Delegation in FinTech: Supporting the Supporters

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Abstract

We investigate popular FinTech apps and services in the Apple App Store and the Google Play Store to investigate the prevalence of delegation support. Delegation is important for users who need occasional, regular or permanent assistance with financial management tasks. Delegation should work in concert with accessibility features so that users who need accessible design can also assign delegates using accessible interfaces.

Keywords

Financial Delegation, FinTech, Accessible FinTech

1 Introduction

Financial technologies, commonly referred to as FinTech, span a wide-ranging array of applications that cross a variety of platforms: mobile, web, desktop and even voice-assisted platforms such as Alexa and Google Home. These applications allow people to engage in activities as simple as watching stock prices, and monitoring bank balances and as sophisticated as trading cryptocurrencies or managing large portfolios of investments for clients. A quick search on Apple's App Store and the Google Play Store reveals hundreds of different FinTech apps available for users, with some having global reach and others having utility only within particular jurisdictions. While HCI researchers have investigated and innovated in this area, thus far little attention has been paid to the accessibility of FinTech apps, even though financial management is considered an important 'Activity of Daily Living' or ADL [11]. Enabling users with accessibility needs to engage with FinTech promotes independence and can therefore improve their quality of life.

While building support into FinTech apps for accessibility, a complementary concern is to build in support for delegation, so that users who are unable at certain times to manage their own finances can appoint a trusted family member or friend to assist them with these tasks. Prior research has shown that in the case of older adults, the support person who assists is also themselves an older adult [10]. While many older adults have uninhibited capacity, aging

does often lead to physical changes such as macular degeneration or other vision limitations as well as decreased hearing. Some older adults experience limitations in their hand-eye coordination or hand tremors due to arthritis or other afflictions, leading to challenges with technology use.

2 Background

There has been limited research on accessibility of financial technologies. Erazo and Zimmermann demonstrated a simplified banking interface for individuals with cognitive impairment [5]. Financial abuse is a critical concern for individuals with diminished cognitive function, and while Howard et al. have developed an app to help individuals with intellectual disabilities recognize abuse, their app is more focused on sexual and physical abuse [8] - more focus is needed to ensure such individuals are able to recognize and report financial abuse, especially when they get help with finances.

As of 2022, 78% of Canadians bank online, an increase of 6% from 4 years prior. For older adults the percentage who bank online has increased more rapidly, from 44% to 58% over the same period [4]. This means for the first time, a *majority of older adult Canadians are banking online.* Jin and Fan showed that mobile banking is increasingly common among older adults in China as well, but noted some issues with the interfaces related to poor error recovery and exacerbated by age-related motor issues [9]. Banking online can bring about a wide array of accessibility challenges beginning with the authentication process as noted by Hayes et al. [7] and Briotto Faustino and Girouard [2]. Monitoring finances is a common task, and is often supported through the use of dashboards provided in FinTech apps. However, many interactive data dashboards are not accessible. Srinivasan et al. have introduced Azimuth, a screen-reader accessible dashboard that could be usefully applied in FinTech apps [16].

Management of finances has been shown to become more difficult as older adults age [1, 12]. These difficulties, combined with limited technological comfort [13] and/or accessibility barriers may lead some older adults to seek help from close others with banking tasks. Older adults in Canada often leverage help from friends, family members, or other sources [10]. Those who receive banking help are doing so every 2-3 weeks on average, primarily with less than 3 total hours of investment on the part of their close others per month [17]. Unsurprisingly, older adults who are experiencing cognitive impairment such as Alzheimer's Disease or dementia leverage assistance more frequently than those not experiencing such conditions [3]. In it's simplest form, this assistance may be a family member walking through the required interactions in the online banking system with the older adult. On the opposite end of the spectrum this can involve adding a close other as a joint account holder thereby allowing the delegate to manage the account with equal legal authority and no restrictions. A Statistics

Canada report shows that over 25% of adult Canadians use online banking to support an older adult [17] however our previous work has shown that older adults heavily rely on the use of password sharing [10], which can expose them to the risk of financial losses due to misconduct by a close other acting as a delegate [15].

Delegation is supportive and an important component that can make FinTech more accessible to individuals with accessibility challenges, but there is a need to design FinTech apps so that delegation can be set up explicitly with limits on delegate actions. Our recent work has shown the power of *proxy accounts* to support delegates and provide transparency and accountability when they bank on behalf of older adults [6]. We see delegation as complementary to accessibility - while accessibility features may enable individuals to bank independently more frequently and with more ease, we contend that everyone needs assistance from others at least occasionally and formal delegation mechanisms are more likely to provide the security and privacy that are crucial in financial delegation. We also note that accessibility is important *as a part of delegation*; if a FinTech supports delegation, the setup process for enabling a delegate to perform financial transactions needs to be accessible so that users with accessibility challenges can succeed in setting up delegation. To explore this, we are investigating whether and how current FinTech services support delegation.

3 Methodology

We are investigating current FinTech services using an environmental scan approach. Popular FinTech apps are identified by download popularity on the Google Play and Apple App stores, as well as lists based on published revenue numbers (for services without mobile Apps). For each popular service, we have examined documentation and support FAQs to determine whether delegation support is available in their web platform and/or mobile app. We have also recorded notes about accessibility-related materials and support.

4 Preliminary Results

FinTech Apps typically can be grouped into the following subcategories: *Banking and Personal Finance*, *Payments, Remittances, and Transactions*, *Lending and Credit*, *Investment and Wealth Management*, *Capital Markets and Asset Management*, *Insurtech and Proptech*, *Blockchain, Cryptocurrencies, and DeFi (Distributed Finance)*, *Regtech, Compliance, and Security*, and *Infrastructure*. While the first three categories may be the most relevant to typical end users, we should not assume that users with accessibility needs have no interest in or need for FinTech apps that enable more specialized functionality such as crypto wallet management or investment management. In our preliminary investigation of FinTech accessibility, we have excluded apps from the last two categories as they are mainly bank-to-bank or bank-to-government apps that are not targeted to consumer clients.

Thus far, we have examined 45 FinTech apps/services that are aimed at consumers (as opposed to bank-to-bank apps), as shown in Appendix A. We have paid particular attention to FinTech services in Canada as that is our jurisdiction, but our list also includes services used in the US, UK, Germany, India and Brazil. The results show that almost none of the FinTech apps explicitly support delegation through dedicated mechanisms, though some apps support

joint accounts. One app, *N26*, is a German app designed for shared management of funds by multiple people, which appears to be useful for shared event planning, but could possibly be appropriated for delegation contexts. Twenty-one of the 45 FinTech apps we looked at support joint accounts, with a few even indicating that these accounts are the preferred method for delegation, despite the fact that joint accounts are shown to be problematic for delegation due to the assumption of shared ownership of assets [18]. Our exploration also led us to investigate *Unified Payments Interface*, a financial infrastructure system in place in India which explicitly supports financial delegation. As a centralized infrastructure, this system will allow banks and FinTech companies operating in India to develop apps for supporting delegation, which is very promising [14].

In terms of accessibility, some of the FinTech companies providing apps have accessible websites, but few mention accessibility of their mobile apps. *Questrade*, as US-based personal investment management platform, has incredibly extensive accessibility controls built directly into their website. A few other FinTech companies such as *Wise*, a global payments system, mention accessibility features on their website and app (though often limited to support for on-device screen readers) and a dedicated email address for accessibility inquiries. The rest of the services investigated either only have very brief and non-specific accessibility policies on their website, or make no mention of accessibility at all.

4.1 Discussion & Future Work

It is clearly optimal for people to handle their own finances, and so FinTech apps and services must ensure that accessibility is designed in from the very beginning. However, it is also important to acknowledge that there are situations when people with and without accessibility needs require assistance from others with financial tasks. Our initial investigation demonstrates that FinTech as a sector is not adequately supporting either accessibility features or delegation, and this is likely to lead to unsafe practices where people requiring financial task assistance share passwords in order to get help. We also note that there are jurisdictional challenges related to supporting accessible FinTech as different jurisdictions provide differing levels of integration and support with banking infrastructures (for example third party access infrastructures are common in some countries, but not standardized in Canada and the US). This means that solutions that work in one jurisdiction may be much more difficult to implement in others.

Our initial environmental scan was conducted at a high level and more detailed evaluation of FinTech apps as well as a more formal mechanism for selecting apps to investigate is warranted. Additionally, full accessibility audits of FinTech apps that purport to support delegation are needed, as the mechanisms for setting up delegation must be accessible or they will not be used, and people who need assistance will default to insecure methods of delegation such as password sharing.

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A Environmental Scan Data

Primary Category	Company	Country	Personal/ Business	Popular	API	Mobile App	Joint Support	Proxy Support	Delegation Notes	Accessibility Notes
Banking and Personal Finance	Nubank	Brazil	Both	Yes	No	Yes	No	No		Not specified online
Banking and Personal Finance	ATB	Canada	Both	No	No	Yes	Yes	No	Does highlight risks of joint accounts.	Website supports assistive tech through a separate application (Level Access). No indication of app.
Banking and Personal Finance	Black Banx	Canada	Both	Yes	No	Yes	No	No	May have support for business accounts?	Not specified online
Banking and Personal Finance	BMO	Canada	Both	Yes	No	Yes	Yes	No		Not specified online
Banking and Personal Finance	CIBC	Canada	Both	Yes	No	Yes	Yes	No		Website supports WCAG, directs inquiries to general support email. No indication of app. Robust policies.
Banking and Personal Finance	Desjardins	Canada	Both	Yes	No	Yes	Yes	No		Not specified online
Banking and Personal Finance	EQ Bank	Canada	Both	Somewhat	No	Yes	Yes	No	No controls on the joint accounts, all full access! Doesn't highlight risks in "not right for you" section	Has accessibility policy for customer service, none specified online for web or app.
Banking and Personal Finance	KOHO	Canada	Personal	Yes	No	Yes	Yes	No	Does highlight risks of joint accounts.	Not specified online
Banking and Personal Finance	National Bank of Canada	Canada	Both	Somewhat	No	Yes	Yes	No		Website supports WCAG, directs inquiries to general support email. No indication of app. Some broader policies.
Banking and Personal Finance	Neo Financial	Canada	Personal	Yes	Yes	Yes	No	No	No support at all.	Not specified online
Banking and Personal Finance	PC Financial	Canada	Personal	Somewhat	No	Yes	Yes	No	Allows joint access to CC account w/ separate credentials.	Have an accessibility plan. Working with Level Access to support third-party assistive tech.
Banking and Personal Finance	RBC	Canada	Both	Yes	No	Yes	Yes	No		Reasonably robust accessibility policy and documentation online. Indicates measures across all methods of providing services.
Banking and Personal Finance	Scotiabank	Canada	Both	Yes	No	Yes	Yes	No		Reasonably robust accessibility policy and documentation online. Indicates measures across all methods of providing services.
Banking and Personal Finance	Simplii Financial (CIBC)	Canada	Personal	Unsure	No	Yes	Yes	No	Does highlight risks of joint accounts.	Mentions WCAG, but that's it.
Banking and Personal Finance	Steinbach Credit Union (SCU)	Canada	Both	Somewhat	No	Yes	Yes	No	Only delegation support for business accounts.	Only talk about built-in features on devices. No mention of design practices or other technologies.
Banking and Personal Finance	Tangerine Mobile	Canada	Both	Yes	No	Yes	Yes	No	Explicitly disallows delegation of "agency duties" for mobile cheque deposit.	Working towards WCAG for website. No indication of apps. Robust policies.
Banking and Personal Finance	TD	Canada	Both	Yes	No	Yes	Yes	No	Seems like it could support some delegation similar to family accounts, but not what it's marketed towards. Have parents/co-parenting accounts.	Reasonably robust accessibility policy and documentation online. Indicates measures across all methods of providing services except mobile apps.
Banking and Personal Finance	Revolut	England	Personal	Yes	Yes	Yes	Yes	No	Has "Spaces sub-accounts", which you can "invite up to 10 other users to manage funds together"	Seem to offer phone support to "vulnerable customers" only, not to everyone else. Not specified online.
Banking and Personal Finance	N26	Germany	Both	Yes	PSD2	Yes	Yes	Partial		Nothing easily available on the website, but did find a blog post indicating that the iOS app supports built-in screen reading.
Banking and Personal Finance	Mint	United States	Personal	Yes	No	Yes	No	No	No support at all.	Robust accessibility and inclusion design guide, though it doesn't talk about assistive technologies.
Banking and Personal Finance	Splitwise	United States	Personal	Yes	Yes	Yes	N/A	No		N/A
Banking and Personal Finance	Chime	US/Canda	Personal	Yes	Yes	Yes	No	No	No support for joint or business accounts	Very short, general policy. Nothing concrete about digital services.
Blockchain, Cryptocurrencies, and DeFi	Bitfarms	Canada	N/A	N/A	N/A	N/A	N/A	N/A		N/A
Blockchain, Cryptocurrencies, and DeFi	Coinsmart	Canada	Personal	Yes	No	Yes	No	No		Not specified online
Blockchain, Cryptocurrencies, and DeFi	Crypto.com	Singapore	Personal	Somewhat	Yes	Yes	Maybe	No	May be able to add single wallet to multiple accounts, but no controls AFAICT.	Not specified online
Blockchain, Cryptocurrencies, and DeFi	Coinbase	United States	Personal	Yes	Yes	Yes	Maybe	No	Can create one for a trust, but needs to be a "business" account.	Not specified online
Infrastructure	Centerprise	Canada	Banks	No	Yes	N/A	Unknown	Unknown	Unclear if their APIs support delegation	N/A
Infrastructure	Unified Payments Interface (UPI)	India	Banks	N/A	Yes	-	Yes	Yes	Very new (Aug '24), the UPI Circle feature allows delegation.	N/A
Infrastructure	Plaid	US/Canda	Both	Yes	Yes	N/A	N/A	No	API doesn't natively support multiple users. Apps built on top would have to implement themselves.	N/A
Investment and Wealth Management	Manulife	Canada	Both	Somewhat	No	Yes	Yes	No		Working towards WCAG for website. No indication of apps. Reasonable policies.
Investment and Wealth Management	Questrade	Canada	Personal	Yes	Yes	Yes	Somewhat	No	Supports Trust Accounts	Extensive accessibility controls on the website, really quite impressed! No indication about the app online, but likely worth investigating.
Investment and Wealth Management	Wealthsimple	Canada	Personal	Yes	No	Yes	Yes	No		Lots about accessibility policy in general, nothing concrete about digital services.
Investment and Wealth Management	MoneyLion	United States	Both	Yes	No	Yes	Yes	No	Suggest joints for caregiving explicitly	Website supports WCAG, directs inquiries to general support email. No indication of app.
Investment and Wealth Management	Robinhood	United States	Personal	Yes	Yes	Yes	Yes	No	Joint is US only	Color themes, partial text-to-speech support in the apps. No details on website accessibility.
Lending and Credit	Borrowell	Canada	Personal	Somewhat	No	Yes	No	No		Lots about accessibility policy in general, nothing concrete about digital services.
Payments, Remittances, and Transactions	Chimoney	Canada	Both	No	Yes	Yes	No	No	Doesn't seem to be any proxy support via their APIs.	Not specified online
Payments, Remittances, and Transactions	Flexiti	Canada	Personal	Somewhat	Yes	Merchants	Yes	No		WCAG
Payments, Remittances, and Transactions	Taptap Send	Global	Personal	Yes	No	Yes	No	No		Not specified online
Payments, Remittances, and Transactions	Wise	Global	Both	Yes	No	Yes	No	No		Website supports assistive tech, indicates they try to do the same with apps. Has specific accessibility support email address.
Payments, Remittances, and Transactions	PhonePe	India	Both	Yes	Yes	Yes	No	No	May support delegation when UPI Circle is in place?	Not specified online
Payments, Remittances, and Transactions	Cash App	United States	Personal	Yes	Yes	US-Only?	Yes	No		Not specified online
Payments, Remittances, and Transactions	Google Pay	United States	Personal	Yes	Yes	Yes	Yes	No	Has inactive account stuff, but not proxy access. Will support UPI Circle in India when it's available!	Built-in accessibility controls.
Payments, Remittances, and Transactions	PayPal	United States	Both	Yes	Yes	Yes	Somewhat	No	Only have multiple users for business accounts!	States commitment online, says webpage is accessible and welcomes feedback.
Payments, Remittances, and Transactions	Remitly	United States	Personal	Yes	No	Yes	No	No	"Can't process transfers that are sent on someone else's behalf"	Not specified online
Regtech, Compliance, and Security	Verafin	Canada	Banks	No	N/A	N/A	N/A	N/A		N/A

Table 1: Results of an environmental scan of FinTech apps. Focus is on delegation and accessibility support.