

CSCI4100 Group Project Proposal

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Overview of the project:

Our group project will be creating and implementing an application whose purpose is to help users increase and highlight their productivity. What sets our group project apart from typical productivity applications that already exist, is the aspect of introducing a companion that will work as a reward system to be productive. The application will begin by asking the user to log in and enter their city, and then asking to enter the tasks that they would like to complete for the week. To enter tasks, there would be selective categories for the user to choose from that best fits the task, and then information about what the task is and a timer if it needs to be timed would all be presented to the user. When the setup on the user's end has been completed, a randomly generated companion will be shown up on the screen, and this companion will be displayed to the user within a room. If the user is able to successfully complete the tasks that they have set out for themselves to complete over the course of a week in succession, then they would be able to collect and keep the companion. Otherwise, if a day is missed by completing any tasks then the companion will be lost and the user will be unable to get that specific companion ever again. This will give a sense of accomplishment, while also providing a bit of an incentive for users to complete tasks as opposed to relying simply on willpower and dedication. While tasks are being completed, specific animations/backgrounds based on the category of the task will be shown to have their companion motivated and seem like participating alongside the user. Along with collecting the companion after the 7 days is completed, depending on the amount of tasks that were set up by the user an equivalent amount of currency is given to be used to purchase items to decorate their companion's room. After collecting a bunch of companions, the users will also be able to take pictures and place any one of their companions that have been collected anywhere on the picture. For example, users may take a picture of themselves and place a companion on their shoulder, which can make the accomplishments seem more personal and bridge the gap of interacting with their companions. The final aspect of our project is, that there will be a dynamic changing aspect of the background based on the environment of the user to make the application more immersive to the user. The functionalities and how we expect to implement them will be explained in the "Features of our App" section found below.

Team Members and their Responsibilities

Task Member 1: Keeran

This team member will be responsible for developing the user login system, establishing and storing user profiles for new registrations in Firebase, and utilizing Firebase's Authentication services to verify log in credentials. Additionally, they will be tasked with designing the overall user interface and user experience for the page. After completing these tasks, they will create

the template for the Home Screen, which consists of two components: Assets and Environment. When working on the Environment component, this team member will make API calls based on the user's specified time and location, as entered in their user profile during account creation. As for the Assets component, they will create a placeholder until Member 3 finishes the required assets.

- Login/Register System
 - Firebase Verification
- Home Screen
 - Dynamic Background based on the user's location and time
 - Use placeholders for the rest of the stuff until Member 3 is done

Task Member 2: Omar

This team member will be tasked with implementing the task management system on a separate page. In this role, they will be responsible for integrating the core functionalities of the system, which include input, deletion, and creation of tasks. They will also design a mechanism to track a user's progress based on their input and send notifications when their deadlines are approaching. Furthermore, they will establish a rewards system where users can earn and accumulate points by consistently completing their tasks, which can later be redeemed in an item shop.

Additionally, this team member will focus on gathering and utilizing the data generated from task management to create a Collection Screen, providing insights into users' completed tasks, their longest streaks, and more.

- Task Management System
- Reward System
- Collection Screen

Task Member 3: Matthew

This team member will be in charge of developing various user views for interacting with their companion. The first view is the store page, where users can browse and select from a wide range of items, with a primary focus on furniture to enhance their companion's home.

Additionally, they will take the lead in designing the Creature Selection and Item Selection screens, enabling users to choose their companions and pick accompanying items.

Another critical screen they will handle is the In-Progress Screen, specially designed for users to engage with their companions during timed tasks, including studying, working out, or working on a project. This screen creates a dedicated space for users to concentrate on their tasks while temporarily muting other elements of the app.

Lastly, this team member will be responsible for integrating the user's camera functionality, allowing users to view their companions and interact with them in real-world settings, thereby elevating the overall user experience.

- Shop Screen
- Creature Selection screen,
- In progress screen
- AR

Everyone will have a pivotal role in shaping the app's overall aesthetics, focusing particularly on assets, animations, and the dynamic background of the user's companion. We will collaborate closely with one another to ensure the user interface and user experience maintain a consistent theme, integrating the assets they create into the respective screens.

Features of our App

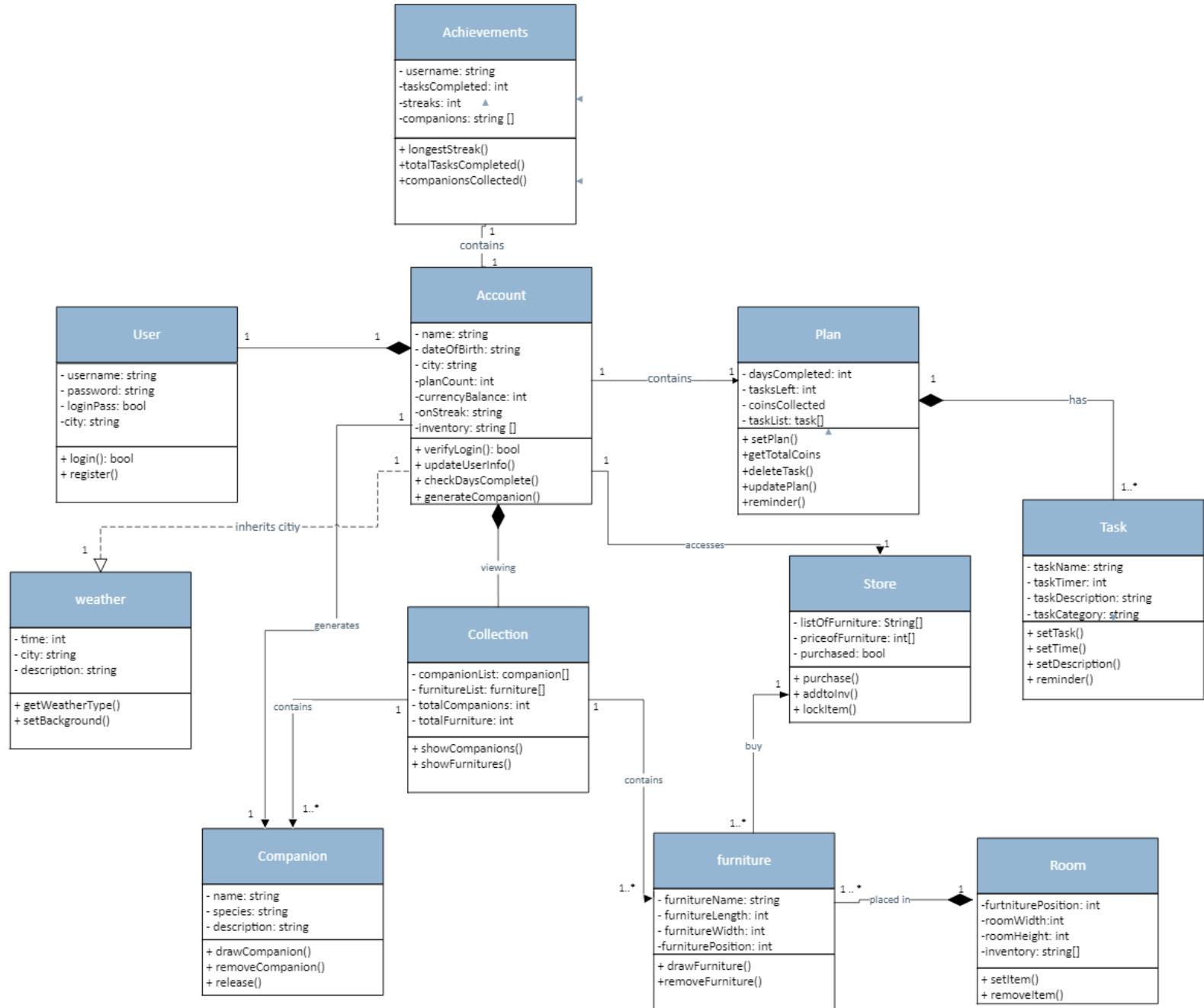
- Users can efficiently input and meticulously manage their tasks, ensuring a well-organized workflow.
 - Management Task Features
 - **Creation/Deleting/Reordering Tasks:** Users will be prompted via a dialogue to confirm their choice on the task
 - **Categories:** Users Will be able to categorize each task they select into a specific topic (studying, working out, Productivity, etc)
 - **Due Dates / Reminders / Recurring tasks**
 - Will be utilizing Push and In-App Notifications to notify the user on the progression of the tasks and to complete it to be rewarded
 - Be able to break down a major task into smaller parts
 - **In Progress Screen:** Once a task is set the user will be able to prompt into a screen that has a Timer Interface with the countdown timer of when the task needs to be completed. It will allow for a Minimal Interface with a Pause/Stop Button if you need to prioritize a different task.
 - **Notification System:** With Push and In-App Notifications being the main type of notifications, users will be notified on a variety of different prompts such as the overall progress of their tasks, daily reminders to complete the task as well as general

productivity tips while using the app. Main goal here is to help reinforce the user's discipline in completing their tasks and continue using the app.

- **Reward Based System** that allows the user to be gifted points from completing tasks
 - **Virtual Store:** Users can spend earned points from completing their tasks to purchase items for their companion/environment. Users can access this by utilizing a button on the screen for the store page to popup. Here we will be using dialogs to allow for users to confirm their purchases for their companion. When the item has been purchased, the user will be prompted to their background that will allow them to determine where that item will be placed in their companions home.
 - **Collection Screen:** Keep track of the user's stats and achievements while using the app .To access this we would have an option at the bottom of the user's screen, once pressed it will showcase all of the users achievements and those that are locked (due to the user not completing) will be able to see a pop up screen with a description of how they would complete this achievement.
 - **Creatures Screen:** Allows users to view all the creatures they have collected while completing their tasks. Users will be able to use filters to determine which ones are being displayed alongside with giving details about the companion and task details that were associated with them.
- Based on the User's location Input when creating their account, we will be using HTTPs calls to get the Weather and time in the user's area and replicate it to the Companion's Screen.
- Augmented Reality: We will allow for user's to interact with their companion via their camera as a way for the user to feel more immersed while using the app.

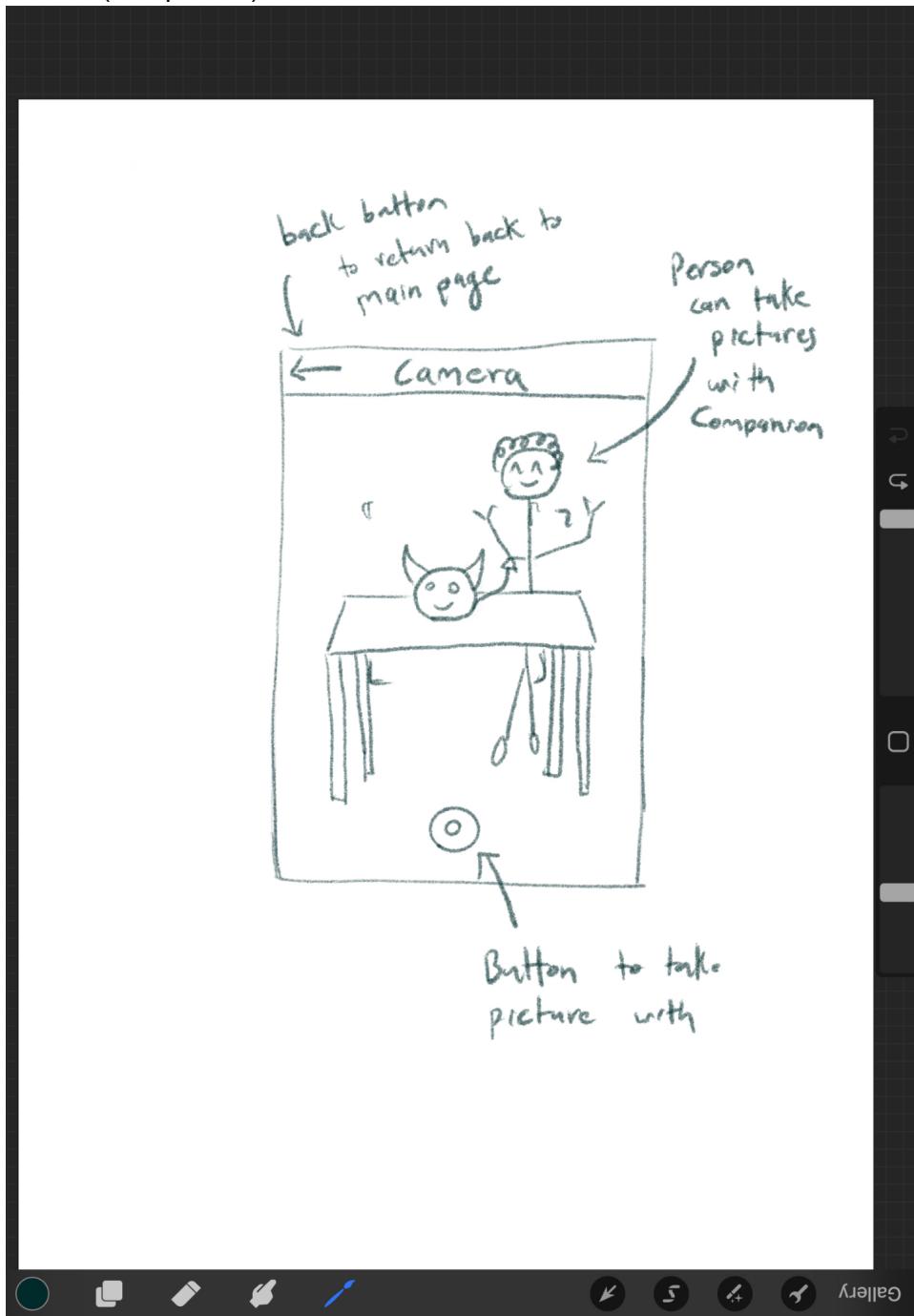
***General progress of the user's app will be stored locally on the user's device until it is uploaded weekly to the cloud storage. This will allow for the ease of transitioning user data such as tasks, achievements and companions from one device to another with Firebase.**

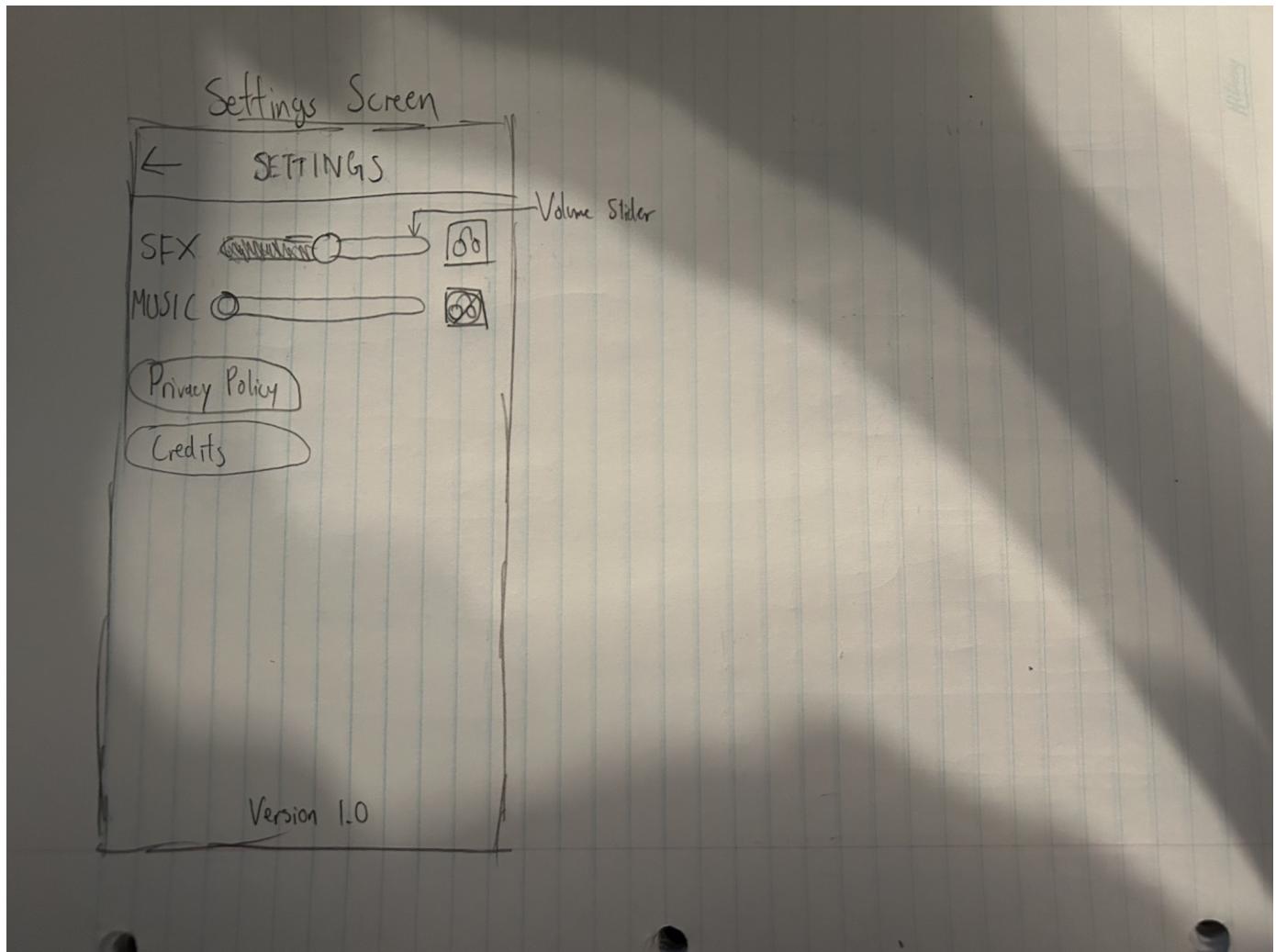
UML Diagram



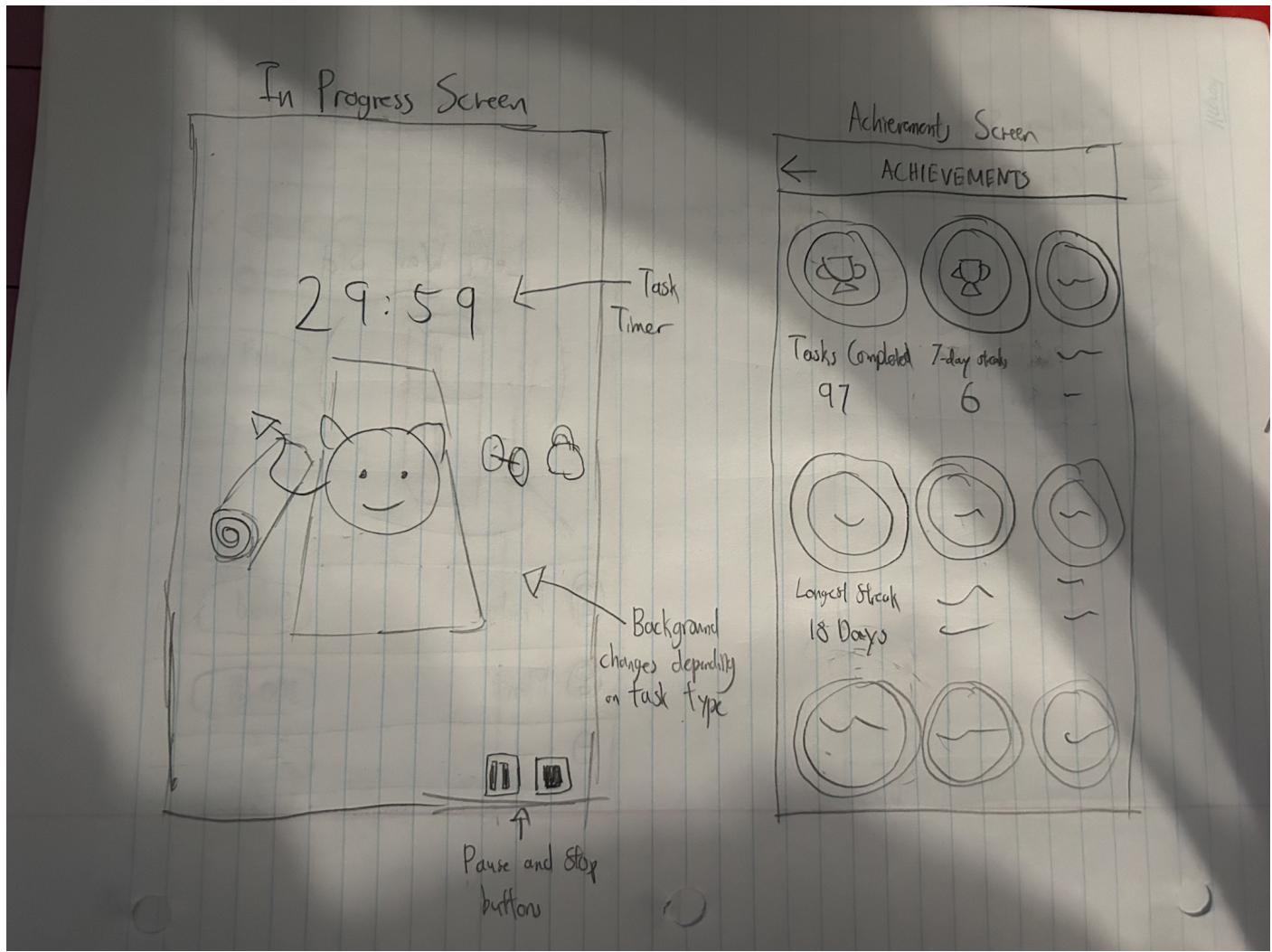
Sketches:

Camera(A/R portion)

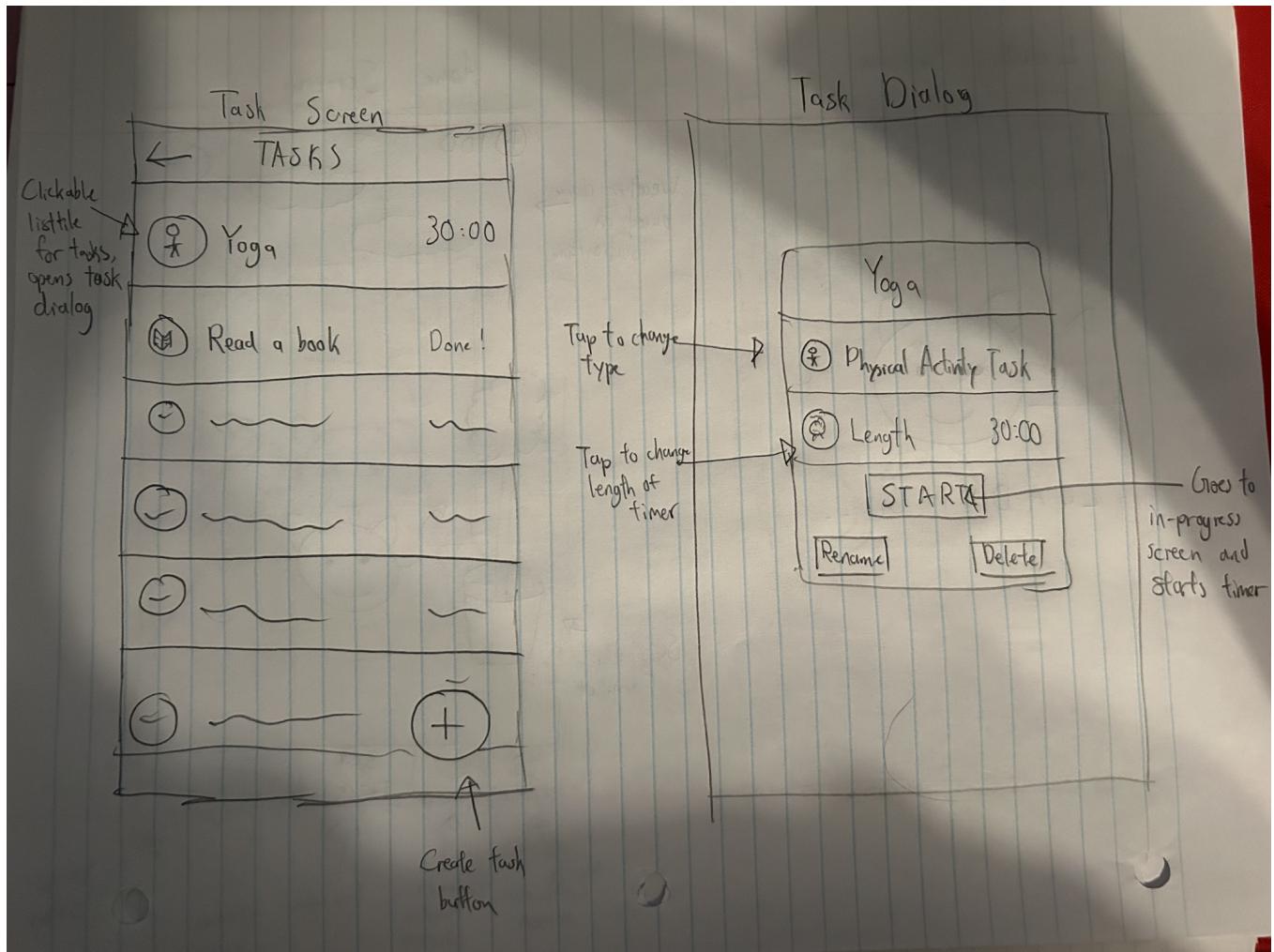




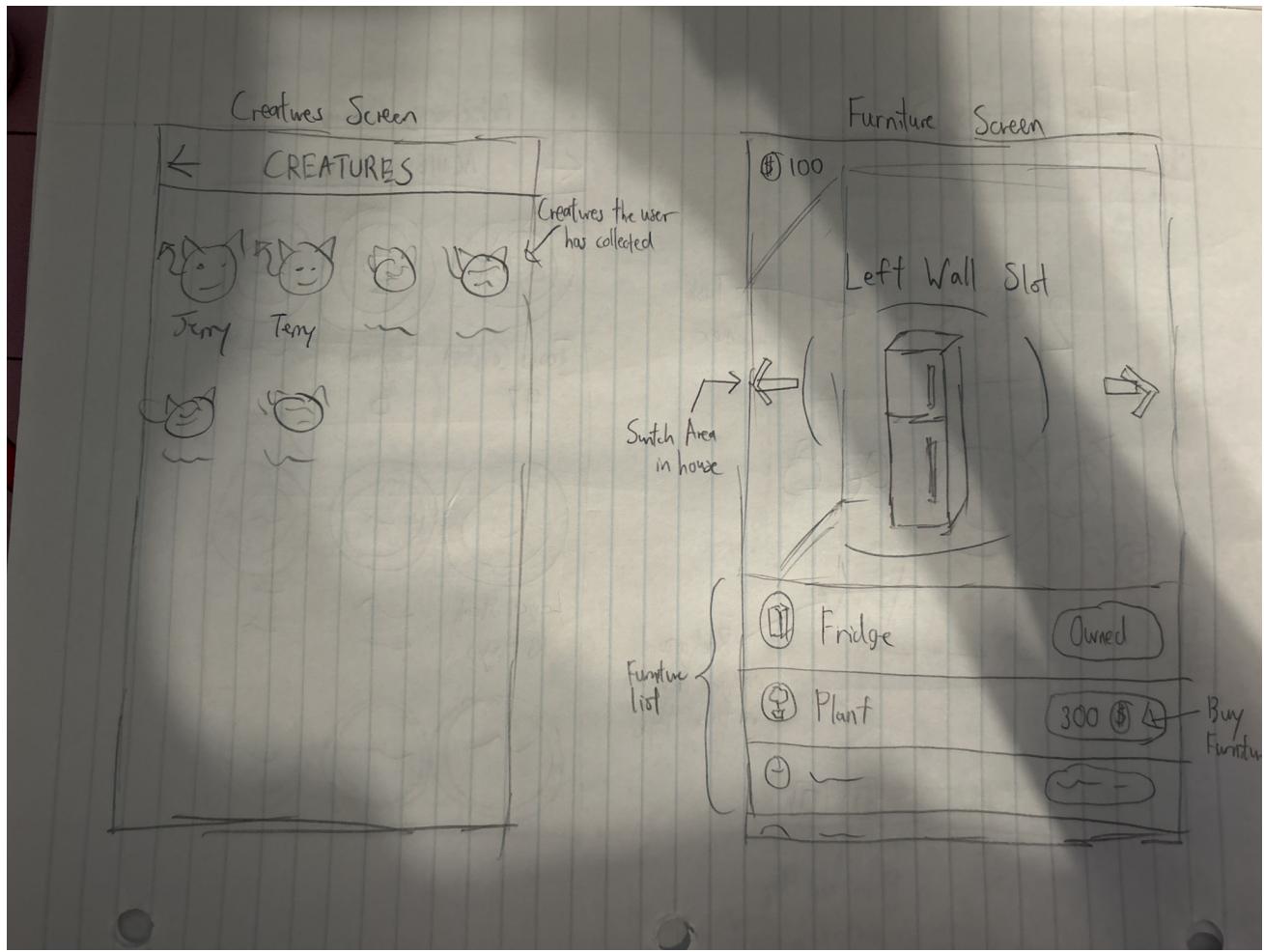
Settings Screen



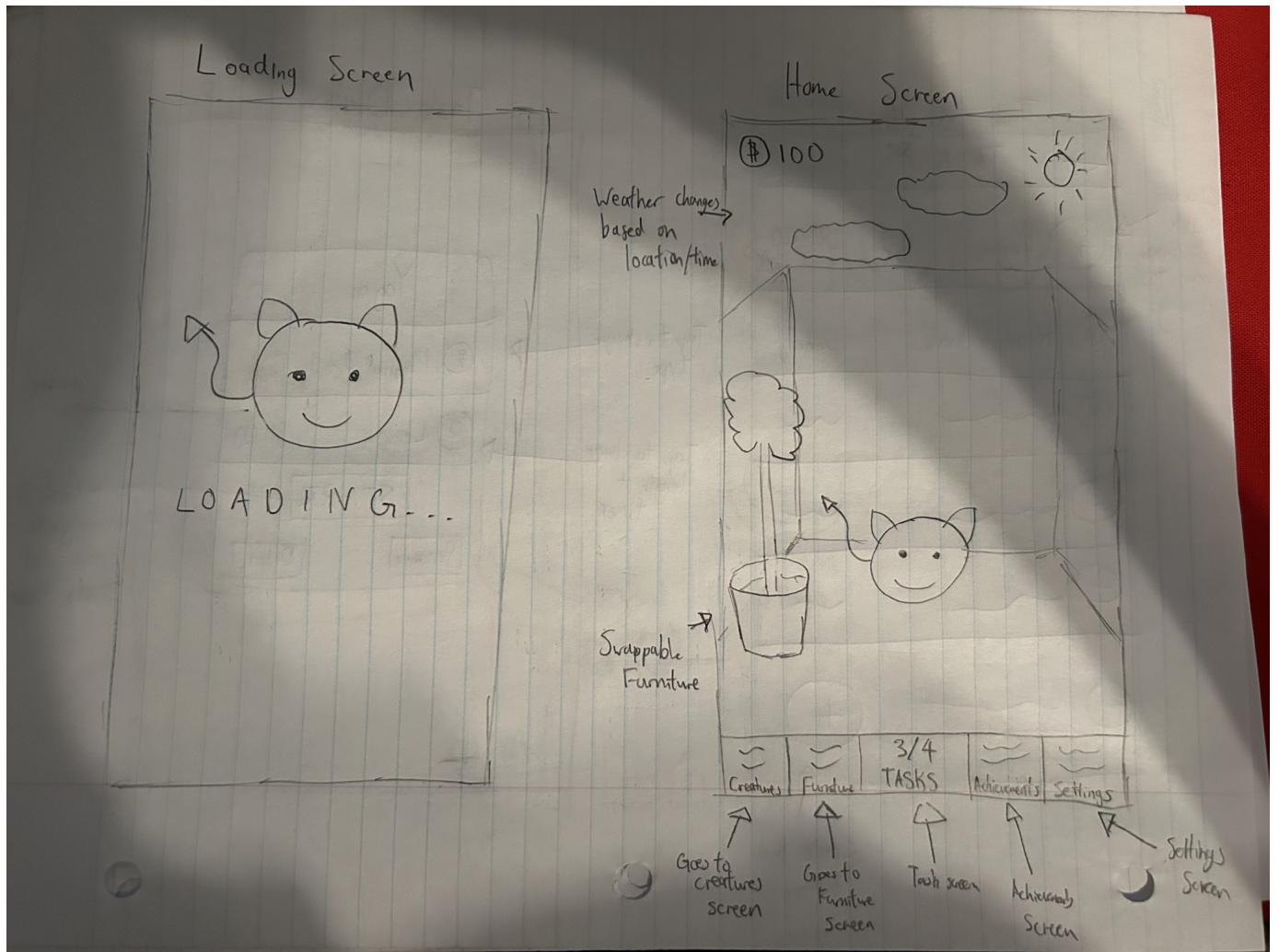
(Collection and In Progress Screen)



Task Screens and Task Dialog



(Creatures and Furnitures Screen)



Loading Screen and Home screen