Designing Futures of Money and FinTech

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Abstract

In light of increasing cashlessness, platform economies, Open Banking APIs, financial bots and cryptocurrencies, money is on the move – once inert, money is gaining agency, becoming programmable, automated, data-driven and part of 'more than human' infrastructures. These financial futures demand that designers engage with difficult questions of economy and value, while retaining a sensibility to the many subtle and social qualities of money and our everyday economic interactions. This one-day workshop will therefore bring together practitioners and researchers to explore design challenges related to four broad themes: Designing with Transactional Data; Designing Alternative Representations of Value; Money, Automation, Power, and Control; and Financial Futures with Vulnerable Users. Developing scenarios related to these themes, the workshop will cultivate a rich design space to establish the value of design-led research in shaping our financial futures.

Author Keywords

Money; FinTech; Futures; Pastiche Scenarios; Design

CSS Concepts

• Human-centered computing ~Interaction design ~Interaction design process and methods ~Scenario-based design

Motivation

Through open banking, cryptocurrencies, or platform economies, money takes on new rules, obligations, implications, oversight and agency that challenge our conceptions and understanding of what money is. The existence of many different kinds of money, flowing through diverse more-than-human systems, invites profound questions for economists and political theorists. However, this one-day workshop invites designers to the table, and reflects a call for the HCI community at large to be more involved in discussion and design of economies, markets and money itself. Beyond a designerly sensibility to the many subtle and social qualities of economic interactions, the challenge is to redesign money itself, as another agent in more than human infrastructures.

Introduction & Background

At CHI 2014, Kaye et al. [4] brought researchers together to address novel user interactions with money. Now at DIS 2020, emerging financial futures demand that designers engage with difficult questions of economy and value, while retaining a sensibility to the many subtle and social qualities of money and everyday economic interactions. Trends towards cashless societies through demonetization, cashless payments, virtual currencies and mobile money continue to evolve the pragmatics of how people make everyday transactions. However, beyond these end-user interactions or *'moneywork'* [8] a more fundamental change is emerging in how money *works* – money, once inert, is gaining agency, becoming programmable, automated, data-driven [2] and part of 'more than human' infrastructures.

First, remarkably detailed transactional data is being generated about how and where people spend traditional *fiat* money. Accessible through 'Open Banking' APIs (e.g. https://www.openbanking.org.uk/), this data has been realized as a rich resource for financial innovation, spurring growth in so called 'challenger banks' and third-party financial technology (FinTech) startups. Transactional data can be used to inform new financial services, for example to assess credit-worthiness or personalize offers to customers. However, what we spend our money on is understood as a window onto almost all aspects of our lives; reflecting a whole range of values, behaviours and attitudes. As such, banks and FinTechs are already offering features where transactional data is used to automate saving; trigger donations to charity; or detect and support self-exclusion from gambling.

Second, are cryptocurrencies and the underlying blockchain technologies which support them (for an overview, see [3]. Since Bitcoin's emergence in 2008, it has sparked imagination not only for currencies independent of central banks, but currencies (e.g. FairCoin https://fair-coin.org/) that are embedded with certain rules, governance and values, leading to what Nissen et al. [6] describe *'new value transactions'* in distributed organisations.

Finally, there are platform economies and digital currencies that serve primarily as a means of exchange. This includes 'mobile money' like M-Pesa (https://www.vodafone.com/what-we-do/services/m-pesa), which overcomes many frictions of exchanging traditional cash, and provides a route to financial inclusion. But there are also numerous other mobile apps where users deposit, transfer and withdraw funds: from gaming and gambling apps, to gig economy platforms. More broadly, social media apps like WeChat include native digital wallet services that can be used to exchange funds with other users, and in standard retail contexts. Kow et al. [5] highlight how these digital wallets facilitate the creation of *'special digital monies'*, drawing on Zelizer's powerful articulation of the way certain forms of money and exchange are used to mark and define social relationships and practices [10].

Workshop Themes

The workshop will convene researchers and practitioners to develop a research agenda around four core themes that we propose as design challenges. We aim for these challenges to focus the workshop, but also to serve as a broad invitation for participation.

Designing with Transactional Data

Sociologist Rachel O'Dwyer [7] writes that contemporary forms of money create a 'Cache Society' – where money once again gains memory, and transactional records are themselves being monetised. Transactional data, made available through Open Banking and the rise of other forms of electronic money is clearly at the forefront of debates and concerns about 'surveillance capitalism' [11]. Perhaps we could consider, like O'Dwyer, how we might design to resist and occlude these kinds of data flows? However, beyond targeted advertising, this transactional data could also be a compelling new design material. We might ask how much should our money remember? What new services could flourish through such data?

Designing Alternative Representations of Value

Perhaps the most enticing opportunities for design research lie in considering new representations of value – redesigning money itself. This might allow expression of alternative values (and forms of valuation) in contrast to those afforded by contemporary capitalist societies. Whether underpinned by blockchain infrastructures – or through new platform economies – alternative currencies can allow financial (and hence social) interactions in communities to be wholly reconfigured. As money becomes programmable and algorithmically governed, can we design for new values, practices and an ethics of care?

Money, Automation, Power and Control

Money is, of course, deeply interwoven with power and control. Many new financial technologies are envisioned to give end users greater control of their money and financial data; however, it is also evident that money that is less flexible, more conditional, automated and surveillant is an opportunity to limit individual freedoms. Numerous FinTech products resemble a form of financial assistant or bot that may offer automated advice, or even undertake transactions on your behalf (e.g. saving your digital 'spare change'). The potential of 'programmable money' [2], whose flow is dictated by a range of pre-determined data inputs is illustrated by Monzo's integration with web automation service 'If This Then That' (IFTTT) (see Figure 1). Crucially, while these examples concern personally imposed conditions on money, it is quite apparent how these conditions become limiting and dystopian when imposed by others. How can we design to support individuals in controlling their money and financial data, and ward against their exploitation and manipulation?

Financial Futures with Vulnerable Users

It has long been recognised that vulnerable users are particularly at risk in managing their finances, and often rely on particular materiality and configurations of money and financial infrastructure [9]. With money and payments quickly migrating to digital platforms, many people may find themselves excluded from financial services or unable to use them to their own advantage. How can we design digital financial services that guarantee full, equal and fair access for all? Further, transactional data and spending patterns have also been recognised as a potential mechanism by which to identify and protect vulnerable users. For example, we could much more carefully manage the limited delegation and oversight of financial behaviour to trusted individuals. In addition to fraud detection, it may be possible to identify early signs of poor mental health. Clearly, such services require sensitive and participatory design to ensure they work for the largest range of personal circumstances.
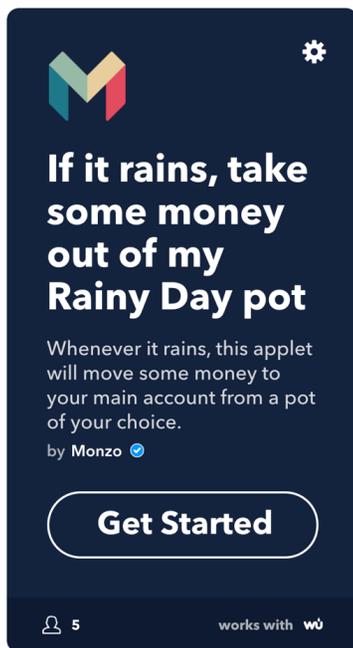

Figure 1: Example of a *Monzo* and *IFTTT* 'recipe' where money is withdrawn from a savings pot, whenever a weather app detects that it is raining. Many of these recipes explicitly envisage flows of money as a stick or carrot to encourage behaviour change.

Pastiche Scenarios

In our CfP, we invite attendees to provide one (or more) brief scenarios, vignettes or design fiction narratives of financial technology use (or non-use). These will be presented through panels at the workshop, and then feed into the collaborative development of *pastiche scenarios* [1].

Taking the TV series *Friends* as an example, we could envision the implications if: *Rachel's* shopping habits were visible to third-party APIs; if *Pheobe* attempted to use alternative currencies in the Central Perk coffee shop; or if *Joey* tried to use a financial bot to manage his variable income as an aspiring actor. By drawing on pastiche scenarios, we hope to create resources that can be widely shared during and after the workshop.

Workshop Goals

The goals of this one-day workshop are to develop a series of compelling scenarios of financial technology use (or non-use) that highlight opportunities and urgent challenges for design led research, within, and beyond, the DIS community.

Using Pastiche Scenarios [1] (see sidebar) we will articulate a foundational research agenda and stimulating design space for future work. Practically, we aspire that these lead to an impactful horizon scanning publication, as well as a high-quality public-facing report that can be shared widely and with industry.

At the workshop itself, we want to a connect a growing community of researchers, designers and practitioners, and in particular to welcome and inspire those who have not yet undertaken design research of FinTech or money, but who are interested in doing so.

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[NOTE FOR REVIEWERS: We were initially advised by the workshop chairs that references would be exclusive of the page limit. We were only made aware this would be inclusive close to the deadline, and have cut down text, removed extensive references and reformatted the paper accordingly. Please forgive any oversights in this regard and our extension of the page limit. If accepted, this will be addressed in a camera-ready version].