

Design Support Documents

Green Space Team

Team members:

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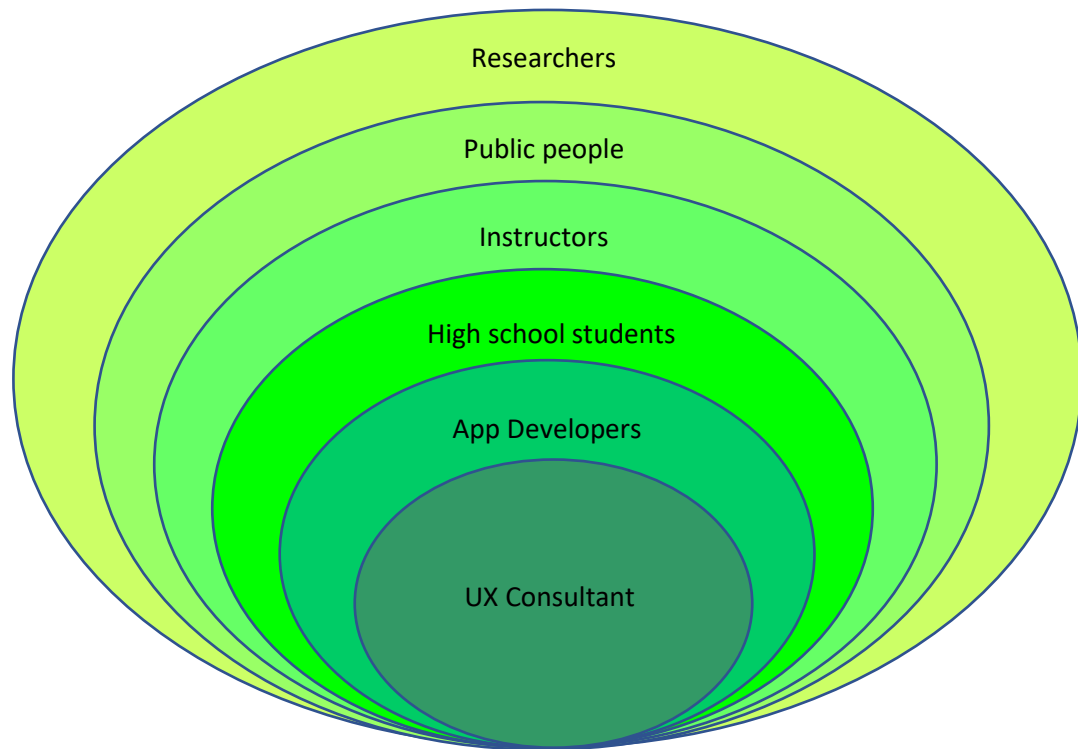
By Haoyang Chen

App description:

This app allows users to locate and track green spaces such as wetlands, public gardens, greenways, etc. Users can upload information such as photos, location, green space categorization to update the database of the app. There are several purposes of the app: 1) improve general population's knowledge and awareness about the green infrastructure; 2) improve the quality of data points from users via the user interaction; 3) provide a large amount of high-quality data for research in term of wetland map, indicators, and model.

Stakeholder Analysis:

Onion model



Stakeholder Description

UX Consultants: Give UI evaluation and implement usability testing on the app, meanwhile provide constantly feedbacks for app developers during the app development process.

App Developers: Have the main responsibility to design and develop the app, according to the feedbacks from the UX Consultants.

High school students: One of the main users of the app, who are expected to learn more knowledge about green spaces and infrastructures through the app.

Instructors: Teachers in high school who can take advantage of the app to integrate the materials on the app to their instructions in the class.

Public people: One of the main users of the app, who are expected to improve the awareness about the green spaces and infrastructures through the app.

Researchers: Scientists and researchers on environment are allowed to collect high-quality data about the green spaces on the app, with the help of constantly uploading photos from other users.

Stakeholders' goal-influence table

Stakeholders	Goals	Contributing Influences	Constraining Influences
UX Consultants	Collaborate with App developer to develop a perfect app	Provide testing feedback to developers and steer the team on the right way	Monitor the project and make sure it fulfills the client requirements
App Developers	Collaborate with UX consultant to develop a perfect app	Design and write code for on the project according to the feedback from consultants	Work on the project and make sure it fulfills the client requirements
High school students	Learn green spaces and infrastructure knowledge	Upload more and more information including photos to help updating the database of the App	Interacting with the App and provide user feedback
Instructors	Use the App as an instructional material and tool for teaching	Upload more and more information including photos to help updating the database of the App	Interacting with the App and provide user feedback
Public people	Improve the awareness about the green spaces and infrastructures through the app	Upload more and more information including photos to help updating the database of the App	Interacting with the App and provide user feedback
Researchers	Collect data as much as possible for the further research on green spaces and infrastructures	The further research result about green spaces can benefit the environment.	Collect data from the App and do research to help building better green space and infrastructures models

Summary of the Stakeholder Goal Influence Table

UX Consultants and App Developers are the same type of Stakeholder, they have the similar goal, which is to collaborate with each other and develop a perfect App realize the project. In this work, UX Consultants should clear that their main contribution is reflect on their testing feedback of the App to developers during the whole development process. They have the responsibility to steer the whole project. App Developers' responsibility is focused on the programming part of the project. They need to try their best to fulfil the client requirement and user goal.

High school students, instructors and other public people are the main users of this App. They have the almost the same goal, which is use the App as a tool to improve the general population's knowledge and awareness about the green spaces and infrastructures. In summary, the App is for educational purposes. They, as users, have the same contributing influences to the App as long as they uploading more data to the App database while using the App. Their responsibility is interacted with the App as much as possible.

Researchers are also a special type of users of the App. But different from the other users, researchers using the App as a research tool to help with their research. To be more specific, they can use the large amount of data that uploaded from normal users for their further research. Their contributions are building better models with these data. They have the responsibility to utilize these data in a proper way.

Personas for the primary stakeholder:

Primary users:

Personas #1

Jim

Age: 11

Height: 5' 7"

Weight: 120 lbs

Right-handed

Jim is a 5th grader student in Virginia. He doesn't like to go to school and hate to communicate with his classmates and teachers. He only likes to play video games. He doesn't care about anything outside the world, except for his games. His parents are very frustrated about Jim and don't know how to teach him.

In this case, Jim's teachers may probably use the App as instructional materials to attract Jim's interest back to the classroom. Let Jim recognize that natural world is cool than his video games.

Personas #2

Tom

Age: 13

Height: 6' 0"

Weight: 130 lbs

Right-handed

Tom is a 7th grader student in Michigan. He is a good student in school that always has a high GPA in all courses. He has many friends and behaves nicely with people. He really likes to explore the secrets of the natural world. Tom determined to be an environmental scientist in the future.

In this case, Tom knows about this App from his father. He found he can learn a lot of green space information from it. So, he became a big fan of this App quickly.

Secondary users:

Personas #1

Amy

Age: 25

Height: 6' 1"

Weight: 150 lbs

Right-handed

Amy is a 6th grader teacher in California. She is a new teacher in her school with little experience in class. She is enthusiastic in teaching but unfortunately without proper methods. She always wants to teach her students well and encourage them to learn more about nature. She values the relationship between human and nature, but her students just think she is a fool and never listen to her.

In this case, Amy found this App from an instructional material website. She thinks this App is interesting and a good tool for her to impress her students in the classroom. She believes this App can largely intrigue students' interest in the natural world.

Personas #2

Mark

Age: 58

Height: 5' 9"

Weight: 140 lbs

Right-handed

Mark is a 9th grader teacher in Florida. He is a old teacher in his school with lots of teaching experience. He knows how to communicate with his students very well. He has a conservative teaching style. Even though his students really respect him, but they don't like his teaching style. Students normally do not enjoy his courses because they think his course is so dull.

In this case, Mark tries to introduce some new things to his course because he know from the school evaluation system that almost no students like his course. From his grandson, he knows about this App, he decides to use this App to create a course experience for his students.

Hierarchical Task Analysis:

For high school students, instructors, and other public people:

- *Download the App from the app store

- * Launch the App.

- * Explore Green Spaces.

 - View the green space map.

 - Zoom in/out on the map.

 - Search for a specific green space.

 - Filter green spaces by type (wetlands, public gardens, greenways, etc.)

 - View details of a green space.

 - View photos.

 - View location information.

 - View categorization information.

- * Contribute to the Database.

 - Upload information about a green space.

 - Take a photo.

 - Enter location information.

 - Select green space categorization.

 - View information submitted by other users.

For researchers:

* View the database of green spaces from the backstage.

Search for specific green spaces.

Filter green spaces by type.

View information submitted by users.

* Use the data for research purposes.

Analyze data for trends.

Use data to build models.

Use data to support research findings.

Summary of the Hierarchical Task Analysis

For first type of users, they are the main group of using the App. In a general daily routine, they will open the App when are in free time. They would go through the photos of green spaces that already on the App, and then click in the photo that they are interested in. In another scenario, they use the App in time that they want to check and look up a specific green space. They will search the location on map, and then zoom in to check the target location.

For the second type of users, they just want the data on the App. They will directly login to the backstage of the App and synchronize the up-to-date data on the App. They may view the information, filter the datapoint with a certain condition. Finally they will do some analysis on the data and then use it to update the model.

Appendix:

Meeting 1

Main Overview:

- The ability to locate/track natural green space/infrastructure
- Improving general population's knowledge and awareness of green infrastructure
- Improving the dataset of green infrastructure via user interactions with the application
- Overall goal of Jess' project is to improve wetland maps, indicators, and models.

General Requirements:

- Target audience: 5th grader and above usability with the possibility of integration into school environment
- Utilization of visual and textual elements to deliver educational materials

- Gives example pictures and locations of existing green infrastructures/spaces to allow users to understand concepts
- Important to note location AND time when collecting user datapoints
- Users should be identified by username, but this fact is up in the air. This could drive personal investment by users, increasing traffic.
- Users are expected to categorize their own datapoints
- Gamify the app slightly through methods like calling users “Green Detectives” or a badge system
- First time app user should be prompted with first time learning guide

Meeting 2

Note: Potential for commercialization?

Benefits of Green Space/Why is this important:

- Provides habitats to various animals
- Increases cooling – evaporative transpiration.
- Reducing stormwater and filters pollution
- Rain barrels can be used to capture water and use in gardens to avoid municipal water

General Discussion

- Maintaining 5-6th grade usability benchmark
- Less thinking about app names – will hear back
- Mary will get example app name – will hear back
- Potentially add green space dimensions to research data
- Implement a picture approval queue – can be done with