Whatsloo

Private Github repository link: https://github.com/646-group8/mobile-app

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1 Brief Introduction

1.1 What is your project?

The project is a tour-guide application that accompanies users to explore the history of every corner of the UW campus. Users can also record their own stories and upload to this app. When users walk through the campus using this app, vivid descriptions of the surrounding artifacts (including but not limited to architectures, sculptures, benches, plants) in text and picture format will pop up, and users can click the introductory snippets to view the descriptions in detail. Users could upload data to this app to share their unique knowledge on different spots and items; besides, they can also upload and share their own stories in our app. What's more, this app also supports the overview pattern.

1.2 Why is it interesting?

We find our app intriguing in the following aspects:
1) It enables users to gain more insight into the history and anecdotes of UW with a strong sense of participation and immersion. Users will have a chance to discover the campus in depth and experience the joy of "treasure hunting".

2) Users could also share their own stories with their friends or sweethearts at specific spots on the campus. In this sense, this app serves as a time capsule that records precious memories and an emotional bond between students with diverse backgrounds, bringing laughter to users.

3) It will promote UW students' sense of belongings and make them feel that life at UW is interesting.

1.3 Describe and justify your project selection

We choose the project topic out of our actual needs. At first, we considered developing a sublease rental app for Waterloo because existing platforms (at least those in Chinese) do not cater to our needs since they lack effective search and intelligent recommendation functions. We also proposed a Waterloo carpool topic, targeting students' needs to match and recommend suitable companions efficiently. However, we unanimously agreed that these kinds of apps are practical yet not that interesting. Therefore, we set out sights on other fields. Since we can only take online courses now due to the COVID-19, UW students have less connection with the university and their classmates. Newly admitted students are definitely curious about the campus; senior students who have been apart from the offline activities on campus for a long time miss it for sure. So we decided to develop an app to let UW students interactively explore their campus. After brainstorming, we finally adopted the current topic.

1.4 Why does this project make sense in a mobile form factor?

1) This application involves an interactive map that requires real-time GPS positioning, which is only feasible in a mobile form.

2) Compared with laptops, mobiles are portable when users wander around the campus and use the app.

3) People are more inclined to use mobile apps instead of web apps for relaxation.

2   Properties

2.1   Functional Properties

1) Overview pattern. Display an overview of all spots on the map, and provide further detailed information such as photos, introductions, or stories by user's pick. (Data derived from our pre-acquisition)

2) Following pattern. Utilize the GPS function of mobile devices, following user's location and view to show spots nearby and user location. This pattern can only be chosen when the user is located on campus.

3) Data contribution. Allow users to upload spots or update information out of their own interests so that everyone can help contribute to the spots database and make it better and more interesting.

2.2   User Scenarios

1) Overview Pattern. For anybody who is interested in UWaterloo's campus, the overview pattern would be a good choice for him/her to discover some interesting spots on campus. Suppose Alice is a freshman of UWaterloo and she is unfamiliar with the campus. When she wants to know how the campus services are distributed, the ordinary google map is too general. In this case, she can just open our app and browse the overview in the map. By clicking spots she likes, such as a building, a garden, or a water fountain, she can get a more detailed introduction of these spots.

Apart from obvious architecture like a teaching building, library, or a cafeteria, there are also some other small spots of fun. A sculpture, a tree, a bench, even a goose inside campus can also have a story. Usually, these little anecdotes can only be known by senior students who have spent a long time on campus. For a freshman or a visitor scholar, the overview pattern is a sufficient way to get this interesting information. Especially during this pandemic period when most students are taking courses online, the campus itself, as well as the formal campus life, are totally alien to students. However, with our app, students can get a sense of what campus life used to be by the overview of these details.

2) Following pattern. Furthermore, when walking through the campus of UWaterloo, users can choose the following pattern, in which our app will give a view according to the user's location. For example, Bob is resting on a bench on campus and switches to the following pattern, then he can get his location and the spots of interest nearby showing on his phone. When Bob gets up and walks to somewhere else, the interface of our app will change automatically to suit his real-time position.

Besides, we will also set some hidden easter eggs in this pattern, which means you can only see them when you are actually in the corresponding places. We believe that in this way, students are more likely to walk out to explore the campus and have fun with it.

3) Data contribution. Finally, as the initial data is collected by our developer team, they are inevitably inadequate. However, after a period of time living on campus, everyone has his/her own experiences. Hence, we provide this function to our users, allowing them to upload their own story of some interesting spots to the app, or create a new spot that nobody has noticed before. For instance, Alice enjoys walking along a trail to relax when she feels stressed about her coursework. As a way for Alice to share her mood, she can take a picture of the trail and upload it with her story as a spot to our server. After the content is reviewed by our developer team, the spot will be displayed on the map for all the users, and other users who see the spot will know that "Oh, there is a good place to relax but I have never noticed before".

2.3 Architectural View
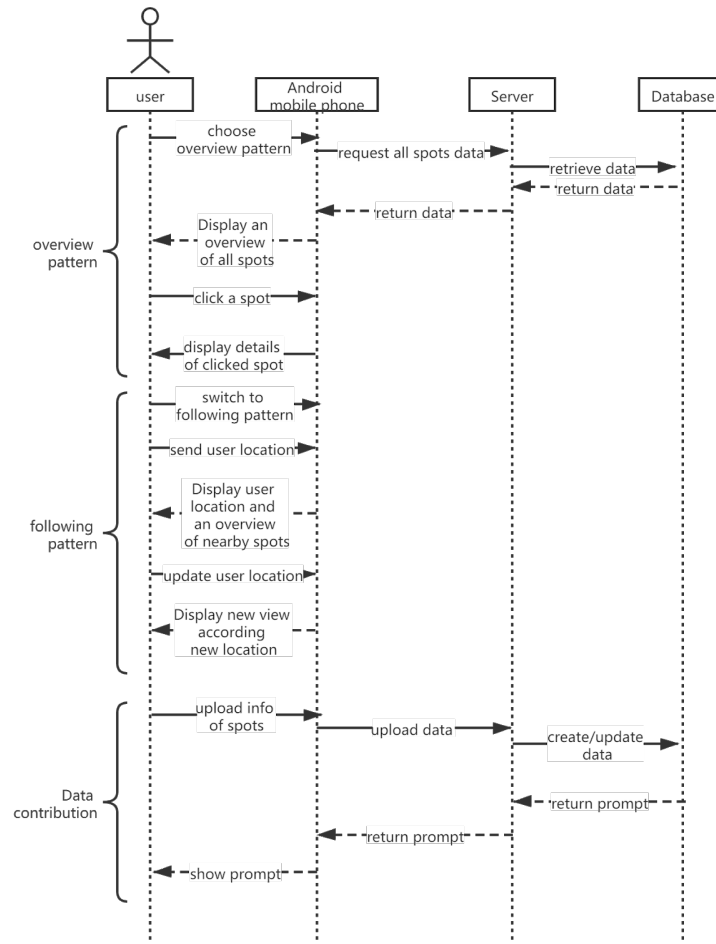
2.4 Non-functional Properties

1) Readability: The system is easy to understand and the project is comprehensible to new developers. The architecture of the project is clear and the code is readable, since the blueprint is designed by different functions and modules.

2) Evolvability: When new requirements increase, the project can extend the original function or add a new function to meet the requirements. The project can satisfy the requirements when action changes and can support a new environment.

3) Safety: When users open the app, the home page will prompt a security reminder "Please pay attention to safety when walking on campus using the APP". In addition, there are signs such as "Pay attention to water depth" near the lake and "Pay attention to vehicles" at the roadside. These measures can improve the safety of the software.

4) Usability: In the app, the user interface of the system is intuitive. There are many instructions to help users, users can easily find the buttons of instruction and click and read them. It's very simple to use and functions are also very clear. Users have little effort required to learn, use, provide input and interpret results of the app.

2.5   Human Values

1) This app gives users a sense of belonging and gives students warmth. Imagine the scenario that a student walks casually around the campus and sit down on a bench, they open the app and find that a kitten was treated here or someone finds love here, instantly his depressed heart will be healed.

2) This app broadens students' horizons. Students can learn more about the history and the culture of UWaterloo. For example, with this app, students can learn what the letter D and C stands for when they walk through the DC building, they can find out the history of PI day and know who was the winner for last year's pi recitation contest when they study in M2 building, and they can also read the life stories behind the names on each of the labeled park benches when they walk along the Alumni lane.

3) This app narrows the distance between people and broadens the channels for students to communicate and share.

2.6   Stakeholders

1) Freshman: Freshmen can know more about UWaterloo with the help of the app when they first visit the campus. When they walk through the campus using this app, interesting descriptions, as well as pictures of the surrounding, will be captured.

2) UWaterloo citizens: They may not hear of the stories about all architectures or sceneries, so people in UW may be surprised to find that there are such vivid stories behind it when they pass a spot with the app. Besides, they can share their own stories with their friends or sweethearts at specific spots on the campus.

3) Other people that are interested in UWaterloo: Not only can they discover the stories and histories behind the campus, but also can they record their own experience in UW with the app.

4) Software Developers who design and develop the app.

5) Professor and TAs who use and evaluate the app.

2.7   Population of users

1) Freshmen: All students who are new to the school each semester.

2) UWaterloo citizens: All people who work or study in UW and people who live near the UW.

3) Other people who are interested in UWaterloo.

3 Mockups

Overview Pattern

Data Contribution

Following Pattern

Whatsloo

Overview pattern

Following pattern

Data contribution

Secret Spot to unlock

Stephen Hawking @ Quantum-Nano Center

Stephen Hawking helped the lanch of QNC and give a speech on Sept, 2012

The Metal Pig @ Arts Lecture Hall

"It is only when I have an innocent child on my back that I receive the power to run." —Hans Christian Andersen <The metal pig>

Big Snow @ Campus Plaza

Big Snow, but not a SNOW DAY!!!

Email

GPS Location

43.47208662301893, -80.53666320464355

Submitte

4 Gantt Chart

ID	Task Name	Duration	Start	Finish
1	Design	12 days	6/10	6/25
2	Design UI	12 days	6/10	6/25
3	Design the user upload	4 days	6/10	6/15
4	Design the iterm introduction interface/page	5 days	6/21	6/25
5	Integrate Map API	5 days	6/21	6/25
6	Sequence Diagrams	4 days	6/10	6/15
7	Gather item data (stories, pics, etc)	5 days	6/21	6/25
8	Development	16 days	6/26	7/15
9	Design Database Schema	4 days	6/26	6/30
10	Implement Upload Module	5 days	7/1	7/7
11	Implement Query Module	5 days	7/1	7/7
12	Iteration between Modules	5 days	7/10	7/15
13	Testing	6 days	7/16	7/22
14	Unit Tests	2 days	7/16	7/18
15	UI Tests	2 days	7/16	7/18
16	Functional Tests	2 days	7/16	7/18
17	Integration Tests	2 days	7/19	7/20
18	End-to-End Tests (system tests)	2 days	7/21	7/22
19	Deployment	4 days	7/23	7/28
20	Deploy the Database	3 days	7/23	7/27
21	Deploy the Main Application	3 days	7/26	7/28
22	D1: Project Proposal	3 days	6/16	6/18
23	D2: Buddy's Team Evaluation	1 day	6/26	6/26
24	D3: Prototype Documentation and Demo	1 day	7/9	7/9
25	D4: Architecture Style Examples	1 day	7/16	7/16
26	D5: Design Pattern Examples	1 day	7/23	7/23
27	D6: Architecture and Design Documents	4 days	7/30	8/4
28	D7: Final Documentation and Videos	6 days	7/30	8/6

Project: Project1
Date: 6/17

Task	Summary	Inactive Milestone	Duration-only	Start-only	External Milestone	Manual Progress
Split	Project Summary	Inactive Summary	Manual Summary Rollup	Finish-only	Deadline	
Milestone	Inactive Task	Manual Task	Manual Summary	External Tasks	Progress	

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