects current themes of increased participation and an attendant diminished dependence upon formalized social structures. (Rose and MacDonald in Collins 2013, p. 191)

As Rose and MacDonald clearly point out the significance of improvisation in the organization of collaborative (creative) processes, this is similarly acknowledged by Gerhard Fischer and Elisa Giaccardi in 'Creativity and Evolution: A Meta-Design Perspective' (2005).

> In a world that is not predictable, improvisation, evolution, and innovation are more than a luxury: they are a necessity. The challenge of design is not a matter of getting rid of the emergent, but rather of including it and making it an opportunity for more creative and more adequate solutions to problems. (Fischer and Giaccardi 2005, p. 2)

As Giaccardi and Fischer (2005) indicate the necessity of creating room for improvisation, this guided the identification of improvisation in the context of this research beyond the *in situ* act of making music, thus expanding the notion of improvisation from the "creative decisions of its performers […] within the real time restrictions of performance itself (Kenny and Gellrich 2002, p. 117)". This definition of improvisation provides specificity and guidance to a critical analysis of design strategy in a shared creative process. In the context of this research improvisation is therefore studied as a constituent of design strategy in music production.

3.2.3 Design Strategy in Music Production

In order to understand how the participants of the DW project design a stage performance and "to understand design strategy within the context of music production, it is necessary to look at a definition of design (Iterson 2011)". As the framework for *Design Strategies for Decentralized Music Production* (ibid.) has been introduced in Chapter 2, this framework provides guidance for the critical analysis of music production as design process. According to Dorst there are "various non-exclusive angles to the term design ranging from design as applied creativity and design as problem solving, to design as a social process (Dorst cited in Van Iterson 2011, p. 16)".

Van Iterson proceeds to clarifies the term design and therefore provides relevant definitions of design in the context of music production:

> The first, design as applied creativity, emphasizes the balance between problem and solution […] Design as problem solving emphasizes problem centred phase models of design processes […] The third angle, design as a social process, emphasizes the interaction of specialists from various fields forming a design team (Van Iterson 2011, p. 16)

In the context of a social angle to the term design proposed by Dorst "designers need to interact with groups of people that have different ways of looking at the design problem and the design solution", and "bring their knowledge […] viewpoints, expectations and ambitions" (Dorst cited in Van Iterson 2011, p.16) to the design project. This resonates throughout the design related discourse discussed by Gerhard Fischer and Elisa Giaccardi (2005), as Fischer states: "technical and social conditions for broad participation in design activities by supporting "hackability" and "remixability" (Fischer 2011, p. 46)". Before the social aspect of design can be specified further in this exegesis, the notion of design strategy in music production is in need of an appropriate definition, this is provided eloquently by Jeroen van Iterson (2011).

> The design strategy of a music production is the planning of a music production in relation to specific contextual goals by setting up and controlling design processes and correlative decision structures, usually by a music producer. It is implemented by forming teams of participants in various disciplines (for example engineers, programmers, arrangers and musicians), and reserving resources (for example technological resources such as a studio, or musical content, etc.) (Van Iterson 2011, p. 17).

Furthermore, Van Iterson hints towards the relevance of improvisation in a social context of design strategy for music production and proceeds to expand on the adaptive and responsive character of design strategy as it is appropriated in a participatory structure:

> A design strategy for music production is not necessarily a completely fixed plan set up beforehand: the design strategy is often partly implicit, and dynamically adapted during the course of a music production, or even changed radically. Decentralised music production is a form of distributed music production. In decentralised music production significant activities, both quantitative and qualitative, are carried out asynchronously on various locations, and creative, organisational and technological decisions are organised in a decentralised way. (ibid)

The decentralized character of music production and the producer role in complex projects is illustrated in the videos 'Nine Inch Nails 2013 - VEVO Tour Exposed, Part

One' and 'Nine Inch Nails 2013 - VEVO Tour Exposed, Part Two' (2013). As discussed by Jeroen van Iterson (2011), design strategy and design components (and creativity) are distributed across a network consisting of many participants. This can be observed in the videos[11], where the role of the producer is focussed on synchronisation of several design processes (of equal importance and significance) that are coordinated or carried out by other (professional) specialist. In addition to the importance of design aspects, the coordination of artistic aspects is signalled[12]. As the complexity of such a large-scale project on first hand hardly relates to scale of the DW project, the analysis of technological and technological challenges and the distribution of creativity

3.2.4 Distributed Creativity and Collaborative Emergence

The significance of creative strategy as acknowledged by Keith Sawyer and Stacy DeZutter (2009) as they discuss the notion of collaborative emergence (p. 82). The resultant discourse provides vocabulary that allows the clear articulation of creative strategy (improvisation) beyond the notion of real-time composition, rather, as emergent behaviour (Fischer 2006, p. 13) within the context of this research.

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[11] See http://www.youtube.com/watch?v=1NwgIhDzlN4 [Accessed 8 May 2014] and http://www.youtube.com/watch?v=SdxvFZ12tdM [Accessed 8 May 2014]

[12] See https://momentfactory.com/work/all/all/nine-inch-nails-tension-tour-festival [Accessed 15 October 2016]

> We use the term *distributed creativity* [italicised by the author] to refer to situations where collaborating groups of individuals collectively generate a shared creative product. Distributed creativity ranges from relatively predictable and constrained, to relatively unpredictable and unconstrained. Some groups engage in creative activities that are relatively predictable – for example, a symphony orchestra performs from a score and is guided by a conductor. In contrast, […] collaborating groups that are relatively unconstrained, such that unexpected creativity could result. We use the term *collaborative emergence* to refer to these group processes (Sawyer 2003a, in Sawyer 2009, p. 82).

With regard to creative strategy, Sawyer and DeZutter suggest an increase in the likelihood of the appearance of collaborative emergence in *Distributed Creativity: How Collective Creations Emerge from Collaboration* (2009) to depend on four characteristics of a collaborative process:

- The activity has an unpredictable outcome, rather than a scripted, known endpoint;
- There is moment-to-moment contingency: each person's action depends on the one just before;
- The effect of the interactions of any given action can be changed by the subsequent actions of other participants; and
- The process is collaborative, with each participant contributing equally.

These characteristics (ibid, p. 82) guide the description of collaboration and identification of emergent behaviour beyond the notion of real-time musical composition (p. 28) in the context of this study. As the discussed concepts and frameworks suggest the relevance of design strategy to facilitate collaborative emergent behaviour, they also hint at transforming levels of engagement and involvement. Or as Gerhard Fischer and Elisa Giaccardi suggest: "the challenge is to create social and technical infrastructures that enable users to cope with the emergent aspects of reality and allow them, when needed and desired, to act as designers and be creative (2008, p. 2)".

3.2.5 Developing Participatory Structures

The notions of distributed creativity and collaborative emergence have been identified and discussed in the previous section to support the description of interaction between participants. How is this particular collaboration initiated and how does participation and involvement develop over time? How do participants deal with organizational, technological and creative challenges? To assist in answering these questions, Henry

Jenkins provides insights regarding the notion of participatory culture in *Confronting the Challenges of Participatory Culture: Media Education for the 21st Century* (Jenkins 2009):

> A participatory culture is a culture with relatively low barriers to artistic expression and civic engagement, strong support for creating and sharing creations, and some type of informal mentorship whereby experienced participants pass along knowledge to novices. In a participatory culture, members also believe their contributions matter and feel some degree of social connection with one another (at the least, members care about others' opinions of what they have created) (Jenkins 2009, p. xi).

The notion of participatory culture as brought forward by Jenkins (ibid) is reflected by the concept of Meta-Design. As a theoretical framework, Meta-Design (Giaccardi and Fischer 2006; Fischer 2011) offers guidance in the development of participatory structures and the design of collaborative processes; which allow users (participants) to engage actively and develop socio-technological environments (collaborations). This notion of participatory culture appears to align with the aforementioned increase of interest in improvisation (p. 28) as Patrick Lichty suggests in *Variant Analyses: Interrogations of New Media Art and Culture* (2013): "[…] tasks of conceptualization, fabrication, media production, programming and performance lie beyond the abilities of many individuals (ibid, p. 9)". This is equally acknowledged by Nicolas Cook (2013):

> Read/Only broadly maps onto modernist autonomy of culture, in which art forms such as music are professionalized, generating commodities (works) designed for appreciation by passive, paying audiences. By contrast, RW culture is predicated on participation: music is conceived not as a collection of fixed works, but rather as a signifying practice in which materials are circulated and reworked in much the same way ideas are in other domains of culture (Cook in Richardson e.a. 2013, p. 54).

In a similar manner to the notion of convergence culture, which has been described in Chapter 2, Gerhard Fischer states: "In the past, the design of most media emphasized a clear distinction between producers and consumers (Fischer 2011, p. 42)". Furthermore, Fischer and Elisa Giaccardi claim "it [Meta-design] has the potential to create a culture in which all participants in collaborative design processes can express themselves and engage in personally meaningful activities (Fischer et al. 2004, p. 6)". In order to assist the process of meta-design, Fischer provides design guidelines for supporting cultures of participation (see table) in 'Understanding, Fostering, and Supporting Cultures of Participation' (Fischer 2011, p. 52).

Meta-Design guidelines	Rationale
Underdesign for emergent behaviour	Instead of providing fixed content, rules, and processes, create seeds for open, living information repositories and contexts in which participants can create content, cope with exceptions, design workarounds, and engage in negotiations.
Support human-problem interaction	By advancing human-computer interaction to human problem-domain interaction with Meta-Design environments, owners of problems are put in charge and social creativity is supported.
Support different engagement levels	Honour the fact that users have different capabilities, different interests, and different knowledge; support migration paths to more demanding roles.
Reward and recognize contributions	Transcend the sole reliance on economic incentives by supporting social capital, reputation economies, and gift cultures.
Co-evolution of artefacts and user community	Support the mutual cross-pollination between the evolution of communities and the resources for system developments.

Table 1: Meta-Design guidelines (Fischer 2011)

In the context of this research, improvisation has been identified as collective behaviour that emerges in response to creative, technical and organizational challenges. The anticipation for improvisation, when regarded as part of design strategy, aligns with the notion of *under design* as stated by Fischer (2011). This underlines the practical approach that is presented in chapter 2, as well as the general context of music production as artistic practice that is outlined by this exegesis.

> Underdesign does not mean less design; rather, it is a design methodology […] grounded in the need for 'loose fit' in designing artefacts […] creates technical and social conditions for broad participation in design activities by supporting 'hackability' and 'remixability' (Fischer 2011. p. 46).

The MD framework can support the development of ecologies of participation (Fischer 2011) and offers vocabulary that can be appropriated to describe the dynamic properties of the main research project. In doing so, the MD framework can be used to expand the notion of the *reflective practitioner* as this has been aligned with the general aims of action research in chapter 2: "building the reflective practitioner and building professional cultures (Sagor 2000)". The evolution of participatory structures as ecologies of participation (Fischer 2011) is illustrated in the model below (see figure 4).

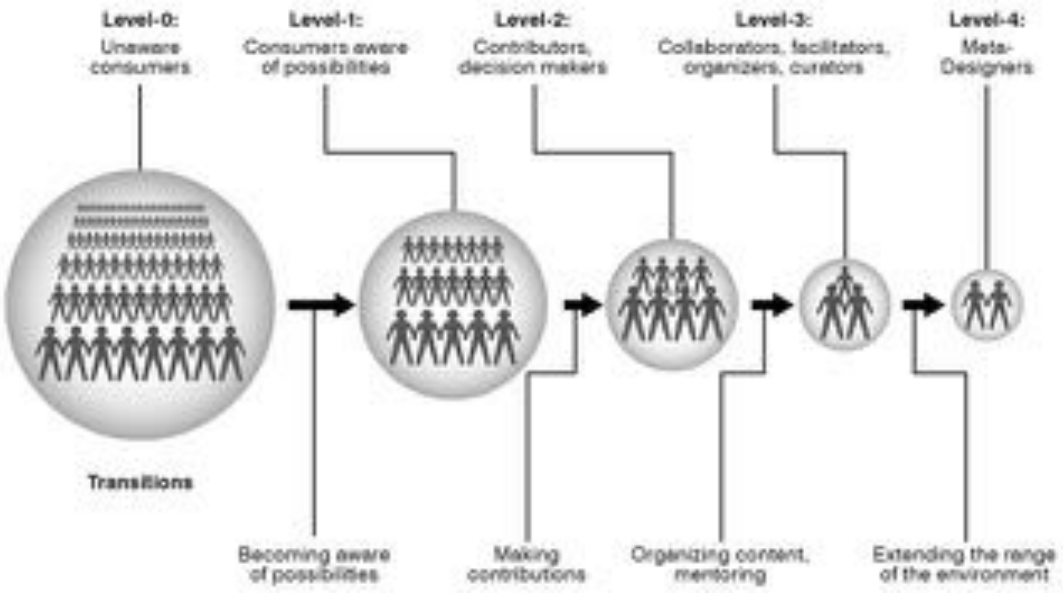

Figure 4: Ecologies of Participation model (Fischer 2011)

As writings by Fischer and Giaccardi suggest, MD has been appropriated in the field of software design and interaction design predominantly. The appropriation of MD in the context of music production is starting to emerge as Jeroen van Iterson exemplifies in *Design Strategies for decentralized Music Production* (2011). Van Iterson identifies the music producer as a person who designs and manages the organization and integration of complex design processes as part of a process of transformation (p. 20). With the application of MD guidelines in the context of music production, this research offers a contribution to a discourse on design strategy in collaborative music and art projects.

3.3 Multimedia Environment

When establishing a title for this exegesis the term Multimedia was deliberately chosen. As the 'Darkness Walks' (DW) project is introduced in Chapter 2 (p. 18) and the combination of music, video and performance has been described in a general sense, in this chapter the term Multimedia will be investigated further. In order to appreciate the research in Chapter 6 and to understand the DW project, the term Multimedia is initially identified as a combination of musical and visual media materialised as a performance on a stage. To investigate this definition further and identify specific aspects of

Multimedia that support the design of a case study, this section sets out to provide a contemporary and contextual understanding of the notion of Multimedia. As a similar hypothesis has been put forward by Alexandra Popovska in 'From Singer to Reflective Practitioner: Performing and Composing in a Multimedia Environment' (2010), it is here that the notion of *Gesamtkunstwerk* is expanded and related to transmedia storytelling (Jenkins 2008) and the concept of musical Multimedia (Cook 1998).

3.3.1 Cultural Changes and Implications for my Practice

In the light of technological, industrial, cultural and social changes, such as the emergence of new distribution models, adaptive consumer behaviour, the democratization of media, skills and knowledge, an on-going diversification of creative disciplines extends the potential and possibilities for artists and designers alike to express themselves. This process of *convergence* and the concept of transmedia storytelling are described to great extent by Henry Jenkins in *Convergence Culture* (2008) and on his website[13].

> By convergence, I mean the flow of content across multiple media platforms, the cooperation between multiple media industries, and the migratory behavior of media audiences who would go almost anywhere in search of the kinds of entertainment experiences they wanted. (Jenkins 2008, p. 2).

According to Henry Jenkins the notion of convergence culture is linked to the concept of transmedia storytelling:

> Transmedia storytelling refers to a new aesthetic that has emerged in response to media convergence – one that places new demands on consumers and depends on the active participation of knowledge communities. Transmedia storytelling is *the art of world making* [italicized by the author]. To fully experience any fictional world, consumers must assume the role of hunters and gatherers, chasing down bits of the story across media channels, […] come away with a richer entertainment experience (Jenkins 2008, p. 21).

As an example of transmedia storytelling the publication *Decoded* by Jay Z. (2011) was strategically distributed through several channels and various platforms. As "bits of the story" are dispersed "across media channels" (Jenkins 2008, p. 21) this definition of transmedia storytelling is applied to guide the analysis of a *media mix* (ibid, p. 110) in

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[13] See www.henryjenkins.org (Accessed 10 March 2014)

the case of the DW project. As transmedia storytelling is perceived from the perspective of the consumer in Jenkins' definition, in this exegesis the notion of transmedia storytelling is explored from the perspective of the music producer as a reflective practitioner.

3.3.2 Note on defining Multimedia

As the term Multimedia is applied in this exegesis in an effort to describe the totality of my works as part of this MPhil submission, Richard Wagner's concept of the *Gesamtkunstwerk* comes to mind. Before investigating this in a contemporary context, Wagner's vision of the *total artwork* deserves an initial investigation, for as Packer and Jordan suggest: "It would be difficult to overstate the power of this idea, or its influence (2000)"[14]. In summary, Packer and Jordan offer an eloquent description of the term *Gesamtkunstwerk*:

> Wagner's description of the Gesamtkunstwerk is one of the first attempts in modern art to establish a practical, theoretical system for the comprehensive integration of the arts. Wagner sought the idealized union of all the arts through the "totalizing", or synthesizing, effect of music drama in the unification of music, song, dance, poetry, visual arts, and stagecraft. His drive to embrace the full range of human experience, and to reflect it in his operas, led him to give equal attention to every aspect of the final production […] Twentieth century artists have continued the effort to heighten the viewer's experience of art by integrating traditionally separate disciplines into single works. Modern experience, many of these artists believed, could only be evoked through an art that contained within itself the complete range of perception. "Old-fashioned" forms limited to words on a page, paint on a canvas, or music from an instrument, were considered inadequate for capturing the speed, energy and contradictions of contemporary life (Packer and Jordan 2000).

The 'Darkness Walks' narrative is developed as a symbolic environment "in which the narrative takes place" and "provides an opportunity to focus from the start on the meaning of the image" (Faber 2010, p. 41). As the DW project in its totality is regarded as an example of transmedia storytelling, it is precisely this 'story world' that supports different authors (performers) in transforming audio, video and performative aspects into a total work of art: a Multimedia Environment.

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14 See http://www.w2vr.com/overture/integration.html [Accessed July 2014]

3.3.3 Example: Biophilia

Transmedia storytelling in music (culture) can be observed in several works created by Björk. This example illustrates the intricate complexity and the rich artistic results that can be achieved when music production is regarded transmedia storytelling. Notably, as a prime example the musical album *Biophilia* (2011) "sits in between various phenomena" as Korsgaard indicates (2013, p. 514):

> In its overall scope, *Biophilia* attempts to redefine several musical formats (or "media", in the absolutely widest sense of the term): *the song* [italicized by the author] comes in different versions, depending on how one accesses or purchases it; *the album* [italicized by the author] is released both in *the app* [italicized by the author] version and as a traditional album and limited special editions; the interactive content of the apps can be understood as an expansion of *the music video* [italicized by the author] (traditional music videos have also been made for some songs); some of the apps function as *instruments* [italicized by the author] that allow the user to generate new sounds; and in *concert*, *Biophilia* is a multimedia show that is installed in a given venue for longer periods of time, utilizing new and unusual instruments constructed specifically for this event (large pendulums, a "gameleste" – a hybrid between a gamelan and a celeste—and a Tesla coil), the last involving educational sessions in which children can try the instruments and learn about musicology (ibid, p. 514).

In addition, this example suggests the necessity of collaborating with numerous professionals, as it seems unlikely that a single person could be able to realize such an ambitious project within a limited time span; this is clearly the case as one examines credits and references[15]. A question arises from this: 'how do artists from different backgrounds collaborate when they appropriate WB as a creative strategy?' Before this question can be examined, the notion of *musical Multimedia* and the concept of a *Multimedia Environment* are identified and discussed in the following section.

3.3.4 Musical Multimedia

As this research examines the development of the collaborative development of a Multimedia performance, the term Multimedia is deliberately chosen here as it refers to the manifestation of several media (audio content and visual content) in a singular event: a stage performance. With respect to a critical analysis of the DW performance, two types of content have been identified (see Chapter 2): *audio content* and *visual content*. In addition, spatial aspects that complement or amplify both types of content

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[15] See http://en.wikipedia.org/wiki/Biophilia_(album) [Accessed 12 May 2015]

can be identified, which support the transformation (design) of a musical experience in the form of a stage performance, as Jordan (2008) suggests:

> Sound can suggest space, it can suggest color and motion. We often close our eyes when listening to music, and meditate on our private visual landscape. Music is an immersive experience. Sound occurs around us, enters our ears and envelopes us (Jordan 2008, p. 246).

Similar to Jordan, Phillip Auslander refers to an *instance of musical information* as the momentary convergence of media and (personal) expression in a physical dimension. This is clearly exemplified in the design of the Nine Inch Nails performances described in chapter three (p. 25) and as Auslander states: "musicians' performing bodies were interwoven with moving images, colors, and patterns, some abstract and some representational (Auslander 2013, p. 614)". Auslander describes "light shows […] of rock concerts during the psychedelic era […] complex and multifaceted instances of musical Multimedia" (ibid., p. 611) as the immersive quality of music when regarded as an experience: an *instance of musical Multimedia*.

> […] the visual effects followed the rhythm or structure of the music and thus conveyed musical information to the audience […] impeded the ability to see or focus on the very things valorized in the traditionalists' model of musical performance: the musicians' physical actions in producing the sound (ibid., p. 614).

Auslander describes a "performance to which a set of […] artists contribute in different media" (ibid., p. 611) in reference to the theoretical framework provided by Nicholas Cook (1998) and the concept of Musical Multimedia (MM). Cook presented *conformance, complementation* and *contest* (1998, p. 98) as characteristics of situations where (or occurrences in which) several media are interrelated. Similar to the framework provided by Cook (1998), the philosophical construct of musical information and interaction in MM is furthermore exemplified through the concept of 'convers' or conversational music, as presented by Martin Simon in *What is Conversational Music or 'Convers'?* (Simon in Crawford 2008, p. 266):

> Conversation in music happens either in a linear or concurrent way. One performer plays something while another performer tries to grasp his or her "intention" through a constant process of listening and reacting, musically. Attention spans vary from person to person and may often be unequal. Differences between individual performers are natural and contribute to the spontaneous flow of musical materials (Simon in Crawford 2008, p. 266).

As the frameworks of Cook (1998) and Simon (2008) leave room for identification of the involvement of the audience, this research is focussed on interaction between performers (designers). While concept of MM allows the analysis of interrelated media, specificity is needed in order to clarify and identify the *spatial aspects of* associated stage performance. The notion of musical information and the concept of "instance of musical Multimedia" (Auslander 2013, p. 611) allow for the description and analysis of stage performance in a momentary (conceptual) as well as a spatial (perceptual) context: a Multimedia environment.

3.4 A Multimedia Environment

When Multimedia is regarded as the manifestation of the musical information through audio, projected moving images and other performative aspects (or media) such as lights and smoke, the definition of spatial aspects requires specificity in order to conduct a critical analysis of IMM. Alexandra Popovska (2010) suggests this in a similar manner:

> The term performance shall refer to the time-based experience on stage. The term stage will be used to describe any space in which a performer performs, not only the theatre stage. This definition will include action as well, which could be anything: speech, movement, gesture, acting, making music, etc. (Popovska 2010, p. 9).

Here the term stage is included deliberately to emphasize the spatial context of the experience in question. The term *Multimedia Environment* allows clear reference to a space or the time-based aspects of space: the space where Multimedia performances or a subsequent rehearsal thereof, are developed or performed (ibid, p. 9). As Jeroen van Iterson suggests (2011, p. 35), a decentralised music production is established through one or more distributed processes, where design activity is dispersed across a network of peers according to design strategy. A similar notion of distributed creativity is described by Vlad Petre Glăveanu in his book *Distributed Creativity, Thinking Outside the Box of the Creative Individual* (2014). Glăveanu suggests the de facto collaborative nature of creativity and acknowledges a relationship between collaboration in a physical and symbolic environment:

> Moreover, it is not the creativity of one individual but the creative action of many, young and old, working together or apart, at different times and in different settings, all immersed within a physical and symbolic environment that affords but also constrains their expression. (Glăveanu 2014, p. 1)

Precisely the conjunction of the "physical and symbolic environment" (ibid.) is of particular interest for this research as the participants interact in a Multimedia Environment – confined to a stage or within a decentralized and digital network of software. As the narrative as part of research project (p. 18) has been identified as a symbolic environment, the notion of distributed creativity supports the analysis of interaction in a Multimedia Environment.

The DW project can be regarded as a *socio-technological* environment as participants develop a horizontal workflow in support of the distribution of creativity, as well as the transformation of resources and ownership. As WB has been exemplified as cultural aesthetic (p. 22) on the one hand, it has also been identified as an emerging design strategy in fields related to or adjacent to music production. It is here that we connect WB to design strategy in music production. While participants 'build and expand a story world' through reflective practice and by performing on a stage, they are confronted with organisational, creative and technological challenges. In an attempt to create musical information and merge physical and symbolic dimensions of a Multimedia Environment into an immersive experience, a participatory structure (collaboration) has been evolving.

4 Designing a Case Study

This practice-based MPhil submission documents the development of a stage performance, and explores the appropriation of world-building (WB) as a design strategy within the context of my current practice. At the centre of this practice-based MPhil submission lie a series of stage performances that have been documented on video (see DVD I). The aim of this MPhil has been described as the improvement of my work in general, and the collection of key issues regarding design strategy and collaboration within my current practice in particular. The 'Darkness Walks' (DW) project has been initiated for the purpose of this study and has been introduced in Chapter 2. As the DW project and the DW performances in particular, have been identified as a form of WB, this has led to the main research question: **How can world-building support collaboration and interaction in a Multimedia Environment?**

To answer this question, the collaborative development of the DW performances has been described and analysed in a case study (Yin 1994)[16]. In order to support transparency in Research Strategy and transferability of this study, the design of the case study is discussed in this chapter. First, a general overview of the case study strategy has been presented. Subsequently models that guide the description of design strategy and design processes, as well as aspects of Multimedia have been introduced and discussed. Last, criteria that have been used to assess the development of a participatory structure are presented.

[16] Following the change of discourse, the progression of Research Strategy and appropriation of case study methodology as outlined by Robert Yin (1994) have been introduced in Chapter 2 (p. 18).

4.1 Case Study Strategy

In the context of this research, a case study (Research Strategy) is particularly appropriate due to “its ability to deal with a full variety of evidence – documents, artefacts, interview, and observations (Yin 1994, p. 8)”. The video registration of three DW performances is considered as the actual artefact of this MPhil submission and the primary evidence (see figure). In addition to the video documentation showing three performances, several complementary types of evidence are presented, such as scripts, screenshots of software, photographic material and an interview with the participants.

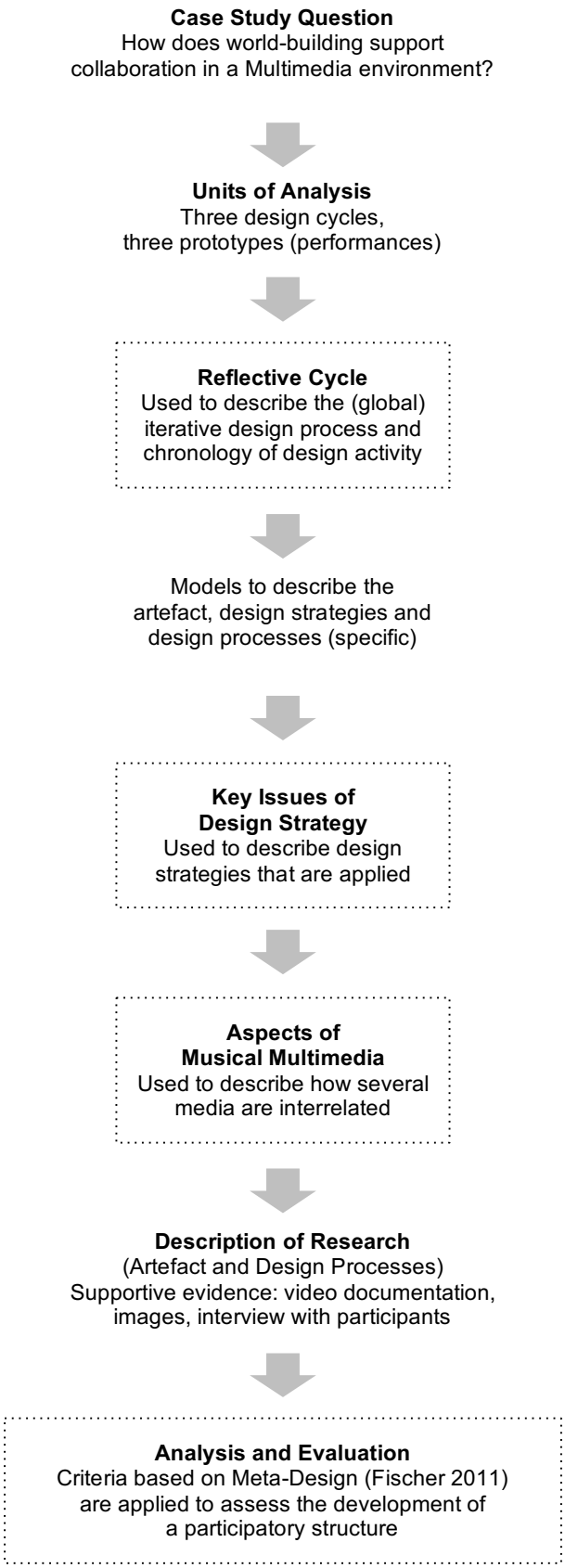

Figure 5: overview of Case Study strategy

4.2 Design Cycles and Units of Analysis

As indicated in Chapter 2, three DW performance (presented as prototypes in Chapter 5) have been the result of a cyclical process through which participants *plan, act* and *review* their work in order to support choices for improvement and adaptation of the collaborative design process, as well as for the improvement of the artefact (stage performance). It is important to understand the iterative process through which the DW performances have been designed as a form of reflective practice. In order to understand the chronology of events and design activity, a cyclical model for reflective practice has been synthesized to fit the context of this research. Based on the *Lewinian* notion of action research[17] and Dieter Kolb's model for experiential learning and reflective practice (p. 15), this model supports a clear description of the *design cycles* and an understanding of the development of the DW performances as a form of action research and reflective practice (see figure).

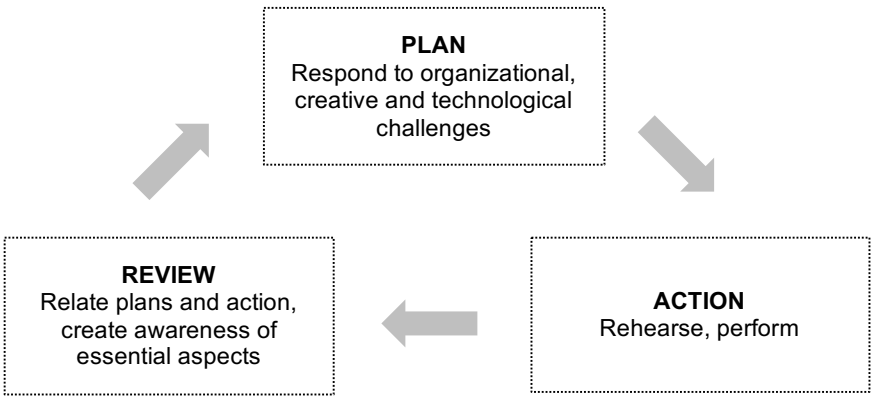

Figure 6: the iterative design process as reflective practice; adapted from Kolb (1984)

As stated in the previous section, Yin (1994) indicates that *units of analysis* are a requirement for the construction of an effective case study design. Yin also states that units of analysis should be used as criteria to relate "to the way you have defined your initial research question (Yin 1994, p. 30)". World-building has been identified as a design strategy in Chapter 3. The cyclical nature of the design process through which

[17] *Lewinian* refers to concept of action research coined by Kurt Lewin (1940's); see Chapter 2 (p. 14).

the artefact has been developed therefore resonates with the main research question (p. 16) and is exemplified by my current practice. Moreover, this study explores the appropriation of design strategy within a participatory structure and describes the collaboration and interaction between participants. This is reflected in the main title of this exegesis. As part of the case study, three design cycles, three prototypes (see table) and supportive evidence have been presented in Chapter 5.

Unit(s) of Analysis	**Prototype**	**Date of Performance**
Design cycle I	Performance I	May 15th 2013
Design cycle II	Performance II	February 14th 2014
Design cycle III	Performance III	September 25th 2014

Table 2: overview of design cycles (units of analysis)

4.3 Matters to be Considered

In the context of action research, *units of analysis* are referred to as "working criteria" (McNiff and Whitehead 2011, p. 22); criteria that indicate the improvement of a learning experience or *modus operandi*. McNiff and Whitehead suggest that *working criteria* "would be linked with your values (ibid., p. 23)" and need to be aligned with the motivation for initiating the research. Once a set of working criteria has been established, these criteria are used to analyse the process of developing the DW performances, and to signify the relationship between design strategy and the actual artefacts (three prototypes). In order to clarify the development of the DW performances and signify key aspects of design strategy, working criteria have been formulated as sub-questions based on the theoretical framework for decentralized music production (Iterson 2011).

4.3.1 Aspects of Design Strategy

As part of this MPhil submission, in the context of music production and my current practice in particular, design strategy is described from the perspective of the reflective practitioner. In order to describe the development of the DW performances, and the

design strategy that has been appropriated by participants, *working criteria* are needed. To relate design strategy to the artefact (see DVD I) a theoretical framework is provided that provides a vocabulary for the articulation of key issues regarding the design strategy. For this purpose, key issues formulated by Jeroen van Iterson in 'Design Strategies for Decentralized Music Production' (2011, p. 117), have been adapted to fit the context of this research (see below). The notion of design strategy for decentralised music production has been discussed in Chapters 2 and 3.

Key Issues (Van Iterson 2011)	**Adapted key Issues (Reneman 2016)**
Synchronization of content and technology	Synchronization of resources (content, technology and participants)
Synchronisation of design processes	Alignment of design processes as response to creative, technological and organizational challenges
Asynchronous and synchronous communication	Involvement and engagement of participants, collaboration and interaction
Assessment of content	Decision-making processes as part of reflective practice and the transformation of ownership

Table 3: key issues of design strategy adapted from Van Iterson (2011).

4.3.2 Performances as Musical Multimedia

In this exegesis the term musical multimedia (p. 38) refers to the convergence of audio content, visual content and performance aspects into a singular time-based event: a stage performance. In this *Multimedia Environment* three participants interact with each other in the process of creating a 'story world' in real-time and communicating musical information: an instance of musical multimedia (Cook 1998). This definition of stage performance provides vocabulary to signify and describe the morphology of the DW performances according to a set of key aspects of musical Multimedia (see table).

Aspects of IMM	Description of Coherence
Conformance	Situations in which other media are consistent with the music (and vice versa)
Complementation	Cases in which music and other media complete one another to form a whole expression
Contest	Situations in which music and other media are in conflict or competition with one another

Table 4: aspects of an Instance of Musical Multimedia (Auslander 2013)

The concept of Musical Multimedia (Cook 1998) guides the detailed description of the visuals, audio and design aspects of the DW performances, as well as interaction between participants. Phillip Auslander suggest: "the audience in general does not know exactly what it is that the performer is doing and most do not know how the sound is produced or with what (Auslander 2013, p. 605)". In order to appreciate the video documentation and support the critical analysis of the DW performances, which lie at the centre of this study, three aspects of Musical Multimedia have been translated to a real life context (see table).

Aspects of Stage Performance as Musical Multimedia

Audio aspects	Types of audio content: audio created live or by the playback of pre-recorded material; audio intended for audiences; audio intended for monitoring or synchronization purposes.
Visual aspects	Types of visual content (video): visual material that is processed (or remixed) and manipulated in real-time and projected during performance.
Performance aspects	Design aspects of a performance related to spatial conditions, similar to *mise-en-scène* in film or theatre productions (e.g. stage, lights, smoke, site-specific aspects, instruments, bodily gestures etc.). Physical movement and gestural communication between performers.

Table 5: aspects of stage performance as Musical Multimedia (Reneman 2016)

4.4 Relating Practice to Research and Interpretation of Findings

The aim of this exegesis is to examine the collaborative nature of the 'Darkness Walks' (DW) project; the DW project exemplifies the development of a Multimedia Environment based on world-building. The participatory structure of the main research project has developed over time. The Meta-Design (MD) framework (Fischer and Giaccardi 2004) provides vocabulary for the articulation of key issues regarding collaboration and interaction, or as Gerhard Fischer suggests:

> Richer ecologies of participation are focused on "creating different levels of participation" by differentiating, analysing, and supporting distinct roles based on different levels of expertise, interests, and motivations that can be found in cultures of participation (Fischer 2011, p. 46).

For the critical analysis and evaluation of the DW project as a dynamic participatory structure – an "ecology of participation" (ibid) – the MD guidelines (ibid) have been identified to reflect the objective of this research in Chapter 3 of this exegesis (p. 16). Based on MD guidelines, a set of sub-questions has been formulated to support the evaluation of results and the interpretation of findings as 'working criteria' (see table).

Guidelines for Meta-Design (Fischer 2011);	**Adapted to context of music production (Reneman 2016)**	**Criteria formulated as sub-questions**
Underdesign for emergent behaviour[18]	Support of the distribution of creativity and anticipation of emergent behaviour	How do participants anticipate improvisation on creative, technological and organisational levels?
Support human-problem interaction	Transformation of resources and synchronization of design processes	How does design strategy support the distribution of resources? What are striking decentral aspects of resources?
Support different engagement levels	Transformation of involvement and ownership	How does design strategy support the transformation of the involvement of participants?
Co-evolution of artefacts and user community	Distribution of creativity supported by design strategy	What are striking decentral aspects of design strategy?
Reward and recognize contributions	Contribution to the development of a learning environment	How do participants describe the collaboration as a learning experience?

Table 6: criteria for analysis of collaboration and interaction in music production.

[18] The concept of *Underdesign* is introduced and discussed in Chapter 3 (p. 32) and refers to anticipation of emergent behaviour and flexibility of system design.

5 The 'Darkness Walks' Performances

In this chapter the practical element of the research is presented. Through the application of frameworks and models that have been described and discussed in the previous chapter, three design cycles and three prototypes (performances) are analysed and discussed.

5.1 Presenting the Practical Element

In order to present a series of performances as the artefact of this MPhil submission, a video entitled 'The Darkness Walks Performances Explained' accompanies this exegesis (see DVD I). Throughout this case study, video excerpts of performances have been referred to in order to exemplify striking issues regarding design strategy, aspects of musical Multimedia, and, collaboration and interaction in a Multimedia environment. In addition to the selection of video excerpts, participants and contributors are introduced and credited in this video[19]. Furthermore, accompanying material is listed prior to Chapter 1 (p. 8) and the content of attached media is listed in detail as part of the appendices.

▶ DVD I: 'The Darkness Walks Performances Explained' (Video)

[19] Note on the authenticity of the accompanying material: At this stage in the exegesis it is important to state that the accompanying material is original and created by the participants. The music presented on the DVD has been composed and produced by Derk Reneman in collaboration with Jasper Barendregt for Ausland Records (see Chapter 2). The visual content presented and projected during the performances has been produced and directed by Marieke de Roos in collaboration with Derk Reneman. Furthermore, the performances were documented and edited with the kind assistance of several professionals (see Appendix: 'List of Participants', p. 109). This has contributed to a variation in style and quality of the video documentation. Primary participants have been able to use this video material for evaluation purposes throughout the 'Darkness Walks' project.

Preceding the analysis, aspects of design strategy and three stage performances (prototypes) have been described. To obtain a clear understanding of design components that support design strategies – such as a scenarios and scripts, pre-recorded and pre-arranged audio content, as well as performance aspects such as lighting and stage design – notes on design cycles have been included as appendices. The description of the respective performances has been divided into three subsections.

Striking Aspects of Design Strategy

Following a preliminary paragraph, striking aspects of design strategy have been described in this subsection in order to generate an understanding regarding 'how' the performance has been designed, for the analysis of design strategy sub-questions have been formulated (p. 46).

Relating Design Strategy to the Artefact

In this subsection the concepts of 'conformance, complementation and contest' – which have been described in the previous chapter (p. 47) – have been used to assess the correlation between design strategy (or 'how') and the artefact as the actual outcome (the 'what').

Evaluation of Design Cycles

As the title of this subsection suggest, it has been written as a preliminary evaluation and describes the development involvement and engagement of participants through respective design cycles. In order to assess the participatory structure of the collaboration, criteria have been formulated (p. 49) in Chapter 4.

5.2 Performance I: BAR

The first instance of the 'Darkness Walks' (DW) performance was presented on May 15th 2014 at BAR (Rotterdam, NL). As a venue BAR is characterized by the combined capacity of a bar and discotheque, and offers a stage for upcoming artists and DJ's and live performances in the field of electronic dance music.

Figure 7: Roberto Auser Trio performing 'Darkness Walks' at BAR (2013). From left to right: Jasper Barendregt (drums, percussion), Marieke de Roos (video, projection) and Derk Reneman (synthesizer, electronic percussion).

Development of the first performance started with the production of audio components to use in the construction of a backing track[20] by participants Derk Reneman (synthesist) and Jasper Barendregt (drummer). This activity consisted of processing audio recordings that had been recorded and mixed during the production of the musical album[21] in studio context. The drummer and the synthesist developed the initial backing track (BT) through an iterative process of *plan-play–adapt (repeat).* During several sessions at Studio Paul Francois[22] they rehearsed top-line writing (p. 19) and real-time composition. Marieke de Roos (video artist) focused on the transformation of a different type of design component: video clips. The visual content (video) that was projected during the performance consisted of pre-produced components – short scenes and clips that had been extracted from original content produced for the DW film album[23]. The

[20] The concept of a *backing track* has been introduced and identified in Chapter 2 (p. 16).

[21] See DVDII: Musical Album or http://www.discogs.com/Roberto-Auser-Trio-Darkness-Walks/release/5091482 [Accessed 14 June 2015]

[22] Studio Paul Francois is located in the centre of Tilburg (NL) and offers a rehearsal and recording studio that includes a large and a small rehearsal room. Throughout the DW project, all rehearsals for all three performances took place at Studio Paul Francois. See http://muziekstudiopaulfrancois.nl/ [Accessed 21 June 2015]

[23] See DVD II: Film Album

video artist was not able to attend the rehearsal sessions organized by the synthesist and the drummer due to the amount of time needed for computer software to render digital video files

5.2.1 Striking Aspects of Design Strategy I

To support the synchronisation of resources during rehearsals and performance (pre-production), as well as the synchronisation of design processes that occur during the performance as emergent behaviour, such as real-time composition of audio and visual content, several design components were developed by the synthesist and the drummer; such scenario and script, backing track and a strategy for real-time assessment of content (monitoring system). In addition, through the development of a stage plan the performers positioned themselves strategically on stage to support communication (gestural) and interaction during performance. An inventory of issues concerning design strategy has been included as appendix[24]. To summarize, participants dealt with the following striking aspects of design strategy:

- **Transformation and synchronisation of resources**: aspects related to the transformation of design components (created in studio context into a design components suitable for use in the context of stage performance).
- **Synchronisation of design processes**: the alignment of individual design activities through rehearsals and the development of contextual devices such as scenarios and scripts.
- **Support communication on stage**: aspects regarding support (guided by contextual devices) and anticipation of emergent behaviour performance in response to site-specific conditions.

▶ See DVD I: 'Excerpts of Performance I' (0min 30s)

[24] See Appendix: '**Fout! Verwijzingsbron niet gevonden.**' (p. 105)

5.2.2 Relating Design Strategy to the Artefact I

Throughout the performance interaction between the drummer and the synthesist (musicians) can be witnessed. Visible interaction appears limited to gestures or eye contact. As can be observed in video excerpts the first performance, (gestural) communication between the aforementioned participants and the video artist is either absent or negligible throughout the performance. This can be observed clearly during the 'intro' section. Regarding the visible presence of supportive technology, the possibility of dependency of digital technology appropriated to synchronise resources and performance (interaction between participants and/or generate audio components that had been created in the studio and were difficult to reproduce on a stage) can be considered contradictive to the notion of real-time composition. In this case, creative activity and emergent behaviour appeared conformant to, and follow, technology (and predetermined content). Synchronization of visual aspects to audio aspects was achieved by manual interaction with technology and supported by a script[25]. The performance by participants was complemented by (dynamic) stage lighting, which appears to be consistent with audio and visual aspects mostly as part of scripted sections. Stage lighting has been classified as a design aspect of the performance (performance aspect) in this exegesis (p. 48). Stage lighting and other performance aspects appear in conflict can clearly be observed at (▶ **2m 52s**) as visibility of video content. Instances where stage lighting is beneficial to the notion of complementation can be observed at (▶ **3m 08s**). The minimal contents of the backing track during the sections 'intro' and 'coda' allowed all participants to anticipate and respond in real-time to aspects of MM. To support emergent behaviour as well as coherence in musical information, a soundscape consisting of vocal effects[26] had been created by the synthesist. In addition to interpretations of original arrangements (studio context), the soundscapes had been integrated with the performance arrangement. During the sections such as 'intro' and 'climax' consistency in MM appeared to form a whole expression. This can be observed clearly during the 'coda' section (▶ **4m 02s**).

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[25] See Appendix: 'Script for Performance I' (p. 88)

[26] The soundscape for the improvisatory sections 'intro' and 'coda' had been created with the use processed and manipulated snippets of the interview 'Shadow People – with Rosemary Ellen Guiley' (broadcasted by Conscious Life News, 2012). See http://www.youtube.com/watch?v=e-3Plozi3X4 [Accessed 12 May 2013].

5.2.3 Evaluation of Design Cycle I

As part of the initial design cycle, the involvement and engagement of participants can be described as predominantly asynchronous. Interaction between participants throughout the design cycle can clearly be observed between the drummer and the synthesist. The synthesist contributed to the construction of a BT, rehearsals and developing a stage plan (organizational aspects such as logistics and communication with the venue aside). In addition, the drummer contributed to 'remixing' and creating interpretations of studio material as part of construction of the BT. In addition, the drummer had initiated the development of a monitoring system aimed at synchronizing musical performance. The video artist had prepared design components individually guided by a script (see above), which had been supplied prior to the performance. Notably, the video artist was not engaged in rehearsals, and was introduced to the performance arrangement during a sound check at the venue. To summarize the analysis of the first design cycle, key issues have been collected and are presented in the table below (see table).

Criteria (sub questions)	**Summary**
How do participants anticipate for emergent behaviour (improvisation)?	• Development of contextual devices such as a scenario and a script, which support emergent behaviour in designated improvisatory sections of the arrangement. • Organization of video material (selection, editing and processing) • Studio rehearsals (drummer, synthesist) • Rehearsal on site (all participants).
How does design strategy support the distribution of resources?	• The democratisation of content and media through development of nonlinear workflow for decentralised production of design components. • Scalability of audio, visual and performance aspects
How does design strategy support the transformation of participant involvement?	• Contextual devices guided the interpretation of the performance arrangement. Whereas, room for improvisation and expression had been offered to participants. • The drummer contributed to the development of contextual devices throughout the design cycle. • The video artist and lighting engineer contributed to the development of the script.
How do the participants describe the collaboration as learning experience?	• 'Based on a sense of inspiration' and practical insights regarding advancement of the prototype. • Developed design strategy related vocabulary • See section 'Evaluation and Discussion' (p. 66)

Table 7: Evaluation of the participatory structure of design cycle I.

5.3 Performance II: Kapitaal

The second performance was presented on February 14th 2014 at Kapitaal (NL). Kapitaal is a cultural venue and artist' space (workshop and gallery) located in the centre of Utrecht. The organization of Kapitaal organizes public events, such as presentations, lectures and exhibitions in the field of visual design and visual arts.

Figure 8: Roberto Auser Trio performing 'Darkness Walks' at Kapitaal (2014).

As a venue, Kapitaal had little or limited experience in live performances that included acoustic instruments (drums). Technical facilities are limited to a sound system had been installed to support artists' presentations with technical support mainly specialized for exhibitions and presentations. As a result of the first design cycle and initial inspection of site-specific conditions, participants identified the following essential aspects for developing the second performance (prototype):

- **Support communication and interaction;** in pre-production stage (rehearsals and preparations); development of a horizontal workflow in support of a production procedure across several locations and collective rehearsals at Studio Paul Francois (p. 41) on three occasions during the pre-production stage.
- **Anticipation of emergent behaviour**; creating room for improvisation was identified as the primary goal of this design cycle.

5.3.1 Striking Aspects of Design Strategy II

Prior to rehearsals Jasper Barendregt (drummer) and Derk Reneman (synthesist) adopted a design strategy for decentralized music production. A workflow was developed to support platform-independence, which allowed the production of design components (audio components, performance arrangement) across several locations. As a result, a predetermined selection of stems[27] enabled the drummer and the synthesist to work on design components (the performance arrangement) individually. Hence, the drummer was able to remix sections of the arrangement and existing design components extensively.

As part of the second design cycle, the synthesist and the drummer organized three rehearsal sessions. In comparison with the (four) rehearsals of the previous design cycle, the design strategy allowed the participants to reduce time spent on preparations and rehearsals. As part of the third rehearsal session, the video artist joined the other participants at Studio Paul Francois. In order to support interaction with hardware and software – and immerse in the creative activity of real-time selection and manipulation of video material, the video artist installed and practiced with a midi-controller[28]. Video projection (and performance) was included in the rehearsal session (with the use of a video projection device). In order to emphasize video as a significant aspect of Musical Multimedia (MM) and the narrative structure of the performance in general, a 'video break' was inserted in the middle of the performance arrangement. During this ten-minute section, the drummer and the synthesist improvised (music) to accompany visual aspects and performance by the video artist.

In order to support emergent behaviour throughout the design cycle, scalability of resources and processes was identified as a key aspect of design strategy for advancement of the prototype. In support of improvisation and interaction during the pre-production, the re-configuration of equipment allowed participants to focus on performative aspects and generating coherence of MM. Furthermore, the stage plan for performance I (p. 93) was reconsidered and adapted to support on-stage communication and interaction between performers by strategic positioning of participants.

Summarizing, the following striking aspects of design strategy had been formulated to advance the first prototype during the second design cycle, and in response to

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[27] See http://en.wikipedia.org/wiki/Stem_(audio) [Accessed 17 October 2016]

[28] See http://www.korg.com/us/products/controllers/nanokontrol2/ [Accessed 10 December 2015]

organizational, technological and creative challenges specific to the second design cycle:

- **Scalability of the resources and processes**; increase flexibility and responsiveness regarding creative, technological and organizational challenges as part of design strategy, in particular, to support communication and interaction during pre-production.
- **Anticipation of emergent behaviour;** support distribution of creativity and create room for improvisation on and off stage.

▶ See DVD I: 'Excerpts of Performance II' (5min 46s)

5.3.2 Relating Design Strategy to the Artefact II

In a similar manner to the first performance, the improvisatory character of the 'intro' and 'coda' sections allowed room for improvisation and expression contributing to a general notion of interaction between Multimedia and coherence aspects of musical information (▶ **5m 50s**). Due to the absence of (professional) stage lighting, three beamers had been installed, of which two beamers had been positioned to project on secondary projection surfaces. With the appropriation of additional projection surfaces, visual content compensated for the absence of (dynamic) stage lighting. This extended the projection surface to the major part of the stage (performance area) and appeared beneficial to the integration of video content in the performance and contributed to a notion of complementation (▶ **6m 10s**).

Monitoring of the video projection by the video artist improved effectively as a result of the stage plan at Kapitaal. Furthermore, the stage-plan contributed to gestural communication (and eye contact) and interaction between performers and improved real time assessment of content and performance (▶ **7m 11s**). The synthesist used part of the flight case (used for transport of the synthesizer) as a riser. In the back of this riser several effect pedals had been positioned. This obstructed the visibility of physical activity and technology operated by the synthesist. On the contrary, this minimalized distraction from technology (e.g. effect pedals, power supply and wires), despite its

black colour, allowed the riser to be appropriated as a projection surface. This was beneficial to overall visual aspects and performance aspects of the performance.
The section 'video break' was considered as a significant shift in interaction on stage, beneficial to the notion of complementation and the conjunction of audio, visual and performance aspects as a 'full expression'. This can be observed clearly at (▶ **7m 34s**) of the explanatory video. The horizontal workflow (p. 58) resulted in several interpretations (remixes) of original material created by the drummer. In turn, the synthesist developed design components (content and guides) for the section 'video break'. This resulted in more room for improvisation and allowed participants to expand the notion of *top-line writing* towards *jamming*. This can be observed in the remix of original material created by the drummer at (▶ **8m 10s**).
Design strategy appropriated as part of the second design cycle contributed to moments in which aspects of Multimedia complemented each other. Furthermore, design strategy supported emergent behaviour at occasions contributing to significant depth of narrative and expressiveness.

5.3.3 Evaluation of Design Cycle II

As part of the joint effort of participants to synchronize interaction during the second design cycle, striking aspects of involvement and engagement progressed. The development of a decentral workflow for content creation and content development allowed the distribution of ownership and supported the distribution of creativity during the preproduction stage. The resultant design components (interpretations of original material) generated a sense of inspiration and engagement (see interview quotes). In addition, the drummer was responsible for the development of a monitoring system aimed at synchronizing musical performance. With the engagement in pre-production (attending two of three rehearsal sessions) the video artist was able to contribute to structure of the performance arrangement. This beneficial interaction on stage resulted in increased coherence in musical performance. As the video artist indicated afterwards, she had been able to effectively monitor the projection of visual content, resulting in more immersive experience (performance). The 'video break' allowed the video artist to improvise visual aspects (video) and take a solo. As a result of effective anticipation of emergent behaviour, the involvement and engagement of the video artist was able to transform from contribution towards a mode of co-designer (p. 35).

Criteria (sub questions)	Summary
How do participants anticipate on for emergent behaviour (improvisation)?	• Integration of visual performance in rehearsals and the inclusion of designated improvisatory sections in the general structure of the performance arrangement. • Emergent behaviour is facilitated by real-time content assessment. • Decentralized procedure in support of individual creative initiative.
How does design strategy support the distribution of resources?	• Non-linear workflow resulted in independence of platform and software characteristics. • Subsequently, increased rigor in development of design components and audio content by participants (drummer and synthesist) through decentral aspects of design strategy (see above).
How does design strategy support the transformation of participant involvement?	• Site-specific and real-time decisions making moments resulted in increased efficiency in communication and assessment of content and performance.
How do participants describe the collaboration as a learning experience?	• See quotes by participants • Integration of visual aspects in rehearsal allowed participants to immerse in pre-production prototyping.

Table 8: Evaluation of design cycle II as a participatory structure.

5.4 Performance III: Roodkapje

The third 'Darkness Walks' (DW) performance was presented at Roodkapje (Rotterdam, NL) as part of an event hosted by Noodlebar[29] on September 25th 2014. As a cultural organization and art initiative Roodkapje (venue), as well as the promoters of Noodlebar had extensive experience with stage performance and exhibitions.

[29] "[…] Noodlebar is a foundation […] aims to deliver a significant contribution to the development of electronic music, focusing on the use of modular synthesizers. Noodlebar pursues this objective through facilitating monthly stages for modular synthesizer artists in Rotterdam." See http://www.noodlebar.org/ [Accessed 14 July 2016]

Figure 9: Roberto Auser Trio performing ‘Darkness Walks’ at Noodlebar, Rotterdam (2014).

The venue provided a professional sound-system that included two professional monitoring speakers, a single beamer and a projection surface that had been installed permanently. This indicated the organization (promoter and venue) had extensive experience with Multimedia performances. And additionally, a technical engineer offered support on-site and assisted in configuring the sound system, lighting equipment and video projection during installation and sound-check. The lighting equipment included a mixing desk for remote control of the available lights. Michaël van der Meulen (lighting engineer) operated and configured both the FOH audio mix and the lighting effects during the sound-check and the actual performance. Contrary to the stages of the first two locations, the stage at the third location was raised. As a result of the second design cycle and as part of the general collaboration as reflective practice, three essential aspects could be identified for advancing the third prototype:

- **Adaptation of the performance arrangement** (as narrative) to support coherence and the immersive experience of the performance for participants as well as audience;
- **Develop a contextual device** (script) relevant for all participants, which could be utilised across all stages of the design process to support communication interaction on and off stage.
- **Synchronise resources and processes** between types of content, technology and participants; to increase coherence of musical information (audio, visual and performance aspects). This was formulated as the main goal for the third design cycle.

5.4.1 Striking Aspects of Design Strategy III

As part of the third design cycle, the drummer and the synthesist had prepared an adapted performance arrangement following the procedure for decentralized production, which had been established during the second design cycle. As part of the development, the performance arrangement for the third performance participants focussed on establishing a clear and confined narrative structure, as well as the synchronization of both musical and visual performance; aiming at generating coherence in musical information throughout the entire performance. As part of the adapted performance arrangement, components created for the second performance were re-appropriated and adapted to a total length of 30 minutes. During the first rehearsal session the new arrangement was rehearsed and adjusted in conjunction with the attendance of all participants. After a total of three rehearsal sessions the arrangement was finalized and resulted in a set of scripts[30]. The capacity of the video software to receive and process an external audio signal as part of the 'Audio Analysis' functionality[31] was appropriated. This enables the video artist to configure the software to respond to the audio aspects and performance aspects generated by the drummer and the synthesist. This technology allowed for the real-time synchronization of visual and audio content produced on stage during the actual performance. Subsequently, this software enabled the drummer and

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[30] See Appendix: 'Set of Scripts for Performance III' (p. 101)

[31] For a detailed description of the 'Audio Analysis' functionality of appropriated software for the processing of video content, see http://resolume.com/manual/en/r5/controlling - audio_analysis [Accessed 12 August 2016).

the synthesist to interact actively with visual aspects and visual content in real-time. This resulted in an enhanced immersive experience for all participants and an increase of expression in musical content.

Based on the scenario and the script that had been created as part of the initial design cycle (p. 54), an adapted template for the script was created by the synthesis. This contextual device allowed a graphic depiction of the arrangement structure as well as a time-based (chronological) description of structure, content and performance aspects. The video artist had indicated (in an evaluation interview) the adapted script provided a comprehensive understanding of the structure of the third and final instalment of the DW performances. The stage plan for the third performance was developed on site with appropriated experience from previous design cycles. An inventory of striking issues of design strategy of the third design cycle has been included as appendix[32]. With improvisation during the 'intro' and 'coda' sections the actual performance had a total length of thirty-five minutes. In short, the striking aspects of the design strategy has been formulated as follows, as part of the third design cycle:

- **Support human-technology interaction;** enabling response of video technology to musical information.
- **Support anticipation of emergent behaviour;** support distribution of creativity and create room for improvisation (communication and interaction) on stage.

▶ See DVD I: 'Excerpts of Performance III' (11min 19s)

5.4.2 Relating Design Strategy to Artefact III

Visibility of supportive technology was minimized by covering of the laptop, and (the screen) being positioned out of sight from the audience. This contributed to conformance between performance aspects and audio content, as the absence of supportive technology emphasized performance and performance aspects (**▶11m 41s**). The stage plan supported communication between the drummer and the synthesist and compared to previous performances, a general increase of interaction between the

[32] See Appendix: 'Summary of Design Cycle III' (p. 106)

drummer and the synthesist could be observed throughout the performance. Top-line writing (improvisation) by the synthesist can be observed and heard at (**▶12m 02s**). During the designated improvisatory sections, audio and visual aspects (content) appear mutually consistent, and complementary during the 'video break' (**▶12m 46s**). By use of the 'Audio Analysis' functionality (p. 63) and the possibility of real-time manipulation of visual content (video), the relationship between the Multimedia aspects appears coherent and consistent. As the growing volume and intensity of the audio aspects stimulates the rhythmic manipulation of video content, interaction between the participants suggests a form of contest. This can be observed clearly during the video registration of the third performance where patterns of effects in the visual content appear to follow the tempo and dynamics of the audio content. This is particularly apparent during the sections 'climax' (**▶13m 52s**) and 'coda' (**▶14m 54s**) of the performance.

5.4.3 Evaluation of Design Cycle III

As the participants discussed and evaluated the third design cycle, interaction between participants and dynamic audio and visual content was identified as the main challenge in developing the third performance. During preparations and rehearsals, the three participants developed an arrangement collaboratively. The script allowed the video artist and the synthesist to familiarize the performance arrangement throughout the design cycle. Based on evaluation of the video registration of the third prototype (performance), participants identified the third design cycle as the most prolific and coherent. In addition, participants indicated the third performance to be the most coherent and creatively challenging due to increased possibility of interaction on stage. In an interview participants indicated the rehearsals for the third performance to have been the most efficient and most effective. In response to organizational, creative and technological challenges described in the previous sections, and the strategic appropriation and application of technology and an adapted version of the script as part of design strategy, participants were able to transform and advance their engagement and involvement during preproduction and the actual stage performance.

> *Our collaboration is a joint effort in translating a narrative into a physical experience [...] the narrative provided space to develop a shared imagination. (Drummer, Jasper Barendregt 2014)*

Criteria (sub questions)	Summary
How do participants anticipate for emergent behaviour (improvisation)?	• Integration of visual performance in rehearsals and the inclusion of designated improvisatory sections in the general structure of the performance arrangement. • Emergent behaviour is facilitated by real-time content assessment. • Decentralized procedure in support of individual creative initiative. • Contextual device (script) that supports familiarity and orientation regarding the performance arrangement and expectations regarding performance aspects (musical performance)
How does design strategy support the distribution of resources?	• Non-linear workflow resulted in independence of platform and software characteristics. • Subsequently, increased rigor in development of design components and audio content by participants (drummer and synthesist) through decentral aspects of design strategy (see above).
How does the design strategy support the transformation of participant involvement?	• Engagement of all participants during pre-production stage (rehearsals) in conjunction with an advance in the distribution of creativity and ownership.
How do participants describe the collaboration as a learning experience?	• See quotes by participants • See comparative analysis of design cycles (p. 103).

Table 9: Evaluation of design cycle III as a participatory structure.

5.5 Evaluation and Discussion

In this section the findings from three design cycles are discussed in order to support generalisation of the research. In order to assess the participatory structure of the DW project as a culture of participation, the Meta-Design (MD) guidelines which were translated to fit the context of music production, have been applied to the general findings and key issues of design strategy, have been presented. In addition to the analysis of the design cycles as part of this case study, the generalisation of findings is supported furthermore and signified by quotes by primary participants (highlights) from an interview. The interview was conducted as part of reflective character of the DW project; as such it is secondary to the primary evaluation.

5.5.1 Key Issues for Design Strategy in a Multimedia Environment

As quoted citations by the primary participants point out, the DW project started as collaboration aimed at transforming a musical album into a stage performance. Participants indicated that the collaboration developed significance as ownership and authorship of content and design processes was developed over the course of three design cycles. Furthermore, the research demonstrates that the development of scalability of resources and processes had contributed to "more impact with less complexity" (Jasper Barendregt 2014) throughout design cycles. Participants have managed to develop a conversational character of interaction on a human-human level as well as a human-technology level. As limited participant involvement and design challenges regarding human-technology interaction prevented a fully horizontal dialogue to emerge, coherence in musical Multimedia could clearly be observed on stage. The case study reflects general keys issues regarding design strategy, as formulated by Jeroen van Iterson (2001) in a Multimedia environment throughout the cyclical design process:

> *We created a format that facilitates the design of Multimedia performances. It can guide the development of video production and music production (Drummer, Jasper Barendregt 2014).*

> *I've learned about interaction between technology, drums and video. I was able to learn about the organization and management of a shared creative process. (Drummer, Jasper Barendregt 2014).*

- Transformation of resources and processes;
- Synchronisation of resources and processes in support of;
- Transformation of the involvement and engagement of participants.

Furthermore, based on the research I suggest that participants deal with additional aspects of design strategy that resonate in MD guidelines (p. 48). To summarize, findings of the preliminary evaluation of design cycles have been integrated in an (meta) evaluation of the DW project (see table below).

> *After the first performance my role as a session musician transformed and I became involved as a co-producer. (Drummer Jasper Barendregt 2014)*

Criteria (sub questions)	Analysis / Summary
How do participants anticipate for emergent behaviour (improvisation)?	• Development of contextual devices that guided improvisation (design cycles I + II) and the collective testing (rehearsals) of prototypes (design cycle III) • Scalability of audio, visual and performance aspects support emergent behaviour on creative, technological and organizational levels (design cycles II + III)
How does design strategy support the distribution of resources?	• Development of a nonlinear workflow for decentralised production of design components resulted in democratisation of content and media (design cycles II + III); this has supported: • Increased scalability of audio, visual and performance aspects support emergent behaviour on creative, technological and organizational levels (design cycles II + III)
How does the design strategy support the transformation of participant involvement?	• Decentralisation of design processes and the democratisation of content (audio content in particular) have allowed for the transformation and distribution of ownership; turning contributors into collaborators (design cycle I), transforming collaborators into co-producers (design cycle II), and transforming co-producers into co-owners (design cycle III).
How do participants describe the collaboration as a learning experience?	• In absence of economic incentives and contract-based participation and as part of reflective practice, a learning environment and knowledge base have developed that, in turn, contributed to the transformation of involvement.

Table 10: Evaluation of 'Darkness Walks' project as a participatory structure.

5.5.2 Underdesign: Anticipation of Improvisation

As discussed in the previous sections, participants develop design strategy in response to circumstantial design challenges. To support emergent behaviour (throughout all stages of the project) and create room for improvisation on stage in particular, participants have developed design components in the form of contextual devices such as scripts and scenarios. The opportunity for emergent behaviour on stage to occur was accounted for in several design components, the performance arrangement in particular. In addition, the development of scalability of resources and processes in order to facilitate decentral aspects of design strategy, has appeared to support emergent behaviour as part of collective or individual design activity off stage (pre-production). In the context of this research *underdesign* supports (decentral aspects of) design strategy for the development of a Multimedia environment. It has allowed participants to respond to situational design challenges and transform involvement and engagement.

> Making room for the skills, experiences, and interests of workers in system design is thought to increase the likelihood that the systems will be useful and well integrated into the work practices of the organization (Kensing and Blomberg 1998, p. 172).

5.5.3 Distribution of Creativity and Transformation of Ownership

As indicated in the previous section and demonstrated in the research, involvement and engagement of participants have evolved over the course of the DW project. As "[…] a sense of purpose is introduced when the common axiomatics of a group of related disciplines is defined at the next higher hierarchical level (Schulze cited in Max-Neef 2005, p. 6-7)", the evolution of participation and the participatory structure of this collaborative effort can be accordingly described in three stages. As the participatory structure transformed towards a democratic design process, a transition from contribution to cooperation, towards collaboration and co-ownership (of the actual artefact) can be observed. This is reflected in the Ecologies of Participation model (Figure 4, p. 32). As the participatory structure has in essence become more democratic, it effectively supports responsiveness of design strategy and the distribution of creativity.

> *The development of scalability and flexibility in the production came out as a permanent goal. (Drummer, Jasper Barendregt 2014)*

> Sociotechnical environments are needed because cultures of participation are not dictated by technology; they are the result of changes in human behaviour and social organisation. (Fischer 2011, p. 42)

The drummer and the video artist were able to adopt the role of producer – a person who organises "his or her and others people's actions strategically, while being fully aware of the interaction between music [musical Multimedia] and technology (Van Iterson 2011, p. 3)". As suggested by Gerhard Fischer (2011), this is reflected in migration paths to different more demanding roles, as well as the co-evolution of the artefact and designer community. Furthermore, contextual devices and workflows devised as part of a strategy to facilitate the decentral aspects of design strategy, provided recourses for effective human-problem engagement and dealing with creative, technological and organizational challenges frequent to (Multimedia) music production.

> *Our collaboration offered room for initiative and an intuitive approach, expanding involvement. (Drummer, Jasper Barendregt 2014)*

5.5.4 Learning Environment and Learning Experience

The participants indicated[33] that in addition to the experience of performing on a stage and working in a Multimedia environment, they gained experience related to the organization of shared (creative and design) processes. As a result of the reflective approach to the (music) production process, a valuable learning experience emerged. The notion of Meta-Design (Fischer 2011, p. 42) resonates throughout this exegesis, and points towards a social context of the research project as a participatory structure. Despite absence of economic incentives and a contract-based model of participation, the development of a knowledge base and a learning environment, offered collaboration and contribution rewards.

> *I've gained experience and learned about performing on a stage as well as the production process leading to a stage performance (Video Artist, Marieke de Roos 2014).*

> Transcend the sole reliance on economic incentives by supporting social capital, reputation economies, and gift cultures (Fischer 2011, p. 42).

This resonates throughout the interview as significant with regard to organizing collaboration, development and maintenance of the participatory structure and a shared creative process based on the exchange of personal experiences and expertise. As this affirms the social angle of design as discussed in Chapter 3 (p. 29) and music production in particular. The criteria based on the Meta-Design guidelines (p. 49) and applied in the case study, have been useful for the analysis of a socio-technological dimension of design strategy. Therefore, I would like to suggest the appropriation of Meta-Design (p. 32) – and possibly similar emerging models related to participatory design outside the field of artistic practice – in professional discourse at the intersection of the music production and other fields of design practice.

> *As part of a reflective practice and a great many conversations and discussions we were able to transcend professional boundaries and connect all participants (Drummer, Jasper Barendregt 2014).*

[33] See Appendix: 'Notes on Final Interview' (p. 109)

6 Conclusions

At this stage of the exegesis, we return to the main research question: how can world-building support collaboration and interaction in a Multimedia Environment? The following section is focussed on formulating an answer as a contribution to professional (and academic) discourse related to design strategy for (decentralised) music production. In addition, this section reflects the implications of this research for my own artistic practice. As part of the practice-based nature of this research, I will reflect on: how has this research contributed to the choices I make as an artist with respect to the development of my artistic practice? Finally, I would like to make a suggestion for further research and make a call for appropriation of 'world-building' (WB) in educational context.

6.1 Developing a Culture of Participation

As participants worked together, they created several instances of musical Multimedia and in doing so an attempt was made to produce a complete work of art. As a result, the dynamic participatory structure (collaboration) that emerged from the collaboration will be regarded as a learning experience. This can be regarded as a performance in itself: a culture of participation.

> More creative solutions to problems can emerge from the collective interactions with the environment by heterogeneous communities (such as communities of interest, which are more diverse than communities of practice) (Fischer 2011, p. 49).

The 'Darkness Walks' project and the respective stage performances have been identified as (real-time) WB. As indicated in the previous chapters, participants encountered several *organizational*, *creative* and *technological challenges* during the development of a Multimedia Environment. As WB was identified as a strategy for

the development of a transnarrative and a 'story world', it supports articulation of artistic goals and offers a starting point for an approach to music production as transmedia storytelling. Furthermore, WB supports articulation of *design strategies on a meta level* and can provide answers to questions such as: how do we work together in a complex network-based participatory structure.
As Van Iterson states: "design strategy cannot be seen apart from artistic goals" (2011, p. 18), this resonates in this exegesis as WB and related design strategies support the development of a culture of participation. As the notion of Wagner's *Gesamtkunstwerk* has been expanded in the context of music production for transmedia storytelling, Wagner's dream is one step closer to being reality. This research has led to the conclusion that the construction of 'story worlds' supports the distribution of creativity and design strategy in a Multimedia Environment as well as for the development of a participatory structure in artistic practice, and the field of music production in particular.

6.1.1 Transformation of my Practice

The influence of this research on the development of my practice as a designer, musician and lecturer cannot be understated. This research and the insights and understanding gained from it, have enabled me to contextualize the collaborative nature of my practice in which WB is applied to achieve artistic and creative, as well as technological and organisational goals. This is signified by Jean McNiff in *Action Research for Professional Development: Concise Advice for New Action Researchers* (2011):

> […] when you come to write your report or make your research public in other ways, you should aim to show not only the actions of your research, but also the learning involved. Some researchers focus only on the actions and procedures, and this can weaken the authenticity of the research (McNiff 2011, p. 15).

Writing this exegesis did not make me a better artist, however, the research did allow me to attain a greater vocabulary and understanding of my art, my practice, related fields of study and theoretical background. Thus enabling me to articulate more clearly about my works and how I organize my projects. At the start of this MPhil, I regarded WB as a creative strategy, a strategy for the creation of a 'story world'.

> Once music is painting a picture or telling a story, it is only a short conceptual distance to programmatic music, incidental music for a play, or a film score. (Stillwell in Richardson et al 2013, p. 126)

As the research progressed, WB has come forward as a design strategy for the development of a participatory structure and network-based (or decentralised) music production. From intense research in the form of several creative projects, various conversations with collaborators, participants, peers and experts, and my own personal observations and reflection, my practice can transcend a cult of personality and support the collaborative development of the fictional world of Ausland. I found the development of my practice is best described as the transition from a *Do-It-Yourself* attitude towards a *Do-It-Together* mentality.

6.2 Suggestions for further Research

The research has invigorated a sense of inspiration and ideas for future creative projects, as well as the direct (while writing this exegesis) appropriation of insights and understanding related to WB and working in a Multimedia Environment in my educational practice – as a lecturer at the Communication, Multimedia and Design department (CMD) of the Utrecht University of Applied Sciences and a guest-lecturer at the HKU Utrecht School of Arts (Music and Technology department).
As this research transcends a traditional notion of composition and music production as isolated disciplines – it incorporates the visual (arts and design) – I have found this research to underpin the significance of emergent behaviour across artistic and design disciplines, and improvisation in contemporary music production in particular. While traditional boundaries between design disciplines disappear and new ones arise, I suggest to examine possible appropriation of WB and associated design strategies in artistic practice and in music production in particular.

6.2.1 Call for World-building in Educational Context

As a result of this research, the relevance of WB to communication and design education has been the topic of many conversations and discussions with peers and educational professionals. As this research has demonstrated, WB offers a rich and

valuable learning environment and allows involvement and engagement of participants to transform and transcend boundaries of disciplines and professional limitations. I hope that my experiences and the insights that I have gained from this research can assist students and professionals active in the intersecting fields of music (production and performance), visual arts and design. The cultural changes and technological advances outlined in this exegesis guides a continuous discourse on collaboration and participation across fields of design disciplines. In the case of this MPhil submission, WB has provided vocabulary related to collaborative design and distribution of creativity, which is suggested as a worthwhile starting point for future research on the appropriation of world-building in (music) design education.

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8 Appendices

8.1 Contents of DVD I

8.1.1 The 'Darkness Walks' Performances Explained (video)

This DVD (data) contains a single video file in which the practical element of this MPhil submission is presented. References to this video have been made, throughout the exegesis. The video file in MPEG-4 format (.mp4) can be opened with any video software that allows playback of the indicated format.

8.2 Contents of DVD II

8.2.1 Set of Video Files

This data DVD contains video files in MPEG-4 (.mp4) or Quicktime Movie (.mov) format to ensure cross-platform access. The video files can be opened with any software that allows playback of the indicated video format.

- Film Album DW
- Promotional Videos DW
- Performance ‘Asterix’

8.2.2 Set of Audio Files

Multiple audio files in PCM Wave (.wav) or MPEG-3 (.mp3) format, which can be opened with any number of audio software that allow playback of the format:

- Musical Album DW
    - PCM Wave format
    - MPEG-3 format

8.2.3 Sets of Images

Multiple image files in JPEG format of PDF format:

- Scripts and Scenarios
- Stages, Venues and Rehearsal Space
- Screenshots Performance Arrangement and Software
    - Images of Mother-session
    - Images of Child-session
- Printed Matter and Artwork

8.3 The 'Darkness Walks' Project prior to the MPhil

As a musical album 'Darkness Walks was envisioned as the second publication on my private record label: Ausland Records. Jasper Barendregt (drummer) was invited to record drums and percussion. We worked closely throughout the process of recording, editing and mixing drums and percussion to complement the original pieces that I had recorded, pre-recorded and the pre-arranged material. Marieke de Roos (video artist) was invited to collaborate and explore the combination of music and moving images. Initially, Marieke set out to create a video clip to accompany the musical album 'Darkness Walks'. As a number of shootings on different locations in The Netherlands and an abandoned *château* in Northern France resulted in large amount of video footage, the initial production of a video clip was reconsidered. The original music that was produced for publication on a physical carrier (vinyl) was envisioned as a soundtrack and we set out to produce a short movie and part of a film album[34]. In addition to our marketing strategy, this resulted in a series of promotional videos[35] for strategic distribution of the publication (and narrative) across several digital platforms for video content (e.g. Vimeo and Youtube).

8.4 Example from my Practice: 'Asterix'

During the Composition, Improvisation and Performance Project (p. 12) in 2014, I created a musical piece entitled 'Asterix' in collaboration with Tomasz Plusa (violin player). During the first fifteen minutes of our collaboration we demonstrated to each other the wide range of sonic possibilities of our instruments (Violin and Yamaha CS10 synthesizer and a small number of guitar effect pedals). The short high-pitched pulses generated by my synthesizer, processed through a tape echo simulator, apparently inspired Tomasz. As Tomasz started talking about how these sounds triggered his visual imagination, he imagined pictures of the universe, distant stars, colourful nebula; and a satellite closing in on his point of view, passing by, only to disappear in the depths of

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[34] See DVD II: 'Film Album'

[35] See DVD II: 'Promotional Videos'

outer space. As a big fan of early electronic music and futuristic sounds of space-age music, in return I felt inspired by Tomasz' vivid imagination. Together we started talking about visual associations. In doing so we discovered we had actually created a shared imagination. As Tomasz apparently felt inspired, he proceeded to generate similar and complementary sounds with his violin. As I felt inspired as well, I experienced the sounds of our instruments to gradually become more than just tones and rhythmic patterns: a rich musical ambiance with a powerful visual associative appeal. Based on the aforementioned improvised narrative, a musical piece was created by composing and designing a performance in real-time and reflective dialogue, to assist the decision making in the creative process while making music; all of this done quite effectively and at quite a fast pace. That same afternoon we were joined by Müşfik Can Müftüoğlu, a Turkish guitar player, multi-instrumentalist and fellow participant of the CIP project, whom we asked to add musical elements using a (prepared) piano, and join in the further development of the improvised musical piece. The visual imagination we had discovered earlier proved to have a similar effect on inspiring Müşfik. This collaboration demonstrates the development and appropriation of a *shared imagination* as it transformed the potential of our collaboration into actual creative possibilities, and an improvised music performance as a final result, realised in only a couple of hours. The result of this collaboration was presented at the HKU Conservatory on February 12th 2014 (figure below).

Figure 10: participants of the CIP project perform 'Asterix' at the HKU Conservatory (2014)

8.5 Notes on Design Cycle I

8.5.1 Preparation and Pre-production

Development of the first 'Darkness Walks' (DW) performance started with the production of audio components to use during the construction of a backing track[36] by participants Derk Reneman (synthesist) and Jasper Barendregt (drummer). This activity consisted of processing audio recordings that had been recorded and mixed during the production of the musical album in studio context (DVD II: musical album). The drummer and the synthesist developed the initial backing track (BT) through an iterative process of *plan-play–adapt (repeat)*. During several sessions at Studio Paul Francois[37] they rehearsed top-line writing[38] and real-time composition.

Marieke de Roos (video artist) focused on the transformation of a different type of design component: video clips. The visual content (video) that was projected during the performance consisted of pre-produced components – short scenes and clips that had been extracted from original content produced for the DW film album (see DVD III: Film Album). The video artist used professional video editing software Final Cut Pro[39] to produce a selection of clips. The pre-produced video clips were organized according to visual categorization e.g. 'man with hat', 'forest', 'driving' and 'mansion'. Subsequently, the selected video clips were imported into an additional software environment. The video artist was not able to attend the rehearsal sessions organized by the synthesist and the drummer due to the amount of time needed for computer software to render digital video files.

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[36] The concept of the *backing track* has been introduced and identified in Chapter 2 (p. 19).

[37] *Studio Paul Francois* is located in the centre of Tilburg (NL) and offers a rehearsal and recording studio that includes a large and a small rehearsal room. The rehearsals for three performances, as described in this case study, took place at Studio Paul Francois.

[38] The concept of *top-line writing* is introduced and identified in Chapter 2 (p. 20)

[39] See http://www.apple.com/nl/final-cut-pro/ [Accessed 20 June 2015]

8.5.2 Scenario for Performance I

Prior to rehearsals a scenario (see figure below) was created as an alternative to traditional musical notation. This enabled the synthesist and the drummer to outline the musical arrangement of the performance. In addition, this allowed the video artist to develop an understanding of the musical arrangement and an overview of the structure of the performance.

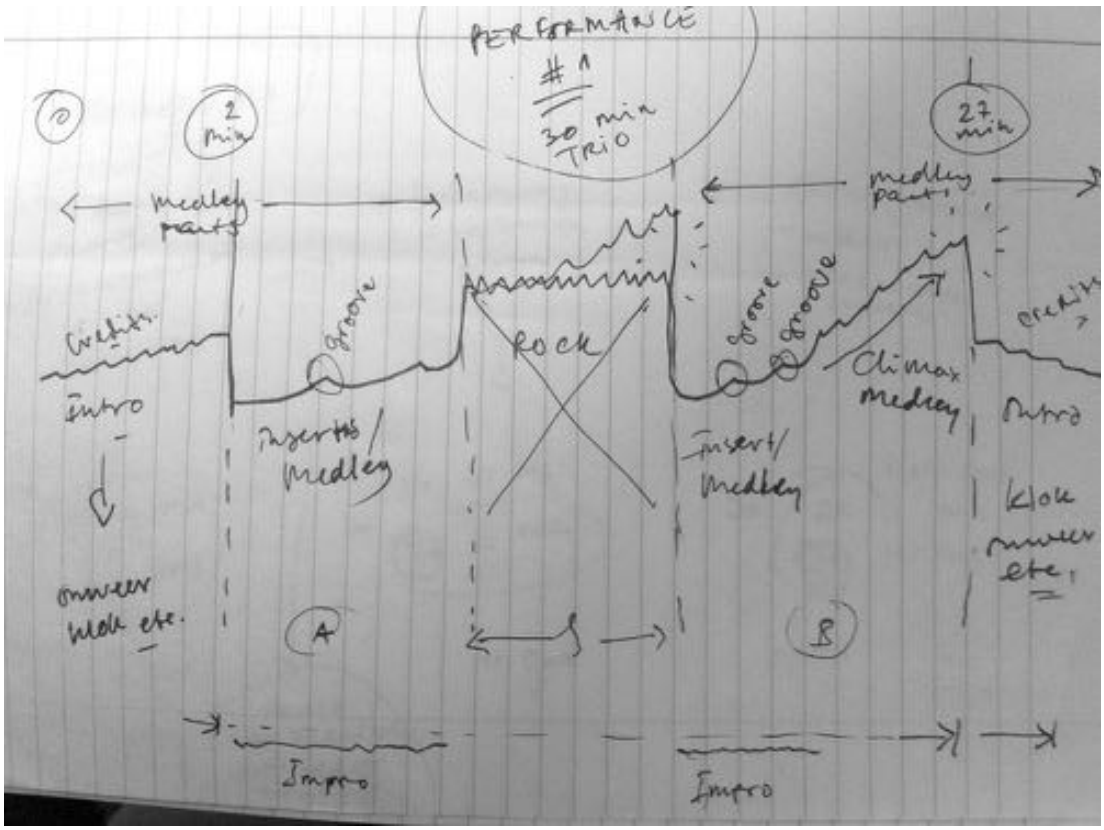

Figure 11: initial scenario for performance I

8.5.3 Script for Performance I

The scenario (Figure 11) that had been created during the rehearsals was transformed into a script based on the BT arrangement. The drummer and the synthesist used this script during individual rehearsals, and offered cues and instructions to the video artist and Michaël van der Meulen (Lighting Engineer). The script (below) was discussed with the video artist and the lighting engineer and additional notes were added prior to the actual performance.

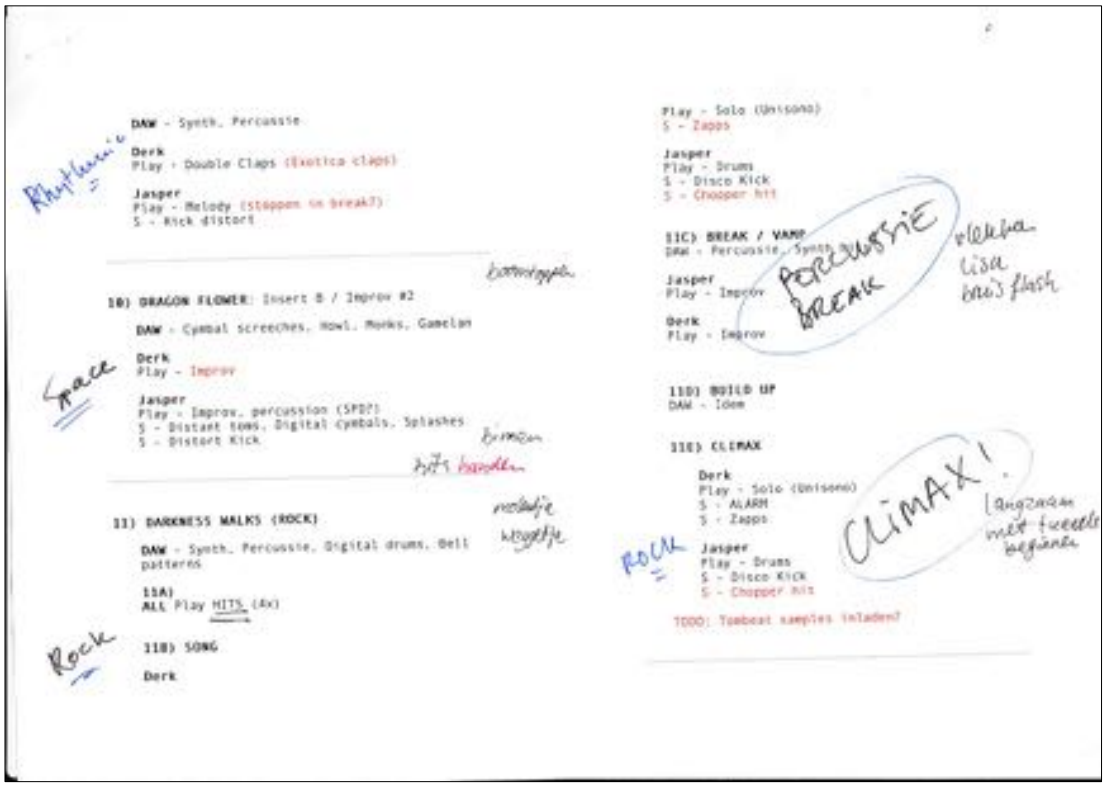

Figure 12: page of script for performance I

In addition to track titles, a number of cues related to instrumentation and audio aspects were contained in the script. Additional indicative commentary such as tempo, colour of lights, and keywords for visual association were added to the script (see figure above). This enabled the video artist and the lighting engineer to rehearse and prepare during the sound check (a rehearsal of the performance at the venue prior to the actual event that allowed the audio engineer to balance the BT with audio from the instruments, as well as performance aspects such as dynamic lighting and smoke effects). The script[40]

[40] For the complete script of performance I see DVD II: Script Performance I

allowed the video artist and the lighting engineer to gain a musical understanding of the performance arrangement and supported improvisation of visual aspects response to audio aspects.

8.5.4 Construction of a Backing-track

For the production of a *backing track*, multiple audio components were extracted from the original mixing sessions, which had been created in Pro Tools[41] as part of the production of the musical album (DVD II). During the first stage of this process, the drummer and the synthesist edited and reorganized the final recordings of individual tracks (stereo audio files) according to the general outline (scenario) of the performance (see figure).

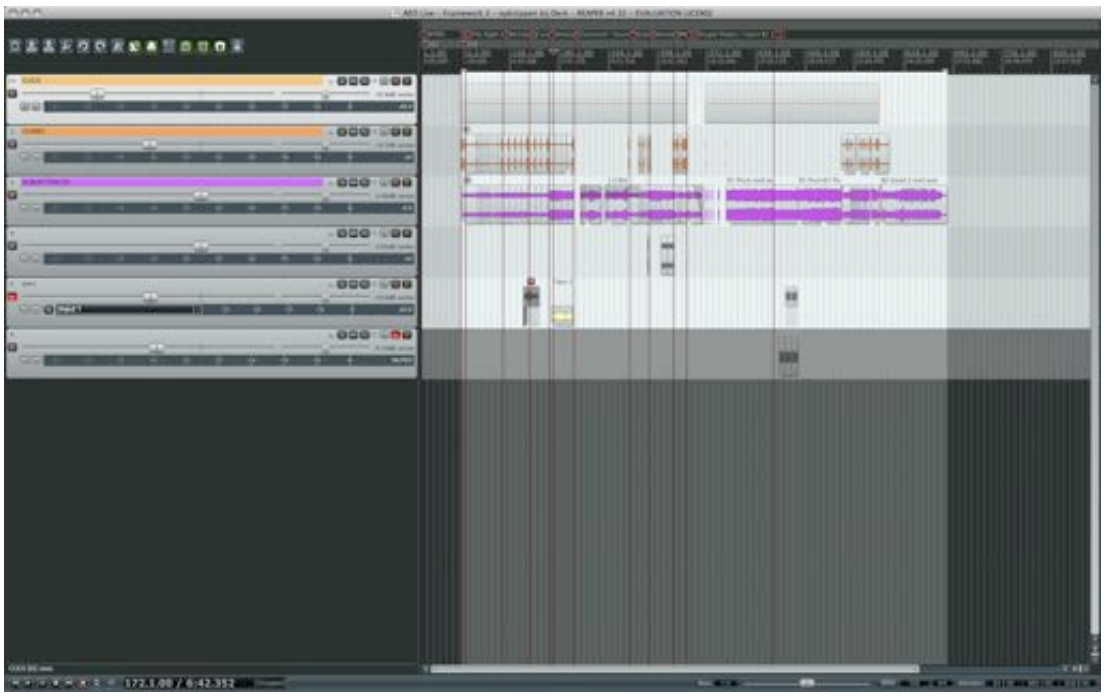

Figure 13: initial (non-stem based) performance arrangement in Reaper (software)

At this point, the drummer and the synthesist agreed to use the computer (laptop) of the drummer as the primary digital audio workstation (primary DAW) for audio production and BT playback during performance. Based on this scenario and an early version of the

[41] See http://www.avid.com/en/pro-tools/features [Accessed December 2015]

BT, requirements for a selection of stems[42] were determined. Subsequently, the synthesist extracted stems from the original digital studio environment, which were reorganized and rearranged in the primary DAW that was running REAPER[43] audio software (see figure below).

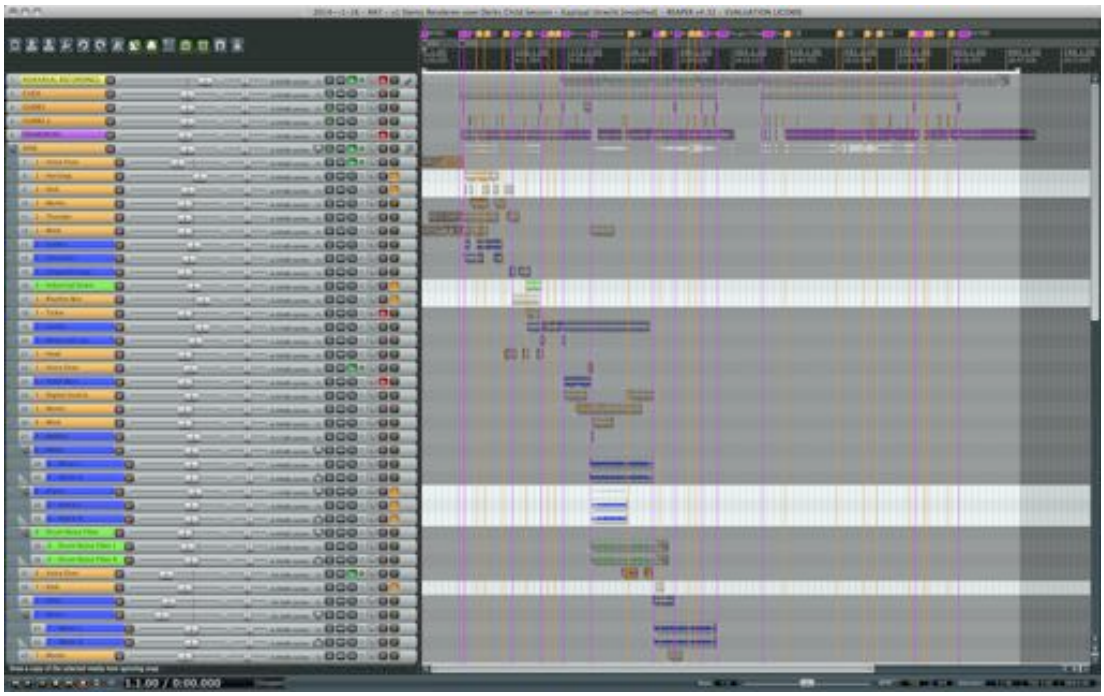

Figure 14: stem-based performance arrangement prior to recording of (four stems) backing track.

As the drummer and the synthesist created the BT, and rehearsed playing on top of the BT this resulted in interpretations of the original studio material. In addition, the drummer and the synthesist created the sections 'intro' and 'coda'. These parts of the arrangement had been designated as improvisatory sections. With the inclusion of the 'intro' and 'coda' sections, the actual performance had a total duration of approximately thirty minutes.

[42] In audio production, a stem is a discrete or grouped collection of audio sources mixed together, usually by one person, to be dealt with downstream as one unit. A single stem may be delivered in mono, stereo, or in multiple tracks for surround sound [Wikipedia, accessed December 2015].

[43] REAPER is a complete digital audio production application for Windows and OS X, offering a full multitrack audio and MIDI recording, editing, processing, mixing and mastering toolset (Cockos Incorporated 2016). See http://www.reaper.fm/ [Accessed December 2015].

8.5.5 Monitoring System: Real-time Assessment of Content

The BT was extended with the addition of three functional audio tracks (two ‘guide tracks’ and one ‘click track’). The guide tracks signalled musical information such as a change of segments (sections) and songs with short pulse sounds. The ‘click track’ indicated the tempo of musical content, often referred to as a metronome. To synchronize the BT and real-time composition (performance) on stage, a monitoring system was developed that allowed for the monitoring of three types of functional audio signals by the drummer and the synthesist. First, the combined audio of electronic instruments that was sent to the main sound system (BT, percussion samplers, synthesizer) was routed to headphones. In addition, the guide tracks and click track that had been incorporated in the BT arrangement were routed to the headphones of the drummer and the synthesist simultaneously.

8.5.6 Real-time Generation and Performance of Video Content

As part of the performance, selected video content was remixed and manipulated in real-time by the video artist with the use of nonlinear video editing software Resolume Avenue VJ Software[44] (Resolume). Resolume allowed the various video clips to be dispersed over several video channels (see figure), as well as real-time selection, remixing and manipulation during playback (performance).

Figure 15: screenshot video software (Resolume Avenue 4) used by the video artist.

[44] See http://resolume.com [Accessed May 2014]: Avenue 4 is an instrument for VJs, AV performers and video artists. Avenue puts all your media and effects right at your fingertips, so you can quickly play and improvise your live visuals.

8.5.7 Stage Plan I

To support synchronized communication between performers and interaction onstage, a stage plan (see figure) had been developed in conjunction with the primary participants prior to the performance.

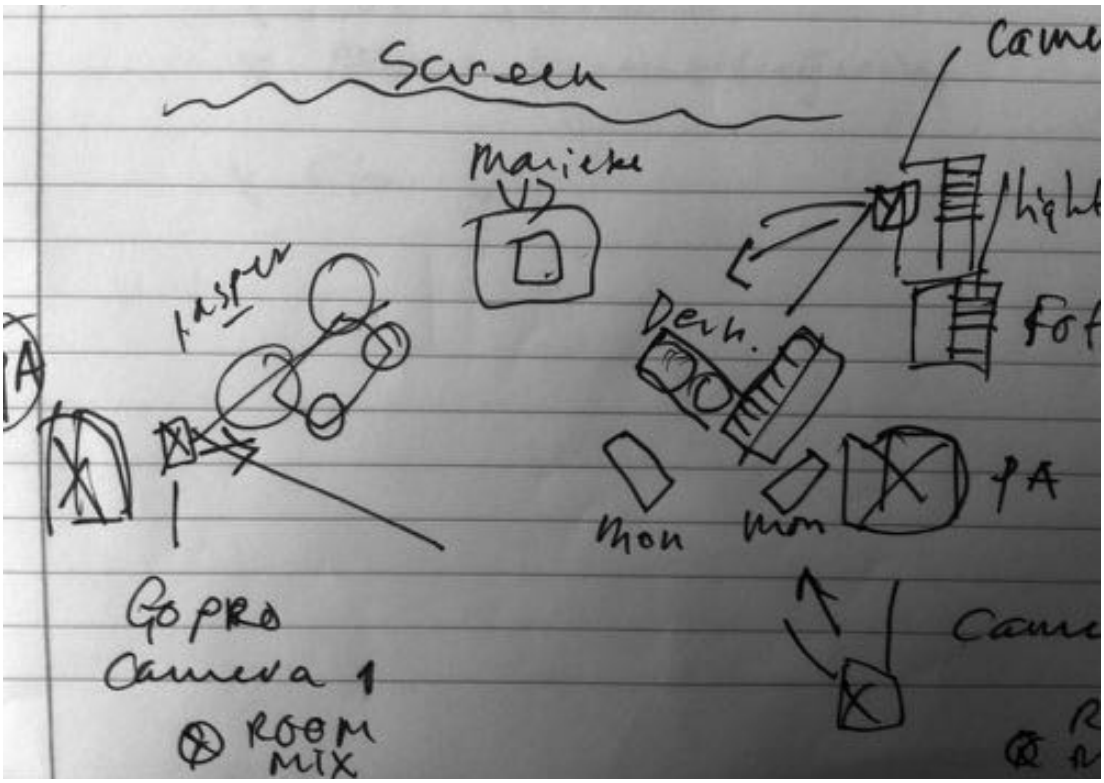

Figure 16: stage plan for performance I

To avoid the volume of the drums being too overpowering where the audience was positioned, the drums were set up on the left side of the stage. The synthesist was positioned on the right side of the stage to support eye contact and gestural communication with the drummer. From the audience point of view (POV) the placement of performers, instruments and the projection surface (stage plan), appears balanced and symmetrical. This can be observed in the video 'Excerpts of Performance I'. In this excerpt, a lit screen of the DAW (computer) can be observed clearly. This indicates the use of pre-recorded audio and digital technology to support live performance. In addition, the drummer and synthesist wore headphones throughout the performance; this indicates the application of the monitoring system.

8.6 Notes on Design Cycle II

8.6.1 Developing a Horizontal Workflow

As the drummer and synthesist created an arrangement prior to rehearsals, the audio content was dominant during preparations. However, during the actual performance, video content was emphasized as a central section of the performance. The dominance of video content over audio content was emphasized (video break). This strategy for the decentralized production of the backing-track enabled us to work individually on the arrangement through the use of stems, which could be exported in multi-track format and inserted in the (mother) main arrangement running on the computer (laptop), operated by the drummer.

As the audio tracks of the mother-session had been reduced to the number of five tracks, the number of tracks corresponded to the types of audio content and functional audio (cue and click tracks). The audio tracks of the arrangement that had been made for the BAR performance were exported accordingly (see figure).

Figure 17: list of stems exported from child-session

As this procedure (or decentralised process) resulted in new versions of previous material, it allowed us to work more creatively in creating the backing-track and to include more room for improvisation in the final arrangement (see figure below). In addition, this strategy enabled and inspired Jasper to remix the arrangement created for the BAR performance and create new parts, which expanded his creative ownership and took his involvement to a new creative level.

Figure 18: screenshot of child-session as arranged in Ableton Live;
the white marker indicates a ten-minute improvisation section: the ‘video break’.

The decentral nature of the design process is furthermore supported by a procedure that enabled the process of developing audio content (backing-track and monitoring systems) to be synchronized (p. x). While the complete team rehearsed the performances, the capacity of the video artist had transformed from consumer to contributor.

8.7 Set of Scripts for Performance III

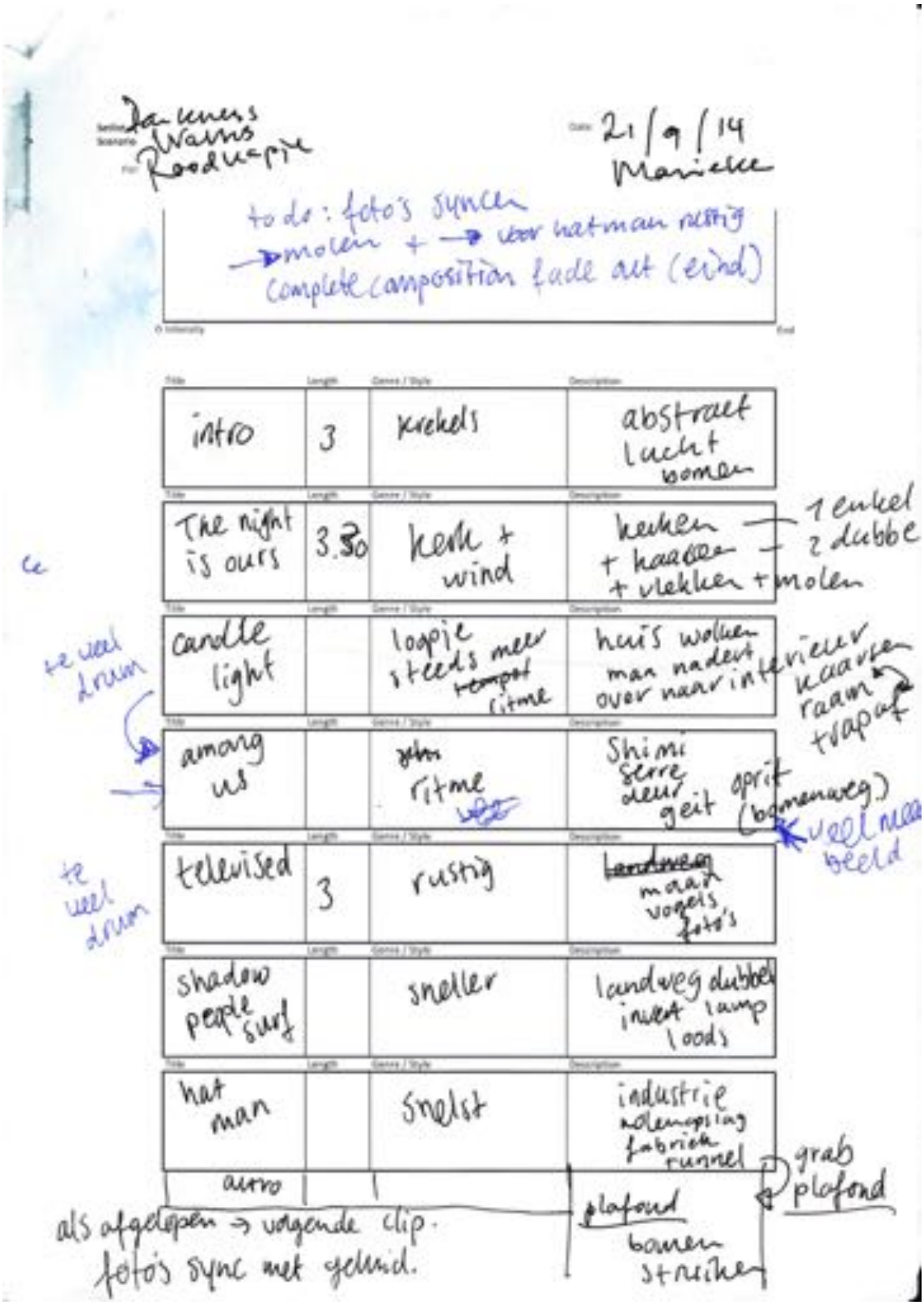

Figure 19: script of performance III created by video artist (2014)

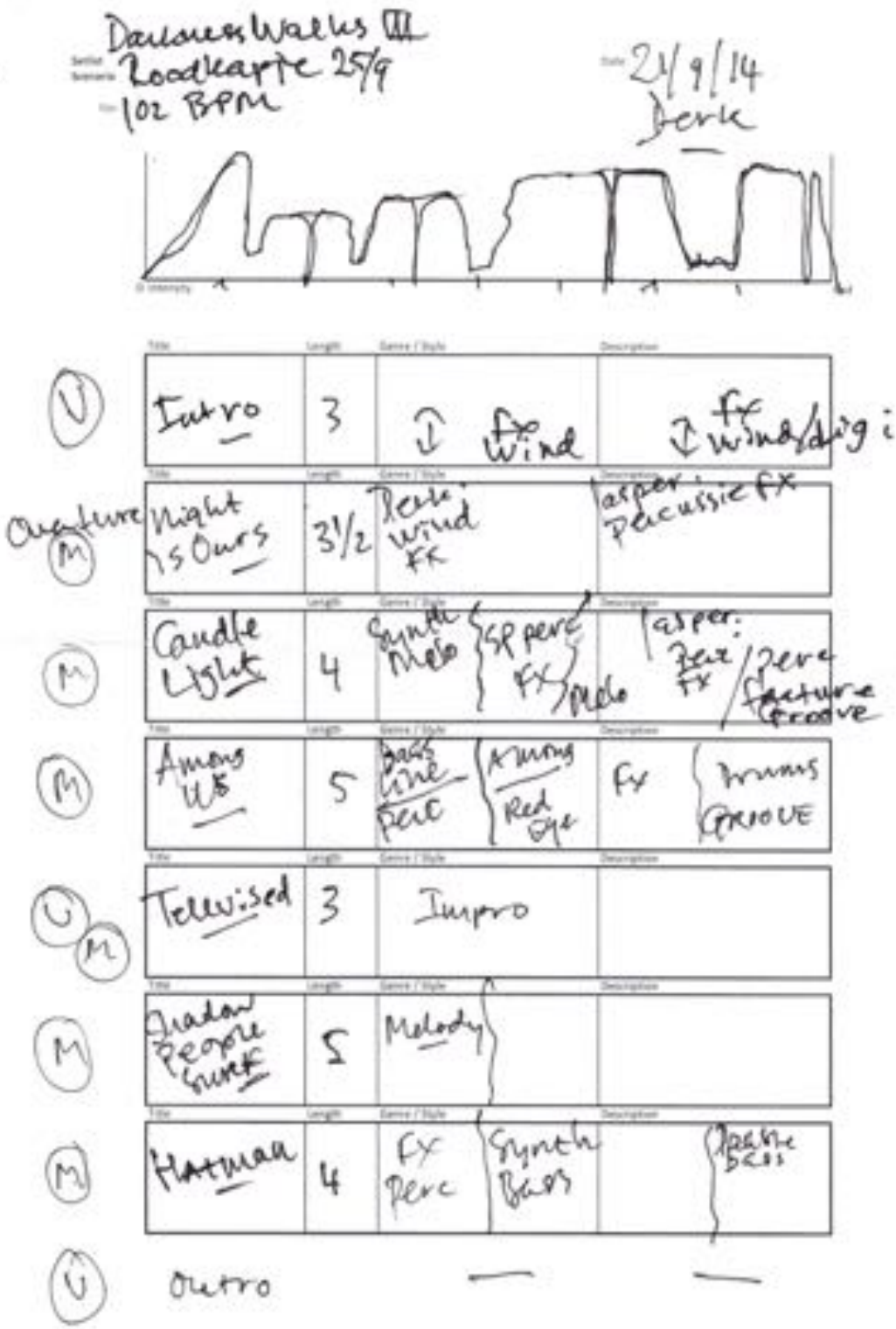

Figure 20: script for performance III created by the synthesist (2014)

Figure 21: amended script of performance III created by the synthesist (2014)

8.8 Inventory of Striking Aspects of Design Strategy

8.8.1 Summary of Design Cycle I

Aspects of Design Strategy	Summary
Synchronization of resources What types of content and technology were used and how were these synchronized?	Striking issues regarding the synchronisation of content and technology are: • The assignment of a primary workstation (DAW) and the construction of a single 'mother session' resulted in disproportionate distribution of workload among participants. • Backing track re-arranged in 'mother session' based on complex arrangement from studio material resulting in time-consuming effort. • Lack of rigor in procedure for categorization and the exchange of audio design components (stems). • The development of contextualizing devices (scenario and script) allowed participants to synchronize content types and performative aspects.
Synchronization of design processes How were design processes synchronized? And how did participants support emergent behaviour?	Striking issues regarding synchronisation of design processes are: • Rehearsals that attributed to alignment of emergent behaviour during real-time creation of audio content and performative aspects. The rehearsals excluded the video artist. • The development of contextualizing devices contributed to the synchronization of real-time composition of visual content, audio content and performance aspects during rehearsals and stage performance. • Several improvisatory sections were incorporated in the arrangement ('intro', interpretations of original material, 'coda') in anticipation of (creative) emergent behaviour. • Several design challenges were approached as site-specific conditions, notably the synchronization of performance aspects to audio and visual content.
Communication and Interaction: Involvement and engagement of participants How were participants involved and how did engagement develop?	Striking issues regarding communication and interaction are: • As two out of the three participants engaged in the synchronisation of audio content, performance aspects and design processes throughout the design cycle, involvement of the third participant (video artist) was compromised by the complexity of human-technology interaction (video rendering). • Visual content and related performance aspects of live video projection were synchronized and aligned on location, prior to the performance as a response to the site-specific conditions (see above). • The drummer had exclusive access to the 'mother session' that had been created for the development of the backing track. This gave room for interpretation of studio material by the drummer. However, the involvement of the synthesist in the assessment of content and compromised engagement during development and transformation of design components was limited.
Assessment of content and processes What decision-making processes were used?	Striking issues regarding the assessment of content and processes: • The development of a monitoring system that attributed to the real-time assessment of content. • On site rehearsal (sound check) to adjust design strategy to site-specific conditions. • As part of the reflective practice, participants evaluated design strategy and the initial prototype by attending several meetings and some (e-mail) correspondence. • Expert evaluation reviews by Jeroen van Iterson, Arjen de Vreede and Niko Langenhuijsen.

Table 11: striking aspects of design strategy in design cycle I.

8.8.2 Summary of Design Cycle II

Aspects of Design Strategy	Summary
Synchronization of resources What types of content and technology were used and how were these synchronized?	Striking issues regarding the synchronisation of content and technology are: • Development of procedure for content creation/processing and content management (see below). • Adaptation of the monitoring system for audio content; integration of real-time audio feed into the mother session for in ear monitoring. • Improved response to audio and performance aspects by the video artist through the implementation of a manual interface (midi-controller).
Synchronization of design processes How were design processes synchronized? And how did participants support emergent behaviour?	Striking issues regarding synchronisation of design processes are: • Development of a workflow that allowed both drummer and synthesist to develop and manage content based on platform independent file formats (stems). • Several designated sections for real-time composition (improvisation). • Improved monitoring of visual content by adapted stage-plan
Communication and Interaction: Involvement and engagement of participants How were participants involved and how did engagement develop?	Striking issues regarding communication and interaction are: • Increased engagement of the video artist in preparation and – more importantly – during (single) rehearsal session. • Decentral procedure for content development (backing-track) allowed the drummer to develop additional interpretations of the original material. • Support interaction on stage with the visual content and performance by the video artist through the instalment of a designated improvisatory section ('video break')
Assessment of content and processes What decision-making processes were used?	Striking issues regarding the assessment of content and processes: • Video artist present at one out of three rehearsal sessions and engaged in rehearsal of performance aspects. • Decentralised procedure for content development and content management supported interaction between the drummer and the synthesist during the preproduction stage. • Adapted stage-plan in support of real-time assessment of content types (notably visual content). • As part of reflective practice, participants have evaluated the design strategy as well as the initial prototype by attending several meetings and some (e-mail) correspondence.

Table 12: striking aspects of design strategy in design cycle II.

8.8.3 Summary of Design Cycle III

Aspects of Design Strategy	Summary
Synchronization of resources What types of content and technology were used and how were these synchronized?	Striking issues regarding the synchronisation of content and technology are: • Visual and audio design components directly derived from precious design cycles. • Decentral workflow as developed as part of design cycle II. • Utilization of the (video) software functionality: eternal 'Audio Analysis' to enable interaction between audio (and performance) aspects and visual performance.
Synchronization of design processes How were design processes synchronized? And how did participants support emergent behaviour?	Striking issues regarding synchronisation of design processes are: • Development and application of a contextual device (script) to support synchronisation of performance aspects. • Designated improvisatory sections as part of the performance arrangement • Engagement of participants in all rehearsal sessions throughout the third design cycle.
Communication and Interaction: Involvement and engagement of participants How were participants involved and how did engagement develop?	Striking issues regarding communication and interaction are: • Engagement of all participants in rehearsal sessions throughout the third design cycle. • Distribution of ownership and generated incentive for developing customized design components and content.
Assessment of content and processes What decision-making processes were used?	Striking issues regarding the assessment of content and processes: • Engagement of all participants in rehearsal sessions throughout the third design cycle. • Real-time assessment of audio contents though the monitoring system and procedure derived from the second design cycle with minor (not notable) updates.

Table 13: striking aspects of design strategy in design cycle III.

8.9 Comparative Evaluation of Design Cycles

Design cycle I	Design cycle II	Design cycle III
How do participants anticipate on emergent behaviour (improvisation)?		
• Development and application of contextual device(s) • Two of three participants develop and test prototype • On-site rehearsal (sound check)	• Nonlinear workflow for decentralised production • Development of scalability of audio, visual and performance aspects • Two out of three participants develop and test the prototype; third participant present at one out of three rehearsal sessions. • On-site rehearsal (sound check)	• Development and application of contextual device(s) • Collective development and testing of prototypes during rehearsals • See Design Cycle II
How does design strategy support the distribution of resources?		
• Two out of three participants develop and test prototype • On-site rehearsal (sound check)	• Development of nonlinear workflow for decentralised production of design components resulted in democratisation of content and media this has supported: • Scalability of design components, as well as increased responsiveness to site-specific audio, visual and performance aspects • Collective development and testing of prototypes during rehearsals. • On-site rehearsal (sound check).	• Collective Rehearsal sessions • See Design Cycle II
How does the design strategy support the transformation of participant involvement?		
• Design strategy supported by the transition of contribution towards cooperation and collaboration	• Design strategy supported by the transition of cooperation and collaboration towards collaboration and co-ownership (co-producers)	• Design strategy supported by the transition of co-design towards co-ownership and co-authorship.
How do participants describe the collaboration as a learning experience?		
• They gained a 'sense of inspiration' and became aware of potential and possibilities for improvement.	• A transition to more demanding roles and tasks • Room for initiative and expanded involvement	• Transcend professional boundaries • Gained experience regarding organization and management of shared processes

Table 14: comparative evaluation of design cycles.

8.10 Captions and Subtitles (Video Artefact)

<BU Logo>

This video presents the practical element of a MPhil submission that has been submitted in partial fulfilment of the requirements of Bournemouth University for the degree of Master of Philosophy.

The **'Darkness Walks' Performances** Explained

Written and produced by Derk Reneman

Additional Editing by Marieke de Roos

Music and Visuals performed by Roberto Auser Trio

The Roberto Auser Trio are:
Derk Reneman – Synthesizer, Electronics, Programming
Jasper Barendregt – Drums, percussion, Programming
Marieke de Roos – Visuals, Video Projection

Excerpt of Performance I
BAR, May 13th 2013
(Rotterdam, The Netherlands)

The opening of this first performance
was designated as an improvisatory section.

During the 'intro' and 'coda' sections a soundscape was generated by the computer, on this occasion positioned next to the drummer.

For the performance the drummer and synthesist had created
a performance arrangement and a backing track (p. x).

Throughout the major part of this performance, improvisation
can be classified as ‘top-line writing’: playing over the backing track.

When there is less content on the backing track,
improvisation tends towards a state of ‘jamming’.

The presence of a clearly lit laptop screen
can be observed throughout the performance.

This laptop was used for the playback of pre-recorded
and pre-arranged audio components: the backing track.

The video artist used a laptop and VJ software for the playback
and mixing of a selection of pre-produced video components.

In order to synchronize performance and interaction
between the drummer and the synthesist,

headphones were used to monitor the backing track and live audio.

The synthesizer required real-time programming
in order to adjust to any appropriate sound.

The position of participants on stage limited
communication and interaction.

This compromised emergent behaviour and
real-time assessment of content.

Participants decided to project visual
content on the black wall,

in order expand the dimensions of the video projection,
and support the integration of visual and performance aspects.

Due to the intensity of stage lighting and the limited luminance capacity of the projection device, clarity and contrast of the video content was compromised.

This can be observed clearly on
several occasions during the performance.

Communication between participants and the video artist
appears limited throughout the performance.

Gestural communication between the drummer and
the synthesist is visible mostly in the form of eye contact.

Climax

Dynamic stage lighting, a design aspect of the performance,
emphasized interaction between the drummer and the synthesist.

However, dynamic stage lighting and light-absorbent black wall
reduced the visibility of video content.

Coda

During improvisatory sections such as the ‘coda’ the backing track
consisted of atmospheric or ambient sounds.

This enabled participants to improvise new content.

This resulted in a situation where aspects of
musical multimedia appeared to complement each other.

Excerpt of Performance II

Kapitaal, February 14th 2014

(Utrecht, The Netherlands)

Intro

The stage plan was reconsidered in order to support communication and interaction between participants on stage.

The size and configuration of drums and percussion instruments had been streamlined to support the reduced area of the stage.

Additional projection surfaces and secondary visual content complemented the primary video projection.

The projection devices differed in hue and luminosity, which resulted in a varying discolouration of video content.

The drummer and the synthesist used in-ear headphones as part of an adapted monitoring procedure.

This minimized visibility of supportive technology and contributed to the suggestion of interaction on stage.

A microphone placed over the drum kit allowed for real-time monitoring and the balance of backing track contents.

Video Break

Improvisatory sections that had been developed during the first design cycle were re-appropriated.

During the ‘video break’ the drummer and the synthesist
improvised in response to visual aspects.

As part of the performance arrangement only atmospheric sound
(rain and insects) was played back during this section.

Although no script or scenario was created
as part of the second design cycle,

the ‘video break’ allowed the video artist to take the lead
for ten minutes, in the same way as a musician taking a solo.

In addition to the ‘video break’ and the amended stage plan,

Improvisation and expression by the video artist was supported with the addition of a midi controller to the video technology.

During the improvisatory section ‘video break’,
auditory and visual aspects appear mutually complementary.

This can be observed in the occurrence of self-reflection,
which added depth of narrative and coherence to the musical information.

The Drummer and synthesist developed a horizontal workflow,
which allowed platform-independent file sharing.

Participants were able to work on the backing track
individually and across different locations.

This supported the distribution of resources and creativity,
as well as the transformation of ownership and involvement.

The drummer processed an initial arrangement created by the synthesist
and remixed parts of the original arrangement extensively.

Due to the absence of dynamic stage lighting and
with the use of secondary projection devices and surfaces,

participants were able to construct a ‘black box theatre’.

The framing of the stage through multiple projections,
made a significant contribution to the immersive quality of the performance.

Climax

As a result of the new design strategy,
coherence between musical multimedia increased,

and contributed to expressiveness of the performance as well as
the immersive experience of a multimedia environment.

Coda

Excerpt of Performance III
Noodlebar, September 25th 2014
(Utrecht, The Netherlands)

Intro

The adapted stage plan supported communication between
participants and interaction on stage in general.

The lighting engineer was instructed to retain
visibility of the video projection.

The absence of secondary projection surfaces
prevented expanded projection.

The horizontal workflow and collective rehearsals
allowed improvisation to progress to a ‘jamming’ mode.

During performance the drummer added new original
percussive sounds by using a percussion sampling device.

Video Break

As part of the third performance the ‘video break’
was shortened to approximately five minutes,

in order to support tension and clarity of
the performance arrangement.

The horizontal workflow and collaborative rehearsals allowed
participants to concentrate on narrative structure of the performance.

As a result of previous experience and design strategy,
participants gained a sense of inspiration and confidence.

This contributed to coherence of musical information
and interaction between participants on stage.

Climax

The video artist was positioned close to the drummer
in order to support ‘Audio Analysis’ technology (p. x).

The sound of the drum kit was registered by
the built-in computer microphone used by the video artist.

This allowed the video software to respond
automatically to auditory content.

This enabled the video artist to generate rhythmic visual content,
visibly integrated with auditory and performance aspects.

This was beneficial to coherence of musical information
and the expressiveness of musical multimedia.

Coda

The Roberto Auser Trio are:

Derk Reneman	Synthesizer, Electronics, Programming
Jasper Barendregt	Drums, percussion, Programming
Marieke de Roos	Visuals, Video Projection

Contributors Performance I:

Michaël van der Meulen	Lighting and Audio Engineer
Jasper Serraris	Audio Engineer
Patrick Marsman	Promoter Venue
Ian Martin	Camera

Contributors Performance II:

Michaël van der Meulen	Lighting and Audio Engineer
Ramon Goedvree	Promoter Venue
Ian Martin	Camera

Contributors Performance III:

Michaël van der Meulen	Lighting and Audio Engineer
Dennis Verschoor	Promoter Event
Niels Kloet	Technical Engineer (Venue)
Jose Saiote	Camera (Event)

As part of a MPhil submission, this DVD presents three stage performances and accompanies an exegesis that contextualizes the current practice of the author entitled: Collaboration in a Multimedia Environment World-building and Design Strategy in Music Production

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8.11 Notes on Final Interview

8.11.1 Interview Questions

- Can you give a general description of the project?
- Can you give a general description of our collaboration?
- How did the Ausland concept influence our collaboration and performances?
- Can you give a description of our shared creative process?
- Can you describe your role and how it developed as part of the project?
- Can you describe how our creative process developed?
- To what degree were you able to influence the creative process and its development?
- How did the performances develop over time? And how would you describe your influence on the development?
- What was the part of technology during our collaboration and the performances?

- Did you find the project helpful in an educational sense? What did you learn? What would you have like to have learned?
- In which way did the project inspire you? And will this inspiration be useful in your other projects?
- Do you have suggestions for future development and collaboration related to the project?

8.11.2 Highlights of Interview (Dutch)

Derk Reneman (Interviewer , Synthesist): Wat hebben we gedaan? Hoe omschrijf je het project tot dusver? Hoe omschrijf je de samenwerking tot dusver?
Jasper Barendregt (Drummer): Gescheiden werelden die bij elkaar zijn gekomen. Format gecreëerd ontwikkeld met z'n drieën … om Multimediale performances neer te zetten.
Marieke de Roos (Video Artist): Ervaring van muziek en film / video als een geheel … publiek deed ze aan oude films denken … tijdreizen of ervaring is een stap in een andere wereld.

J: We vertalen met team een verhaal naar een concrete ervaring
J: We hebben een gedeeld voorstellingsvermogen ontwikkeld. De samenwerking en de performance bleken een open format met veel ruimte voor improvisatie en experiment; en veel eigen inbreng.
M: Het verhaal van de 'Shadow People' heeft mij eerst vooral visueel geïnspireerd.

D: Welke invloed heeft het verhaal van Ausland invloed gehad op de samenwerking en performances?

D: Als je naar het gedeelde creatief proces kijkt, hoe zou je dit dan omschrijven?
J: Er was heel veel ruimte; we hebben een zelfde doel dat si niet altijd inhoudelijk maar ook qua vorm;

D: Hoe omschrijf je jouw rol binnen het project? en hoe heeft deze zich ontwikkeld?

J: gaandeweg is het drummer over gegaan in strategische ontwikkeling

D: Hoe heeft zich het creatieve proces zich ontwikkeld gedurende het project?
In welke mate heb jij controle of invloed gehad op dit proces ende ontwikkeling daarvan?
J: Door permanent te spiegelen is zijn de eilandjes aan elkaar verbonden

D: Hoe hebben de performances ontwikkeld? En wat is jouw invloed daarop geweest, bijdrage?
J: Schaalbaarheid en met minder meer impact

D: Welke invloed heeft techniek of technologie gehad in op de ontwikkeling van de samenwerking en performance?

D: Heb je het project ervaren als leerzaam? Zo ja, wat heb je geleerd?
Zo niet, waarom heb je niet of weinig geleerd? wat had je graag willen leren?
J: interactie (techniek) met video en drums, samenwerkingen ontwikkelen, sturing geven aan creatief proces, snellere ontwikkeling cyclus door discipline overstijgend.
M: Ik hou niet van alleen werken, inhoudelijke impuls, geleerd hoe het is om te een performance op te voeren op een podium, het repeteren was leerzaam en inspirerend, betere voorbereiding is betere actie, beter inzicht in hoe het constructieve gedeeld te in elkaar zit …

D: Wat vond je inspirerend en neem je mee naar andere projecten? Hoe zie je ontwikkeling van het project in de toekomst en de samenwerking?
M: ik zie mogelijkheden in costume design of theatrale design, en heb verschillende ideeën voor promotie bijvoorbeeld via Blogothek.
J: In Art-direction zie ik veel mogelijkheden. Met Ausland en het platenlabel als basis kan je verschillende vergelijkbare performance en producten ontwikkelen.

8.12 List of Participants

Jasper Barendregt (Drummer) is a drummer and percussionist based in Tilburg (NL). As a seasoned music professional, Jasper has extensive experience in music production, sound engineering and stage performance. See http://www.jasper-barendregt.com/ [Accessed 15 October 2016].

Marieke de Roos (Video Artist) is a Dutch artist who makes short movies and interactive installations. She currently holds a position as lecturer in Visual Design and Creative Strategy at the Utrecht University of Applied Sciences. See http://mariekederoos.com/ [Accessed October 2016].

Derk Reneman (Synthesist): see 'About the Author' (p. 117)

Contributors Performance I: Patrick Marsman (Promoter at BAR), Ian Martin (Camera), Michaël van der Meulen (Lighting Engineer, Sound Engineer), Jasper Serraris (Sound Engineer)

Contributors Performance II: Ramon Goedvree (Owner and Promoter Kapitaal), Michaël van der Meulen (Sound Engineer, Camera), Ian Martin (Camera)

Contributors Performance III: Dennis Verschoor (Promoter Noodlebar), Michaël van der Meulen (Sound Engineer, Lighting Engineer), Niels Kloet (Sound Engineer, Lighting Engineer Noodlebar), Jose Saiote (Camera, Noodlebar)

Community of Interest (peers and experts): Madris Duric, Martijn Hoogendijk, Jeroen van Iterson, Niko Langenhuijsen, Jorit Tamminga, Arjen de Vreede, Marc van Vugt

8.13 About the Author

Derk Reneman is the founder and owner of Studio Ausland (also known as Studio Derk Reneman). Derk has been working as a graphic designer, musician and artist since 2003. In addition, he currently holds a position as a lecturer in Communication and Design at the Utrecht University of Applied Sciences (HU), in the Communication, Multimedia and Design department since 2010. He has been lecturing at the Willem de Kooning Academy in Rotterdam and at the Music & Technology department of the Utrecht School of Arts (HKU) on several occasions.