PUSL2021 Computing Group Project

Group A13

Project Proposal

Navigation App for NSBM

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Content

Overview / Introduction

Within the complex premises of Green University, a question a lot of students come across is: how to get around in the campus. Especially those new students, when faced with long roads and tall buildings surrounding them, face a hard time finding directions, or even finding where they are at the moment. Many students get lost within the university grounds in the first few weeks of their freshman year.

As a solution we propose a simple navigation software for the use among university students.

The main reasons for the above approach are as follows:

- Difficulty the students face when finding out directions within university premises.
- Lack of easy-to-access software or platform for finding directions.
- Even if there are other software for finding locations, the relative small scale of the university being too small to accurately depict the details (i.e. google maps)
- The available software are not specially designed for the use within the university, hence being unsuitable for use.

The uniqueness of our software is that it provides the user directions via instructions primarily consisting of images. Unlike other software which provide detailed and long descriptions of the current location and directions, our simple navigation app lets the user determine location based details and directions mainly through images of said path or destination.

While the other available software do indeed provide detailed information regarding navigation, for a student hurrying to his / her next lecture, a detailed description made of small letters can be difficult to comprehend. Whereas in our approach, the user is free to choose his location from a given set of images, and also to obtained clear images as a guide to his destination.

Project Objectives

- The main objective of this project is to create an image-based navigation app for NSBM.

- However, as mentioned above, this app indeed prioritizes on guiding the student through images. This decision was taken because looking at directions written in small letters is uncomfortable for a student who is most likely to use the app when he / she is outside faculties.
  Therefore, certain challenges are needed to be faced when creating an app that works solely on image delivery:

1. First of all, this app should be easy to use (especially to new students).

   Most apps out there are full of sophisticated functions (most of which we rarely use) regarding the ways of path finding. But, since our project only focuses on the relatively small landscape of NSBM University premises, it will be simple yet efficient to satisfy user demands.

2. The user should be able to identify his / her current location via images.

   When starting the app, the user is asked to identify his current location via a set of images presented to him.

   A problem that arises in this stage is that there are multiple angles from which a building / a specific location can be seen, and we have no guarantee that the user will be on the exact same spot in which the picture was taken.

   To solve this, the app will issue multiple pictures of the same location, which are programmed to appear one after another automatically.

3. The user should be able to select his final destination from a variety of choices.

   This option does not provide images. The specific situation for which this function was planned for was when the student takes a look at the time table and wants to find the faculty he should go to. In such a case, the student

   should already be aware of the name of the destination, but unaware of what it looks like.

4. The software should provide directions to the user via images.

   It is exactly as the title suggests. That is, when the user is moving to the desired location through directions, the app will prompt him to answer whether the path he's travelling has certain milestones or buildings via images.

5. The app should rescue the user should he manages to get himself lost.

   As flawless as they may seem, the objectives written up to now can only be achieved if the user does not make any mistakes; either when selecting his current location or when selecting milestones. But, a flustered freshman who is late to his lecture and rushing there as fast as he can, will inevitably make mistakes.

   Therefore, if the milestones selected by the user does not match up, then the software will immediately take action to ensure the student gets back on track.

6. The user should be able to make accounts, and it should be impossible to use the app without signing in.

   This app is made exclusively for NSBM students, so it goes without saying that only the students of NSBM should be allowed to use the app. Therefore, separate accounts should be made available for students on NSBM, approved by their ID number and name.

7. The user should be able to track his / her user history.

   There might be a need for a certain student to travel to the same place he did before, however the choosing process is a bit troublesome. In this case, the user history unique to his account can be accessed, and he can directly get directions without having to choose from a dozen images.

   For privacy reasons, user history is stored in the phone memory and not transferred to online database.

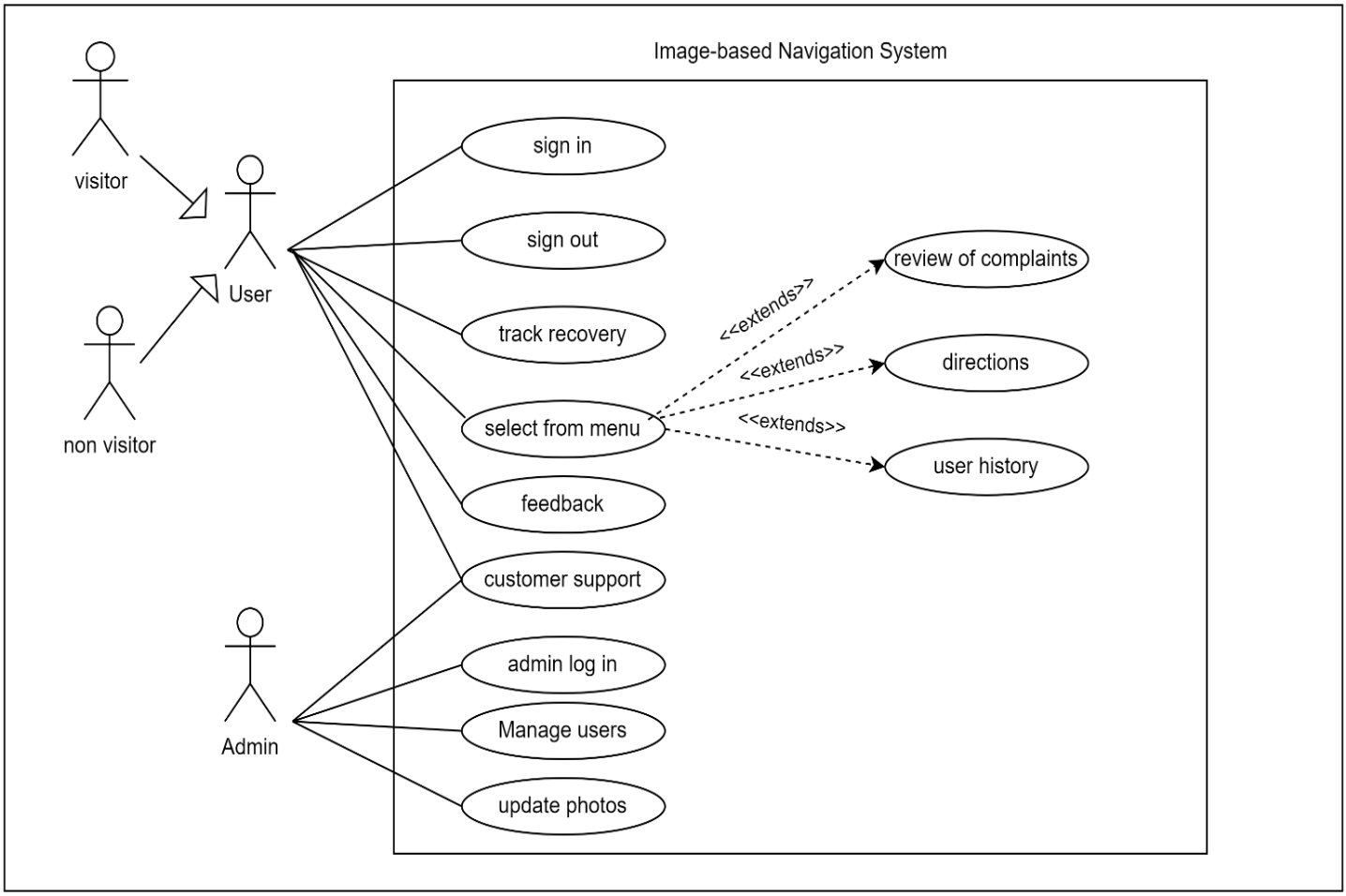
8. The user should have customer support.

   Should the app breaks or has bugs, the user will be able to make complaints via telephone or e-mail.

Target Users

- Our main user is a university student(non visitor) who already has an id number given by the university.
- We are also looking forward to developing this system to be used by other users such as visitors and new staff members.

Use case diagram



Application Features and Description

- User Sign Up – Allows the user to sign up using his / her name and NSBM ID number.

- User Sign In - Allows the user to sign up using his / her account.

- Menu Page – The User can select from a variety of functions:
    1. Directions
    2. User History
    3. Review or Complaints

- Directions – The User is given directions via images.

- Track Recovery – if the user is misdirected when following directions, he will be provided with proper instructions to find his way again.

- User History – Allows the user to view past locations and directions with ease.

- Feedback and Customer Support - Allows the user to review or complain.

Timeframe – Gantt Chart

Computing Group Project

Navigation App for NSBM	Group A13	4/10/2023	21/04/2024
PROJECT NAME	OWNER	START DATE	END DATE

Month				October				November					December				January				February				March				April		
Task ID	Task Name	Start Week	End Week	WK01	WK02	WK03	WK04	WK05	WK06	WK07	WK08	WK09	WK10	WK11	WK12	WK13	WK14	WK15	WK16	WK17	WK18	WK19	WK20	WK21	WK22	WK23	WK24	WK25	WK26	WK27	WK28
	Planning																														
1	Project Identification	4/10/2023	11/10/2023																												
2	Submit the idea	11/10/2023	13/10/2023																												
3	Get the approve	13/10/2023	20/10/2023																												
	Analyse																														
4	Analyse the information	20/10/2023	22/10/2023																												
5	Identify the resources	22/10/2023	23/10/2023																												
6	Create the proposal	23/10/2023	25/10/2023																												
7	Submit the proposal	25/10/2023	25/10/2023																												
	Design																														
8	Design diagrams	25/10/2023	1/11/2023																												
9	Design interfaces	1/11/2023	15/11/2023																												
10	Design the app	15/11/2023	3/12/2023																												
	Implementation																														
11	Front End	4/12/2023	29/02/2024																												
12	Back End	4/12/2023	15/03/2024																												
	System																														
13	Testing	15/03/2024	29/03/2024																												
14	Bugs Testing	30/03/2024	21/04/2024																												