accessFinTech: Designing Accessible Financial Technology

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Financial technology (fintech) has a growing impact on economic and social participation due to the increasing adoption of online banking and digital payments in everyday life. As fintech interests emerge in academic and industry work across the globe, critical needs and opportunities arise for ASSETS communities to lead and shape the discourse on accessible fintech. This workshop will bring together a diverse group of researchers and practitioners interested in developing a research agenda on designing accessible and inclusive fintech. We will take a timely step towards building a community to support continued discussion on the complex cultural and social contexts around fintech.

CCS Concepts: • **Human-centered computing** → **Accessibility technologies**.

Additional Key Words and Phrases: Financial technology (fintech), banking, payment, currency, accessibility

1 Background

Financial technology (fintech)[1] has become ubiquitous worldwide with increasing deployments of digital products and services such as online banking, mobile payments, investments, and cryptocurrencies. HCI work in the fintech space has been evolving, from designing augmented paper cheques for older adults [18] to reimagining money as an interface [1] and exploring third-party access [3]. A range of emerging accessibility work has aimed at supporting

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[1]For this workshop, we adopt the following definition of fintech: a subset of digital technologies that mediate access to, and transactions with, financial information and assets [4].

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financial participation across life stages and user needs, including the cognitive accessibility of digital payments [6], online security concerns for older adults with mild cognitive impairment [13], the cycle of poor mental health and financial hardship [2], and exploration of collaborative characteristics in fintech adoption and practice, such as financial management among people with dementia and their care partners [14].

Notably, Latulipe et al. [9] have investigated how older adults often rely on close others (family, friends, neighbours, or support workers) to support them in activities of daily living, including financial task support. The act of logging into a digital portal to perform critical activities such as banking and shopping may be delegated to others [11], but many client-facing portals do not acknowledge or support this type of informal, occasional aid provided by close others to older adults. This means that many older adults receiving help from close others do so by sharing credentials, which greatly reduces the older adult's privacy and can lead to security breaches and financial exploitation [9]. Despite the risks, research from the health domain shows that even when proxy accounts are provided by a digital system, IT personnel may still encourage older adults to share passwords [10]. Recent findings in the Canadian banking context have shown that proxy accounts can provide legitimacy and accountability for close others acting as financial delegates, while behavioural nudges can also provide task support to help delegates bank more accurately [8].

Similar explorations about financial delegation in older adulthood have been carried out in the UK [7] and Australia [16, 17]. Financial delegation has also been studied in the context of mental health concerns [2, 3]. There are key differences between age-related and mental health-related financial delegation. The former is expected to be long-term and increase over time, while the latter tends to be intermittent, variable, and often comes unexpectedly [3]. However, both types of financial delegation suffer from the same lack of support from current financial processes and technologies. Financial delegation is not only blocked and discouraged by the design of financial products and technologies; it is actively punished by financial institutions' terms and conditions [3].

Current fintech services and policies vary from country to country, representing a complex space parallel to diverse accessibility guidelines across the globe. The rapidly developing fintech landscape has caught the attention of central banks, particularly the accessibility and inclusion implications for a Central Bank Digital Currency (CBDC) [15] and collaborative payment APIs for retail CBDC ecosystem [5]. Meanwhile, cryptocurrencies are gaining traction in digital payments, and it is crucial to address both usability and accessibility challenges to ensure these technologies are inclusive for everyone. Voskobojnikov et al. [19] investigated the usability challenges faced by users of mobile cryptocurrency wallets and provided recommendations for improving user experience. However, they did not explore the experience of people with disabilities. In contrast, Nash et al. [12] examined the barriers to accessibility in cryptocurrency technologies and made recommendations for making those platforms more inclusive for users with disabilities. Addressing these issues is vital for the future of digital payments to ensure these platforms are usable by everyone.

With fintech's growing impact on economic and social participation and fintech interests emerging in academic and industry work across the globe, critical needs and opportunities arise for ASSETS communities to lead and shape the discourse on accessible fintech. In this accessFinTech workshop, we propose to bring together a diverse group of researchers and practitioners to build community and develop a research agenda towards designing accessible fintech. We will generate new design ideas, identify urgent research questions, build a shared vocabulary, and explore the complex cultural and social contexts around fintech.

2 Workshop Plans

2.1 Structure and Timing

Capitalizing on the workshop's virtual format, activities will be spread across the week before the conference (October 21–25). The workshop will consist of 5 hours of synchronous sessions over multiple days, with additional time planned for asynchronous participation:

Synchronous (Full Group): Two 60-minute sessions will bookend the workshop. These will be used to introduce the workshop and its structure at the start and review and synthesize the work at the end. While there are no common working hours across all anticipated time zones, we hope to avoid 12–6 am for everyone by keeping these sessions to an hour. Slides and meeting notes will be shared for record-keeping and to support anyone unable to attend the full group sessions.

Synchronous (Small Group): The bulk of the work will be spread over two 90-minute breakout sessions, held at different times to support different time zones. We anticipate that with two to three groups, we can likely accommodate all participants during close to regular working hours. Each group will be around six people and will be led by one to two organizers.

Asynchronous: We have spaced the workshop over a week to allow time between scheduled activities for asynchronous contributions. Participants will be invited to use this time to add to shared documents and discuss ideas with other participants across time zones using Discord. This allows participants to produce ideas at their own pace and work around scheduling and time zone conflicts.

This structure is designed to promote active discussion during synchronous sessions while providing flexibility through asynchronous tasks, enabling comprehensive engagement and collaboration across time zones.

2.2 Activities

2.2.1 Pre-Workshop. We will invite participants to create a slide about themselves and their interests in the workshop themes using a pre-arranged format. The introduction slides will be used during the first synchronous session. These slides, along with any optional position papers, will also be compiled and distributed to all participants prior to the workshop. Participants will also be encouraged to join our workshop Discord channel, starting with icebreaker prompts to get to know each other and arrive with relevant questions and discussion points.

2.2.2 During the Workshop. During the workshop, the primary objective is to collaboratively develop a research agenda. We will structure our work into two phases: divergent and convergent. In the divergent phase, participants will engage in brainstorming and idea generation guided by a series of prompting questions. These questions will explore participants' interests, relevant stakeholders, pressing topics and technologies, and potential future impacts on research in the field. In the convergent phase, participants will review the ideas generated in the divergent stage, discuss how they should be prioritized, and select at least one for further development and refinement.

To facilitate this process, participants will document and aggregate their contributions. While considerations for accessibility may preclude the use of web whiteboard tools like Miro or Mural, collaborative workarounds such as paired discussions can be implemented. To ensure inclusive participation, prompts will structure discussions in a text-based format, allowing all participants to contribute concurrently. Ideas will be recorded in real-time, potentially using sticky notes or similar methods, and later organized into thematic clusters to guide further discussion and refinement.

2.3 Tentative Schedule

Day 1 (Monday)

- **Introduction and Goal Setting (Synchronous - Full group, 60 min):** Facilitators will introduce the workshop goals and provide an overview of activities. Participants will introduce themselves with a one-slide explainer. Facilitators will introduce the prompts for the divergent ideation activity.
- **Divergent Ideation (Synchronous - Small groups, 90 min):** In small groups, participants will develop responses to the prompts. The goal in this phase is to generate as many ideas as possible.
- **Divergent Ideation (Asynchronous, flexible):** Participants will be invited to review ideas from all groups and add their own ideas and comments.

Day 2 (Wednesday)

- **Convergent Ideation (Synchronous - Small groups, 90 min):** Participants will again work in small groups to refine the ideas from the previous session, as well as discuss how they should be prioritized.
- **Divergent Ideation (Asynchronous, flexible):** Participants will again be invited to review the work from all groups and add their own ideas and comments.

Day 3 (Friday)

- **Synthesis and Next Steps (Synchronous - Full group, 60 minutes):** The whole group will come together a final time to review and synthesize the work done throughout the week, as well as outlining next steps and action items for participants.

2.4 After Workshop and Outcomes

The main purpose of this workshop is to rally the community of researchers and practitioners already interested in the accessibility and inclusivity of fintech and to co-create a research agenda that can encourage and support others to pursue scholarship in this domain.

To achieve the second goal, dissemination of the workshop outputs will be of paramount importance. We intend to submit a report summarising the workshop to the SIGACCESS newsletter to reach the overall ASSETS community; as well as a feature article to the Interactions magazine, to address the HCI and CSCW communities more broadly. We will also produce a white paper including all position papers submitted to the workshop and any resulting artifacts. Position papers, artifacts, articles and reports will be made available through the workshop website.

In addition to these dissemination activities, we will seek feedback from participants for future workshops and research events about accessible and inclusive fintech. We will also reflect on the successes and setbacks of our workshop structure and call for participation strategies to improve the accessibility and inclusivity of future workshops.

2.5 Diversity and Inclusion Considerations

We will consider several key strategies to ensure a diverse and inclusive workshop.

First, we plan to survey participants who are interested in joining the workshop early on to identify their access needs and the time zone they will be joining from. We will use this information to make accommodations for our workshop (e.g., communication preferences, the tools we might use during activities, etc.) and schedule sessions at times to maximize participant involvement across geographical locations.

Second, we will set up a dedicated Discord channel for our workshop. This channel would preferably be part of the ASSETS conference Discord workspace. We will use Discord to facilitate both asynchronous and synchronous communication before, during, and after the workshop. Participants can engage in discussions, ask questions, and share resources, and it will serve as an important backchannel for improving the inclusivity for participants across time zones who might need to catch up on workshop activities they missed over the week.

Third, our workshop materials will be made accessible according to the accommodation requests we collect from our participants when they respond to our call for participation. We will strive to use platforms known to be adequately accessible to screen readers (e.g., Google Forms, Discord, Zoom), and we will provide any presentation slides, handouts, discussion guides, etc., in file formats that allow participants to make adjustments to suit their needs (e.g., rather than sharing a guide in PDF format, we can provide a guide as a Word document).

Overall, we will make every effort for Global South representation and stakeholder participation. We will connect to potential participants outside of Europe, the US, or Canada, as well as a range of fintech professionals and end-users. Recognizing the importance of supporting professionals and entrepreneurs with accessibility needs, we will try to reach out to fintech-related businesses run by people with disabilities.

3 Organizers

Jiamin (Carrie) Dai [contact person] is a Postdoctoral Fellow in the Department of Computer Science at the University of British Columbia. Her research lies in the field of human-computer interaction, with a specific focus on aging, dementia, and accessibility. Before joining UBC, Carrie completed her PhD in Information Studies at McGill University, as well as an internship at the Bank of Canada.

Benjamin M. Gorman is a Senior Lecturer in Computer Science at Bournemouth University. His research focuses on accessibility and Human-Computer Interaction, aiming to enhance technologies for people with hearing impairments and improving media and content accessibility.

Garreth W. Tigwell is an Assistant Professor in the School of Information at the Rochester Institute of Technology. His research interest is primarily focused on accessible design and how we can support designers and developers in making digital content, services, and systems more accessible to disabled people.

Helena Lyhme is a Research Student in Human-Computer Interaction at City, University of London. She is interested in the intersections of neurodiversity, moneywork, and financial technologies, and her research focuses on the co-creation of financial technologies with autistic adults.

Belén Barros Pena is a Lecturer in Human-Computer Interaction at City, University of London. She studies the design of financial technologies, and the implications of digitising personal finances, particularly for those who need or seek support from others to manage their money.

Karyn Moffatt is an Associate Professor in the School of Information Studies at McGill University and the Canada Research Chair in Inclusive Social Computing. Her research studies how technologies can be envisioned to enable older adults and people with disabilities to better share, communicate, and connect with those around them.

Celine Latulipe is a Professor in the Department of Computer Science at the University of Manitoba. Her research interest is on understanding the technology needs of older adults and their close others, and designing interfaces and interactions to support a partnership model of technology usage. Celine has conducted work related to this topic in both the healthcare and finance domains.

4   Pre-Workshop Plans

Upon the acceptance of the workshop proposal, we will circulate our call for participation widely to ensure broad awareness of the workshop. To encourage participation from both academic scholars and industry professionals, applicants can either submit a position paper (including pictorials or artifacts) describing their research related to financial accessibility, or complete a web form describing their interests in the workshop.

We plan to leverage multiple communication channels, including academic networks, social media platforms, and relevant mailing lists to promote the workshop. We will maintain a dedicated workshop website (https://accessfintechworkshop.github.io) where participants can find detailed information and updates. Additionally, we will set up a Discord server to facilitate real-time interaction and engage in discussions both pre- and post-workshop. This platform will help foster a community atmosphere and encourage ongoing discussions beyond the workshop sessions.

We will adopt concrete strategies for reaching out to the Global South and various stakeholder groups. We will contact researchers who have published on financial services in the Global South, including those affiliated with research institutions in these regions, to broaden the reach. We will reach out to related association chapters and conferences to spread the word in their communities, e.g., the SIGCHI chapters in the global south,[2] the ICTD conference,[3] and the ICT4D conference.[4] We can contact accessibility advocacy organizations[5] or tech consultancies.[6] We will leverage social media and our own networks, including well-connected fintech professionals and related initiatives,[7] to distribute our call for participation in their newsletters or social media posts.

5   Call for Participation

Financial technology (fintech) has a growing impact on economic and social participation due to the increasing adoption of online banking and digital payments. As fintech interests emerge in academic and industry work across the globe, critical needs and opportunities arise for ASSETS communities to lead and shape the discourse on accessible fintech.

The Designing Accessible Financial Technology (accessFinTech) workshop will bring together researchers, designers, and practitioners to discuss the interplay between accessibility and various fintech components, how we can create future research agendas in the broad fintech space, and how we may design more accessible fintech across social and user contexts. There are two goals for this workshop:

(1) Build an accessFinTech community;

(2) Develop a research agenda towards designing accessible fintech.

This workshop welcomes participants, including non-researchers, with experience or interests in fintech-related domains. We invite the following submissions:

- **Position Papers** (including work in progress, pictorials, and artifacts): up to two pages in ACM two-column format.
- **Statements of Interest** (if workshop space allows) through a web form requesting: motivation and goals (up to 500 words); completed/ongoing work in related areas and intended contribution to the workshop (up to 500 words).

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[2]https://sigchi.org/people/chapters/
[3]https://ictd.org/
[4]https://www.ict4dconference.org/
[5]E.g., https://www.rnib.org.uk/ and https://rnid.org.uk/
[6]E.g., https://www.blazie.co.uk/ and https://abilitynet.org.uk/
[7]E.g., https://www.finos.org/finos-2024-strategic-initiatives and https://a11y-theme-builder.finos.org/

Prospective participants can submit any of the above two formats. Priority may be given to position papers. A group of researchers can submit one position paper, but at least one author of each accepted paper must attend the workshop. All participants must register for the workshop. Please refer to the workshop website (https://accessfintechworkshop.github.io) for detailed submission guidelines.

References

[1] Belén Barros Pena. 2023. Money as an Interface. *Interactions* 30, 6 (2023), 42–46.

[2] Belén Barros Pena, Bailey Kursar, Rachel E Clarke, Katie Alpin, Merlyn Holkar, and John Vines. 2021. Financial Technologies in the Cycle of Poor Mental Health and Financial Hardship: Towards Financial Citizenship. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*. 1–16.

[3] Belén Barros Pena, Bailey Kursar, Rachel E Clarke, Katie Alpin, Merlyn Holkar, and John Vines. 2021. "Pick Someone Who Can Kick Your Ass"-Moneywork in Financial Third Party Access. *Proceedings of the ACM on Human-Computer Interaction* 4, CSCW3 (2021), 1–28.

[4] Belén Barros Pena, Bailey Kursar, Rachel E Clarke, and John Vines. 2022. Curb your enthusiasm: The dissonances of digitising personal finance. In *Proceedings of the Design Research Society Conference*. 1–17.

[5] BIS Innovation Hub. 2023. *Project Rosalind: Building API prototypes for retail CBDC ecosystem innovation*. Technical Report. https://www.bis.org/publ/othp69.pdf

[6] Jiamin Dai, John Miedema, Sebastian Hernandez, Alexandra Sutton-Lalani, and Karyn Moffatt. 2023. Cognitive accessibility of digital payments: A literature review. In *Proceedings of the 20th International Web for All Conference*. 116–121.

[7] Paul Dunphy, Andrew Monk, John Vines, Mark Blythe, and Patrick Olivier. 2014. Designing for Spontaneous and Secure Delegation in Digital Payments. *Interacting with Computers* 26, 5 (2014), 417–432. https://doi.org/10.1093/iwc/iwt038

[8] Zach Havens and Celine Latulipe. 2024. Proxy Accounts and Behavioural Nudges: Investigating Support for Older Adults and their Financial Delegates. In *Graphics Interface*. 1–17.

[9] Celine Latulipe, Ronnie Dsouza, and Murray Cumbers. 2022. Unofficial Proxies: How Close Others Help Older Adults with Banking. In *CHI Conference on Human Factors in Computing Systems*. 1–13.

[10] Celine Latulipe, Syeda Fatema Mazumder, Rachel KW Wilson, Jennifer W Talton, Alain G Bertoni, Sara A Quandt, Thomas A Arcury, and David P Miller. 2020. Security and privacy risks associated with adult patient portal accounts in US hospitals. *JAMA internal medicine* 180, 6 (2020), 845–849.

[11] Celine Latulipe, Sara A Quandt, Kathryn Altizer Melius, Alain Bertoni, David P Miller Jr, Douglas Smith, and Thomas A Arcury. 2018. Insights Into Older Adult Patient Concerns Around the Caregiver Proxy Portal Use: Qualitative Interview Study. *Journal of Medical Internet Research* 20, 11 (nov 2018), e10524. https://doi.org/10.2196/10524

[12] Nash Lyke, Benjamin M. Gorman, and Garreth W. Tigwell. 2023. Exploring the Accessibility of Crypto Technologies. In *Extended Abstracts of the 2023 CHI Conference on Human Factors in Computing Systems* (Hamburg, Germany) *(CHI EA '23)*. Association for Computing Machinery, New York, NY, USA, Article 122, 10 pages. https://doi.org/10.1145/3544549.3585746

[13] Helena M Mentis, Galina Madjaroff, and Aaron K Massey. 2019. Upside and downside risk in online security for older adults with mild cognitive impairment. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*. 1–13.

[14] Ling Qiu, Johnna Blair, and Saeed Abdullah. 2024. Managing Finances for Persons Living with Dementia: Current Practices and Challenges for Care Partners. In *Extended Abstracts of the 2024 CHI conference on human factors in computing systems*. 1–7.

[15] Alexandra Sutton-Lalani, Sebastian Hernandez, John Miedema, Jiamin Dai, and Badr Omrane. 2023. *Redefining Financial Inclusion for a Digital Age: Implications for a Central Bank Digital Currency*. Technical Report. Bank of Canada.

[16] Cheryl Tilse, Deborah Setterlund, Jill Wilson, and Linda Rosenman. 2005. Minding the money: a growing responsibility for informal carers. *Ageing & Society* 25, 2 (2005). https://doi.org/10.1017/S0144686X04002983

[17] Cheryl Tilse, Jill Wilson, Linda Rosenman, David Morrison, and Anne-Louise McCawley. 2011. Managing older people's money: assisted and substitute decision making in residential aged-care. *Ageing & Society* 31, 1 (2011), 93–109. https://doi.org/10.1017/S0144686X10000747

[18] John Vines, Mark Blythe, Paul Dunphy, Vasillis Vlachokyriakos, Isaac Teece, Andrew Monk, and Patrick Olivier. 2012. Cheque mates: participatory design of digital payments with eighty somethings. In *Proceedings of the 2012 CHI Conference on Human Factors in Computing Systems*. 1189–1198.

[19] Artemij Voskobojnikov, Oliver Wiese, Masoud Mehrabi Koushki, Volker Roth, and Konstantin (Kosta) Beznosov. 2021. The U in Crypto Stands for Usable: An Empirical Study of User Experience with Mobile Cryptocurrency Wallets. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems* (Yokohama, Japan) *(CHI '21)*. Association for Computing Machinery, New York, NY, USA, Article 642, 14 pages. https://doi.org/10.1145/3411764.3445407