Picture Pursuit

Project Proposal

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Course Code: CSCI 4100
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App Purpose

The app we plan to make is a scavenger hunt location finding game. The gameplay is as follows: the user is prompted with pictures of campus buildings, the user must navigate through campus till they find where the picture was taken, then when the user reaches the location where the picture was taken they can then click a button that takes down their current location and they will be scored based on how far they were from the original picture location. After the check button is clicked they will be given a new location to find. Once all the locations are found a score will be given based off the player's performance.

With time permitting a mult-player function will be added. The function will allow one person to locally host a server that other people can connect to, everyone will be prompted with images and will be timed. The players will be ranked on performance and their scores will be displayed at the end of the game.

Group Members and Responsibilities

Alexie Linardatos:

- Menu UI
- Database Interface
- Local storage management
- Group Leader/Organizer

Giancarlo Giannetti:

- Game UI
- Game programming
- Multiplayer
- Snack Bars

Chris Lammers:

- Google API
- Location Creation UI and Functionality
- Notifications
- Permission Dialog

List of Features and Functions

Tutorial Page

- A page that can be accessed from the start menu that will bring up the purpose, rules, and instructions on how to play the game.

Singleplayer

- Accessed through the start menu, this button will take you to a different page to pick a location. The default location will be OntarioTech University campus but other locations may be added.

Location Creator

- To add a location it will bring you to another page that will prompt the user for pictures and geo coordinates. The user must go around to each location and take the pictures, as each picture is taken the geolocation will also be recorded. Once the data is collected a new game may be played using the added information.
- Created locations:
    - Locations stored in Cloud (Geo Locations and image)
    - Players can create public locations and have them put on the cloud, or have private locations stored locally

Multiplayer

- Enter name, prompt user to either join or host a match.
    - If join: enter a lobby code, join the lobby
    - If host: send the user to lobby
- In the lobby, display the lobby code, # of players, list of players
- Give the host an option to change the game settings and a start button that leads to the game

Gamemode Selection

- Number of locations
- difficulty of locations
- total time

Snack Bar Notifications

- Lobby Created
- Game Start Countdown
- Location Saved

- Timer Warnings

Dialog and Pickers

- Permission Dialog
    - Location
    - Camera
- Pickers
    - Game Timer amount
    - Game mode difficulty

Map Function

- A button within the top app bar that brings up a map of campus. The map will have a pin of current location and pins of all past picture locations that have been checked.

Language/Game Settings

- A button in the top right corner of the top app bar that will contain things like language settings and privacy settings. Before the game it can also be used to change the game's length and difficulty.

Timer Notification

- Once the game is started a timer will count down till the end of the game. The app will create a phone notification of the running timer that can be seen when in or out of the app.

Summary/Scoring Page

- At the end of the timer a score is calculated by taking the location of where the original picture was taken and where the user saved their location when they were near the picture location. Using that data and the time a score will be displayed
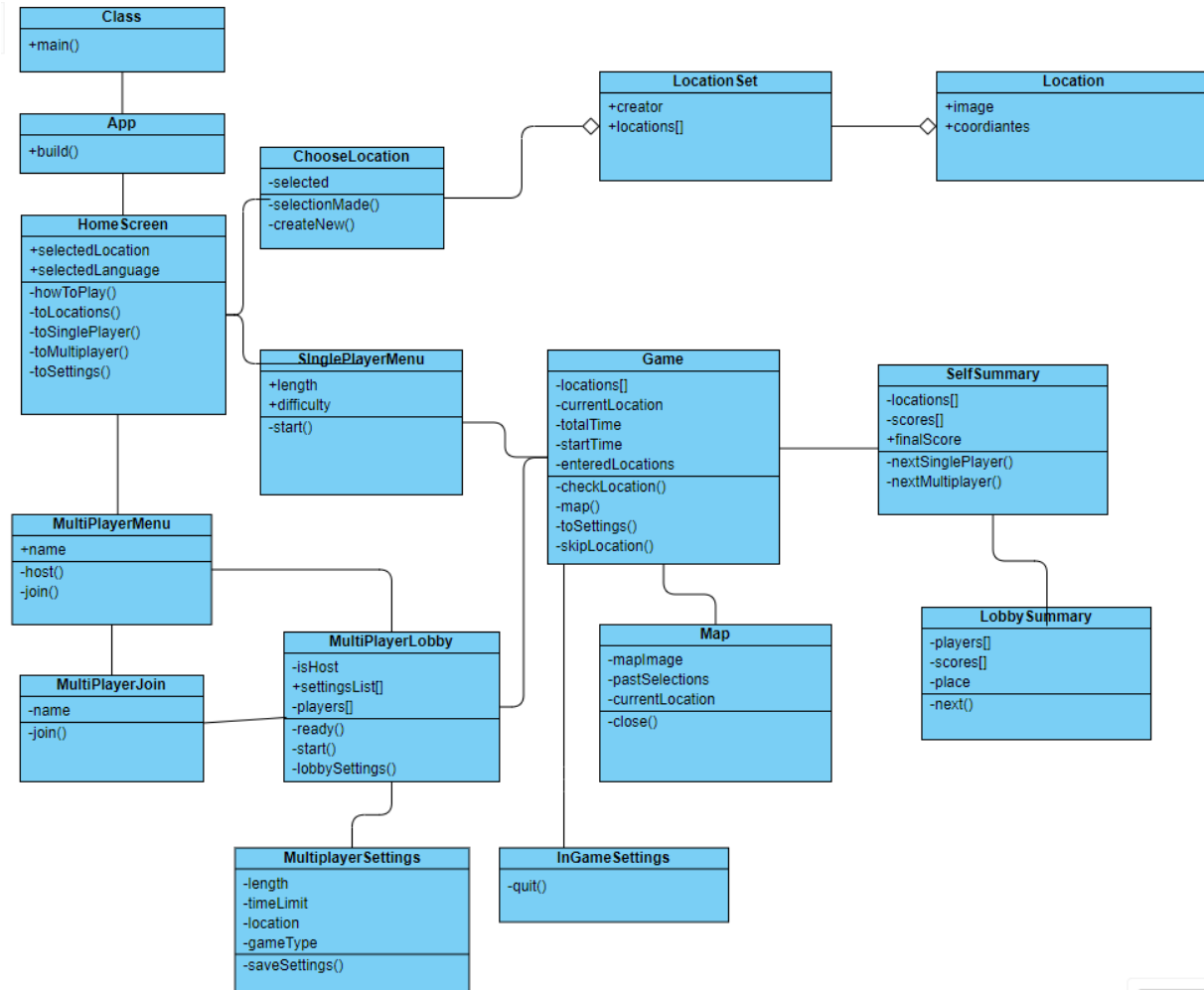
Google Account

- Give users an option to sign in with a google account, or play as a guest.
- Uses google login API

End-of-Game Location Trail Map

- At the end of the game a trail will be generated of the path that the user took and overlaid on the campus map.

Code Design

User Interface MockUp