



User Manual

Prepared for: ECSE 424, Human-Computer Interaction

Prepared by: Jakob Buverud, Saige McVea, Lis Sulmont

November 12, 2015

TABLE OF CONTENTS

1. Introduction
2. Building maps
3. Screen overview
4. Step-by-step procedures
 - a. viewing the home screen
 - b. setting your starting location
 - c. accessing more info (FAQ)
 - d. activating wheelchair-friendly mode
 - e. initiating navigation to a student service
 - f. initiating navigation to a specific room
 - g. initiating navigation to a building event
 - h. initiating navigation to a restroom
 - i. navigating to a destination

INTRODUCTION

Motivation for the project

Blueprint is a system for indoor navigation. It was designed to improve human-spatial understanding by giving users context-relevant information at specific points of interest. Implemented as a web application for smartphone devices, specific webpages are accessed through URLs broadcasted using iBeacon technology. This manual describes the functionality of a prototype for this system, which has been adapted for the Brown Building at McGill University.

Suggested hardware

You highly recommend that you use an iPhone for testing, because the prototype unfortunately *does not work properly on Android devices* at this time. You will also need a good internet connection. To launch the prototype, simply go to <https://myblueprint.herokuapp.com/>.

Prototype limitations

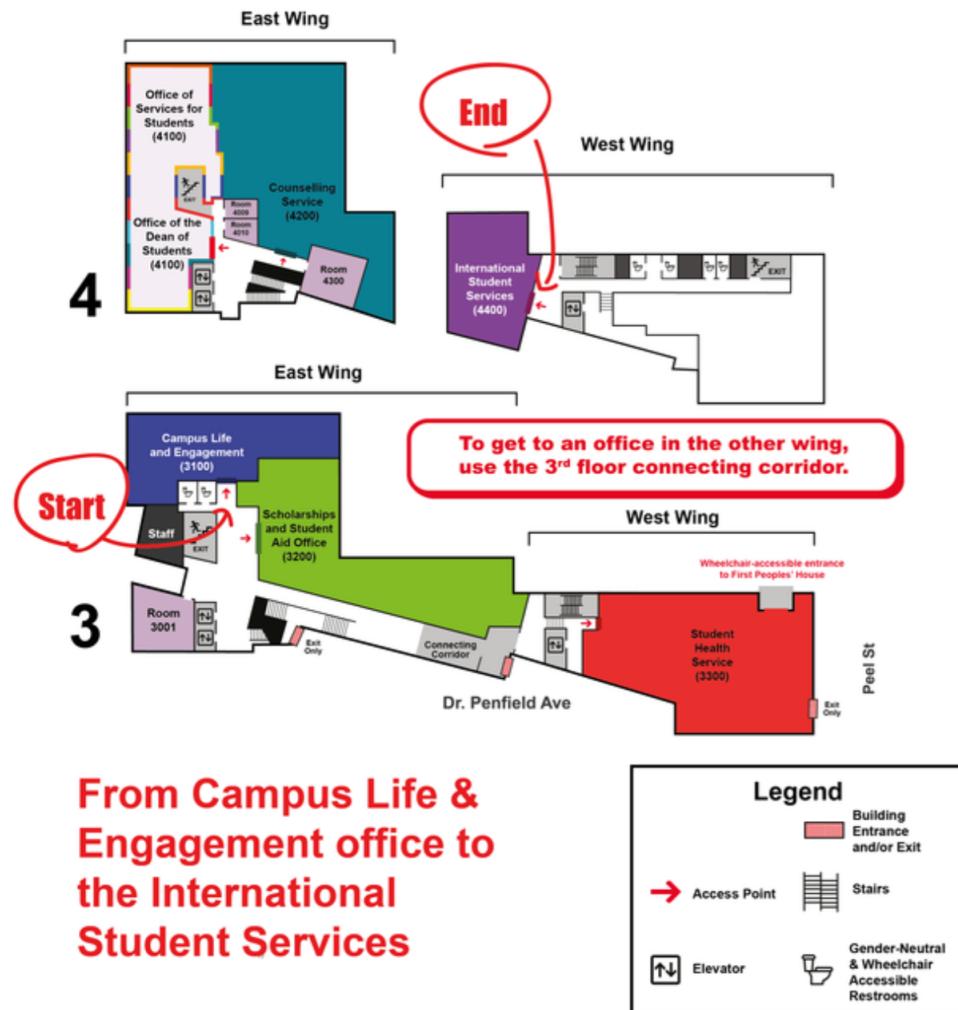
In this version, only four navigation routes have been implemented, which we believe is sufficient to test the core functionality of the application. The implemented routes are:

- from the Campus Life & Engagement office to International Student Services
- from the main Lobby to Conference room 3001
- from the SSMU basement entrance to the Counselling office, using wheelchair-friendly directions
- from the Ave. Docteur Penfield entrance to a nearby restroom

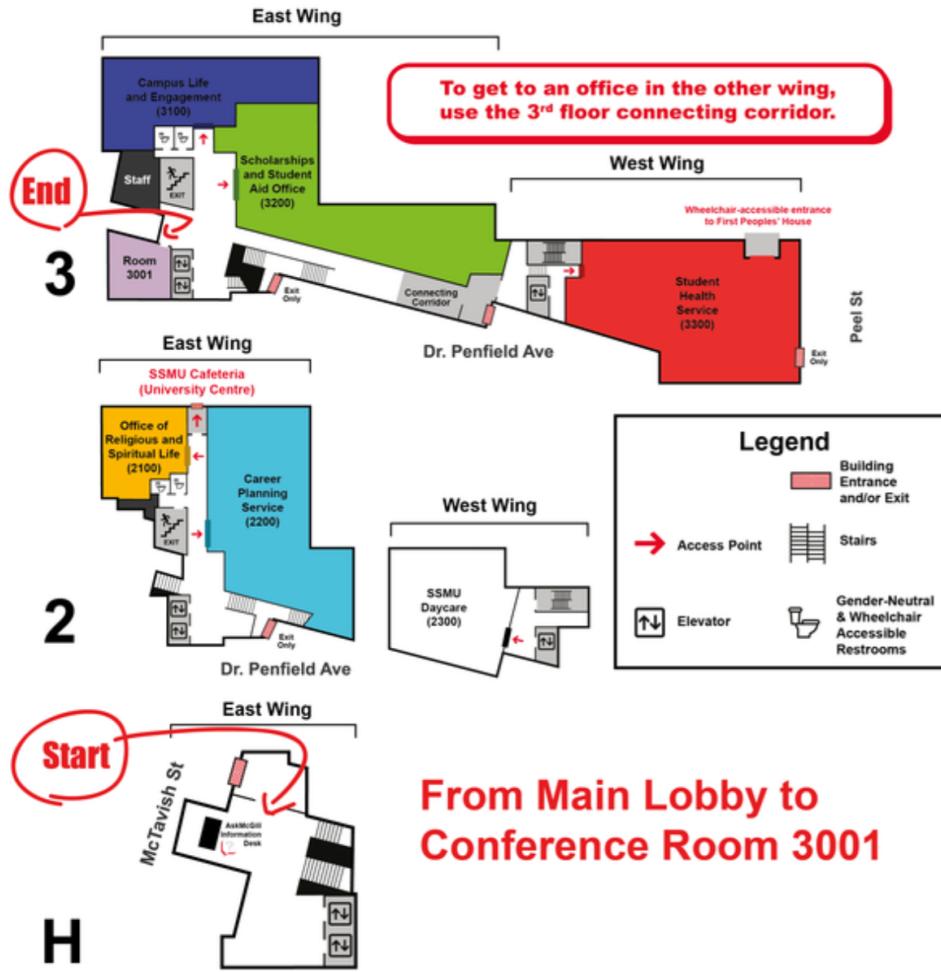
These routes all have different starting locations. In order to simulate application usage, you (the examiner) *will have to manually select the starting location* corresponding to your use case. See section "[Setting your starting location](#)" below. This process will be done automatically using iBeacons once the final system has been developed.

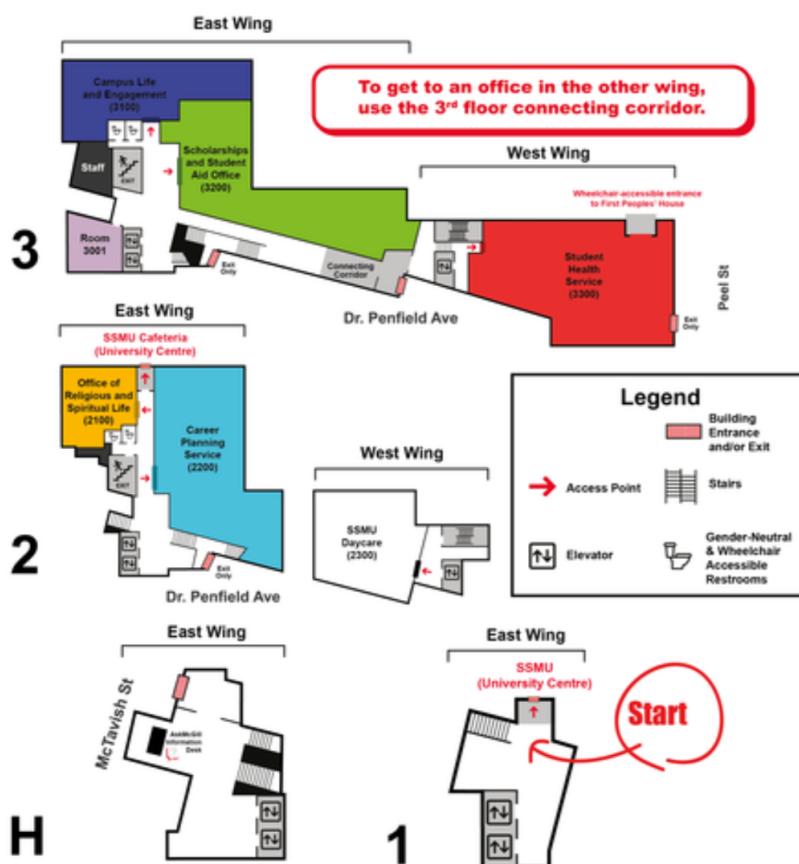
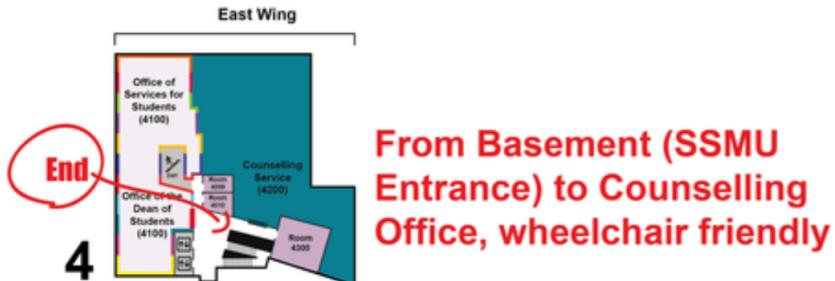
Please consult the following '[Building Maps](#)' if you are having trouble finding the starting locations.

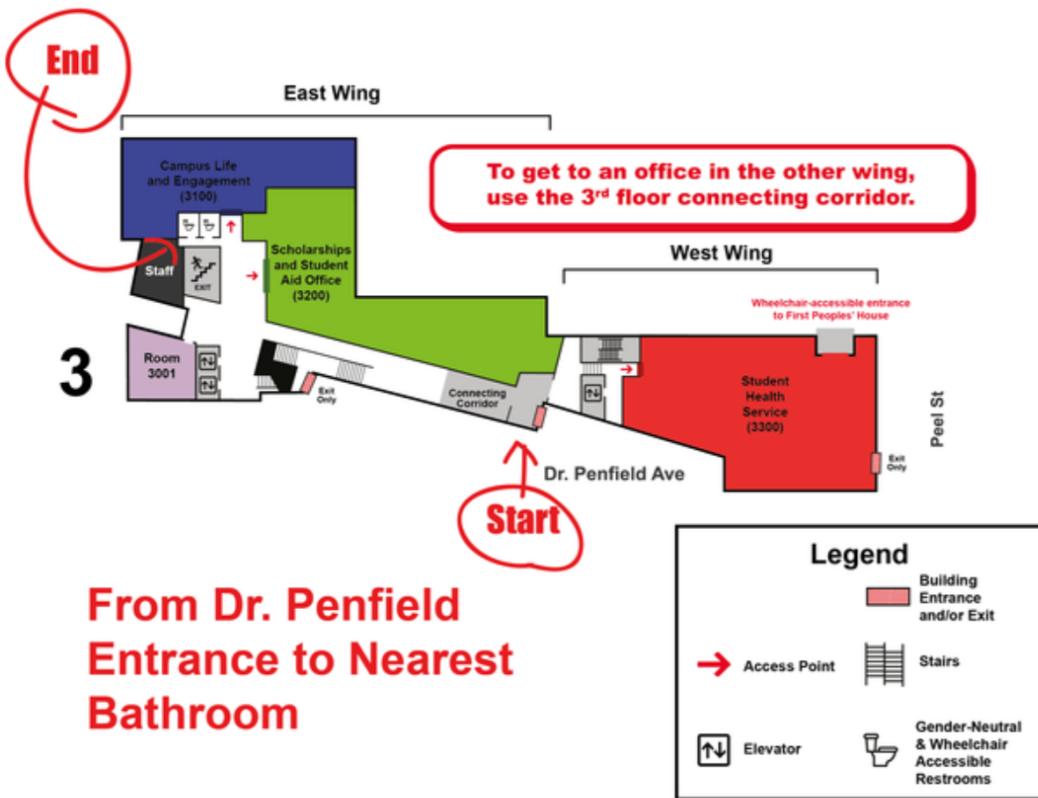
BUILDING MAPS



From Campus Life & Engagement office to the International Student Services







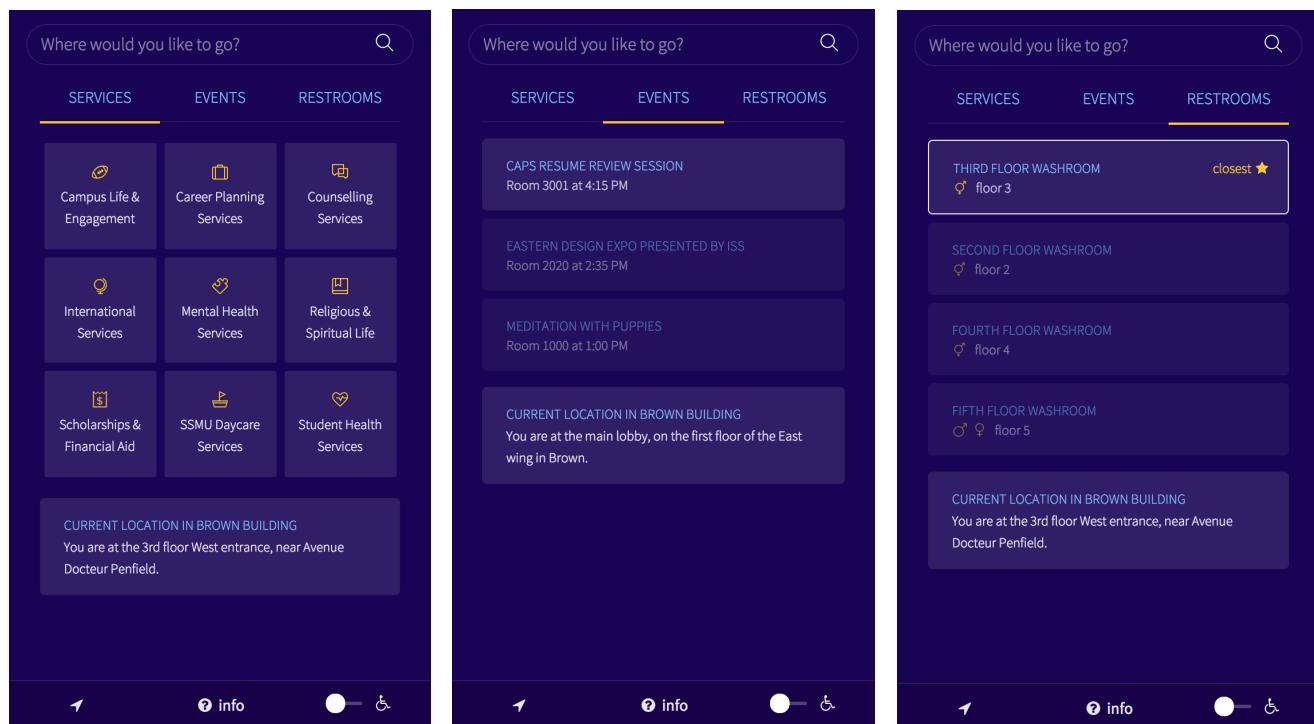
**From Dr. Penfield
Entrance to Nearest
Bathroom**

SCREEN OVERVIEW

The prototype consists of two main screen types .

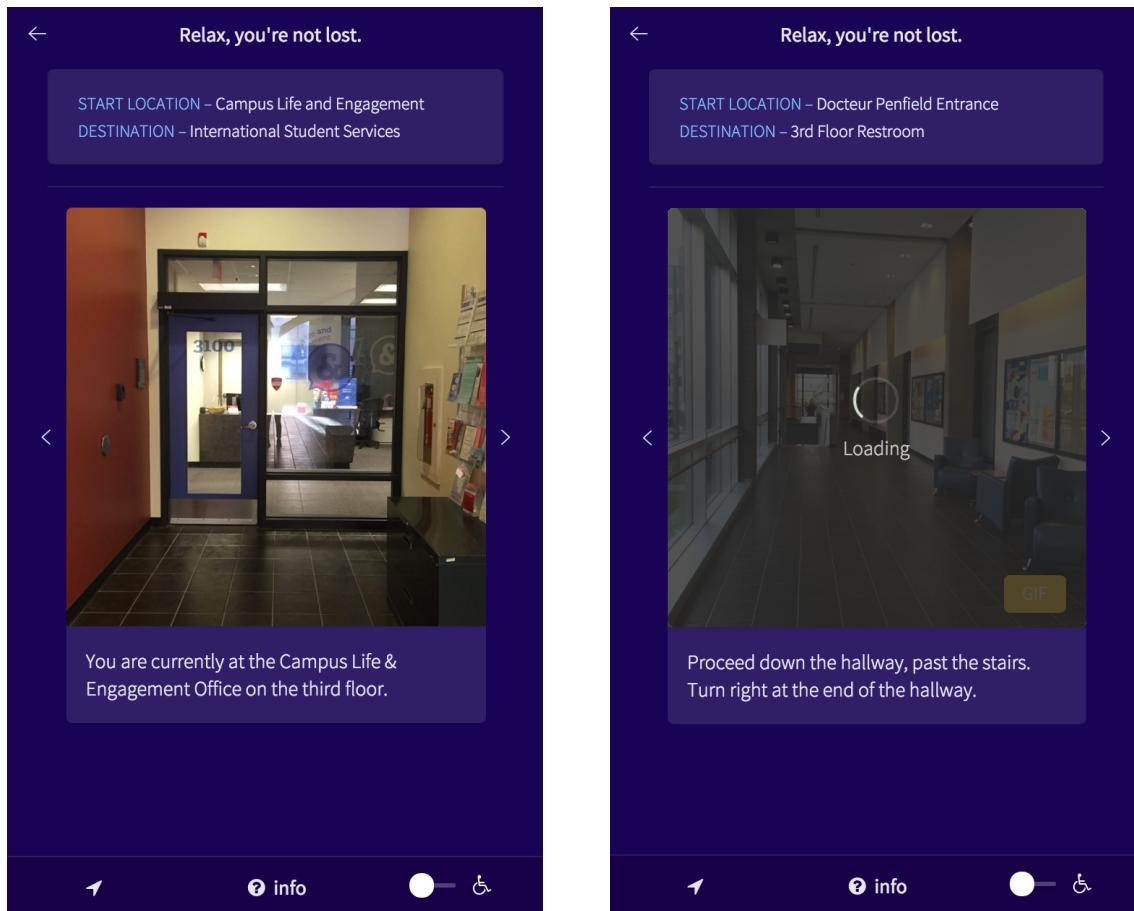
Homescreen and selection screens

The homescreen lists different destination points for navigation, by default showing the Brown services. You can use the tabs at the top of the interface to switch between different destination categories. The wheelchair toggle, located at the bottom-right of the screen, can be used to request wheelchair-friendly navigation. The search input at the top can be used to filter through all possible destinations, or access a particular room.



Navigation screens

The navigation screens are intended to lead users to their chosen destinations. The main element on this screen is a large graphic: either a photo, a GIF, or both. When both a photo and a GIF are available, the GIF starts playing when the user taps the image. Users can access the next direction by swiping left, and the previous direction by swiping right. Arrows located at the sides of the graphic can also be used to navigate through directions. Beneath the graphics are textual instructions, which elaborate the directions further.



As can be seen above, the user's route is always displayed above the directions. The *settings* (see next page), info button, and wheelchair option can also always be accessed in the footer. When a GIF or an image is loading, the loading wheel is displayed such that the user is aware their directions will be available shortly.

Feedback and prototype-specific screens

There are 3 screens which offer additional information to any users of this prototype: (1) The “current location” page (below left) is used to manually set the user’s starting location, (2) the “FAQ” page (centre) exists to offer additional facts and information to users, and (3) the “route unavailable” page exists to let users know that this prototype has not included the route they are requesting.

WHERE ARE YOU RIGHT NOW?

You will receive directions starting at the location you select from the list below.

BROWN BUILDING LOBBY
CAMPUS LIFE AND ENGAGEMENT
DOCTEUR PENFIELD ENTRANCE
SSMU BASEMENT ENTRANCE

FREQUENTLY ASKED QUESTIONS

WHAT DOES THIS WEBPAGE DO?
This site is part of an indoor navigation system to help you find specific locations within large buildings.

HOW DOES IT WORK?
We use devices called “beacons” to broadcast unique links which you can visit. They work using bluetooth and cannot be manipulated to track your location.

WHAT CAN I FIND?
Although not all the routes are complete, you can get directions to the student services offices, washrooms, events, and rooms in the Brown building.

ARE THERE ANY FANCY FEATURES?
Not really. You can navigate, search, or turn on the wheelchair-friendly option.

Relax, you're not lost.

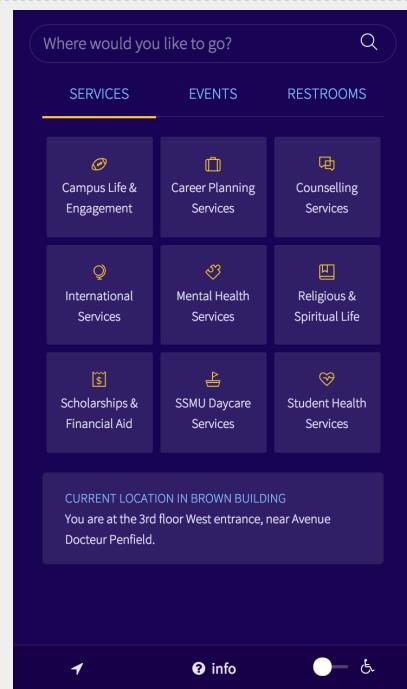
START LOCATION – Docteur Penfield Entrance
DESTINATION – ...

THIS ROUTE IS UNAVAILABLE
You've selected a valid destination, but this route does not yet exist. Thanks for testing our prototype.

STEP-BY-STEP PROCEDURES

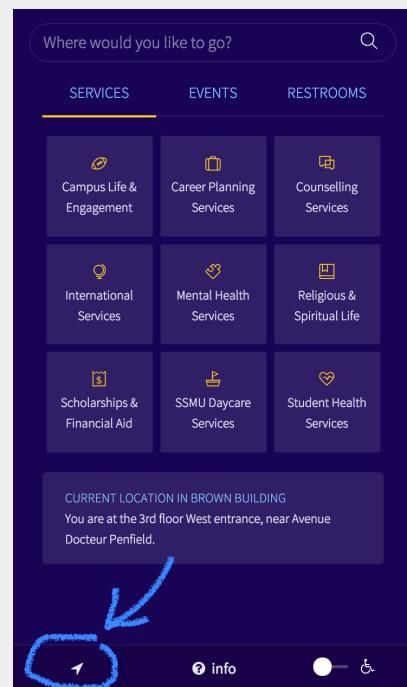
Viewing the homescreen

1. Open the application by going [here](#) in the Safari or Chrome browser on your iPhone. You will be taken to the homescreen.

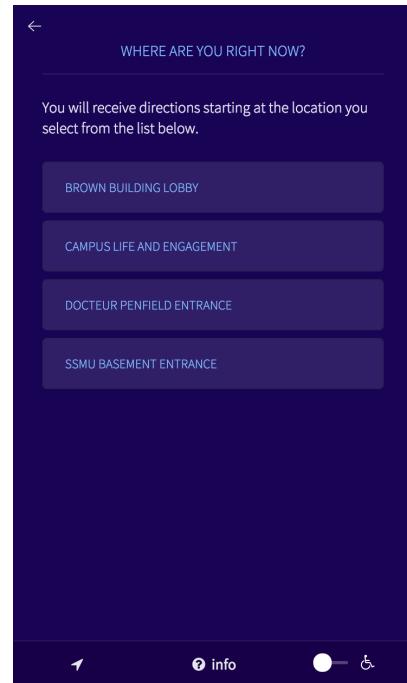


Setting your start location

1. Press the "location" icon to the bottom-left of the home screen.

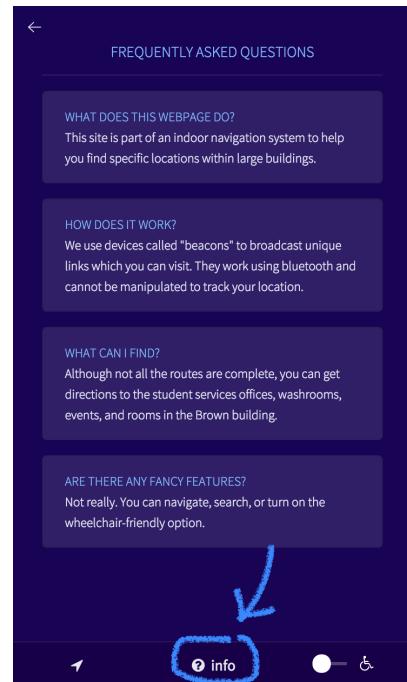


2. Choose your starting location from the list.



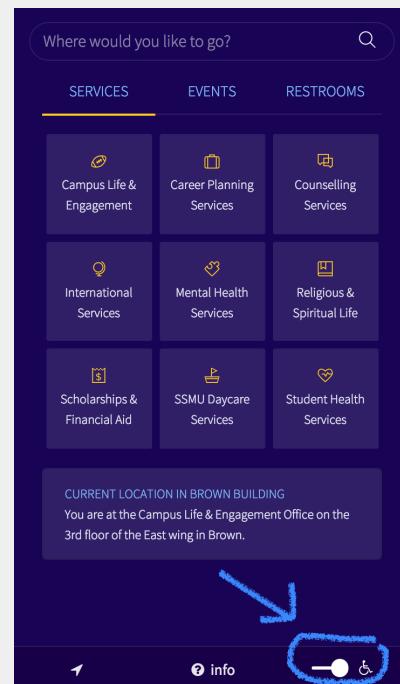
Accessing more info (FAQ)

1. On any of the screens, clicking the information icon in the centre of the bottom bar will take you to an information page. You can return to the homepage by clicking the “back” arrow in the top-left.



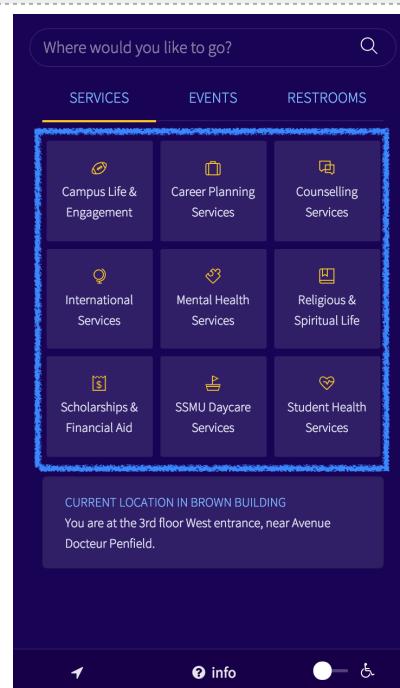
Activating wheelchair-friendly mode

1. On the home or navigation screen, toggle the wheelchair icon in the bottom bar. The slider bar will get brighter, indicating that you are now in wheelchair-friendly mode.



Initiating navigation to a student service

1. Open the homescreen.
2. In the top part of the screen, the different student services are listed.

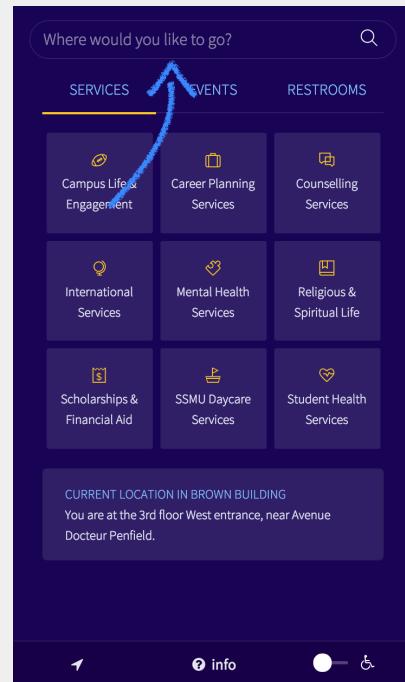


3. Tap the one you wish to navigate to. Navigation to the location will begin (see “Navigating to a destination”).

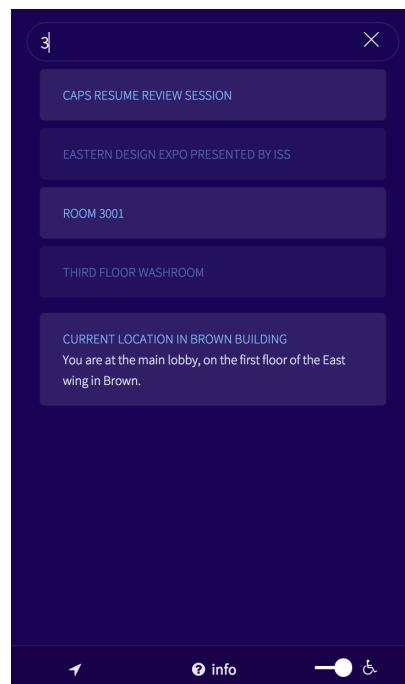
Initiating navigation to a specific room

1. Open the homescreen.

2. Tap the search icon on the top of the screen.



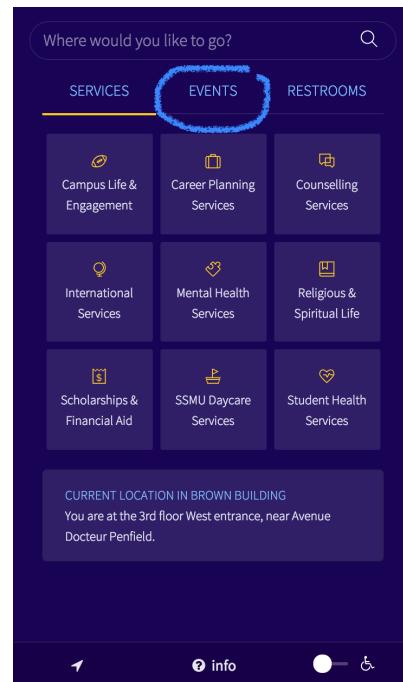
3. Enter the name or number of the room you are searching for. Results will automatically be displayed and updated as you type. Tap the desired result.



Initiating navigation to a building event

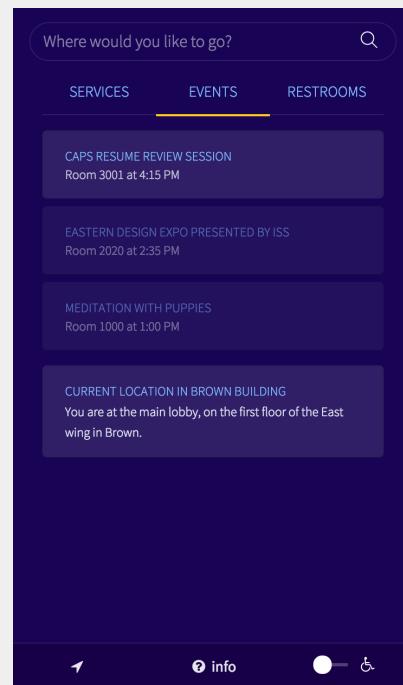
1. Open the homescreen.

2. Press the "Event" tab.



3. You will see a list of current events. Tap the one you wish to navigate to. Navigation to the location will now begin (see "[Navigating to a destination](#)"). Dummy events with no corresponding route will be greyed-out.

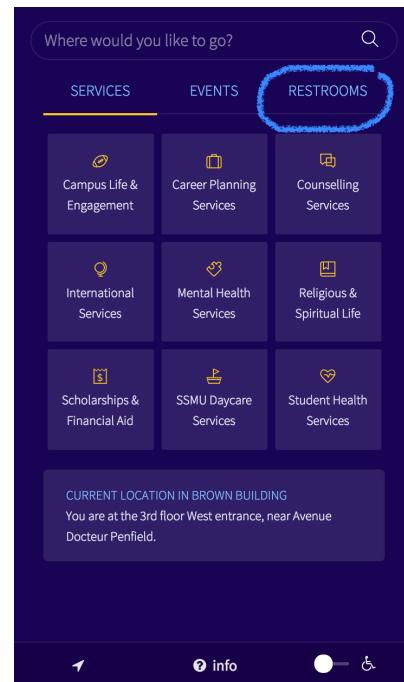
NOTE: If your event is not listed here, but you know the room number where the event is located, you can navigate directly to the room number (see section "[Navigating to a specific room](#)".)



Initiating navigation to a restroom

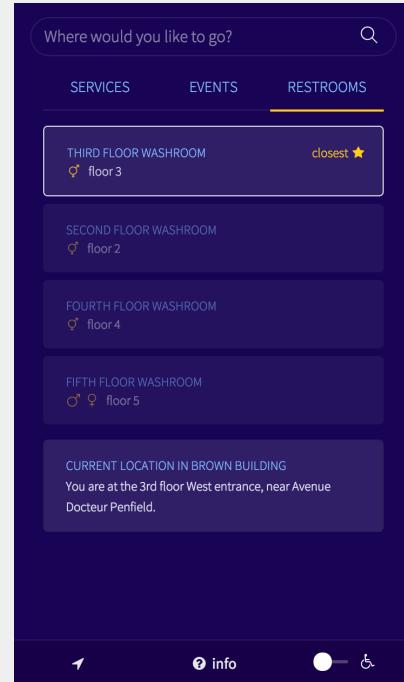
1. Open the homescreen.

2. Press the 'Restrooms' tab.



3. You will see a list washrooms in the building, sorted by proximity to your current location. The closest washroom is also outlined and tagged with a star. Tap the restroom you wish to navigate to. Navigation will be initiated. (see "["Navigating to a destination"](#)). Dummy restrooms with no corresponding route will be greyed-out and disabled.

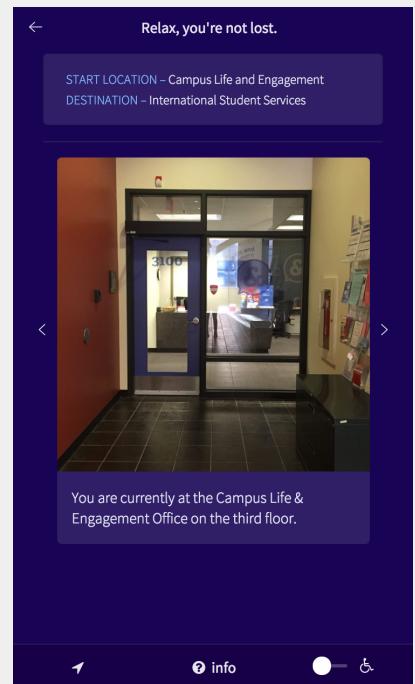
NOTE: As proximity detection is not included in the current prototype, the washrooms will be sorted by proximity to the floor of your specified starting location, see "["Setting your starting location"](#)".



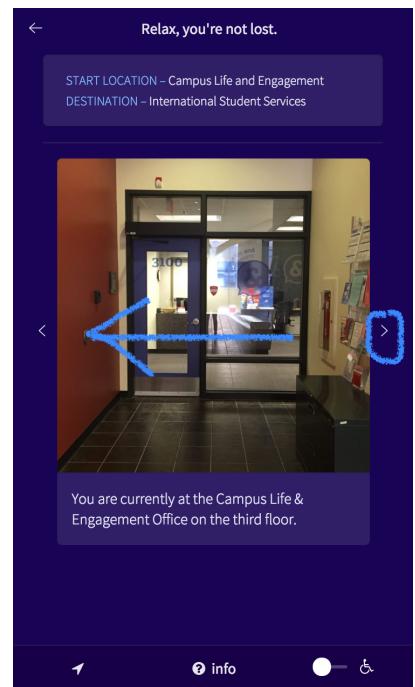
Navigating to a destination

1. Initiate navigation by one of the methods previously described in this section. You will be taken to the navigation screen, which will show you an image of your current location.

NOTE: If the route is not implemented, you will be redirected home.



2. Swipe left to see the next instruction. Alternatively, press the arrow located at the right of the graphic.



3. You will be shown instructions of how to get to your next navigation waypoint. These will usually be in the form of an image and accompanying GIF.

You can swipe right at any time to go back.

You can tap the image or the "GIF" button on the lower right to play the GIF, which will show you how to walk to the next waypoint. Because GIFs are large, they may take some time to load, and you will be shown a spinner icon while waiting.

