'In a Pinch, If You Have Nothing': An Exploration of Money-Making Apps in Homeless Shelters

Esther Han Beol Jang
Paul G. Allen School of Computer Science and Engineering
University of Washington
Seattle, Washington, USA
infrared@cs.washington.edu

Anosh Ardeni
University of Washington
Seattle, Washington, USA
aardeni@cs.washington.edu

Kunsang Choden
Information School
University of Washington
Seattle, Washington, USA
lamak@uw.edu

Jennifer R Webster
Paul G. Allen School of Computer Science & Engineering, ICTD
University of Washington
Seattle, Washington, USA
jenniweb@cs.washington.edu

Jason C Young
Information School
University of Washington
Seattle, Washington, USA
youngjc2@uw.edu

Kurtis Heimerl
Paul G. Allen School of Computer Science and Engineering
University of Washington
Seattle, Washington, USA
kheimerl@cs.washington.edu

Abstract

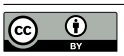
Unhoused individuals in U.S. urban shelters increasingly leverage internet technologies for income-earning and financial management. We investigate app-mediated work used by these communities such as online gig, shift, or microtask labor that reduce barriers to earning, but may be unreliable or present other risks. We find that participants use a patchwork of online platforms that together can help meet income needs, but often treat users unfairly or fail to deliver on expected earnings. Along with a diverse array of gig economy apps, potentially exploitative low-pay apps offer lower-end markets for labor including "microtasks"—surveys, data-entry, app testing, or gaming—and gambling. These apps often exhibit dark patterns that take advantage of individuals' urgent need for cash, imposing excessive time costs or presenting scams, unpredictable costs, risk of malware, and other harms; we draw analogies to "Poverty Industries" such as payday loans or pawn shops. Nonetheless, these apps' popularity suggests that monetary incentives could be used to drive uptake of positive interventions among vulnerable groups, with appropriate precautions against malicious actors.

CCS Concepts

• **Human-centered computing** → **Field studies**; **Empirical studies in HCI**; • **Security and privacy** → *Economics of security and privacy*; *Social aspects of security and privacy*; • **Applied computing** → Sociology; Economics.

Keywords

Mobile Applications, Scams, Homelessness, Employment, Income, Poverty, Finance



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1 Introduction

Homelessness is a persistent and complex issue affecting millions worldwide. In the United States (US) in 2024, over 750,000 individuals were estimated to experience homelessness on a given night [31]. These individuals, already burdened by the difficulties of living with housing insecurity — including a lack of transportation options, lack of safety for their bodies and possessions, social stigma, and related issues — face considerable barriers to generating enough income to help them survive and eventually transition back to traditional housing. To resolve this, people experiencing homelessness seek a wide range of money-making and saving strategies that fit into their life constraints.

Job markets have changed significantly since previous studies of homeless economies. Income and employment-seeking have largely shifted online [34]. Gig work [77] and microtasking [50] platforms have emerged that make skilled and unskilled tasks available for pay, accommodating irregular schedules and promising fast payouts via a wide array of mobile money and banking solutions [55, 94]. This study investigates the role of online and mobile app-based platforms and technologies in the financial ecosystems of individuals facing extreme financial constraints and homelessness.

Working with two common styles of non-profit managed emergency transitional shelters in Seattle called Tiny House Villages (THVs) and Tent Cities, we conducted interviews with participants who had experience using online platforms and/or mobile applications to earn or save money. We asked the following questions:

(1) *How do shelter residents find work and make money, especially leveraging the internet and digital technologies?*,
(2) *What barriers and challenges constrain their ability to earn?*, and

(3) *What risks and penalties result from the online earning strategies they pursue?*

We heard about both well- and lesser-known gig apps, such as UberEats and ShiftSmart, as well as a wide variety of low-paying apps across domains including gaming, gambling, surveys, data collection, and application testing. In many ways, this latter set of apps seemed tuned to target very low-income populations in financially vulnerable situations. Among these, we frame the ones that present risks or harms to users as "Poverty Industry" (PovI) apps, referring to industries that profit from the financial precarity and exploitation of low-income individuals (such as pawn shops, payday loans, or bail bonds) [85]. These comparisons raise concerns that application developers may similarly implement "dark patterns" [45] or even outright fraud to exploit at-risk populations. At the same time, users described these apps as helpful or harmful depending on both app characteristics and their in-the-moment personal circumstances, challenging notions of labor and fair compensation, and highlighting an ethical gray area. While we do not claim to draw bright lines between money-making apps that are good or bad, our research identifies variables that help clarify their impacts on the lives of our unhoused research participants.

One consideration in this ethical dilemma is the degree of risk or harms these apps may present, which was amplified among the vulnerable group in our study. Critiques of platform capitalism draw attention to the lack of income stability perpetuated by gig economy apps, which offer lower-end markets for labor than stable employment in exchange for broader access and flexibility. Low-pay apps extend this continuum to tasks that blur work and leisure, offering orders-of-magnitude smaller earnings than gig apps and appealing most to those who are restricted from seeking formal labor arrangements, for example due to medical or bureaucratic constraints. We find that many unhoused people try low-pay apps in moments of financial desperation, when they are willing to face risks and penalties on their data, device security, and most of all their time. The penalties for encountering PovI apps among them, akin to a "poverty tax"[1], include high rates of failed or stolen payouts, scams, or malware.

At the same time, our findings suggest that these apps may have highest and earliest uptake among people experiencing severe economic hardship. This points out an opportunity for trusted institutions without profit motives to efficiently target benefits to these populations using income-generating affordances in apps. For example, offering small monetary incentives for consuming gamified educational content or official civic or public health announcements, etc. could help spread information among communities where it is needed most. Future work surveying broader populations on their use of these apps is needed to verify our hypotheses. Without such beneficial aims, we argue that these apps are potentially harmful and a missed opportunity.

2 Related Work

2.1 Poverty Industries

The term *poverty industries* refers to the sectors of business that profit from low-income consumers by offering goods and services that exploit financial precarity. Research on poverty industries focuses mainly on financial services that target low-income populations, especially vulnerable groups such as the disabled and elderly [47], by appearing to offer relief but instead extracting disproportionate amounts of revenue. Also called "the fringe economy" [53], such industries include payday lending [84], automobile loans, pawnshops [24], subprime mortgages [51], and other forms of consumer credit for those with limited access to traditional banking. Marketed as meeting urgent needs when other options may be inaccessible, these services are laden with high interest rates and hidden costs that promote financial instability [85]. The related concept of a "poverty tax" illustrates how low-income people often pay proportionally more for goods and services due to structural inequalities [53] including poor supply chain access, purchasing low quantities, or only being able to afford low-quality goods that must frequently be replaced [15, 60, 83]; effective policies to reduce these structural inequalities or their impacts are a rich area of study [60, 69]. Despite the significant work done on poverty industries and offline financial exploitation, there is far less information on how particularly low-income groups use digital platforms to generate income or navigate financial precarity.

2.2 Gig Work, Microwork, and Platform Capitalism

Low-income individuals increasingly turn to new digital work options to earn money, as part of a broader, global economic shift toward platform capitalism—an economic system in which digital platforms mediate economic activities. Platform capitalism emerged in the 1990s and accelerated after the 2008 economic crisis [46, 86]. Casas-Cortés et al. argue that scholarly work has tended to either hyper-celebrate its benefits or overdramatize its dystopian impacts, from expanding exploitation and economic precarity to algorithmic control and the loss of privacy, and call for more empirical investigations to complicate these binary narratives [23]. Scholars have begun to diversify their focus beyond common industries like ridesharing and food delivery [13]; identify forms of resistance and alternative digital economic models [66]; and distinguish in more nuanced ways between varied experiences of different platform workers—for example Global North versus Global South workers [46], or those who use platform work for survival versus supplemental income [12, 70, 79]. Little existing scholarship explores the use of such platforms by homeless individuals in the Global North to survive. We argue that the use of these platforms by the homeless, given their extreme economic precarity, can help deepen understandings of some of the most negative and positive aspects of platform capitalism.

"Gig work" and "microwork" are both forms of platform capitalism where applications aggregate on-demand job or task listings from "clients" that "workers" can choose to fill. Gig workers are legally considered independent contractors, with short-term contracts provided through the platforms [52]. An explosion of gig platforms has transformed the job industry, as workers increasingly pursue independent work over stable jobs [16, 38]. They include generalist platforms like TaskRabbit for errands and miscellaneous tasks; general or domain-specific staffing platforms like

[1]A situation when poverty-related constraints cause people to pay proportionally more for goods and services. [53]

GigSmart, Shiftsmart, Wonolo, or Roadie where employers list one-off or hourly shifts; domain-specific platforms like DoorDash and UberEATS for food delivery; and creative freelance platforms like Upwork and Fiverr. Many low-income young adults turn to gig work for flexible and immediate income, and thus lack the protections usually provided by traditional employment such as minimum wage guarantees, health benefits, or job security [58]. Gig workers often have to juggle multiple jobs, a practice accelerated over the course of the COVID-19 pandemic [80, 81, 95]. For the financially precarious, gig work can generate short-term income but rarely contributes to long-term skill development or economic stability; further, platform issues such as app lock-outs can make access to gig work unstable for users [12]. HCI researchers such as Zhang [96] and Do [36] have called attention to gig worker mistreatment and proposed empowerment tools to build collective consciousness and combat platform-based abuses.

Microwork, or microtasks, involve even shorter, often repetitive online tasks that are found on platforms like Amazon Mechanical Turk or apps like Premise and Swagbucks[2] [89]. Microtask platforms mirror the extractive properties of poverty industries by providing low, irregular pay often below federal minumum wage [71], requiring high or uncertain time commitments, excluding workers from benefits, and assigning tasks that deskill workers [19, 58, 71], described by some as "digital sweatshops" [50]. On the other hand, many workers treat tasks as a mix of work and leisure; an online survey of 345 Mechanical Turk workers [49] found that over a third considered microwork to be both work and leisure, while ten percent saw it as neither [50]. Our paper explores the use of microwork platforms in the distinct context of unhoused users in extreme financial need attempting to improve their conditions.

2.3 Income and Spending in Homelessness.

The population of unhoused "working poor" [88] is significant. Across the U.S., 53% of sheltered and 40% of unsheltered homeless people are employed [59]; many others seek employment or attend school. With the Internet now an essential gateway to resources in education, employment, government assistance, and social networks, some studies show unhoused people's rate of usage and need for online services to be at or even higher than the general U.S. population's in comparable age brackets [73].

Research on income strategies of unhoused individuals has not kept up with the explosion of smartphone usage and widespread internet access since 2010. Social science research has long recognized systemic barriers to regular employment they face, including lack of ID, criminal records, or unstable living conditions. Their income sources tend to be inconsistent and survival-driven, often including informal strategies such as doing odd jobs, panhandling, collecting recyclables, and engaging in peer-based exchanges [39, 42, 91]. Gaetz and O'Grady's 2002 study of 360 homeless youth in Toronto found that 18% of study subjects engaged in criminal activities for money, the most popular out of seven types of income generation they found [42]. A 2010 study in the Netherlands found a "keep money moving" mentality involving spending funds rapidly and reclaiming dignity by treating oneself or others [91]. Our study seeks to illuminate the varied financial strategies of unhoused people leveraging modern digital technologies in transitional shelters, who likely have differing needs and patterns from previously studied homeless populations.

2.4 Mobile Phones and Financial Access Among the Unhoused.

The ability of unhoused people to use money-making apps critically depends on mobile phone access. Unhoused people face adverse environments for their technology; device and phone number turnover is high due to theft and breakage, and police sweeps cause massive loss of devices and identity documents needed to access social services and employment [30]. Users are also constantly frustrated by slowness, low quality, and short lifespan of often cheap devices given by government or nonprofit programs [56]. Financial or logistical barriers such as recurring service fees and access to electricity can make it difficult to maintain phone usability. Further, unhoused people experience proportionally higher rates for their age and income groups of physical and cognitive disabilities such as memory problems [59], presenting accessibility challenges and problems with account access. Finally, given all these barriers to access, using money-related apps may require digital literacy skills many may not have. Despite this, people tend to value their devices highly as a lifeline—often their only connection to family and social networks, "pre-homeless" lives, or financial opportunities—and of all their possessions are most reluctant to sell their phones for addictive substances [56].

Digital and financial literacies increasingly overlap as modern technical infrastructures grow to underpin financial and labor systems. Our work contributes knowledge to the understudied domain of unhoused individuals' use of modern, electronically managed forms of money. Digital wallets [57], peer-to-peer payment tools, and fintech services [32, 40] can provide alternatives to mainstream banking, which comes with barriers such as credit checks and physical ID requirements. However, these new tools still require smartphones, internet, and a stable phone number or email address (typically both), and many still require linking a traditional bank account or verifying identity through documentation. A lack of banking could hinder unhoused people's earning and saving, especially as the societal use of cash decreases [20, 44], and make them more vulnerable to predation by PovI financial services.

2.5 Mobile Scams, Fraud, and Dark Patterns

As observed by Vitak et. al., low digital literacy is associated with greater vulnerability to online fraud [93]. Mobile computing has a long history of scams and fraud [28, 74] and these issues are amplified among marginalized groups such as the elderly [33], U.S. families with low digital literacy [93], and people in developing regions [92]. While numerous researchers have explored monitoring and controlling the application deployment ecosystem to reduce harm [21], it is clear from both our work and prior work on scam app ecosystems [27, 72] that attacks remain and have outsized impacts among already disadvantaged populations.

Many of the low-pay apps we explore in this paper exhibit "dark patterns" [45] that take advantage of users to gather their

[2]Premise pays users for location-based tasks including photographing storefronts, checking product availability, completing short surveys, etc. Swagbucks instructs users to fill out long surveys, watch video loops, and complete point-based activities.

attention and engagement. Meanwhile, users may be denied payouts due to hidden fees, locked accounts [48], or real or false technical failures with no recourse (referred to by Chen et. al. as *scamware*) [27]. Gambling platforms, a risky source of game-based income we found popular among participants, are known for leveraging dark patterns [63] by offering uninterrupted online access to play and promising flashy prizes and large payouts, creating contexts where players may already be suspending their disbelief about the odds of winning, and thus provide easy grounds for scams and fraud [75]. Researchers have explored categorizing and detecting dark patterns [14], but others have found simple classification insufficient [22]. Our work contributes to this literature by reporting a body of such patterns in money-making apps among the unhoused.

3 Methods

This study is part of a longer-term participatory research engagement with Tiny House Villages (THVs), or communities of unhoused individuals and families living in single-room, standalone sheds built rapidly for emergency shelter. These private residences are meant as transitional housing, with temporary or longer-term permits on public or donated land.

Prior research by the authors, conducted with four THVs across Seattle, focused on providing internet connectivity at the shelters and exploring its general use among the residents. The exploratory interviews from this prior study (yet unpublished) revealed the use of money-making mobile apps, and the research team collected their names; these included games, gambling, and survey apps, but not gig apps. The second author evaluated the user experience and approximate earning rate of these named apps via a first-person participant observation approach, and we present the results in Tab. 1. We then conducted interviews with unhoused individuals to understand more broadly their use of these and other mobile apps or online platforms to make and save money. The study was approved by a university IRB.

3.1 Mobile App Analysis

We employed a participant observation approach to evaluating the apps using the metrics described below. Each app was downloaded and tested on a factory-reset LG (LM-G820UM) smartphone running Android 11 (an older refurbished smartphone and Android version that we thought would realistically reflect our users' devices). As each app was used, the researcher recorded field notes guided by the following criteria:

- Data and Privacy: permissions and data requested by each app, including access to personal data, financial information, and device functionalities.
- Monetization Mechanisms: payout structures, minimum withdrawal amounts, potential delays in payment processing, and whether users must invest money to participate.
- User Experience: (subjective) ease of use, clarity of instructions, and considerations of whether apps could be misleading for users with limited digital literacy.
- Predatory Behavior and Risks: hidden fees, payout delays, and manipulative app mechanics such as misleading marketing or chance-based reward structures.

The researcher logged their own time to complete tasks, amounts earned, payout thresholds, and any other significant aspects of usage. These notes were then analyzed for comparative metrics and summarized for each app (found in Tab. 1). Estimated hourly rates of earning were calculated where possible (refer to Appendix A.3 for full calculations). We acknowledge that the qualitative findings are largely subjective and represent only a snapshot in time, as apps frequently update their policies and payout mechanisms. We provide the earnings measurements as an illustrative data sample likely within an order of magnitude of typical successful user experiences (the researcher did not face significant accessibility-related barriers).

As part of the interviews that followed, we conversationally introduced these findings to participants after they reported their own app usage, to inform them of the apps' expected earning potential if they were not already aware.

3.2 Interviews

We recruited interviewees at six homeless shelters—four THVs and two tent encampments. We used a purposive sampling technique, working with shelter case managers to identify *people who use online platforms or phone apps (for example, gig apps, games, gambling, or other) in some way to make money*[3] . The study was announced at all-resident community meetings in these shelters (with a total population of around 180). Information about the study was also shared via one-on-one case manager meetings at one village, ANON THV 2, possibly explaining the higher study enrollment there.

We received twenty responses from four shelters—three THVs and one Tent City. Seven respondents either withdrew or did not follow up with our online contact attempts or coordination with shelter managers, including two who moved out of the shelter soon after sign-up. Thus, we conducted thirteen semi-structured one-on-one interviews at the participants' shelters of residence. These lasted 45 minutes to 1 hour and were recorded and transcribed for analysis. Questions ranged from what they perceived to be common forms of income-earning among other shelter residents, to their own habits around the various types of money-making apps we identified (including gaming, gambling, surveys, and gig apps). We also asked questions about the intersection of their digital and financial practices, including whether they had a bank account; debit or credit card; common digital wallet accounts such as Venmo, Paypal, or others we hadn't heard of; and what they used them for. Finally, we asked about any online shopping or money-saving practices, including aspirations for savings and life after the shelter. (The interview script is attached in A.1.) The semi-structured interview format meant that participants were free to talk about wide-ranging related experiences and stories of being homeless, which many did, fleshing out broader narratives of their lives and environments within which the financial aspects were embedded.

In general, we found that our recruitment method filtered for high-digital-literacy participants who owned networked devices and knew how to find resources on the internet, coming from different lifestyles prior to being forced into homelessness typically through some unexpected personal catastrophe. While they may not be representative of the very diverse homeless population as a

[3]This was the language used in the study recruitment.

Table 1: Comparison of usability, earnings, minimum cashout thresholds, and privacy/risk levels of reward-based apps tested by one of the authors. Likert scale rating (1-10) subjectively determined based on the author's experience, explained under Usability.

App Summary	Usability	Earning Rate; Threshold	Privacy (Data/Permissions)
Fetch Rewards: A promotion and receipt-scanning app awarding points for purchases, redeemed for gift cards. 1 point ≈ $0.001; value fluctuates.	**(9/10: High)** Easy to follow UI and limited ads. Earning efficiency is very low unless users leverage brand promotions or games.	**$0.002/hr**; Cashout after 6,000 pts (which ≈ $5-6)	• Phone number verification • Location data • Data sharing agreement, Personal info request • Receipt and shopping data
Cash Walk: Step-tracking to earn 1 "coin"/100 steps, max 200 coins/day (20,000 steps). Ads/gamified bonuses boost rewards. 1 coin ≈ $0.00167.	**(9/10: High)** User-friendly; offers a tutorial upon launch and intuitive UI. Very low direct earnings.	**$0.004/hr**; Cashout after 6,000 coins ($10)	• Steps/activity • Lock screen overlay • Access to call logs
Premise: A location-based survey/task app. Tasks range from quick surveys to site visits. Payment in local currency.	**(8/10: High)** User-friendly; streamlined UI, language options. Higher earning potential in urban areas.	**$2.06/hr**; Cashout after $10	• GPS location • Notifications • Permission to make an manage phone calls
TesterUp: A gaming rewards app; users complete in-game objectives to earn. Prizes vary with objectives' difficulty (more difficult objectives earn greater rewards).	**(5/10: Low)** Cluttered interface and excessive ads. Payouts require high thresholds and significant time investment.	**$2.40/hr**; Cashout after $70	• Tracks in-game progress • Accesses device functions to verify reward eligibility • Required to install external apps from the App store
SwagBucks: Points earned for surveys, games, shopping, and promotions. "SB points" convert to USD or gift cards. Each SB point ≈ $0.0118.	**(9/10: High)** Flexible but time-intensive; best for users willing to complete multiple small tasks.	**$3.13/hr**; Cashout after $5	• Email sign-up • Demographics collection
5 Surveys (Five Surveys): A survey-only app where users must complete five surveys to earn $5.	**(7/10: Moderate)** Easy to navigate, but frequent disqualifications waste time. Higher hourly earnings, but limited survey availability.	**$4.00/hr**; Cashout after $5 (completing 5 surveys)	• Email sign-up • Demographics collection • Survey data

whole, our group represents an important segment of the population who have both the knowledge and motivation to seek out digital solutions for their situation.

3.3 Data Analysis

We conducted thematic analysis on our qualitative interview data, to identify common themes represented across the participants' experiences. The first authors first created a short list of provisional codes [76] based on the interview questions, for example about particular types of money-making apps such as "surveys" or "games" that we had learned about from the previous study, as well as the research questions such as "barriers to access," "scams," or "are apps a waste of time." We each performed a coding pass through all transcripts, meeting weekly throughout the coding process to discuss and resolve any conflicts or new codes we had added based on the data we had seen. We used a consensus-based approach rather than coding separately and using intercoder reliability metrics. Finally, we reviewed one another's coded data to ensure agreement.

After the iterative coding pass and discussion, the authors clustered the codes within broader themes we found, including "obstacles to income," "poverty tax" (increased penalties when using the apps due to low income), "dark patterns" in app design that work against the interest of users, and "experiences with scams." A full list of codes and clusters is provided for reference in the appendix. The framing of these apps as belonging to Poverty Industries arose from the above themes.

Many detailed codes were also processed into individual descriptive statistics. For example, we distilled codes like "personally experienced theft," "has bank account," and "has encountered scam apps" into numbers provided in the findings; we also used the code "specific apps" to tag each app name mentioned (using the software ATLAS.ti) and compile them into Tab. 2. We reported users' average earnings per app category to corroborate our own app analysis findings (see Tab. 3). Due to our small sample size, we do not claim statistical significance in any of our quantitative results. We present them as an exploratory sampling of experiences from a particular segment of the urban unhoused in Seattle, to guide future investigation.

While the broad generalizability of our results is limited by the sample size and specificity of our population, we argue that our findings about the challenges of earning and usage patterns of money-making apps among the digitally literate unhoused are transferable,

Table 2: Participants' IDs, age and gender demographics, and the apps they used to make or save money. We interviewed 7 women and 6 men from four shelters, with a median age under 35. (Each participant's shelter is denoted by row color- ANON THV 1, ANON THV 2, ANON Tent City, and ANON THV 3.) Apps they used are marked by color/symbol and sorted by category: □ job search and ♣ gigs or shifts; ♡ surveys, ♢ data collection, and ♠ games or gambling; and • digital wallet, ◇ saving or fintech, and △ shopping. Some apps, such as Fetch Rewards and Benjamin, are platforms that offer rewards in multiple categories; we categorized the app based on the participant's experience. Participants with an [X] in the job/gig app column were not allowed to seek work for medical reasons at the time of the study (though P3 mentioned using Indeed before).

ID	Age	Gen.	Apps Used		
P1	55-64	M	♣ Tasker (TaskRabbit), ♣ Fiverr	♡ FiveSurveys, ♡ Survey Monkey, ♢ Fetch Rewards	• Cash App, △ Amazon
P2	65-74	M			• PayPal, △ Temu, △ Amazon
P3	45-54	F	[X] □ Indeed		• Venmo, • Zelle, △ QFC App
P4	18-24	F	□ Indeed, ♣ WorkWhile, ♣ GigSmart, ♣ Instawork, ♣ Tend, ♣ Wonolo	♢ Observa, ♠ TesterUp	• PayPal, △ Amazon, △ GoodRx, △ Shein, △ Temu
P5	45-54	F	[X]	♡ Five Surveys, ♡ Ipsos iSay, ♡ Survey Monkey, ♢ Fetch Rewards, ♠ Bitstarz	• Cash App, △ Shein, △ Wish, △ Shopkick
P6	25-34	F	□ Indeed, □ Zip Recruiter, □ Job Today, ♣ Tasker (TaskRabbit), ♣ Work Jam, ♣ Jooble, ♣ Instawork, ♣ Homeaglow, ♣ Poached, ♣ GigSmart, ♣ ShiftSmart	♡ Survey Junkie	• Cash App, • Venmo, • PayPal, ◇ SoFi, △ Temu, △ Amazon
P7	25-34	F		♠ TesterUp, ♠ Benjamin, ♠ Game Room	• Cash App, • PayPal, △ Temu
P8	25-34	M	□ Craigslist, □ Indeed, ♣ Zip Recruiter, ♣ Instawork, ♣ Tend, ♣ Bluecrew, ♣ Roadie, ♣ DoorDash, ♣ UberEATS, ♣ Wonolo, ♣ GigSmart	♡ Prometric, ♢ Observa, ♢ Fetch Rewards, ♠ Prize Picks, ♠ TesterUp, ♠ Underdog	• PayPal, • Apple Pay, △ Temu, △ Amazon, △ Shein
P9	25-34	M	□ Indeed	♠ Bitstarz	• Cash App, • PayPal, ◇ SoFi, ◇ Dovly, △ Amazon
P10	25-34	F	[X]		• Cash App, • Venmo, • PayPal, • Apple Pay, △ Temu, △ Amazon, △ Shein
P11	55-64	F	□ Craigslist	♡ Fast Cash	
P12	25-34	M	□ Craigslist, □ Blue Crew, ♣ Instawork, ♣ Wonolo	♡ Five Surveys, ♠ TesterUp	• Cash App, • Venmo, • PayPal, △ OfferUp, △ Amazon
P13	45-54	M	♣ Can Monkey, ♣ Door Dash	♡ Premise, ♢ Fetch Rewards, ♠ JustPlay, ♠ TesterUp	• Cash App, • Venmo, • PayPal, ◇ Stash, ◇ Chime, ◇ Self, ◇ Found, △ Temu, △ Amazon

for example to other low-resource individuals experiencing instability or precarity in their basic needs. This is a significant population with growing numbers as phones and the internet become more pervasive and digital literacy increases within the general population. Homeless people, like refugees from their own personal crises, come from all walks of life amid the general public. Thus, our findings both echo experiences in the literature about other studied homeless populations and provide modern insights.

3.3.1 Author Positionality. We provide positionality statements for the two lead authors who conducted the interviews and data analysis. The first author is an Information and Communications Technology for Development (ICTD) researcher who grew up in a U.S. urban, low-income immigrant household without reliable Internet access, and empathizes deeply with low-income communities; however, she is highly-educated and has never been unhoused or unstably-employed. She has collaborated in-depth with local shelter communities on research and capacity-building projects since 2019. The second author is a junior researcher in computer science who grew up in a suburban U.S. middle-income immigrant household, and also lacks lived experience with homelessness or financial instability. Both authors acknowledge that their socioeconomic status limits their comprehension of participants' experiences, and try to

mitigate their biases by building long-term working relationships with shelters and unhoused participants in their research.

4 Findings

Through our interviews we discovered that, even among digitally literate users, scams and fraud remained a significant factor in user experiences. Despite this, both traditional gig work and low-pay app use were common, with participants weaving together intermittent higher-income ($88-$295/day) gig work with low-pay ($2.60-$30/day) apps. Participants increased exploration of risky apps when in particular need of money, highlighting the potential for exploitation of at-risk populations. Throughout, we highlight dark patterns used in the PovI apps described.

4.1 Unhoused Users of Money-Making Apps

4.1.1 Histories of Technology Use. Our recruitment methods found a slice of the homeless community with relatively high digital literacy (See Tab. 2 for demographics). All thirteen were comfortable using smartphones, and their self-reported Likert-scale "tech-savviness" was a 7.4 of 10 on average. Five mentioned having a personal interest in technology; three used AI in daily life, for example in budgetary planning, online research, everyday technology problem-solving, or even small projects such as *"building a bot to do arbitration between websites on Bitcoin" -P13.* One interviewee explained how he saved money by scraping data from online shopping sites: *"I wrote a couple of scripts that watch prices for things I'm looking for. I have a Bucket List and pump stuff out from Amazon as it does searches periodically and pulls the lowest prices and automatically alerts me." -P1.* A few others described being *"just short of knowing how to hack and code" -P8.* Nine helped others (fellow villagers or family members) with technology, and others indicated that they would help but had never been asked.

Despite having access to employment and technology in their past lives, many explained that unexpected or traumatic life events had thrown them into persistent poverty and homelessness, after which they encountered even more challenges to recovery. P1, who had been a physics researcher, described: *"After the [situation] snowballing and losing my house, I lived in hotels for a few months. It got expensive, but I still made it through. And then- when you're living in a tent, you can't go to a meeting. You can't even take a shower. (...) I can't even do a zoom call. Here [at a shelter with internet access], maybe. But generally it's a little harder.* ***I've tried to do remote jobs. When your schedule and availability is not predictable, it becomes a little more difficult to hold down a job."*** *-P1.*

4.1.2 Use of Banking and Alternatives. Participants generally had some financial literacy; ten of thirteen had a bank account with either traditional or online-only[4] services and a credit or debit card (or both), especially for online purchases. Three respondents, including two without bank accounts, still preferred cash for transactions, but four preferred debit only, some citing the increased difficulty of stealing from a debit card[5]. Six had only a debit card and not credit. Interestingly, one unbanked participant preferred using digital wallets[6] over cash.

[4]For example SoFi or Chime
[5]Debit cards typically require entering a PIN number when spending.
[6]For example, CashApp, Paypal, or Venmo

4.1.3 Medical and Administrative Barriers to Earning. Five of thirteen participants (39%) had limited or no ability to work for medical reasons. For example, one was in a drug recovery program. Three were receiving or about to receive disability income, so they were not seeking paid work. We posit that **a significant fraction of low-pay app users may be disabled and unable to work**, and seek whatever means they can in their non-working time to earn money.

We further note the risks to mental health in unhoused circumstances, especially following traumatic changes [65, 78]. Participants described entertainment such as streaming television or games as very attractive outlets, potentially more addictive in unhoused contexts. Two personally experienced game, gambling, or other app addiction (including to low-pay apps), and one complained about it among others at their shelter.

4.2 Environmental Barriers to Income-Earning in Unhoused Contexts

We find both motivations and impediments to using money-making apps in our participants' environments, where their everyday barriers to earning included lack of transportation, technology, and internet access as well as pervasive crime.

4.2.1 Lack of Mobility. Transportation hardships made working difficult for six of thirteen interviewees (46%); three mentioned that a car was either the one thing that would most improve their situation or something they were currently saving for. P13, our only participant with a vehicle, had gone through five cars, two scooters, and an electric bicycle in the past two years, the frequent breakdown and costly, time-consuming repair cycles enacting a clear poverty tax on his time. Even so, he was grateful for his vehicle access, which allowed him to earn $100-190 per worked day via a gig app. Mobility challenges could increase the appeal of online income-earning for unhoused people if and when possible, given stable internet and device access. However, the latter can be scarce in street and shelter environments, as suggested by P1 in 4.1. Moreover, the types of on-demand gigs our participants saw on apps often required transportation or a vehicle, as detailed in Sec. 4.3.

Interestingly, the same transportation constraints drove participants to use online shopping apps (included in Tab. 2) for delivery services and access to cheaper prices. Eleven (85%) of thirteen used shopping apps, and ten considered them helpful for saving money overall. However, six mentioned difficulty avoiding poor-quality goods on cheap sites, and two complained of being convinced to spend too much by app marketing.

4.2.2 Access to Devices and Internet. Participants also struggled to maintain working mobile devices, mirroring their lack of access to reliable vehicles. Seven (54%) had struggled or regularly saw other unhoused people struggle with device theft, breakage, and loss, as described in other work (Sec. 2.4). Crime is high in street and shelter environments; five experienced theft while homeless, and four had had identity documents stolen which prevented them from accessing employment and other social services. However, device assistance programs made an important difference for participants' internet access. At the time of the interviews, only one participant

(P2) currently did not have a phone after recently losing it. Of the other twelve, nine (75%) had free phones via government assistance such as Lifeline [35] or nonprofit programs, which provide lower-end Android models. While grateful for the phones, four described coping with service limits such as data caps or frustrating low performance.

All participants had WiFi available at their shelters, and most considered it crucial for seeking work. Unprompted, three stated during our discussions how important connectivity was for homeless people's daily needs and survival. Eight of the ten participants currently seeking work used the Internet for job search via gig apps or application sites like Indeed. Another used it to buy supplies online for making art to sell. Finally, one participant attended school full-time remotely from the shelter. Gig and low-pay apps are further instances of the Internet as a path to earning.

4.3 Use of Gig Economy Apps in Unhoused Contexts

Among the money-making apps we found, gig apps provided the highest wages and benefit to users, though they also had drawbacks. As in Poverty Industries, platforms structure their policies to increase their power over workers, while workers' economic vulnerability compels them to assume more risks.

4.3.1 Benefits and Drawbacks for Unhoused Gig Workers. For the six who used them, gig apps led to substantial financial gain, lowering barriers to employment and providing a path to saving before they could acquire stable jobs. Four participants gave numerical estimates of how much they earned on a recurring basis from gig apps. Daily estimates ranged around \$88-\$295[7] (See Tab. 3); while wide-ranging, these amounts are on average comparable to P12's reported \$150-\$180 per day for high-skilled labor via an in-person temp work agency.[8] Two participants reported around \$500 and \$600-\$1000/month, respectively, from gig apps. While not enough to cover all of a housed individual's living expenses in Seattle, these amounts would help shelter residents save for eventual move-out while seeking stable employment and not paying rent.

Moreover, some gig work platforms can offer paths to permanent hire. P6 had gotten several job offers after shift-based temporary staffing gigs (such as offered by Wonolo, GigSmart, and ShiftSmart): *"[Companies will] have multiple shifts. If you work out, a couple of those apps will let you keep coming back, and they might actually hire you full-time." -P6.* Despite now having a stable job, she planned to use the apps long-term to build up her personal safety net: *"it's something to do on the side, extra money. You can never have too much money" -P6.* In contrast, another long-term gig app user, P13, had worked for one app[9] almost daily for six years without permanent hire (earning \$100-190 per worked day); seemingly, no other eligible workers chose to take these gigs in Seattle. However, he acknowledged that the app could replace him at any moment with another available worker and owe him nothing, reinforcing existing criticisms of platform capitalism's maintenance of workers in precarity [68].

4.3.2 The Challenge of Patching Together Gigs. Correspondingly, our participants valued gig work less than stable employment due to the unpredictability of the income made, which compounds upon the existing instability of homelessness: ***"You don't always know for sure when you'll be working, compared to a regular job, where you know for sure you're going to work a certain number of days. So I think having a stable job is definitely better than the gigs."*** *-P4.* Several complained about being limited in their earnings by the number of jobs apps would show or approve them for (often dependent on having a vehicle), calling some apps *"just a waste of time" -P6*: *"you either don't get any jobs or any shifts or anything, or there's nothing that ever pops up" -P6.* To make up for the spottiness of available gigs, five of six gig app users regularly worked multiple simultaneously, some using 4-8 apps. They used notifications to know when jobs were available, and tried to capture the ones they wanted within a few minutes of posting.

Meanwhile, gig platforms are also known to limit jobs shown to workers based on past performance, giving current employers stronger controls over workers' future opportunities than traditional employers. Since work history in the apps is tied to one's Social Security Number (SSN), a clean slate is impossible to achieve. Four of six participants had been deemed ineligible to receive gigs or entirely locked out of apps due to client actions or platform policies, sometimes without fault of their own (echoing prior work, Sec. 2.2). One recounted an unfair practice where a local employer who posts delivery driver shifts on multiple platforms *"posted the shift just 10 minutes before the start time. I grabbed it and drove straight there. But when I arrived, she had already canceled the shift and banned me from working with them. I eventually got that reversed about a year later after talking to the new management (...) Luckily, I could still work other jobs through [Wonolo]." -P8.* He went on to explain, *"Even if it's a glitch or a tech issue, they still punish you. Sometimes management will find a reason to get you in trouble with the app. It can be really frustrating." -P8.* While participants appreciated the lowered barriers to paid work, they also struggled with the lower platform and client accountability to fair labor practices and structurally short-term relationships with workers. Participants' economic dependence on these unreliable apps also pressured them to sign up for more platforms. Each new app they try further risks both time and privacy, as all of these labor-mediating apps collect private information such as SSN.

Finally, administrative barriers screen out many workers from certain apps, further limiting their options. P13, fully dependent on a single gig app, had failed background checks for TaskRabbit and food delivery apps *"just because I've traveled the country a lot. (...) I got little tickets for stuff in different states. So I had warrants in like three different states. So I can't pass a background check. But they're all small things. -P13.* The app he currently works for had either not background checked as thoroughly or not cared about his minor infractions, highlighting the benefits of having a diverse ecosystem of gig apps with varied hiring practices to accommodate different user histories.

[7]The lower and higher ends of the two respondents' ranges were averaged to create this estimate.
[8]Traditional "temp agencies" coordinate the staffing of temporary or seasonal roles on a day-to-day basis among a flexible workforce, whereas gig apps often hire on a more granular, per-task basis.
[9]Can Monkey, in which workers put homeowners' trash cans out on the street for pickup before their trash day

Table 3: Self-reported app-based earnings, with one participant's temp agency day labor (no app) earnings provided for comparison.

Income Type	Average Self-Reported	Self-Reports	Others' Earnings Reported
Temp Work (No App) 1 participant	$150-180/day	single data point	None
Gig Apps (E.g. Instawork, Indeed) 6 participants	$88-295/day, $650/mo	• $76-400/day • $100-190/day • $600-1000/mo • $500/mo	None
Data Gathering Apps (E.g. Fetch Rewards, Observa) 4 participants	$20/day (max), $50/mo	single data points	None
Game or Survey Apps (E.g. FiveSurveys, Survey Monkey) 11 participants	$2.6/mo (6 lowest earners) - $30/mo (5 highest earners)	• $60/mo • $30-40/mo • $20-25/mo • $20+/mo • $12/mo • $8-10/mo • $0.16/mo • $0/mo (x4)	$10-20/day, $200-300/mo
Gambling Apps (E.g. Bitstarz, Underdog) 7 participants	mainly lost money	• (+) "hundreds"/ session (bets < $200) • (-) $5,000/session • (-) unspecified amounts	• (+) $500/game (max) • (+) $17,000/game (max)

4.4 Dark Patterns in Surveys, Data Collection, Games, and Gambling

Poverty Industry services are defined by their tendency to be predatory towards the impoverished, implying that users may still derive perceived benefits from them in some circumstances or to varying degrees. While not without risks, gig apps are expected to pay workers at least the local minimum wage, and can sometimes provide benefits such as legitimized labor experiences that could strengthen a résumé. In contrast, we characterize PovI apps as not having enough of these benefits to outweigh their risks or actual harms to users, tipping the scale towards predatory labor exploitation. We identify survey, data collection, game, and gambling apps as categories with high potential to be PovI apps due to their extremely low pay rate per time engaged, as demonstrated in Tabs. 1 and 3. In the following sections we explore potential and realized harms of these apps, identifying a variety of dark patterns that extract penalties from users. We argue that these and other dark patterns distinguish PovI apps from other low-pay apps.

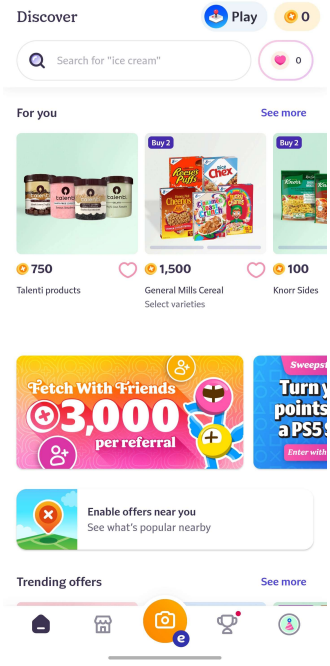
4.4.1 High Incidence of Scams and Malware. Eleven of thirteen participants (85%) had tried these apps at least once. Three of them had first seen ads for them online, while seven (64%) had first been referred to them by a trusted friend. One had tried an app right away on a friend's recommendation without any details or testimonial (*"she just told me to try it" -P3*), only to find it was *"a scam" -P3* that never let her cash out (see paragraph titled *Cash-out Barriers* below).

Another had first found one of these apps pre-installed on her free phone, and subsequently searched on Google for others. At the time of the interview, she had adware on her phone that rendered it almost unusable (shown to the researcher), illustrating the risks of frequently trying new apps from the Internet. She acknowledged the likelihood of scams and malware among these games, but chose to download and play them anyway instead of potentially more popular or safer games: *"I don't trust hardly any of them initially. And I know that I'm getting scammed with the ones that I downloaded, but I did anyway. They looked like they would be fun." -P11.* Of seven participants who had used gambling or low-pay game apps, three including P11 said they would continue using them long-term for fun or in their free time. We note that adding money-making mechanics to apps users might already seek out such as games likely adds a psychological draw or bias that nudges users to choose them, even with added risks.

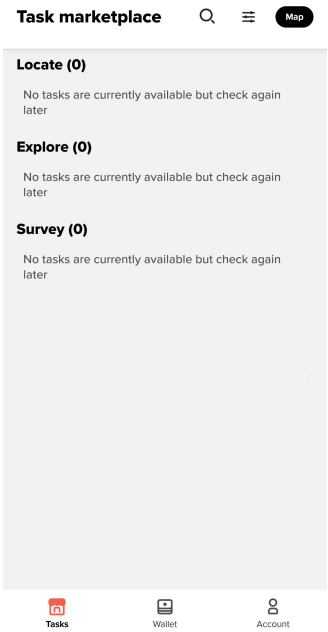
Escalating Risks. Ten participants said they had seen scam apps before, and seven claimed confidence in being able to identify scams among low-pay apps. Even so, the predominant strategy we heard for identifying scams (from five people) was to try installing a given app and see what happened next. This involves taking one initial risk, potentially followed by successively more until users'

Figure 1: Landing screens of four of the author-tested apps in Tab. 1. The remaining two apps are shown in Fig. 2.

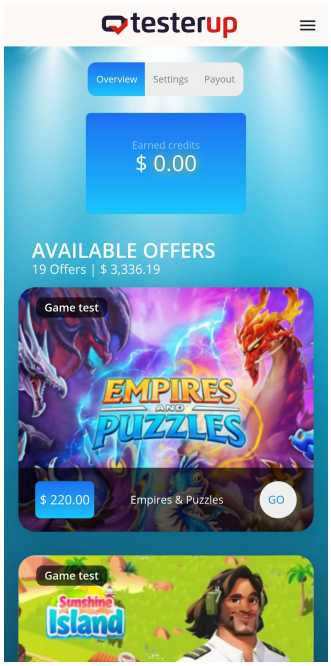
(a) Fetch Rewards [3].
©2025 Fetch Rewards, LLC.



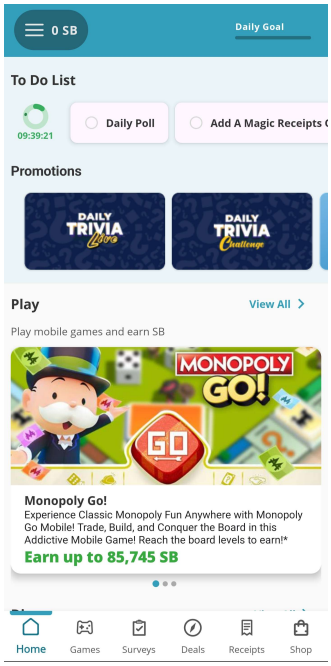
(b) Premise [4].
©Premise Data 2026.



(c) TesterUp [6].
©aestimium GmbH.



(d) SwagBucks [2].
©2025 Prodege, LLC.



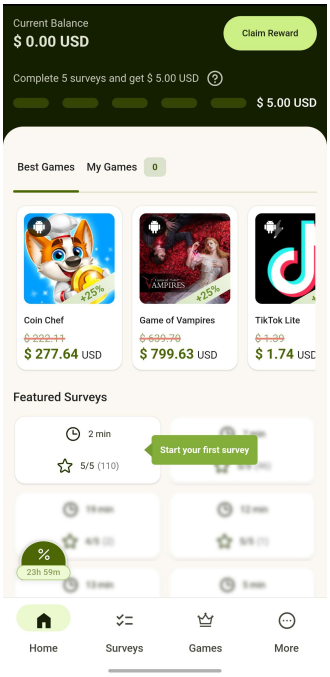
thresholds for risk or friction are surpassed. Risks may seem more palatable when participants are desperate for cash, though usability problems will drive users away: *"**It depends on how broke I am at the time. If I'm really down bad and need cash ASAP, I'll try it. If not, I'll pass.** (...) I've downloaded some that had tons of pop-ups. I'd try to log in to the game, but ads kept popping up. If it's too much just to sign up, I stop. I'm not about to deal with that." -P12.* Another explained, *"**I discovered a lot of them when, you know, I was really hurting for money.**" -P6.* Most of our participants had once found themselves in a place where it seemed worthwhile to try these apps, especially when word-of-mouth referrals from friends might confer trust that would override a baseline mistrust.

While we did not find conclusive examples of scam or malware apps in our interviews, one shelter resident in our pre-investigation (see Sec. 3) claimed to have successfully cashed out winnings via the gambling app Juwa777 (Fig. 3), which fit a pattern identified by Hong et. al. (see Sec. 2.5) of scam apps' distribution solely outside of app stores. During our testing, we found that the Juwa777 Android app could be downloaded from several websites and side-loaded as an `.apk` file, but required messaging a Facebook account for login credentials and making an initial deposit—patterns which most participants said would signal a potential scam and deter them as users (unless they made exceptions based on gambling's already extralegal context; see Sec. 2.5). A Reddit online forum user last year also claimed to have observed suspicious permissions while sideloading the iOS (iPhone) version of the app from a download outside Apple's App Store, though yet unsubstantiated. A screenshot of a log message while installing a configuration profile during the app sideload process showed it requesting permissions for an "administrator at [a specific URL] to remotely manage the iPhone," suggesting potential dangers to our test device [67]. Thus, we decided that direct testing was out of scope (and outside of our risk tolerance) for the current study.

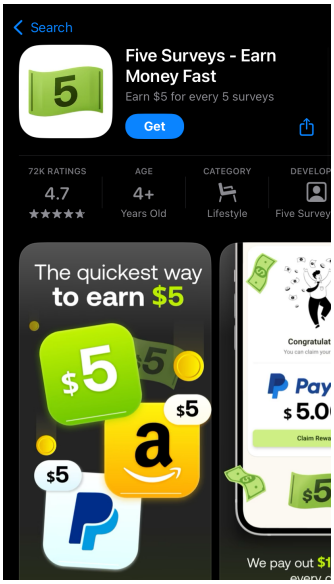
Opaque Payment Failures and Inadequate Technical Support. Five (45%) app users reported payout failures related to digital wallet accounts they had connected. It is difficult for users to distinguish these technical failures from scams in apps, especially if they do not feel the agency or motivation to pursue claims with app "support" (if it exists) or they do not have proof of their already performed labor. P13's payout from one app never arrived in his PayPal account after he had spent two days watching 150 ads (though he was even sent a receipt). Of the apps Benjamin and TesterUp[10], P7 said: *"Every time I play the games and reach the goal, it says it's going to send me the money, but it ends up not showing up on my account. **It'll say the payment failed and to try again. I'll try again and it still won't come up, so I just leave them.** They don't really work." -P7.* P12 faced a different failure: *"I made a duplicate account because I couldn't log into my old one. I used a new email, earned money, and had to verify with Venmo. As soon as I did that, it just blocked me and deactivated the account. **I didn't care anymore—I just***

[10]Benjamin and TesterUp are both task-based platforms that provide cash rewards for playing games, completing surveys, etc.

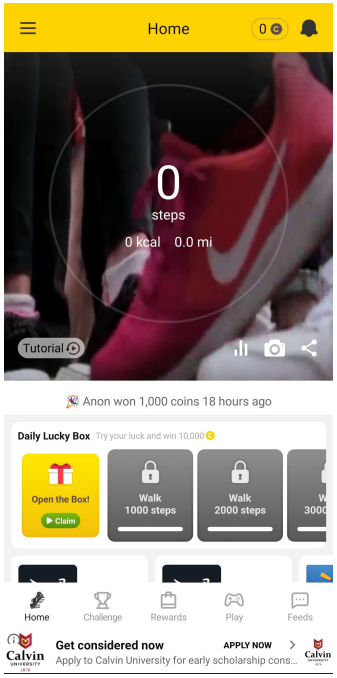
Figure 2: Landing screens of two of the author-tested apps in Tab. 1, shown with notable features.



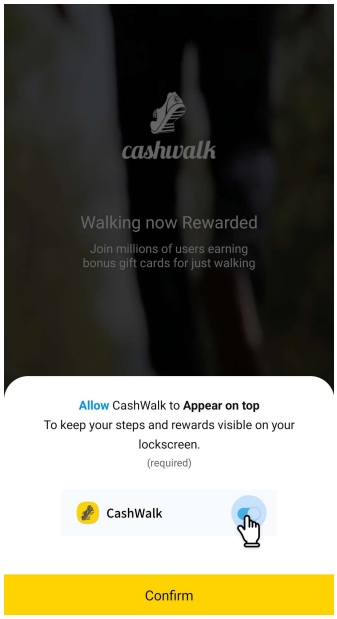
(a) 5surveys App screen [8]. ©Five Surveys LLC.



(b) iOS App store listing with the tagline "Earn Money Fast" (also present on Google Play store), advertising "quick money" [9]. ©2026 Apple Inc.



(c) CashWalk App screen [5]. ©CASHWALK LABS, Inc.



(d) CashWalk lock screen overlay, causing battery drain and extra permissions access [5]. ©CASHWALK LABS, Inc.

Figure 3: The sign-in screen of the Juwa777 gambling app, requiring users to message a particular Facebook account to receive login credentials before proceeding with play [10]. The app is not available on either Apple or Google Play app stores, distributed only through web downloads and sideloaded onto phones. ©2025 Juwa777.

let that few dollars go. *"-P12.* Given the typically low monetary values involved and low likelihood of users pursuing claims, apps can afford to have inadequate technical support or claim that the failure is without recourse, effectively behaving like scamware [27]. They can also enact stringent blocking policies (like the gig apps) such as in P12's case—possibly meant to deter security threats such as Sybil attacks [37] (where many duplicate accounts could funnel money into a single payment account).

Cash-out Barriers. Four participants mentioned having earned money on low-pay apps but never being able to cash out. Three noted too-high payout thresholds that would take too long to reach (unless they spent an impractical amount of time, which some users do). One noted unexpected "pay to play" mechanics or payment steps before cashing out: *"you have to go through different paths [to cash out]. It wants you to pay $1 here, pay $1 there. I don't know. It just wants you to keep going through different things. And so I never cashed out." -P3.* Not only would unexpected fees cut down on earnings, but could delay or deter users entirely from collecting on already-earned money; two mentioned that they would interpret being asked for a payment up front by the app as an indication of a scam.

Poor App Performance and Usability. Finally, 100% of users had encountered technical or usability issues with low-pay apps. Two commented that survey apps in particular exhibited poor performance, whether due to inadequate development or purposefully malicious; frequent timeouts or crashes caused lost work, corroborated by the authors' testing. Five mentioned that the apps would either rarely show them any surveys, or would frequently reject them after pre-screenings, raising hopes and wasting users' time. We propose that the marketplace of surveys on these apps, similar to jobs on many gig apps, could be too sparse or insufficiently diverse to be consistently productive for users.

4.4.2 Survey apps and disability. We observed that survey apps can yield significantly more money for time spent than the other types of low-pay apps (see Tab. 1). Among the seven participants

Dark Pattern	App Type	# Reports	Example from Participant
Crashing/Timing Out	Survey Apps	2	Apps crash mid-survey
Rejection After Pre-Screening	Survey Apps	5	Frequent user rejection after spending time on screening
Limited Opportunity	Survey and Gig Apps	5	Surveys and jobs available too infrequently, sometimes due to unfair penalties
High Payout Threshold	Survey and Game Apps	3	Takes an impractical amount of time to earn the cash-out threshold
Failed/Scam Payouts	Survey and Game Apps	5	Money earned did not appear in digital wallet accounts
Pay-to-Play Mechanics	Game Apps	1	Unexpected payment steps required to cash out
Account Blocking or Deletion	Game and Gig Apps	2	Duplicate accounts terminated, and original account permanently banned

Table 4: Summary of dark patterns in PovI apps reported by participants, showing the specific pattern encountered, the types of apps it appeared in, the number of participants who reported it, and an example of such issue from the participant.

who had used surveys, the highest earnings reported was around $60/month, reported by P5 who is unable to work due to disability. She felt that this amount was worthwhile: *"if you find a good [survey app] that you can make some change off of—you definitely can't live off of them. But you can definitely make money" - P5.* For those who cannot perform more legitimized forms of labor, including gig apps, surveys are a potential next tier down in terms of earnings for time within the app ecosystem, followed by gambling or games. (Tab. 3 compares approximate reported earnings for different types of apps.) Even P12, who works day labor jobs, expressed occasional gratitude for the *"$5 here, $8 there"* from surveys: *"Last week, I tried it. I was at the library, just bored, so I got on my phone and earned a couple bucks. (...)* ***I never really used them because I was well off, had my job. But now, since work slowed down, I'm like, "Dang, it kind of does come in handy for a couple of dollars."*** *-P12.* For the unemployed, these apps could be helpful during idle moments such as study breaks or waiting for the bus. Thus, our judgments of low-pay apps as exploitative or not must be a judgment call regarding whether the amounts earned are worth the time, effort, and risks undertaken, and if promises of earnings are fulfilled.

4.4.3 Better Than Nothing? We noted that these apps might appeal psychologically to unhoused people facing an otherwise hopeless outlook for earning and who may have a lot of unstructured time during the day. Five participants said low-pay apps would be worth using long-term if one "had nothing better to do" or was bored. P13 recalled turning to games like Just Play when homeless on the street: "***if you need like a dollar to get on a bus or something, you usually get it pretty quick. Just a little bit of money. It's good for something like that—in a pinch, if you have nothing***." *-P13.* He described the psychological attraction to a minor sense of productivity: *"You might not make a lot of money, but if you have nothing, just a few cents kind of gives you that feeling like, 'I'm doing something' (...) I used to do it all the time, because I thought,* ***if I'm sitting on the sidewalk doing nothing, I might as well be making one penny an hour****—it's better than nothing." -P13.* These app mechanics could represent a more dignified or less socially taxing alternative to panhandling for making a few dollars as needed, or at least a welcome distraction. On the other hand, the capture of unhoused users' time and attention during these moments of hardship could be seen as a disservice to them.

Wasted Time. In line with our shelter participants' high digital and financial literacy, most had tried but no longer used low-pay apps much due to not expecting meaningful earnings. Nine (82%) had mostly quit due to unprofitability: *"[Users think] it's going to be quick money, and it turns out you actually have to put some effort into it. I'm sure a lot of [people] actually try a lot of these out (...)* ***I think they probably get impatient and then resort back to their old ways of maybe boosting (selling stolen goods). Because it's time consuming****, really." -P6.* Especially jarring is the idea that these apps might initially seem to offer users an alternative to crime, taking advantage of their good intentions, but ultimately frustrating them and thwarting their attempts to escape cycles of crime. Others waste countless hours that could have been spent elsewhere: *"I know so many people that put so much time into some of these and just haven't got anything for it. (...)* ***It's not worth it compared to anything else****" -P13.* Another noted: *"the return on the investment is not worth it. (...) I know friends who do surveys all the time and spend hours and hours every day just to make 10 or 20 bucks. (...) other people have made 2-3 hundred (per month) but* ***their entire life has been spent on that thing.***" *-P1.*

The result is *"false hope" -P8* and wasted time, especially harmful and exploitative in the context of impoverished users who are most likely to turn to these apps. The participants' frustrations about harms to themselves and others were palpable: *"They tell you that you're going to make money playing these games and stuff, and really after all the advertising and all the other stuff they tack on, it really doesn't amount to much of anything. That was probably about half an hour (to make 16 cents)." -P11.* P13 still plays these apps sometimes, but mentioned efforts to *"shut myself off of that (...)* ***I realized I'm spending too much time on that, and I could be using that time more wisely somewhere else****".*

5 Discussion

5.1 Low-Pay App Ethics and Use Cases

The way the latter participants described wasting time on low-pay apps echoes the way some talk about unhealthy indulgences like sugary soda—known to be a bad choice, but psychologically attractive or addictive and sometimes the only option available. This begs the question of whether public policy should attempt to regulate the negative impacts of PovI apps, similar to "sugary drinks" or other Pigouvian taxes [18, 54] designed to limit negative public externalities. For example, game and gambling apps could require warning labels discouraging spending excessive time and money, or "nutrition" labels including estimated earnings per hour; such policies are already implemented in some areas such as the United Kingdom [64] and New York State [7]. Unfortunately, some studies have shown no evidence of behavior change in response to such labels [64]. We also acknowledge that such policies could be controversial given that the nuanced ethics of low-pay apps. In this paper we illustrate how PovI apps might be identified based on harms or risks they might inflict upon users, but this is to some degree subjective and dependent upon a given user's circumstances.

Despite perceptions of leisure, we view any activities that users would not otherwise perform without the promise of money as labor that should be compensated. As such, we recommend that app stores have stricter requirements for money-making apps to verify or guarantee that they do not have have cash-out barriers, unresolved payment failures, or other dark patterns that could result in wage loss. In the framework of Value-Sensitive Design [41], we see such guidelines as an explicit valuing of vulnerable, low-income people's time, and urge platform and app designers to operationalize this value.

At the same time, we acknowledge that unhoused users sometimes value small amounts of money, even over their value of safety from scams or malware. As an ethical provocation or aspiration directed at policy-makers and app designers, we propose a design principle that low-pay apps only be considered ethical when users would hypothetically gain inherent benefit from using the app outside of their earnings.[11] Situated alongside more concrete policies such as the app store requirements proposed above, this principle leaves open the potential for leveraging low-pay apps for social good, for example in partnerships between technology researchers and trusted local government or nonprofit initiatives. Low-pay apps could effectively target public benefits towards unhoused people, for example by presenting "nudges"[61] towards education (perhaps as "edutainment"), healthy behaviors [82], or civic participation. While some Randomized Controlled Trials (RCTs) of health app interventions, like [26], have not shown monetary incentives to affect outcomes, this could be due to relative socioeconomic homogeneity across the subject population (*e.g.* college students in [26]). Our findings suggest that small incentives could improve the uptake of beneficial intervention apps specifically among low-income populations. HCI for social good researchers could even leverage low-pay apps to recruit participants from these populations for non-low-pay research studies, towards more inclusive research.

Regardless of policy changes, low-pay apps occupy a significant place in the ecosystem of income sources available to the unhoused and people who cannot otherwise work, and are unlikely to disappear. We expect that the majority of unhoused people will at some point be exposed to these apps and feel pressure to use them due to their dire financial need. Even more concerningly, PovI apps could be used maliciously to spread false information, and drive consumption of this information among especially vulnerable users. Therefore, it is crucial for shelters and educational outreach programs working with very low-income communities to inform them about the risks of PovI apps, including how to judge whether the apps are worth their time and avoid being deceived or addicted.

5.2 Design of Fairer Gig Apps

Meanwhile, gig apps are distinct from low-pay apps in that they typically pay more than minimum wage and jobs are often held to legal standards for formal labor. However, they also share properties with PovI apps, taking advantage of gig workers' precarity. In the immediate term, we see room for research and development that could make the gig work ecosystem more robust for low-resourced users who may depend on them for survival. For example, gig apps could provide vouchers for or partner with vehicle-share apps to provide transportation options to people without cars. We also envision gig worker support technologies that could reduce the labor of patching together gigs across multiple apps, for example aggregating gig listings from multiple services to create a more global view of available jobs. Even more helpful for this would be an open standard for cross-listing gig jobs on multiple platforms, like Multiple Listing Service (MLS) databases for housing [1]; however, it is unclear whether existing platforms' and employers' incentives would favor or oppose this degree of openness, or whether the political will could exist to mandate its adoption.

Moreover, such technologies would not address issues such as individual apps' unfair policies resulting in user lock-out or other forms of gig worker mistreatment. Perhaps because the app-based gig economy is relatively new, public platforms for reporting and recourse are largely relegated to informal online forums and app store ratings, leaving users with little information on worker treatment or avenues for collective advocacy. While public review systems such as Better Business Bureau (BBB) exist for scam reporting and user protection, at the time of paper submission (2025), most of the gig apps used and even appreciated by participants such as Wonolo, Jobble, and GigSmart had extremely low average reviews (1-2 stars) on BBB [25], likely skewed as a result of low review count; many of the apps mentioned also had no reviews yet, attesting to their relative newness. This suggests that the especially vulnerable users who depend on a patchwork of multiple gig apps to make ends meet, like our unhoused participants, may be among the early adopters or "guinea pigs" on the cutting edge of the gig app ecosystem. Thus, a dearth of policies protecting gig workers disproportionately affects the unhoused or very low-income, amplifying the poverty tax they experience. We reiterate that they merit further inclusion in the space of app-based economies but are overlooked in current literature.

[11] While acknowledging the often complex considerations around the idea of "inherent benefit" in computing applications [87], we also assert that certain problem spaces such as public health and well-being, safety, and education are well understood to fall within the field of computing for social good [11, 43], for example according to collectively described human values [62].

6 Conclusion

This paper contributes to understandings of how unhoused individuals the US leverage digital technologies for income generation and saving that can help them survive and even transition out of homelessness. There is a growing ecosystem of gig apps that decrease barriers to entry for work; a patchwork of multiple apps together can produce enough earnings to meet users' needs while they seek stable employment. However, these apps can also treat users unfairly or otherwise fail to meet expectations, resulting in unstable incomes. Other low-paying apps, such as games and gambling, data collection, surveys, app testing, and other work often described in the literature as "microtasks," provide lower-end markets for labor in contexts that are not legally considered work. Many users try these apps in contexts of reduced judgment due to desperation or a trusted referral, and a large percentage fail to cash out their earnings. We document an ecosystem of dark design patterns and scams that perpetuate this wage theft, noting ways in which the apps result in a "poverty tax" on users' time and can expose them to further risks such as malware and fraud. We propose that the use of these and other finance-adjacent services such as online shopping, digital wallets, and banking or fintech by unhoused communities is an understudied area that merits future work in HCI. We further argue that unhoused workers, as among the most economically vulnerable populations, are of particular interest in the economic space of gig and microwork apps, and merit future research attention. Finally, we suggest that income-generating mechanisms could be an effective way for trustworthy institutions to incentivize uptake of apps for public benefit among very low-income or unhoused groups, but caution that malicious actors could also use such mechanisms to spread misinformation.

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A Appendix

A.1 Interview Script

Hi, my name is [Interviewer Name]. Thank you so much for joining us today. We are here today to gain some insight into ways homeless folks utilize technology or mobile app-based sources to earn money. (Include Consent Process here.)

(1) Please tell me a bit about yourself.
  (a) What do you do for your job/income/money?
  (b) What does your day to day life look like?
(2) Do you know what homeless people do for money in general? What would you say are homeless people's main or most significant sources of income?
  (a) How about people living in Tiny House Villages or other homeless shelters- are their activities for earning money different, and if so, how so?
  (b) Do you think most people who are living in Tiny House Villages or other shelters have jobs? How about specifically in this village? How about those who are not sheltered?
    (i) If they have jobs, what types of jobs are they?
    (ii) Is it more common for people to have stable jobs or odd/informal jobs (e.g. occasional/opportunistic, one-off, seasonal)?
  (c) Are there any other sources of income that you often see homeless people using to get by, legal or illegal? Can you describe some of them?
(3) Do you feel you are (or were) able to get enough money to meet basic needs while homeless, or do you (or did you) struggle with that?
  (a) If you could change one thing about your current situation at this shelter, what would it be? (if the answer is money ask for another answer)
  (b) Is there any one thing you would most need to help you overcome homelessness? (if the answer is money ask for another answer)
  (c) Are most people at this shelter receiving government assistance such as unemployment or food stamps? Are you?
(4) Do you (or did you, while homeless) personally have access to a smartphone and the internet?
  (a) Do you have a phone number you can use? Where did it come from? (Paid, or free account?)
  (b) Do you have an email address you can use?
  (c) Do you ever have problems accessing these things?
(5) How tech savvy are you on a scale from 1 to 10 among people in general? How about compared to other people in the shelter?
  (a) Do you ever help other people with their tech issues?
  (b) Do you ever have technology issues or problems yourself, and how do you solve them?
(6) We have heard that homeless people sometimes lose their identity documents during sweeps, and often have issues verifying their identity for access to government assistance. Has something like this ever happened to you?
  (a) Do you use digital tools to keep your identity documents?
(7) Do you have a bank account?
  (a) (If they have a bank account and a smartphone) Do you use mobile banking using your phone, or do you go to the bank physically?
  (b) (If they have a bank account) Do you have a credit or debit card?
  (c) Do you have Venmo, CashApp, or any other phone-based money app?
  (d) When do you use these types of apps?
  (e) What forms of money do you mainly use, and for what? Do you generally prefer cash or these types of apps?
  (f) Do you have any challenges with these types of apps or with banking?
  (g) Do you work on saving money, or do you have challenges with that? Were you able to save money while you were unsheltered as well, or did you have any challenges?
    (i) If you do save money, what do you plan to spend it on?
(8) Have you ever used online platforms or apps to earn money? For example, via games or gambling, gigs, surveys, app testing, etc?
  (a) What are their names, and what were your experiences with them? Did they actually earn you money?
  (b) When did you start using these platforms?
  (c) Why did you decide to try to use these apps/platforms to earn money?
  (d) What challenges have you encountered while using online platforms to earn money? (Eg. What frustrates you?)
  (e) Would you use these platforms long-term, or just right now or while you are homeless? Why?
  (f) How has your use of these platforms changed over time?
  (g) How much do you make from them in a month approximately?

(i) Do you earn money consistently or is your earning more sporadic/random?
(h) Does making money this way replace other sources of income you'd normally have, such as a more stable job?
(9) Would you say any of the apps you used were scams? (If they don't know: For example, it's impossible to win enough points, or they never cash out even if you win, or someone tries to fool you into sending them money?)
(a) Have you ever personally encountered a scam through one of these apps or websites? If so, what are some examples?
(b) How do you figure out which apps might be trustworthy?
(c) Do you feel pretty confident in being able to spot or avoid scams online?
(i) Have you ever been misled by an app?
(10) App specific - Earning Money: Have you heard of and/or used the apps 5surveys, Premise, CashWalk, TesterUp, or Fetch Rewards? Do you know anyone who has used these apps?
(a) (IF YES) Do you believe these apps to be a good way to spend time so as to make money, and why?
(i) Mention the P.O. data taken on the apps' earning potential.
(ii) Do you still believe these apps to be a good way to spend time so as to make money?
(a) (IF NO) Would you ever use any of these apps, and why?
(i) Inform the user of what these apps provide for the time invested into them (P.O. findings)
(11) Earning Money - Can you tell us about any other technology-based sources people use for easy/informal cash?
(a) For example, do you know of any apps people use for gig work? (Like TaskRabbit or other platforms)
(i) If so, what were your experiences with them? (Ask them to name some apps)
(b) How about apps or websites for online gambling?
(i) If so, could you tell us the names of the apps/sites? What were your experiences with them?
(ii) Would you say people would tend to gain or lose money overall by using these apps?
(iii) How do you decide whether or not these apps are trustworthy?
(c) Did you or do you know anyone for whom apps are or were a major source of income?
(i) Do you think making money this way replaces other sources of income people would be earning, such as having a more stable job?
(d) What percentage of homeless people do you think use these types of apps or sites to earn money? How common do you think it is?
(i) Do you think it is more common in your village? If so, why do you think that is?
(e) Are there any other types of online or technology-based sources of income you know about being used among homeless people that we haven't talked about yet?
(f) Finally, are there any other non-technology-based sources of income we haven't talked about yet?
(12) Saving Money - App specific: Have you heard of and/or used the online shopping apps Shein, Temu, or Amazon?
(a) (IF YES) Do you believe these apps to be a good way to spend time so as to save money?
(i) Do you have any issues with these apps or how they operate?
(b) (IF NO) Would you ever use any of these apps, and why/why not?
(13) Saving Money - Can you tell us about any other apps you use to try to save money?
(a) For example, are there apps that give you deals?
(i) If so, what were your experiences with them? (Ask them to name some apps)
(ii) How do you figure out which apps might be trustworthy?
(14) Do you think technology overall helps or hinders homeless people in earning money or improving their situation? Why do you think this?
(15) If you were to envision your life once you have made it out of homelessness, speaking realistically, could you describe the life you see for yourself? How are you making money, and where are you living? What is your lifestyle like?

That's all I have for you today. Thank you so much for sharing your insights! This will help us a lot in getting started with our research exploration in this space.

A.2 Codes and Clusters

In this Appendix we provide more details on the coding process to enhance methodological transparency, expanding on Sec. 3.3. The full codes and clusters are shown in Figures 4-6 below. The ones beginning with "quant-" were used as a binary indicator per participant (code present or not present) to count notable statistics, such as how many people had a bank account or used a mobile wallet. The other codes are self-descriptive, referring to participants' lived experiences (such as "currently has malware on phone" or "gig app lock out"), stated opinions (such as "Games fun to play" or "Feel they can easily distinguish scams"), and assertions or recommendations (such as "[How to] Decide if [app is a] scam- try it and see" or "Scam indicator- asking for a payment").

As an illustrative example of a raw data excerpt, the following snippet was coded with "document loss," "access to internet device," and "struggles with low quality device or service:" **Interviewer**—*"Do you ever use any digital tools to store your identity documents, like scanning them into your phone, or do you mostly keep hard copies?"* **Speaker 2 (13:28)**—*"No, I use hard copies. I mean, my phone is a sucky phone. It won't even scan scratch tickets or QR codes. The camera on it sucks."* This snippet was coded with "document loss" and "theft": **Participant**—*"Those legal requirements for this program here- I've got copies. Most of the copies of my social security card, ID, I've got ID and all that. But my social security card got ripped. Somebody stole my wallet."* **Interviewer**—*"How did they steal it, from your room?"* **Participant**—*"No, I don't remember. I was in the shed. I was trying to get something out of there. But somebody had taken out my ID and stuff like that- So I've got my Social Security card, but it's like ripped in half. I got copies of it, I got copies of it."*

Codes were applied at every applicable mention of the phenomenon of interest described by the code, except for the "quant-" codes

which were applied only once per participant per quantitative question we wanted to answer. While performing the initial coding pass through the transcripts, the lead authors were allowed to add more codes as they observed repeated mentions of the same phenomenon, as long as they went back over the data and made sure the code was applied to all relevant quotes in other transcripts. We applied all relevant codes to each quote, allowing codes to overlap on the same quote. In ambiguous cases, we added all possibly relevant codes and wrote notes to justify them, resolving any perceived ambiguities in review with the other author. First-tier clusters of codes were established during weekly discussions based on larger themes or topics that we identified such as "Ability to distinguish scams" (encompassing codes about specific scam indicators or types), and "Useful situations with apps" (encompassing codes about various positive outcomes of money-making app use). After the authors completed the full coding pass and consensus process, the first author added some additional clusters to the codes based on literature review and analysis about "poverty industries" and "poverty taxes," inspired by the diverse penalties and harms reported by the users. Finally, the first author performed the top-level clustering, focusing most heavily on users' experiences with "Scam Apps," "PovI Apps," "Access to Income," and "Obstacles to Income" to examine the money-making app ecosystem's impact on their earning and financial circumstances.

A.3 App Calculations (Earnings per Hour)

(1) **Cash Walk**
- Average number of steps taken per day (in the U.S.): 5,117 steps [17]
- Calculations:
  - $\frac{5{,}117}{24} = 213.2 \approx 213$ steps/hour
  - $\frac{213.2}{100} = 2.13$ coins/hour
  - 3000 coins = \$5 $\Rightarrow$ 1 coin = \$0.00167
  - Therefore, average earnings ≈ \$0.00356/hour
- *Note: Only walking rewards are included. Random rewards, ad-based multipliers, and bonus boxes are excluded. Data collected through personal testing of the app.*

(2) **Tester Up**
- Average U.S. part-time work hours: 34.5 hours/week [90]
- Calculations:
  - 34.5 hrs/week ÷ 5 ≈ 6.9 hrs/day
  - Average earnings per offer: \$94
  - 25 minutes ≈ \$1 $\Rightarrow$ 6.9 hrs ≈ \$16.56
  - Hourly rate: $\frac{\$16.56}{6.9} \approx \$2.40$/hour
- *Note: Data collected through personal testing of the app.*

(3) **Premise**
- Average task: \$0.08–\$0.16 (mean = \$0.12), taking 3–4 minutes (mean = 3.5 minutes)
- Calculations:
  - 34.5 hrs/week ÷ 5 ≈ 6.9 hrs/day
  - $\frac{\$0.12}{3.5\ \text{min}} \Rightarrow \$2.06$/hour
- *Note: 34.5 hour average work week comes from [90]. Data collected through personal testing of the app.*

(4) **Fetch Rewards**
- Average receipt: 25 points = \$0.025
- Two receipts/day ⇒ 2 × 0.025 = \$0.05/day
- Hourly earnings: $\frac{\$0.05}{24} = \$0.0021$/hour
- *Note: Promotional offers excluded. Assumes typical spending only. Data collected through personal testing of the app.*

(5) **Swagbucks (self-collected data)**
- Conversion rate: 1 SB = \$0.0118
- Surveys:
  - Avg. reward: 120 SB = \$1.416
  - Avg. duration: 15 minutes
  - 4 surveys/hour $\Rightarrow$ 4 × \$1.416 = \$5.66/hour
- Games:
  - Avg. reward: 45,000 SB
  - 106 SB ≈ 30 minutes $\Rightarrow$ 212.4 hrs total
  - $\frac{45{,}000}{212.4} = 211.9$ SB/hr $\Rightarrow$ \$2.50/hour
- *Note: Data collected through personal testing of the app. Similar calculations were found on a Reddit post [29].*

(6) **5 Surveys Example**
- Avg. survey time: 15 minutes
- Earnings: \$1.00 per survey
- 4 surveys/hour $\Rightarrow$ 4 × \$1.00 = \$4.00/hour

Figure 4: Codes and Clusters (1 of 3)

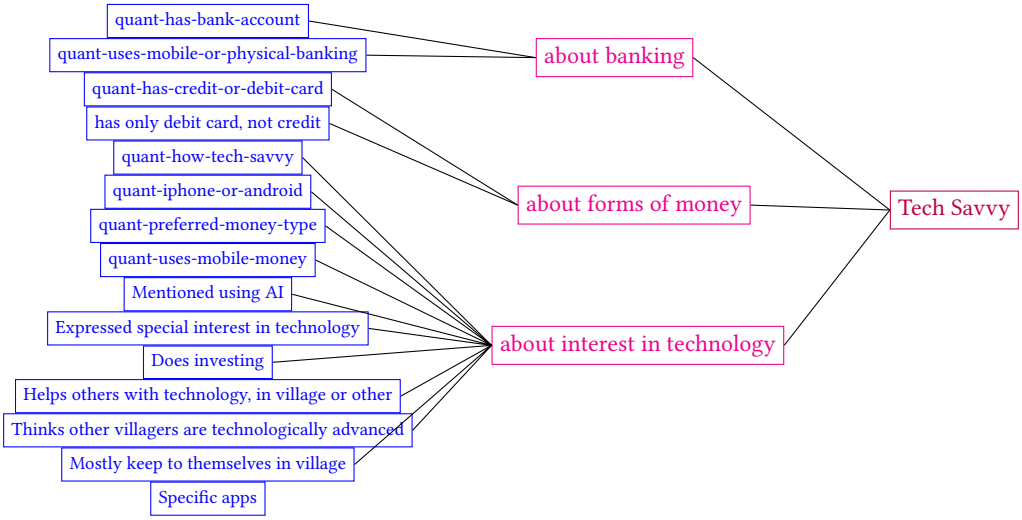

Figure 5: Codes and Clusters (2 of 3)

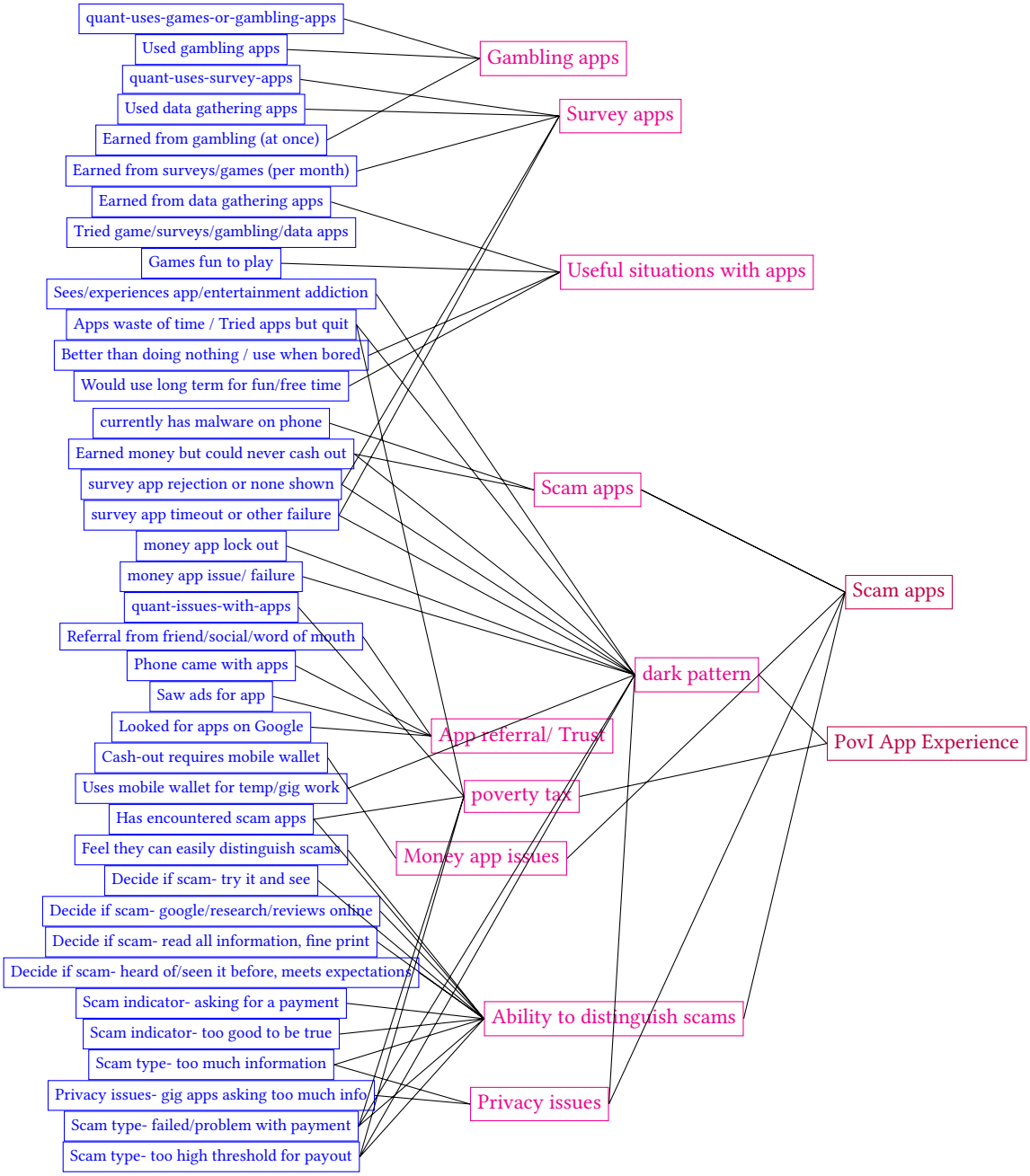

Figure 6: Codes and Clusters (3 of 3)