

Fitcoin: Lo-Fi Testing

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Introduction:

Value Proposition:

Fun Fitness for All!

Mission Statement:

Our goal is to provide a fun alternative for those who feel alienated and intimidated by fitness. We will help adults who are short on time and motivation to reach their long-term health goals through social gaming.

Problem & Solution:

People can't sustain their healthy exercise habits. Unmotivated by arbitrary health goals, people find exercise monotonous and chore-like. Our solution is to gamify fitness so it's accessible and sustainable for all people by providing communities and fun activities.

Sketches:

Overview:

We brainstormed 24 different diverse concept sketches (see figure 1, 2 & 3), including designs for mobile applications, wearables, and voice-controlled applications.

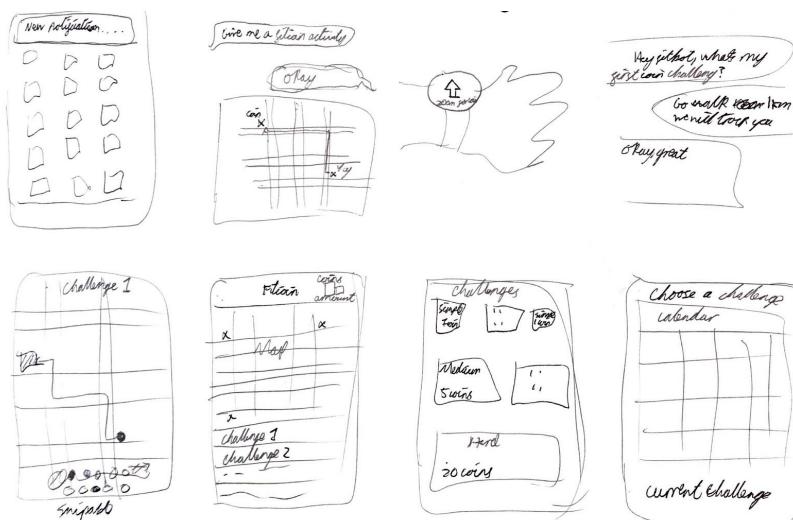


Figure 1: Crazy 8 Concept Sketches - Nick

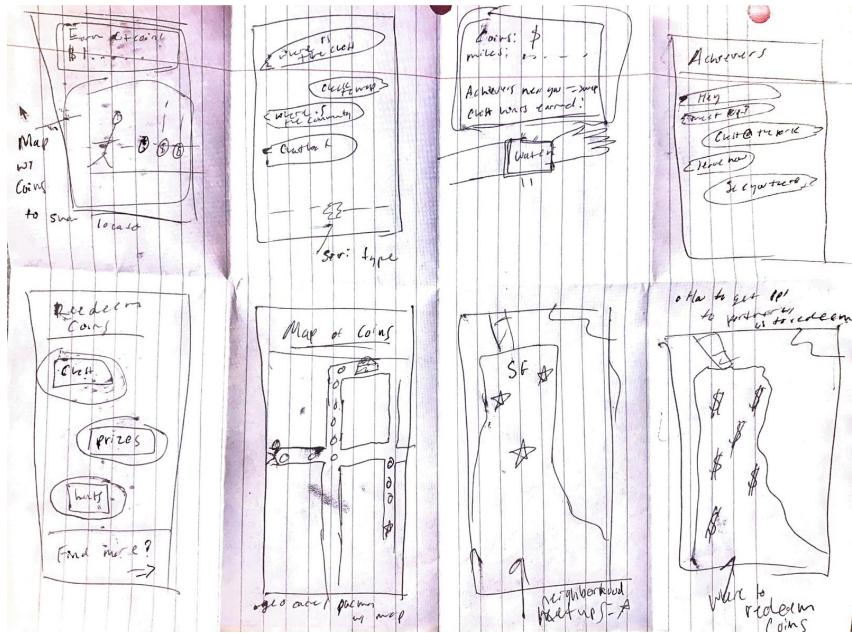


Figure 2: Crazy 8 Concept Sketches - Dylan

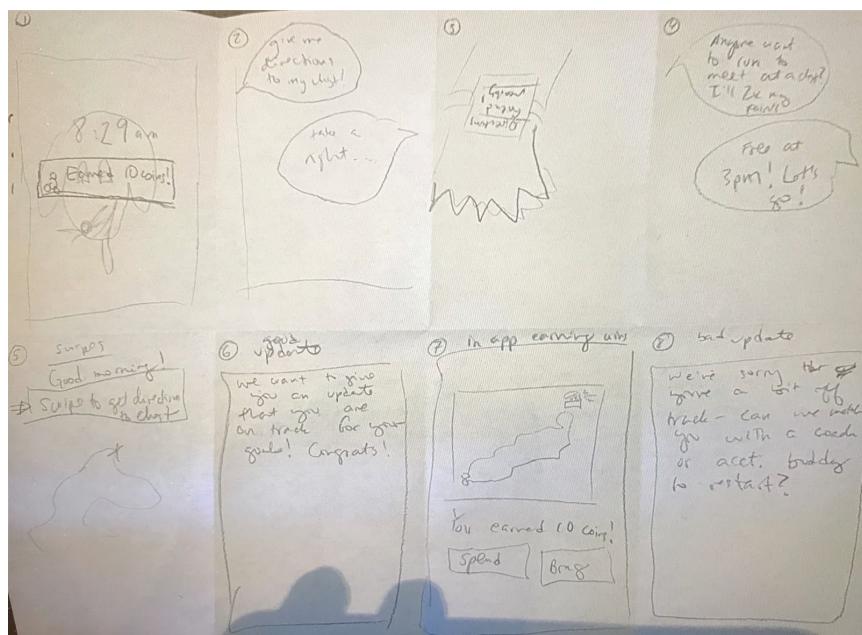


Figure 3: Crazy 8 Concept Sketches - Caroline

Detailed Sketch Wearable:

We further developed two possible designs: a wearable and a mobile application. The wearable (see figure 4) contained a map interface as the core component that was easily readable and allowed the user to achieve the core 3 tasks within the strict confines of a touchable wearable screen interface.

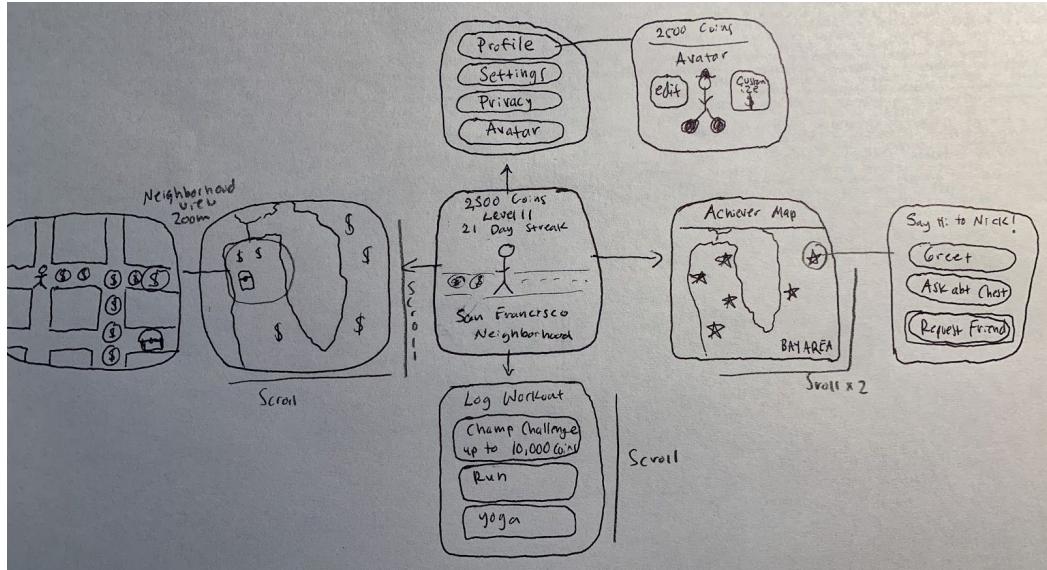


Figure 4: Wearable Detailed Sketch

Detailed Sketch Mobile:

Although the mobile has more flexibility, we kept the core tasks simple and made them the prominent focus of the application (see figure 5). The map also played an important role here as it enabled the user to dive into the applications' main function with no clicks.

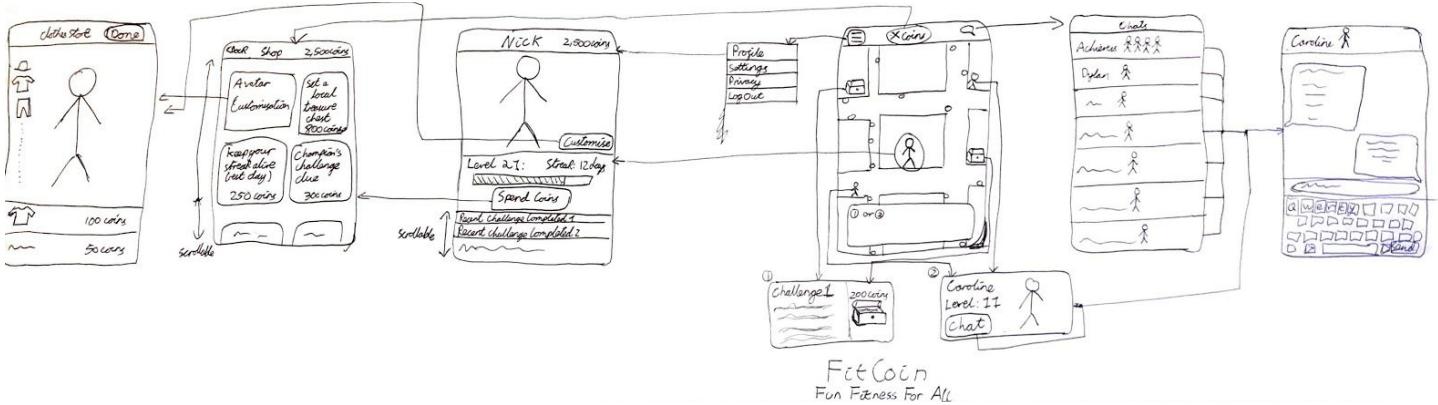


Figure 5: Mobile Detailed Sketch

Selected User Interface

Design Selection Rationale:

The wearable smartwatch would enable direction to coins and messaging ability, in addition to biometrics. The simplicity of the wearable smartwatch application was appealing, but unfortunately we did not feel that we could adequately depict the rewards "store" for our users and provide the level of functionality necessary. The rewards system is a key part of our application.

Lastly, wearable watch applications require the user to own a wearable smartwatch which although increasingly common aren't as accessible as a smartphone application and accessibility remains a core aspect of our value proposition. Thus, the mobile application is the better design.

Category	Mobile App (✓ -, ✓ , ✓ +)	Wearable Smartwatch App (✓ -, ✓ , ✓ +)
Navigation/tracking ability (functional requirement)	✓	✓ + <i>Bonus health metrics included</i>
Notifications/sounds/haptic feedback (functional requirement)	✓	✓ <i>Less distracting way of receiving notifications. However, a more public way of receiving notifications.</i>
Social (functional requirement)	✓ + <i>More flexible interface for calling and chat; more visual interface to view avatars or participate in group chats.</i>	✓
Rewards (functional requirement)	✓ + <i>More flexible interface.</i>	✓ - <i>Overly constrained interface.</i>
Relaxed (look and feel requirement)	✓	✓ + <i>Constrained interface enforces simplicity.</i>
Novel (look and feel requirement)	✓	✓ + <i>There are very few exercise apps that are smartwatch first.</i>
Interactive (look and feel requirement)	✓	✓ + <i>Having an application on your wrist feels more intimate.</i>
Accessibility	✓ +	✓ - <i>Although becoming more common, these are still expensive and difficult to justify with our value proposition</i>

UI Task Storyboards:

The 3 tasks were:

Simple: Achieve your first coin

Medium: Meet your community

Complex: Spend Coins on a Reward

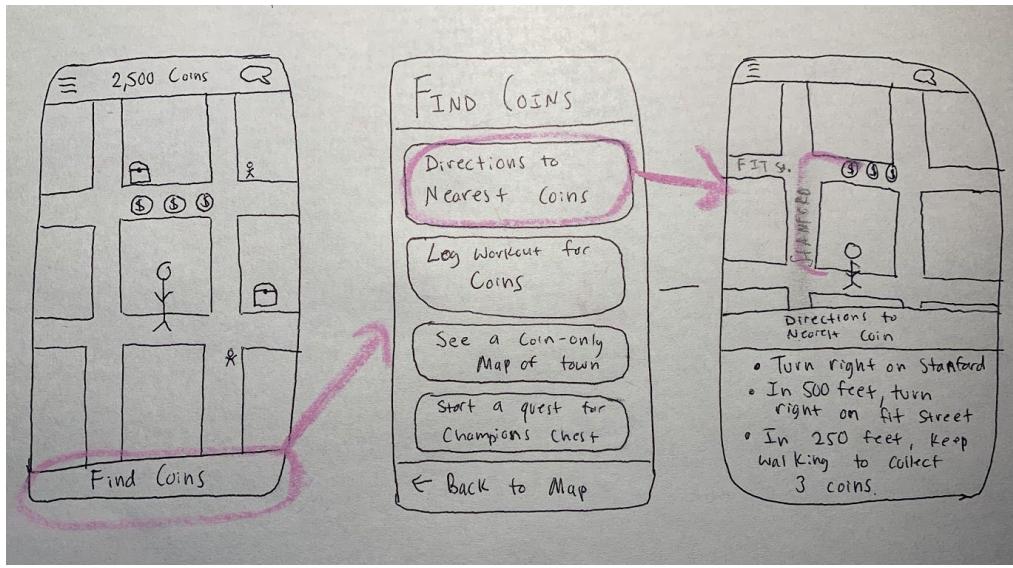


Figure 6: Simple Task

The user is placed initially onto a screen that is a map centered on their location with coins and other users populating it. Using this, the user can immediately walk to a coin, achieving the goal. There is also the option of selecting the “find coins button” which leads you to an option to obtain directions to the nearest coin.

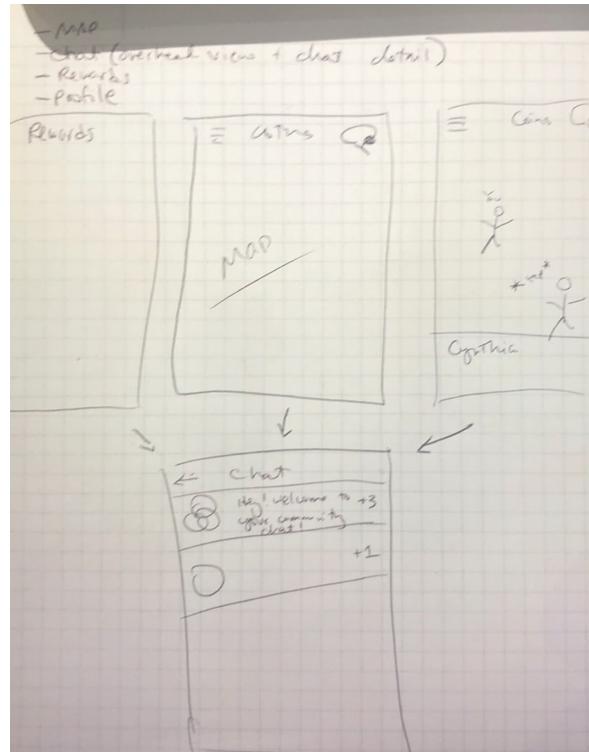


Figure 7: Medium Task

To meet your community in the app, you use the chat messages screen, which can be reached 3 different ways: 1) as a reward you can pay with ingame fitcoins to be part of a virtual club; 2) you can use the chat button in the top right corner of the screen to reach your chats; 3) you can select another avatar that you see on the screen and start a conversation with them.

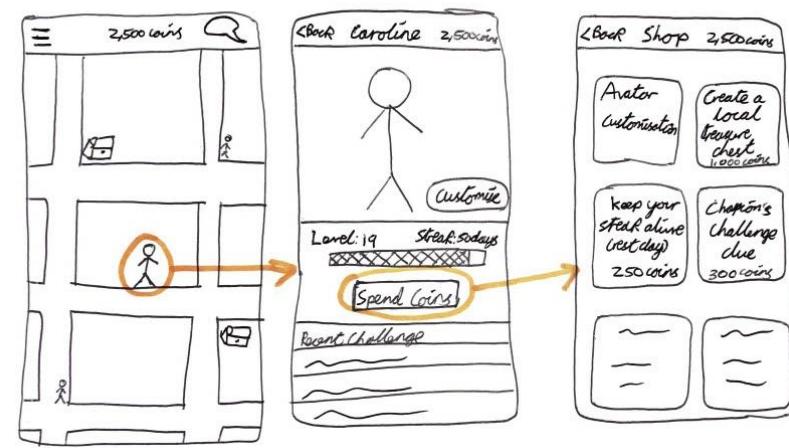


Figure 8:Complex Task

Despite being the most complex task, we aimed to make spending coins on rewards as simple as possible. You find the rewards by going to your profile.

Iterated Detail Sketch:

After discussing the UI task flows as a team, we decided to further brainstorm our mobile detailed sketch before launching on the low-fi prototype. Figure 9 shows the results of our brainstorming session. The main points were to remove the focus on avatars, as this was not a feature supported by our needfinding data. We also added virtual clubs as a new avenue to complete the medium task. Finally, we moved some navigation elements to the bottom of the screen to be more convenient.

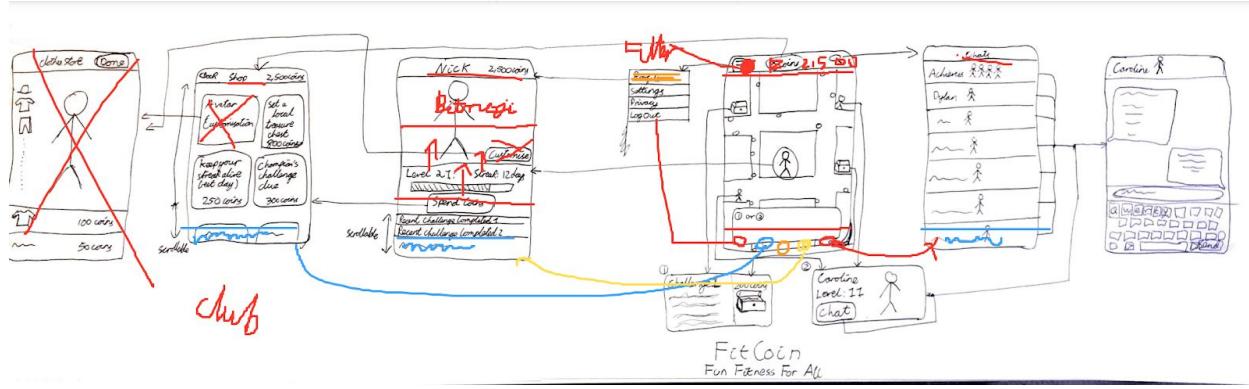


Figure 9: Brainstorming detailed mobile sketch

Prototype:

Building off our iterated detailed sketch, we drew up 8 screens for the app that achieved the 3 core tasks (see figure 10 through 17). Due to remote testing, we linked them using Invision ([link here](#)). The blue squares represent clickable areas that lead to different screens. Below these screens is a table which shows which buttons lead to which screens.

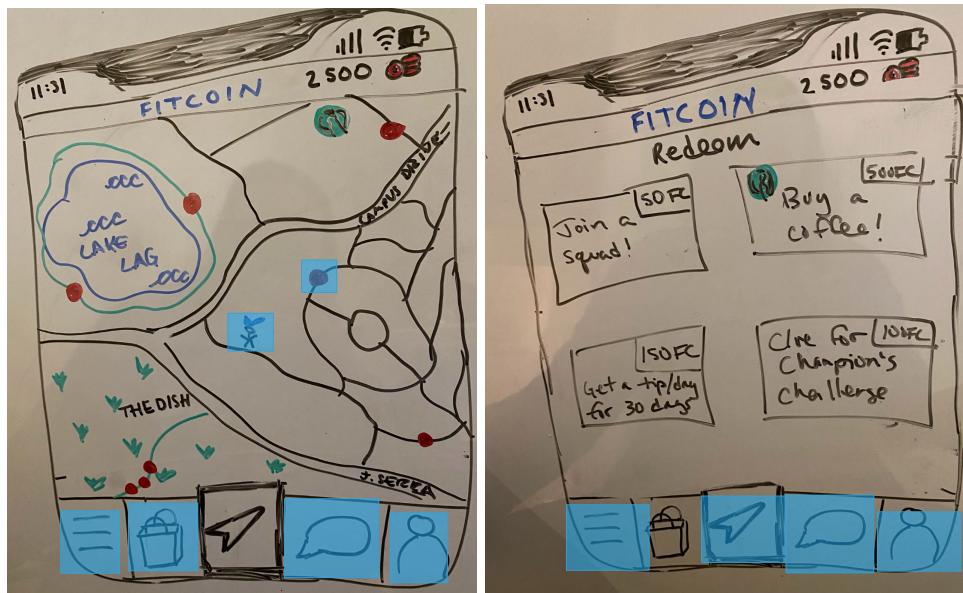


Figure 10 (Map Screen) -- Figure 11 (Shop Screen)



Figure 12 (Settings Screen) -- Figure 13 (Friend Detail Map Screen)

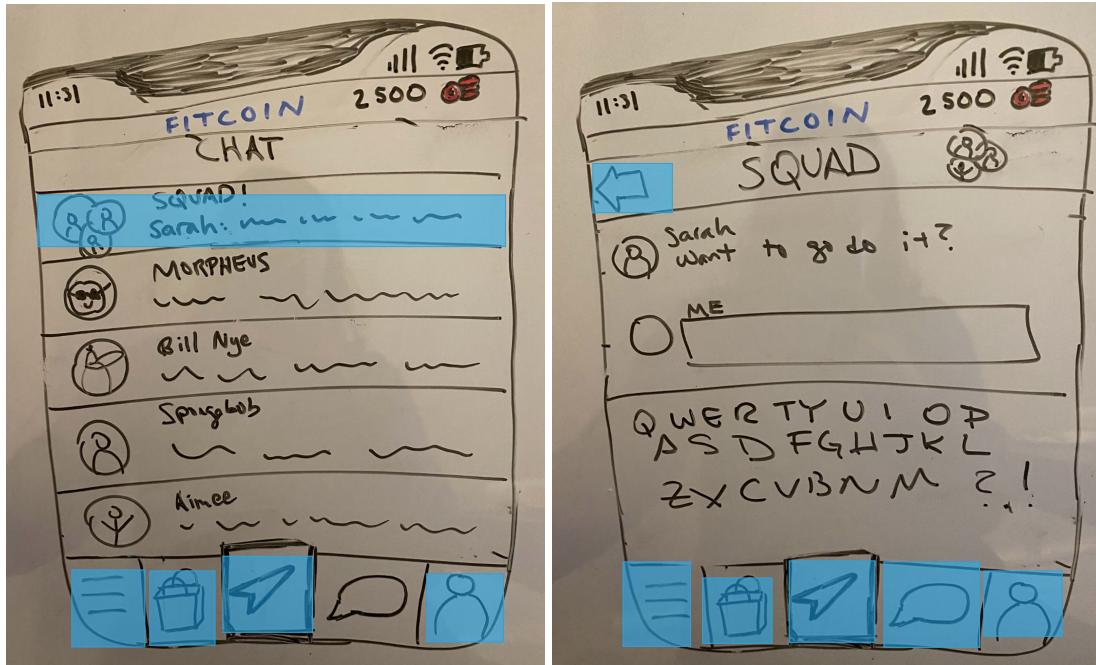


Figure 14 (Chat Overview Screen) -- Figure 15 (Chat Detail Screen)

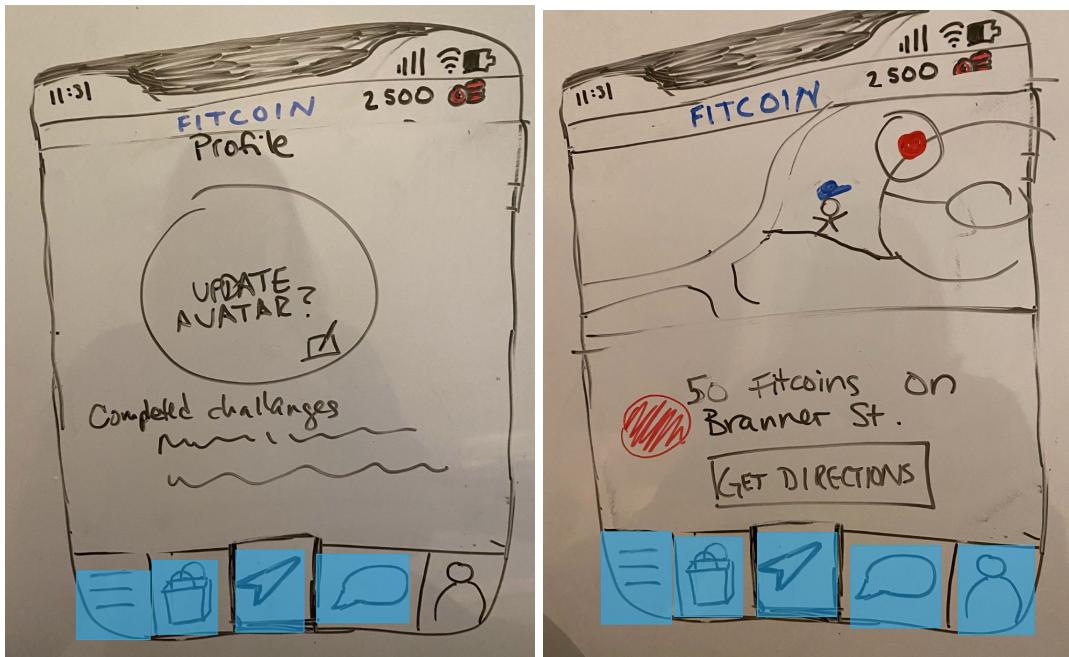
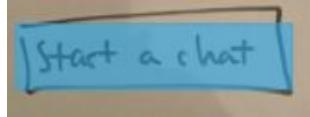


Figure 16 (Profile Screen) -- Figure 17 (Coin Direction Detail Map Screen)

<u>Button</u>	<u>Resulting Screen</u>
	Map Screen - Figure 10
	Shop Screen - Figure 11
	Chat Overview Screen - Figure 14
	Profile Screen - Figure 16
	Settings Screen - Figure 12
	Chat Overview Screen - Figure 14 (Back Button)
	Chat Detail Screen - Figure 15
	Chat Overview Screen - Figure 14
	Coin Direction Detail Map Screen - Figure 17
	Friend Detail Map Screen - Figure 13

Method:

Participants:

The 3 participants were:

HN - 23 year old small business owner

JM - Middle-aged women very involved in her neighborhood community

DN - Middle-aged man - former athlete trying to get back into fitness

They were recruited through snowball recruitment from previous needfinding interviews with a few coffees as compensation where possible in COVID settings.

Environment and Setup:

All were tested via Zoom with the user being given the Invision [link](#) and screen recording with microphone audio used to record the entire test (see figure 18).

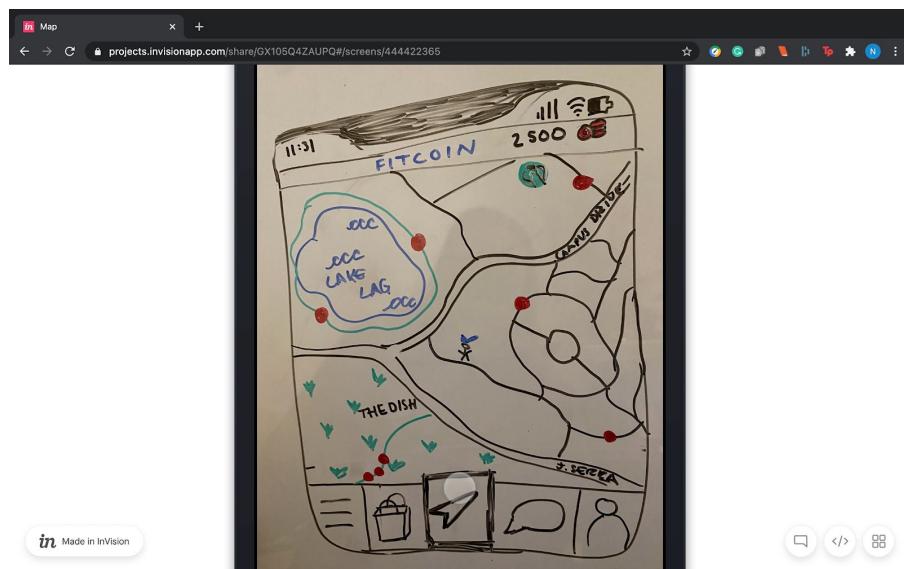


Figure 18 - Screenshot of test recording

Procedure and Team Member Roles:

After the user was briefed by the facilitator and the consent form was filled out, the screen recording started, and the user was asked to complete the 3 tasks outlined in the UI Task Storyboards. Each team member was a facilitator for one Low-fi test. The screen recording with audio enabled the note-taker and observer roles to be done asynchronously by other team members. Due to us being a 3 person team spread over 3 different time zones, this meant we had more flexibility to organise our interviews at short notice. Lastly, the Invision software played the role of the computer.

Test Measures:

- Time spent to complete each task for the first time
- Number of erroneous attempts before successfully completing each task
- User's qualitative comments
- Critical events whether positive or negative and their implications' severity

Results:

All users spent more time with more tries to finish the first task than the other two tasks combined. All users found the concept of the augmented reality game confusing, which contributed to the increased elapsed time for task number one. All users found the chat intuitive; the other icons ranged in intuitiveness. There was limited excitement for the rewards offered. A couple of users requested a “Ask for help” feature.

Discussion:

From the interview script to the design, many things could be improved.

The interview script and first page in the application could be improved for better interviewing results, as our users were confused about the premise and disoriented by the map of Stanford (where none of them currently were). This distorted the results for the first task: we're not sure if the set-up of the interview or the application was more confusing.

We additionally think we can improve indicating who the user is on the map, how many coins they have, and how they can get to the next coin. We also think we can change our icons on our bottom navigation bar to more intuitively express the pages they represent. We want to make sure a user knows where to go to control their privacy settings. The drawn prototype was also flawed with the depiction of red coins; we chose red only because we didn't have any other colored markers.

Finally, we believe that this application will benefit from an onboarding sequence, since augmented reality games are still novel to many people.

Overall, we'd like to further simplify the application and the number of ways to interact with it. We were excited that our users were enthused by the product, despite the design flaws previously mentioned.

Appendices:

All Forms:

- [Invision Storyboard link](#)
- [Low-Fi Consent Form](#)

Critical Incident Logs and Other Data Collected:

- [110](#)
- [121](#)
- [123](#)