Env.io

It's now easy being green.

The Team

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Introduction

Mission Statement & Value Proposition

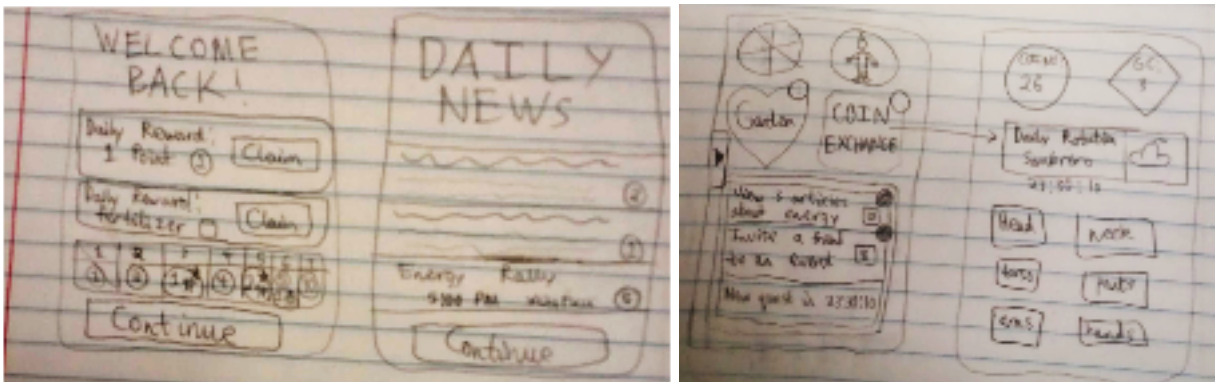
Env.io is a mobile gaming platform that encourages environmental engagement. Our mission is to help people easily integrate environmental action into their everyday lives, and to share the spirit of helping the environment with their local and global communities. Env.io's value is that it enables environmental action to be incorporated in a digestible manner, rewards users for their actions, and fosters community as well as competition.

Problem/Solution Overview

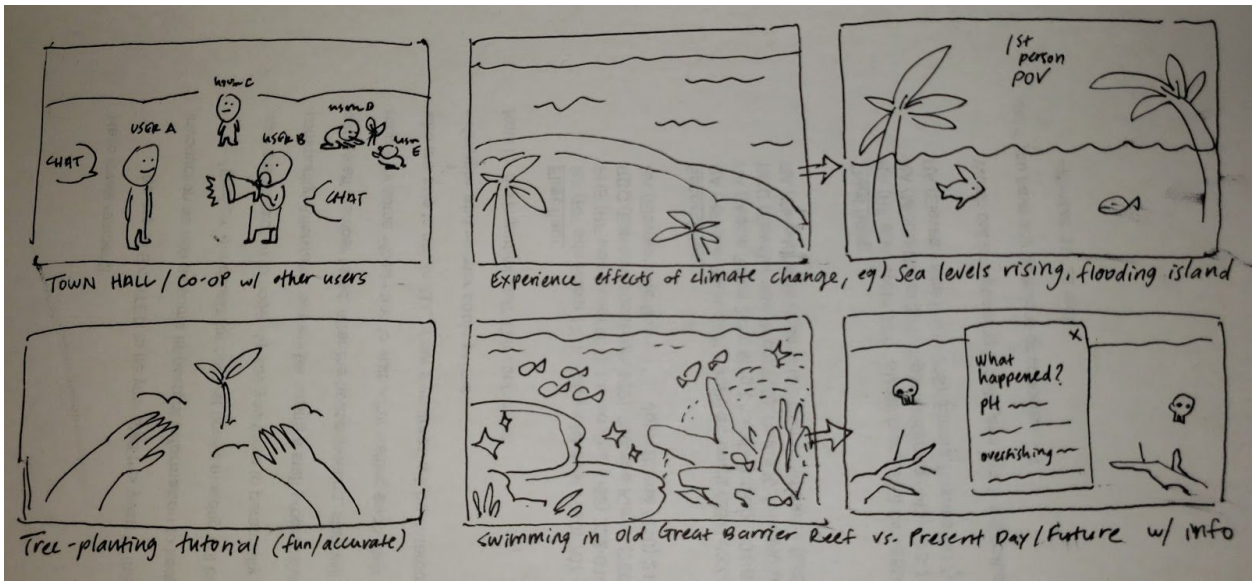
Through our needfinding, we found that most people recognize the importance of, and want to engage in, environmentally beneficial actions. Furthermore, people want to know what is happening in the political realm and how it affects environmentalism and sustainability. But, people are unwilling to go out of their way to do so unless they see an immediate result such as a reward, increased social capital, or the immediate impact. Env.io fixes this problem. Modeled after role-playing games, Env.io users have their own avatar and virtual world to tend. Users receive suggestions for taking environmental action in their daily lives, either by completing tasks that can be done individually or in a team setting. Users also can access news related to environment in industry and politics from a local to national level. As users engage in these actions, they gain points that they can use to buy virtual assets like clothing for their avatar, virtual pets and gardens, and decorations for their

virtual environment. Users can see the avatar, activity, points, and rewards of their friends on Env.io as well.

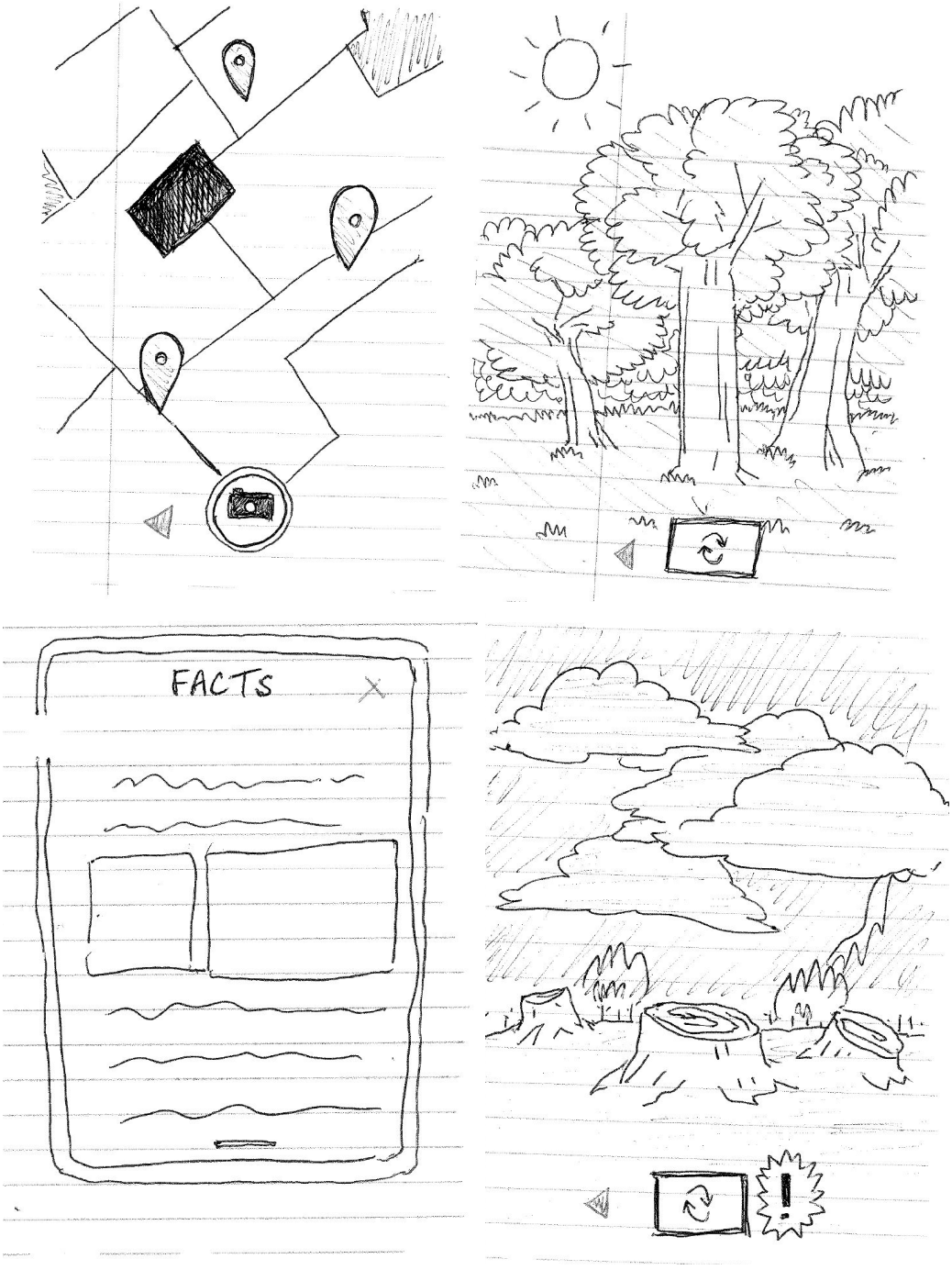
Sketches



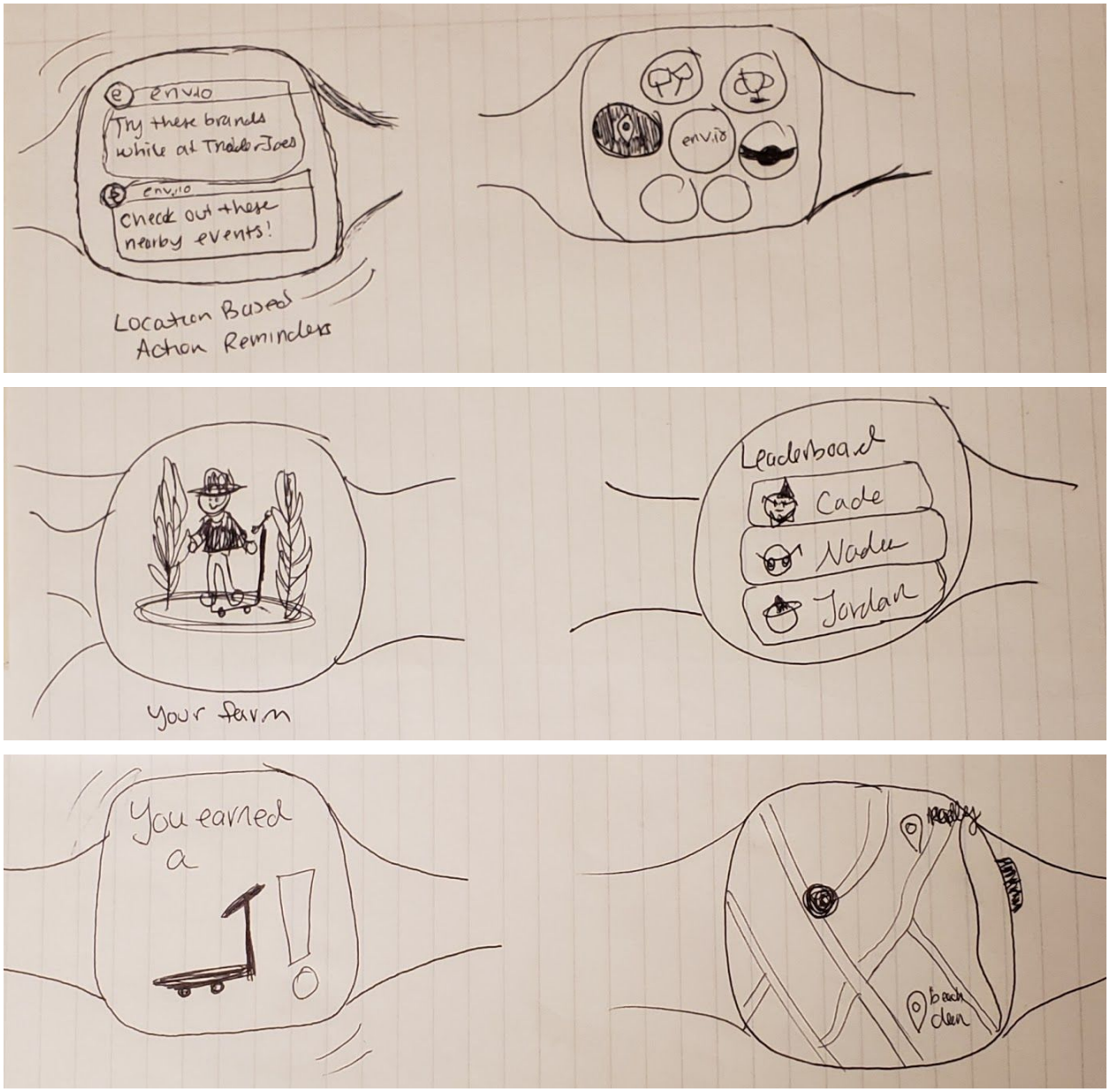
Idea 1: Timed Events and Daily Items



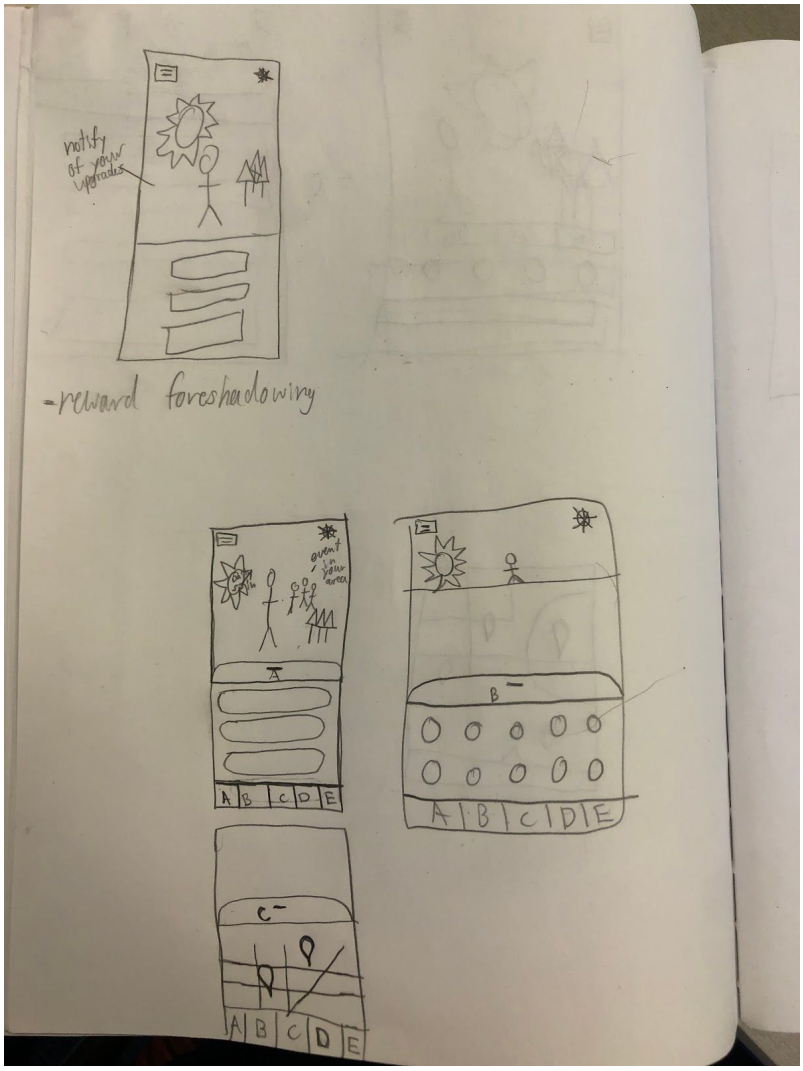
Idea 2: Virtual Reality Environmental Experience & Stewardship



Idea 3: Augmented Reality Before/After Cam



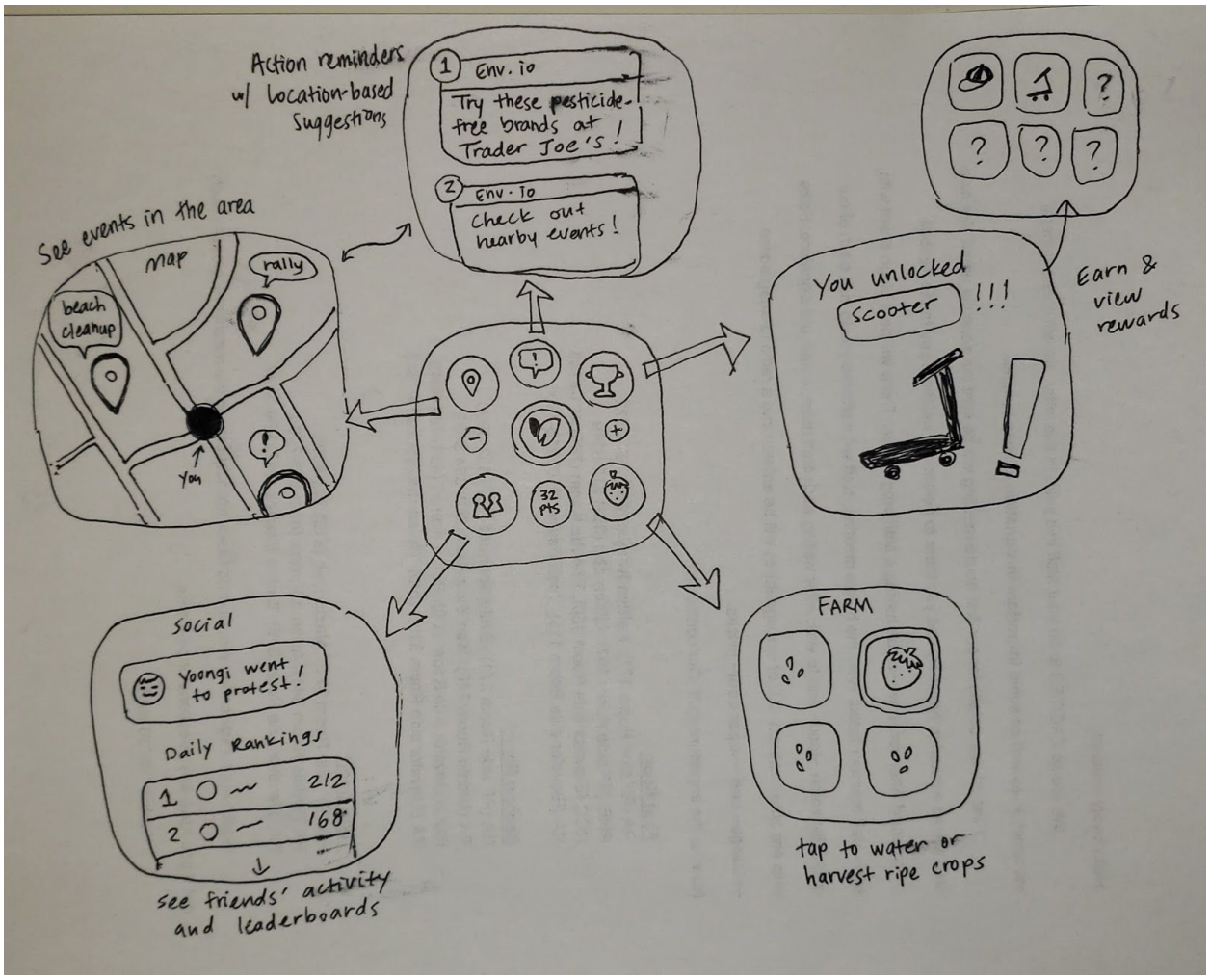
Idea 4: Smartwatch App



Idea 5: Mobile MMORPG (Massive Multiplayer Online Role-Playing Game)

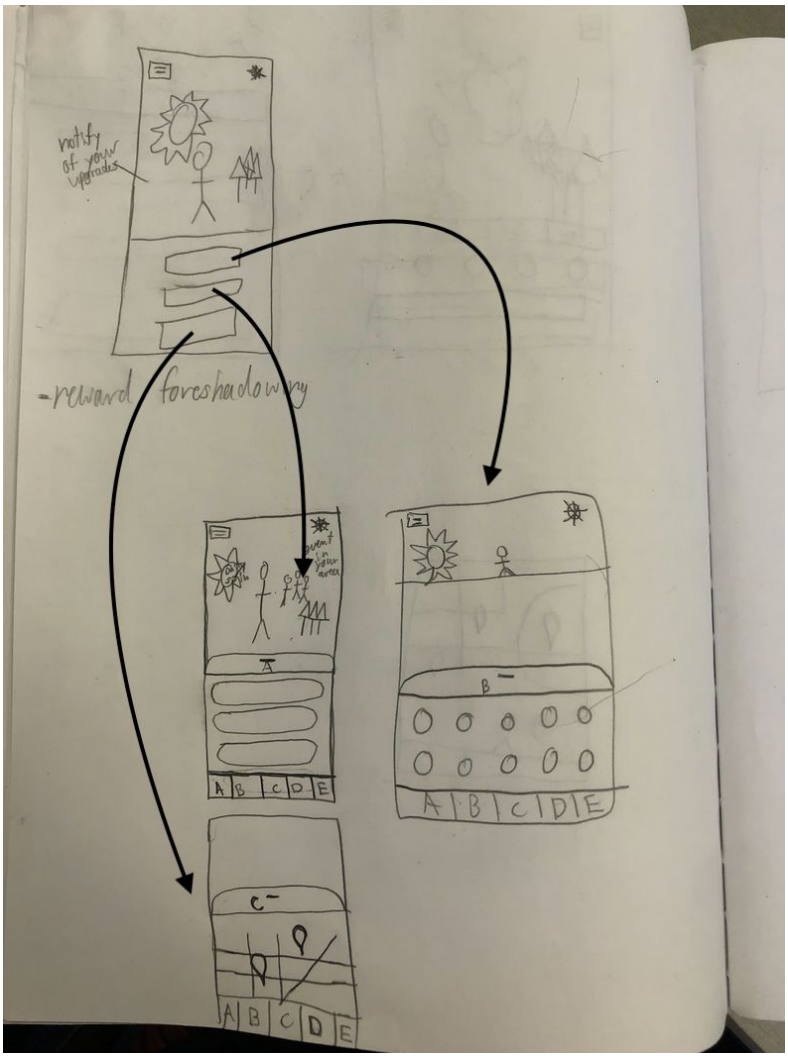
Top 2 + Storyboards

Smartwatch App



Pros	Cons
- Integrates well with daily life (just check your wrist, don't have to pull out phone) - Notifications naturally become more visible and accessible - More intuitive integration with location-based suggestions	- Fewer people have smartwatches, limiting reach & userbase - Restrictive in what features can be implemented, especially game, community, or customization mechanics - Harder to read lengthier news pieces, or need mobile app to access all features - Notifications could be invasive, annoying enough that user disables altogether - Less team enthusiasm over developing and coding idea, esp if watch + phone

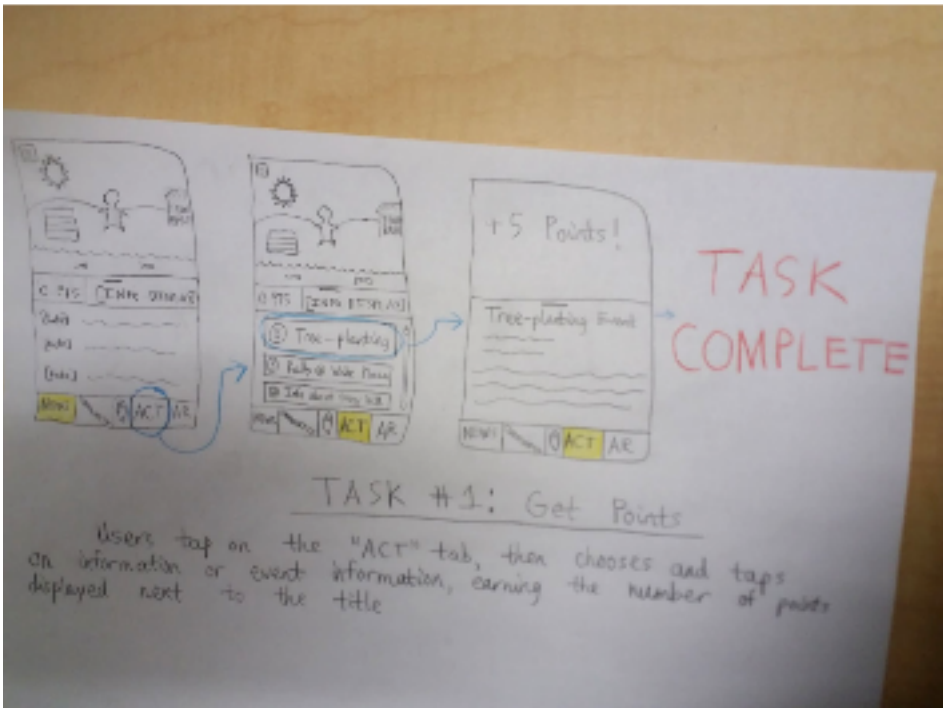
Mobile MMORPG



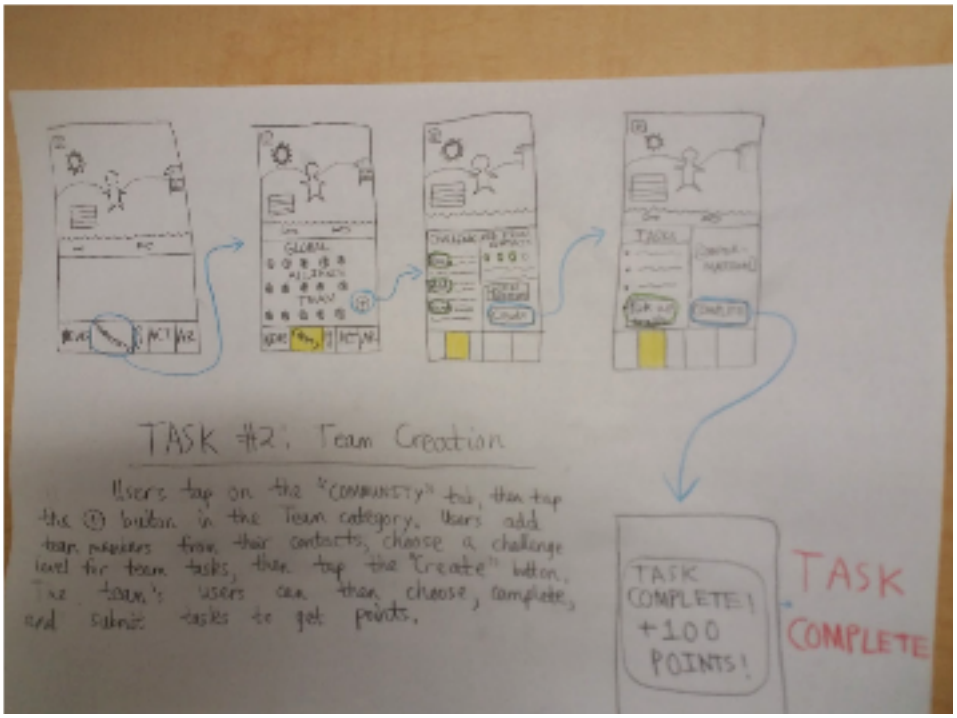
Pros	Cons
- More spacious interface for more features in more expansive visually appealing way - Social element encourages cooperation and accountability - Team element fuels competitiveness, tribalism, and spurs increased action - Greater ability to be gamified - Nearly everything you can do with smartwatch you can do on mobile but not vice versa	- "Clunkier," people have to pull out phone and open app to engage - More features could potentially be more overwhelming and lead to inaction if not executed well - Is a game made in this manner fun or unappealing (ex. too childish or nerdy) for target audience?

Selected Interface Design

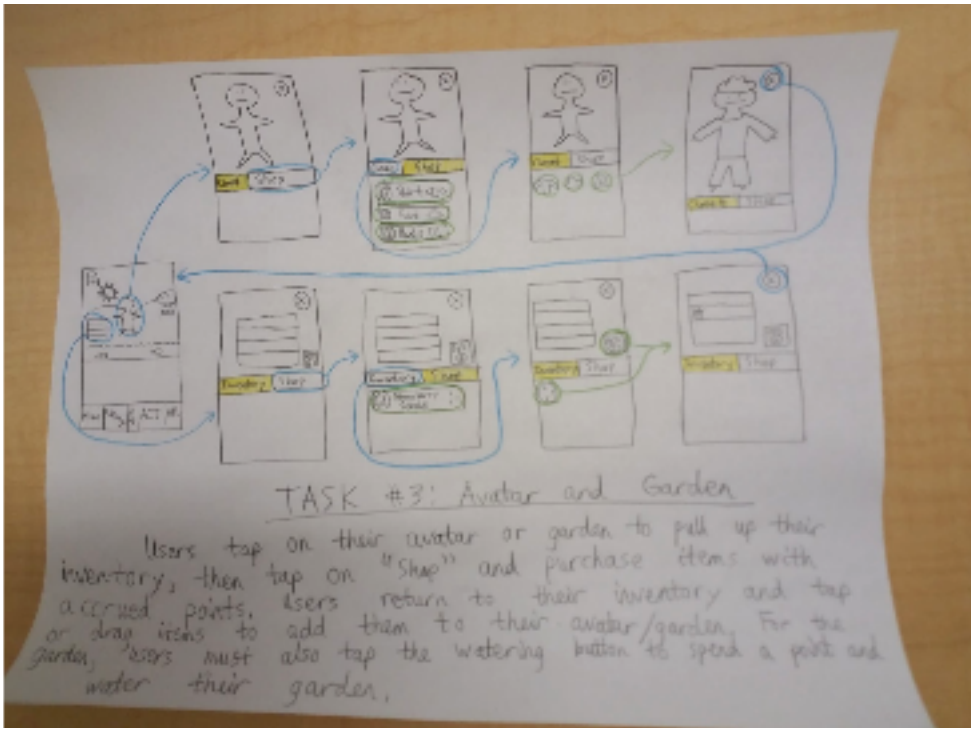
Storyboard:



Task 1: Get Points



Task 2: Team Creation



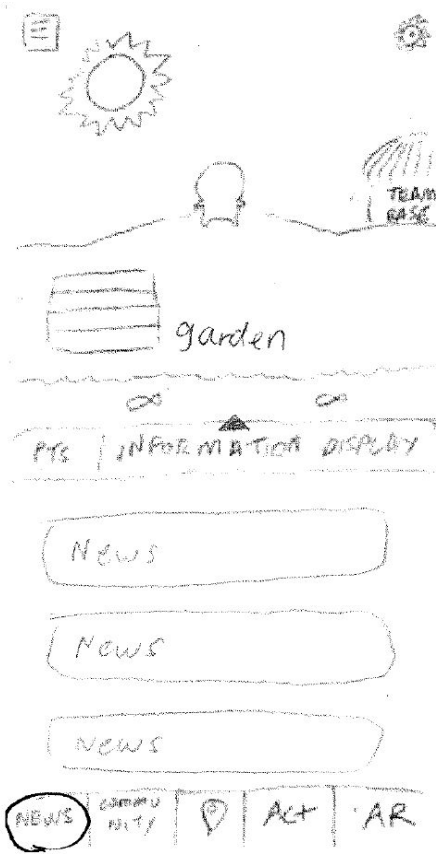
Task 3: Avatar and Garden

Reasoning:

We selected the “MMORPG”-type design because we felt its higher focus on the social experience was the most valuable of all. We felt the sketch focused on AR would be better as a feature than as the main interface. We thought a wearable would be an interesting direction to explore due to its more seamless integration with the user’s daily activities, but we want the reach of our product to go further. The phone app would be accessible to more people, requiring only a download rather than having to purchase a smartwatch. Similarly, the sketches based on timed/daily events were not worth expanding into a specific design, since we felt it would be better to incorporate daily engagement motivation as a component of the broader design.

Prototype Description

In our prototype, the interface is generally split between an “environment” on the top half and an information panel on the bottom half. Users can pull the information panel down to view and interact with their avatar and environment, or pull the information panel up to view the information more clearly. There are tabs along the bottom for easy navigation to key features. The “News” tab is for general environment news; the “Community” tab is for managing self-made teams and viewing global/local leaderboards; the “Act” tab is for getting information about local opportunities for activism; and the “AR” tab goes to the augmented reality concept we brainstormed during our sketches. Users can purchase and manage their avatar’s cosmetics by tapping on the avatar in its environment; the garden can be edited and upgraded by tapping on the garden next to the avatar. Points for buying cosmetics and garden features are obtained by tapping on info points in the “Act” tab, and by completing team challenges in the “Community” tab.v



Start Point: Homepage

Task 1: Collecting points through Activism Tab

Task 2: Create a Team and Complete a Challenge

Task 3: Redeem Points to Use for Avatar and Garden

Method

To test our prototype, we recruited willing strangers at a local coffee shop. Our participants were Jill, Ami, and John, all young adults aged between 20 and 30 years old, who fell into our target audience based on our needfinding data (young tech-savvy people who generally care about environmentalism but prioritized convenience and reward). The participants were compensated with prolific statements of appreciation for their time.

Our Tasks:

1. Obtain points by learning about ways to get environmentally involved
2. Create a team and complete a team challenge (including real-life action)
3. Use accrued points to buy items for their avatar and virtual garden

Team Roles:

1. Greeter/Facilitator: Cade
2. Computer: Nadia
3. Observer: Jordan

Each participant was briefed about the features of the "app," as well as the three tasks that we wanted them to accomplish. The participant was then presented with the "home page" of the prototype; Cade would prompt them with one task at a time, in the order noted in the list above. We would then let the participant figure out how to navigate the prototype to accomplish the task, providing guidance only if they got stuck. After all three tasks had been completed, Cade asked the participant what they liked, what they didn't like, and what features they would like to see added or removed.

Test Measures:

1. Is navigating the interface to perform core tasks intuitive for a new user?
2. How frequently do users get "stuck" when trying to determine how to reach the next screen?
3. Which features spark joy and engagement?
4. Which features spark confusion or frustration?

Results

From our tests, we learned which user interfaces were easy to understand, and which features users liked and disliked.

In terms of the first task of engaging with activism opportunities, users thought that the tasks were "cool" and "informative" and the interface was "very intuitive." But they expressed concerns about how to hold people accountable to doing the activities, and how point values were determined for each activity. One user mentioned point values may affect which activities they choose to engage in (or choose to overlook!) but may also rouse suspicion on why some are higher than others (example given: Does the Sierra Club Internship have higher points because it is sponsored?).

For the second task of making a team and engaging in the community tab, all three testers expressed confusion over the interface layout. Although the goal of the task and some idea of how to achieve it was clear, the layout was "not intuitive," "hard to navigate," and "took too many steps" to complete the task. They required additional help from the facilitator to reach the end. They all completed the simple real-life task that was prompted (pick up trash). Although this task ended up taking the longest for everyone to complete, they were all happy to receive a large number of points for their action.

All three testers expressed joy and excitement when engaging in the task of redeeming points and customizing their avatars and gardens. One user thought that her avatar was "so cute" and expressed a desire for more features for her avatar such as facial hair. She expressed a desire to do more in the platform such as play mini games. One user did express that it was not clear that pressing the avatar on the home page opened the avatar customization page without further prompting, like a (**!**) sign above or halo effect around the character. Switching between the inventory and shop could sometimes be confusing so one suggestion was to have them be integrated.

In terms of the overall flow of the application, users found the navigation tabs at the bottom easy to use to navigate between pages. However, users also expressed concerns about being unable to easily navigate back to the homescreen or previous page. Users also felt

that having the avatar and world take up a large part of the top of the screen was not a good use of space and made the functional buttons and items feel very cramped.

Discussion

The tests confirmed the general user flow of the Env.io platform. We learned that users enjoyed the plethora of features and were able to navigate between them easily. However, on a closer level, the individual features need to be more clearly laid out and explained. The test subjects needed much explanation from our team to navigate the application, and a tutorial was suggested. Furthermore, the connections between the individual features are not clear to the user at this point.

More specifically, the layout of the community page and team features need to be reconsidered. As next steps, we will be reconsidering how social connections will affect the usage of the application and how to best lay out the application to make for meaningful social communications and competition. We will think about how we can use strong ties like friends and family to motivate environmental action, as well as how weaker ties with similar environmental and political interests may be able to connect.

The tests also confirmed that people respond well to the extrinsic motivation of gaining points and gear. Points were surprisingly strong motivators for decision making, even before knowledge of what they could be redeemed for was had. However, the extrinsic motivation should still be made more clear from the beginning of use. Additionally, the types of rewards should be expanded to further motivate users to gain points. A concern about this extrinsic motivation is that it may devalue the possible intrinsic motivation to perform these environmentally beneficial actions, and also that it may encourage people to not actually perform these environmentally beneficial actions. This is further supported by the skepticism users expressed over accountability.

As next steps, we will redesign the interface and features to be more intuitive. We will consider making the app feel more like a complete virtual world and how real world actions can be integrated into the virtual world. We want to make the communities and learning aspects of the application feel more connected to the gamified avatars.

Another thing that these tests could not reveal that is important to further explore is the ability of the application to bridge the reward motivation to tangible action. These tests also did not explore the user's interactions with the avatar and seeing an avatar evolve over time.