COLLEGE OF
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STUDIES

Montgomery County Scavenger Hunt Website

INFM 737 – Information Management Experience

University of Maryland, College Park

Project Document

Client: Montgomery County Department of Parks

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Executive summary

There are neglections on the ample park activity resources within Montgomery County. As a result, park visitors are missing out the opportunities to discover and enjoy various points of interest in parks that would optimize their outdoor experiences. It is therefore, essential to examine what needs to take place for exposing the points of interest in parks to park visitors and encourage them to engage with the activities associated with those points of interest. Inspired by Pokémon GO, a game developed by Niantic uses the mobile device GPS to locate, capture, battle, and train virtual creatures; the Montgomery County Department of Parks worked with a graduate student from iSchool at University of Maryland, College Park in developing a GPS enabled gaming website for park visitors to locate, engage in points of interest and compete for each other by score. The website strives to bring all points of interest together to park visitors with a common purpose: to fulfill their right to experience a physically active life.

System Introduction

1. Map components

There are four map components serve for visualization purpose. The four visualization components are 1) the virtual map, 2) the dynamic user's location pin on the map, 3) the points of interest pins on the map, 4) the compass for navigation.

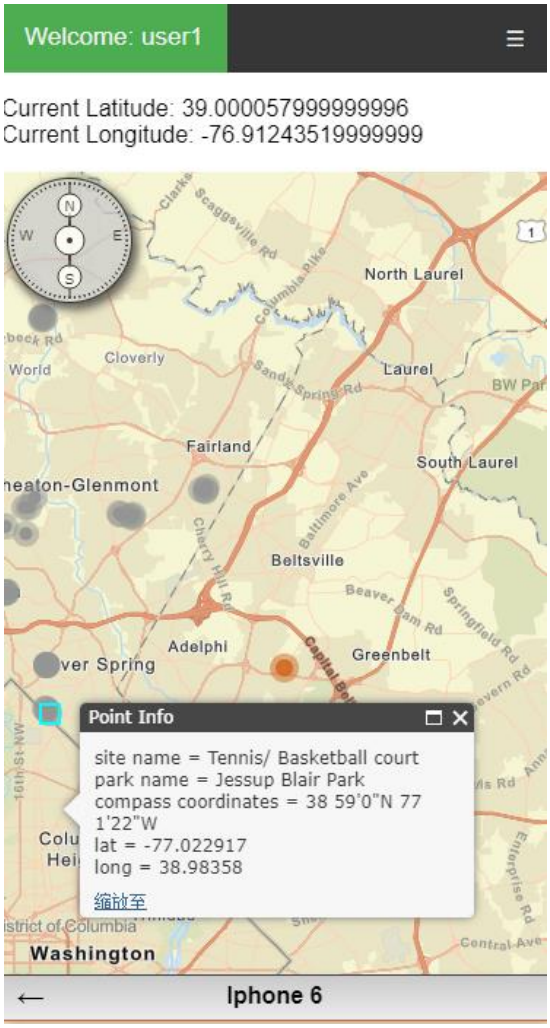
1) The virtual map is provided by Esri, an international supplier of geographic information system software, web GIS and geodatabase management applications. Like Google map, it shows streets, routes, buildings, etc.

2) The user's location pin locates user's updated current location, and it changes along with user's movement.

3) The points of interest pins on the map mark the location of the points of interest in different parks.

4) The compass is attached to the top left side of the map which provides additional navigation for park visitors.

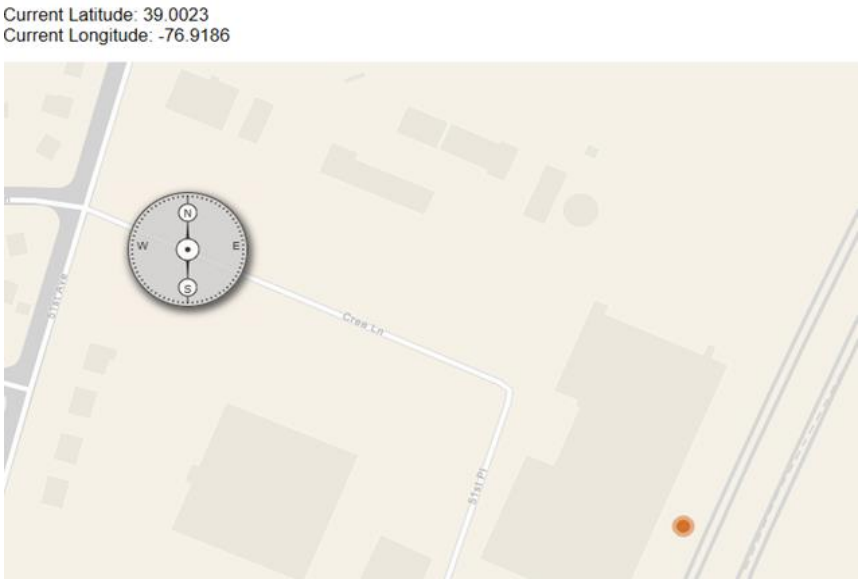
Also, there are two feature components. 1) One feature component is for the color changes of point of interest pins to distinguish the ones that the user has been to (in grey) and has not been to yet (in red). 2) The other feature is for displaying the detailed information of the point of interest when the user clicks on it.



Overall look of the map

2. User's geolocation

User's updated current geolocation is displayed on the top of the map. The website compares user's geolocation against to all points of interest's every three seconds. If any two of them match, it means the user has arrived at one of the points of interest. The website will 1) record this instance in the database, 2) display questions about the point of interest for the user to answer, 3) change the color of the point of interest on the map from red to grey and 4) update user's score due to a successful arrival.



Displaying user's geolocation

3. Questions & Answers

Users will answer two pop-up questions one by one upon arrival. The questions and answers are associated with the physical appearance of the points of interest or additional information gained at the points of interest.

Four answer choices are provided for each question and the user must choose the right answer for the first question to continue answering the second question. The database will record whether the user has successfully answered the two questions about the point of interest. If they do, the questions won't show up again as they revisit the same point of interest in future.

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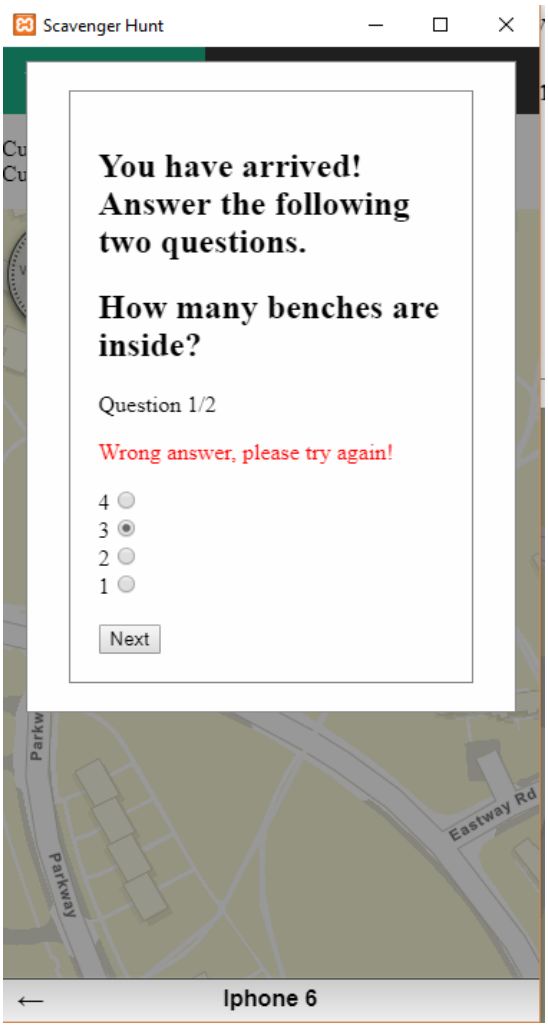


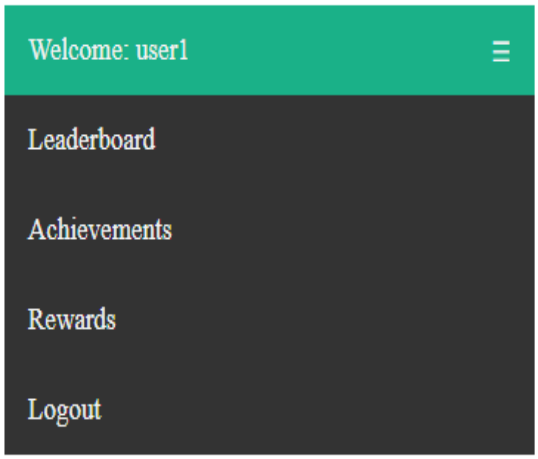
Question example

4. Score/Leaderboard/Rewards

Upon each successful visit, the user will receive 1 point. Extra 3 points will be granted when finishing all the points of interest within a park. Extra 25 will be granted when finishing all parks in a division.

In sum, there are 92 points of interest, 19 parks, 2 divisions. Thus, the total score for a user can go up to 199.

The leaderboard will display the top 5 players' score and their username.

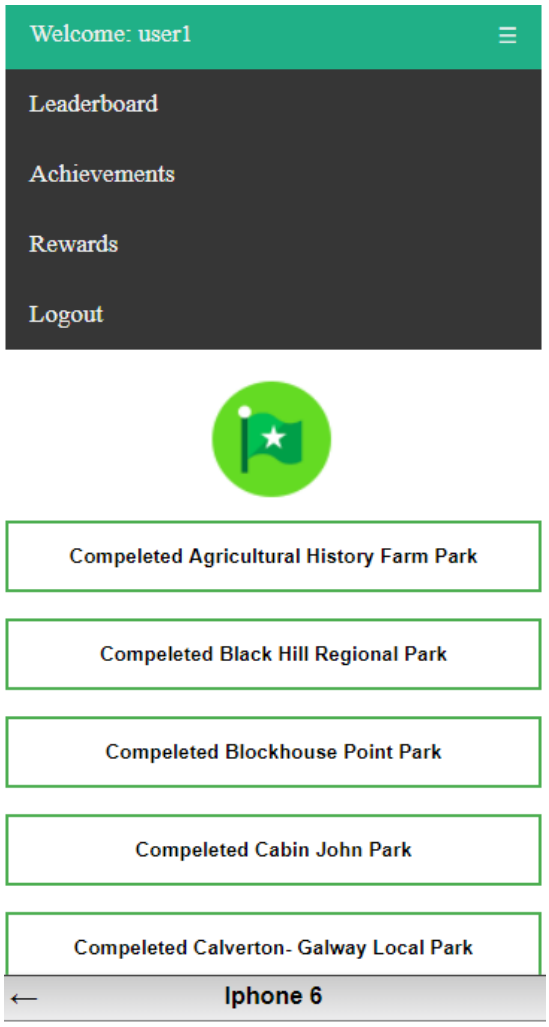


Your current score: 4

User Name	Top 5 Scores
Jpryder	22
SteveA	10
user1	4
Baconbits	4
missyd	2

Scoreboard example

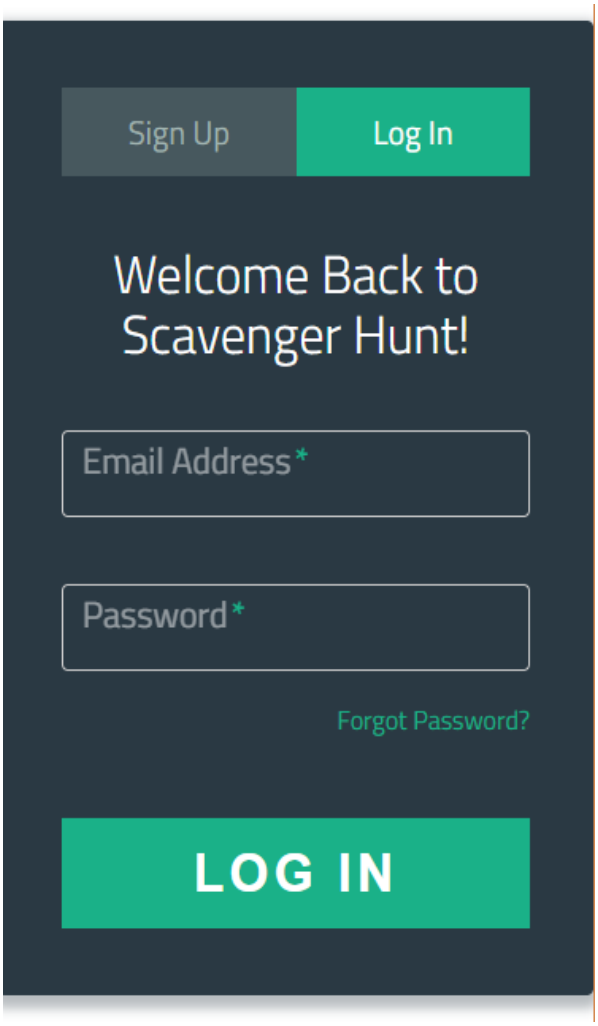
The reward system is three-level hierarchical. Completing all points of interest within a park will unlock the first level rewards, completing all the parks in a division will unlock the second level rewards, and completing all the divisions will unlock the final rewards.



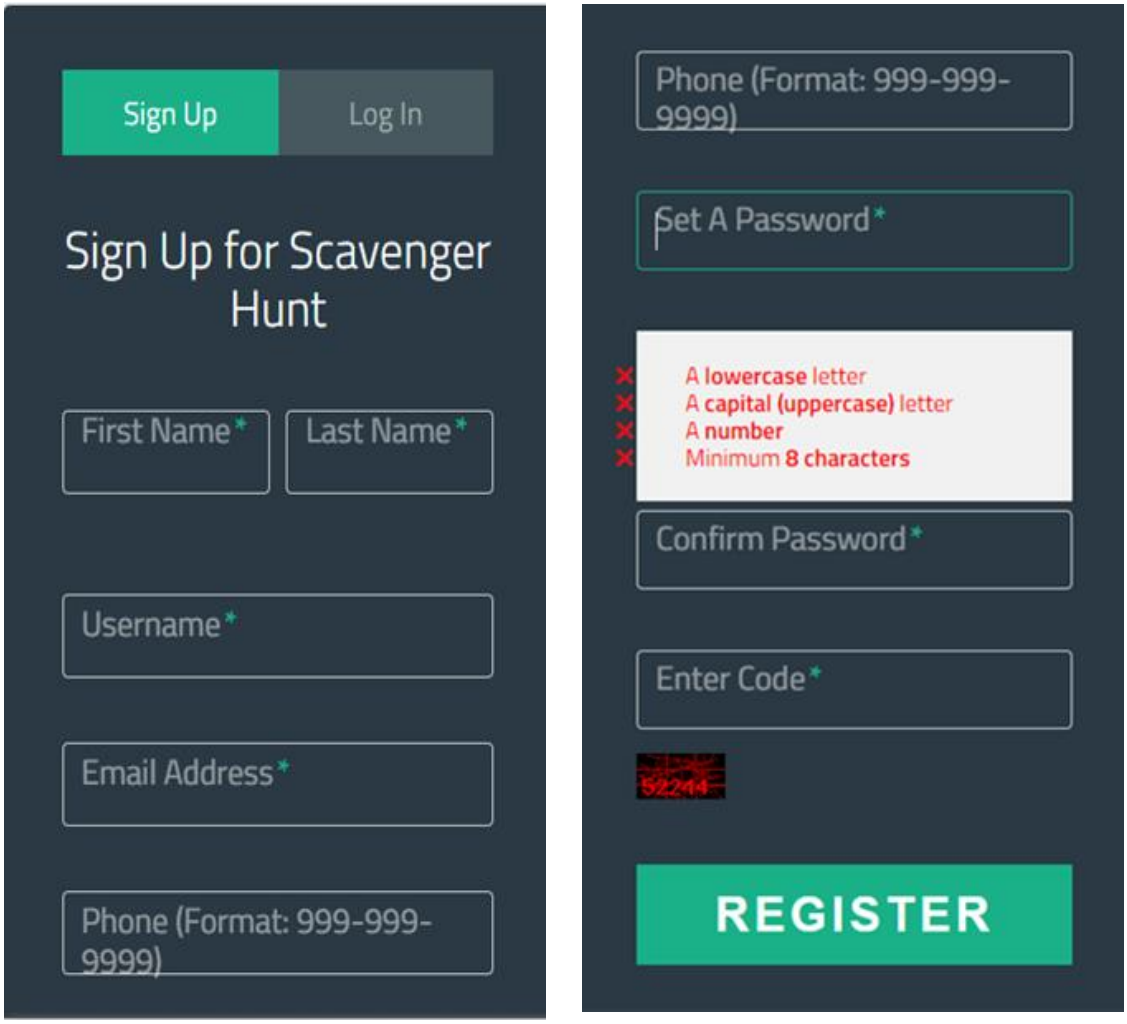
Rewards example

5. Log in/Sign up

Users need to create and activate their account to play the game. Users' email address can be used for password retrieval. The system also records the date of account creation for user administration purposes.



Login example

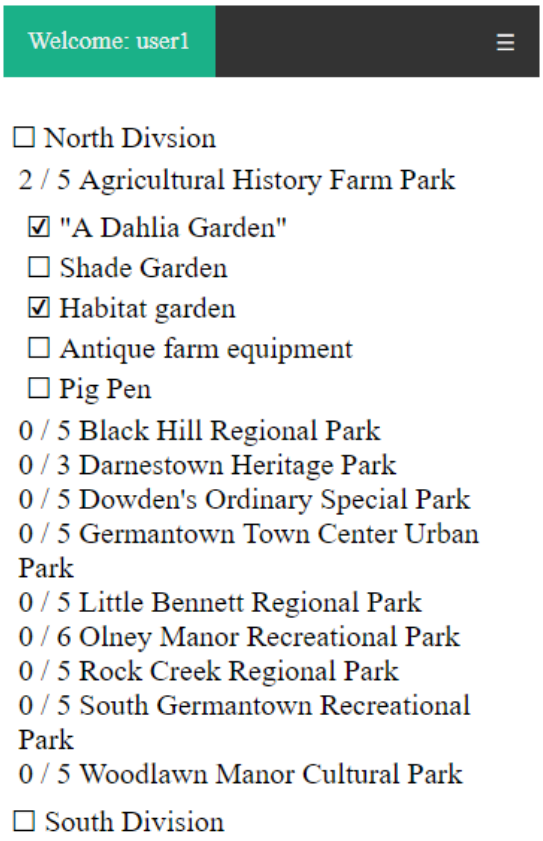


Sign up sample

6. Checklist

A three-level hierarchical collapsible list is implemented to help users track their visits. The list contains all the points of interest categorized into their corresponding parks and parks are categorized into their corresponding divisions.

A visited point of interest will have a checked mark, and a not yet visited points of interest will have an unchecked mark. Fraction number is used to indicate how many points of interest in a park the user has visited versus the total number of points of interest in that particular park. The divisions also have a check or a unchecked mark to indicate user's accomplishment.



three-level collapsible list