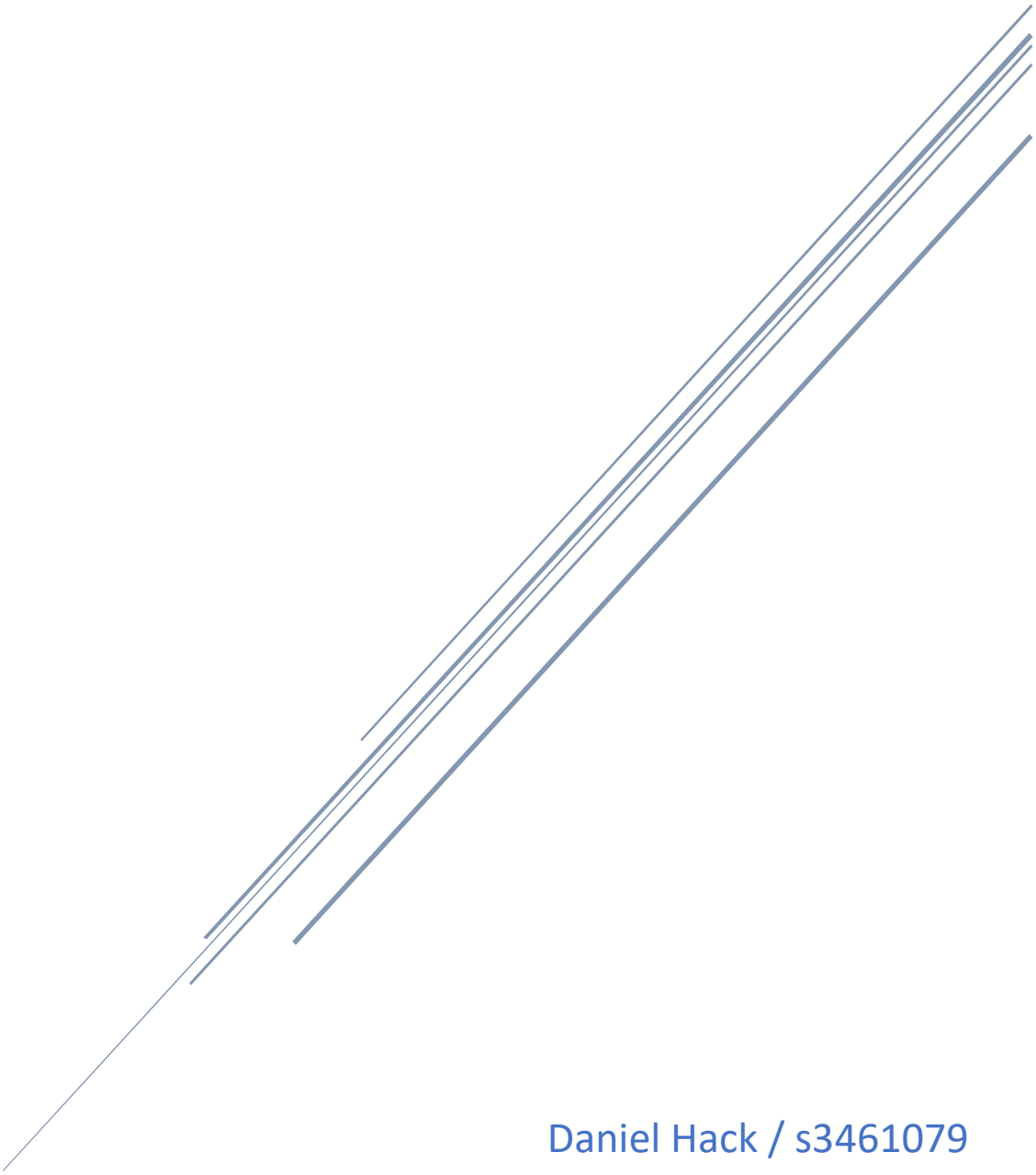
ASSIGNMENT 2

Application Prototype Design



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Contents

Introduction

The purpose of this project is to make cycling a more accessible and attractive transport option for RMIT staff and students. This project forms part of the RMIT Integrated Sustainable Transport Plan (ISTP) which aims to provide a sustainable future by reducing RMIT's impact on the environment in an economically viable and socially just manner. A major component of the plan encourages the use of cycling as a mode of transport as it serves to lower the university's carbon footprint whilst also promoting healthier living and reduced transport costs for individuals.

The client is a representative of the Student Engagement Initiative who seeks to provide greater awareness for safe bike parking facilities including the registration process, connecting cyclists to help foster a community through convoys or sharing of tips, and promote events based around cycling and giveaways. To facilitate achieving these goals, it is proposed an Android mobile application is developed named "RMIT City Cycle" which provides information to users who are currently cycling to RMIT campuses or are interested in doing so.

Prototype: https://invis.io/WGD43U4DX

User Groups

The RMIT City Cycle app targets the 3 main user groups shown below.

RMIT Students

- Age 18-25.
- Students that attend RMIT on campus.
- Cycle to RMIT 3-5 times per week.
- High fitness levels.
- High familiarity with mobile technologies.
- Need ability to know where they can safely park their bikes.
- May like to form friend groups with other cyclists to travel together.
- Mostly cycle as a means of cheap and easy transportation.
- Would like to be notified of free repairs and giveaways.

RMIT Staff

- Age 28-65.
- Staff members that teach at RMIT on campus.
- Cycle to RMIT 3-5 times per week.
- Moderate to high fitness levels.
- Varying levels of familiarity with mobile technologies.
- Would like to maintain or improve fitness levels through cycling.
- Most are enthusiastic about cycling and would like to keep informed about local cycling events.

Students or Staff Interested in Cycling

- Age 18-65.
- Staff and students at RMIT on campus.
- Don't currently cycle to RMIT but are interested in doing so.
- Interested in cycling more often but aren't sure of the logistics involved.
- Need ability to find out the do's and don'ts of cycling at RMIT before starting.

Personas

Two personas have been constructed below as example users of the RMIT City Cycle application.

Keith - Uni Lecturer

"Keith is an engineering lecturer at RMIT who lives in the Melbourne city mostly getting around on his bike and has a keen interest in environment sustainability."

Age: 32 | Rides his bike 4-5 times per week | Married | Lives with his wife and 1 yr old son

Goals

Keith would like to let other students staff and students know he is available to help by convoying with them. He would also liked to be informed of current and upcoming cycling events.

Frustrations

Keith often hears about events by word of mouth by which time it's usually too late to attend them. He is also unsure how best to let others know that he is available to help out new cyclists.

Attributes

Fitness Level

Cycling Experience

Interest in forming groups with other cyclists

Environmentally conscious

Familiarity with mobile technology

Sally - Uni Student

"Sally is studying a Bachelor of Science majoring in biology at RMIT and she owns a bike but doesn't use it often as she isn't sure about the best way to get around."

Age: 19 | Rides her bike only on occasion | Single | Lives with her parents

Goals

Sally would like to learn the do's and don'ts of cycling and to be shown a map of bike parking facilities relative to her current location.

Frustrations

Sally isn't familiar with the local area and doesn't know the best way to get around on a bike. She can't find a service to show her current location on a map and nearby parking facilities.

Attributes

Fitness Level

Cycling Experience

Interest in forming groups with other cyclists

Environmentally conscious

Familiarity with mobile technology

Context Scenarios

Keith's Scenario

It's a Monday afternoon 08/08/17 and Keith has a little bit of free time before his next engineering class that he is teaching so he decides to see if there are any RMIT cycling events happening soon. He opens the RMIT City Cycle app on his phone to view upcoming events and discovers a biking tour of the RMIT city campuses being held next Thursday at 12:30pm for 2 hours starting at Building 51 in the city. The app reports that so far 20 people will be going and he decides he'd like to participate so he marks that he will be going. On the day of the event, Keith shared his wealth of knowledge about RMIT and cycling with other students and made some new friends.

Sally's Scenario

It normally takes sally about 30 minutes to travel from her home to the RMIT city campus using a combination of trams and walking. She is interested to see if riding her bike to school would be quicker, easier, or just more enjoyable. She doesn't know here she can park her bike or the general do's and don'ts of cycling at RMIT. Using the RMIT City Cycle app she finds the closest parking facility and applies for RMIT parking access. After receiving her access card, she rode her bike to school using the app to navigate from her house to the parking location at the city campus where her Molecular Biology and Genetics lecture was taking place that day.

Key Path Scenario

1a: Keith taps the 'Events' tab on the bottom middle of the screen.

1b: The app switches to the Events screen listing upcoming events in chronological order.

2a: Keith taps the 'Campus Bike Tour' event rectangle occurring next Thursday.

2b: The app switches to a more detailed view of the event that includes a picture, the time, duration, location, and who's interested in going.

3a: Kevin taps the 'Interested?' button to show that he is interested in attending this event.

3b: The 'Interested?' button colour changes to green, '?' is removed from the button text, and 'X people are interested' updates from 20 to 21.

The diagrams on the subsequent pages depict the workflow for the key path scenario.

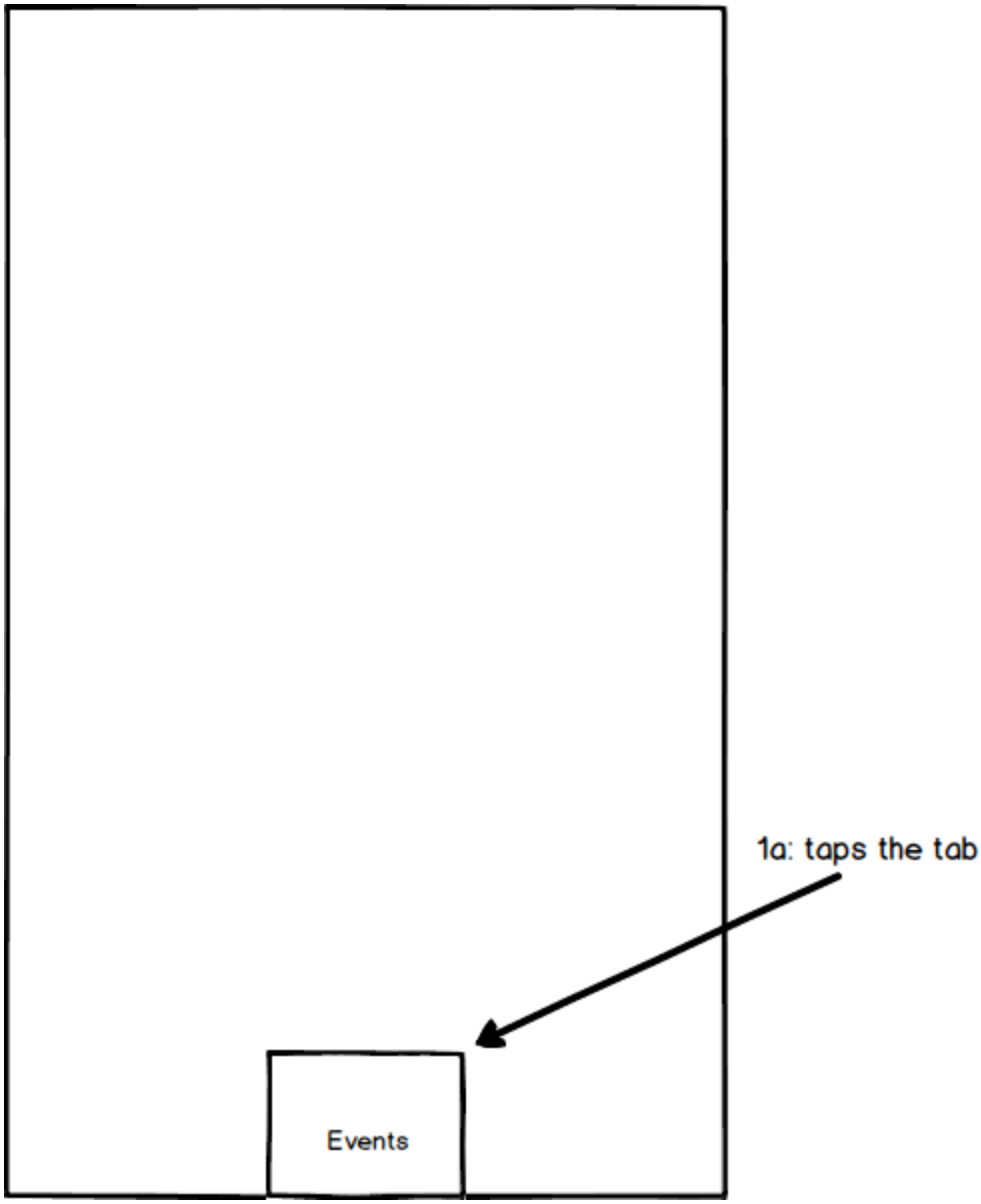


Figure 1 - Step 1a

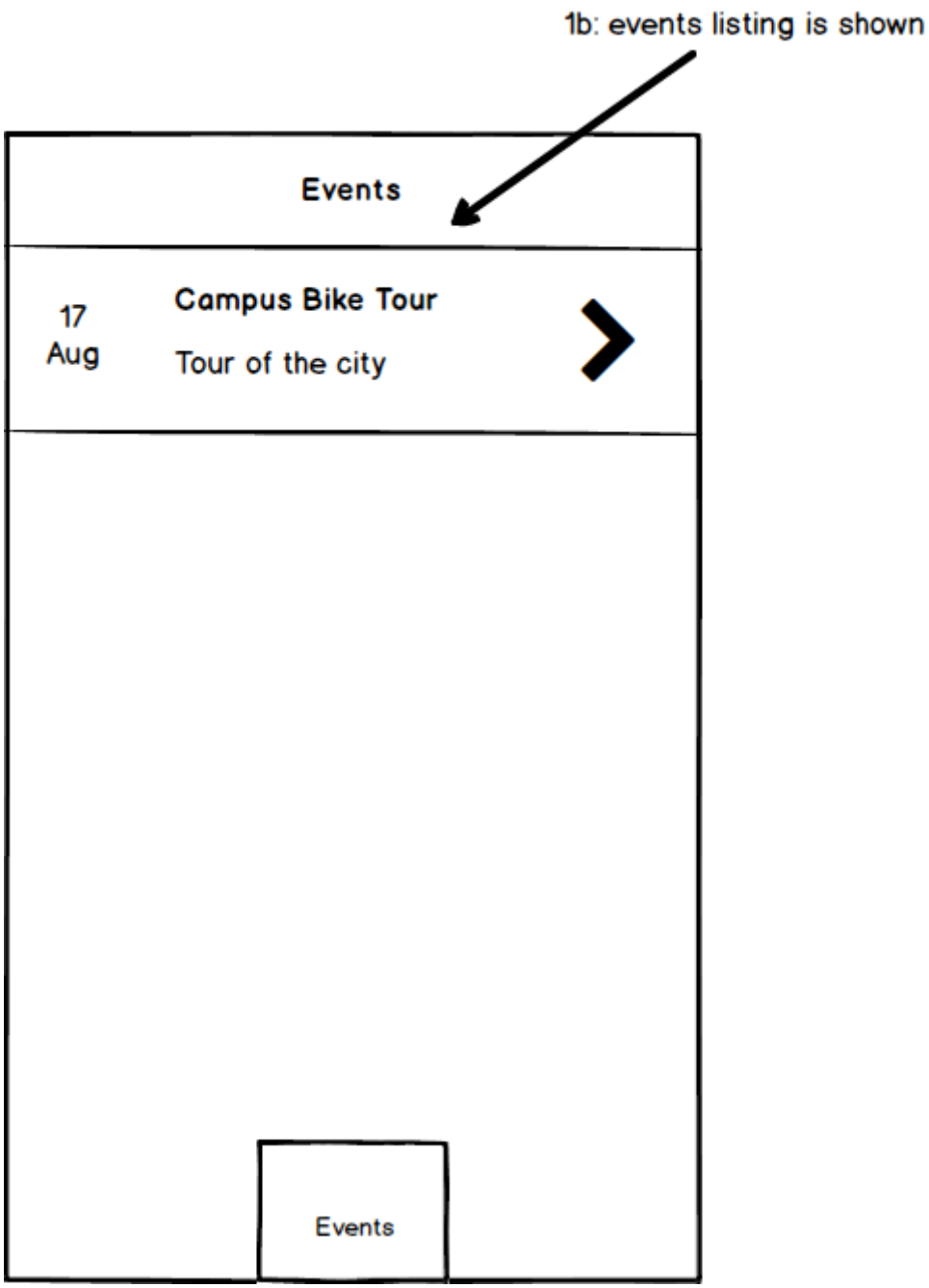


Figure 2 - Step 1b

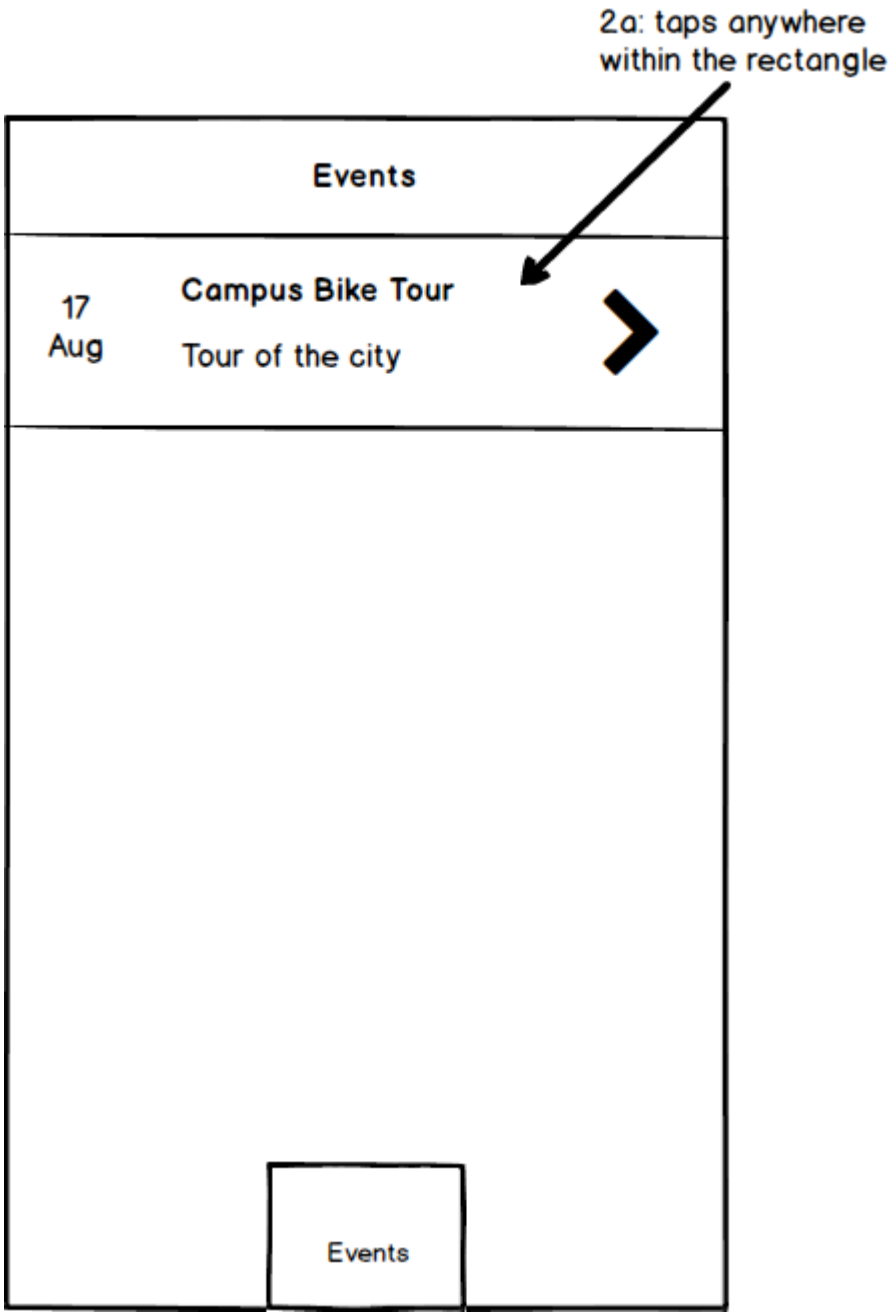


Figure 3 - Step 2a

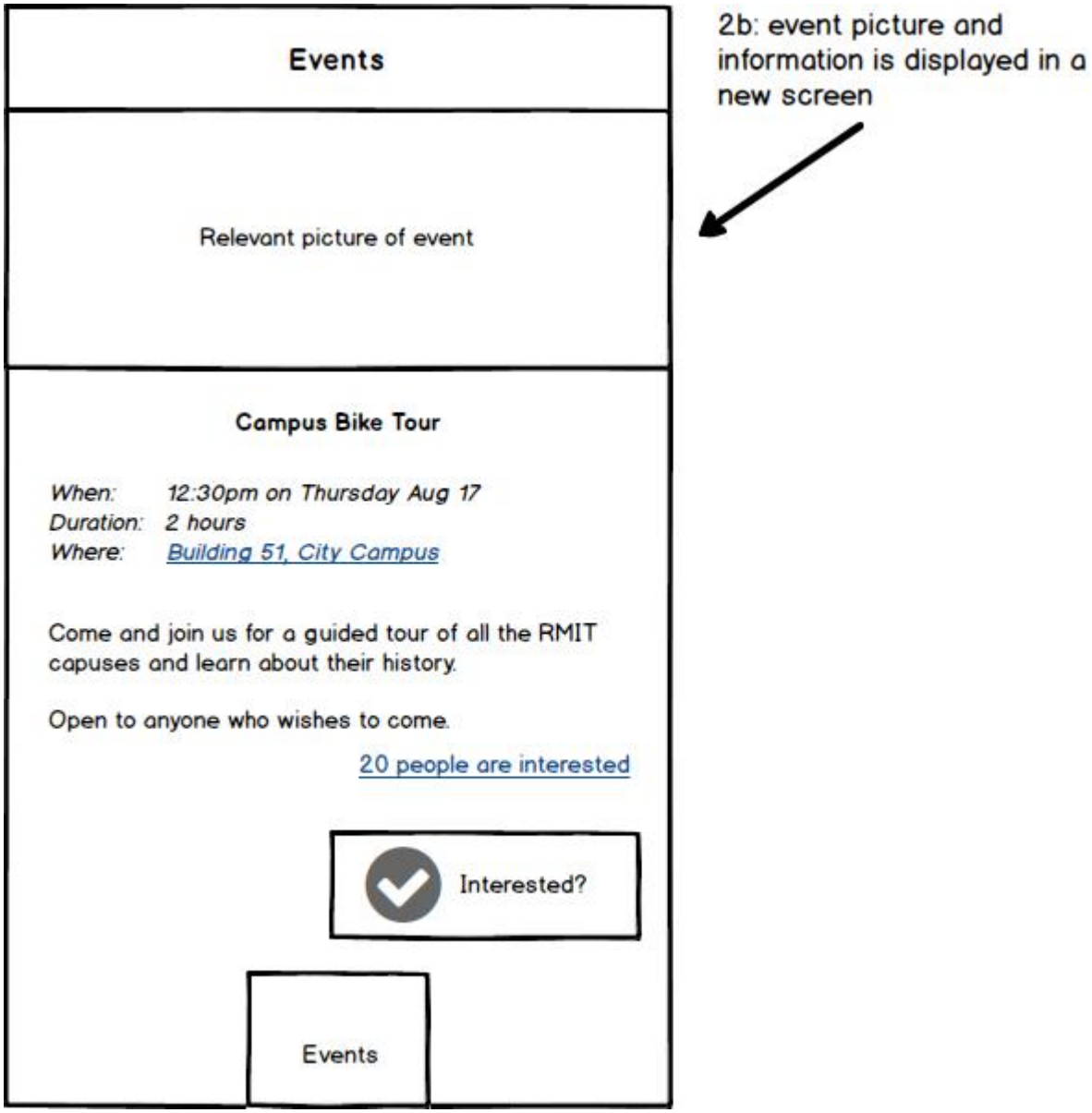


Figure 4 - Step 2b

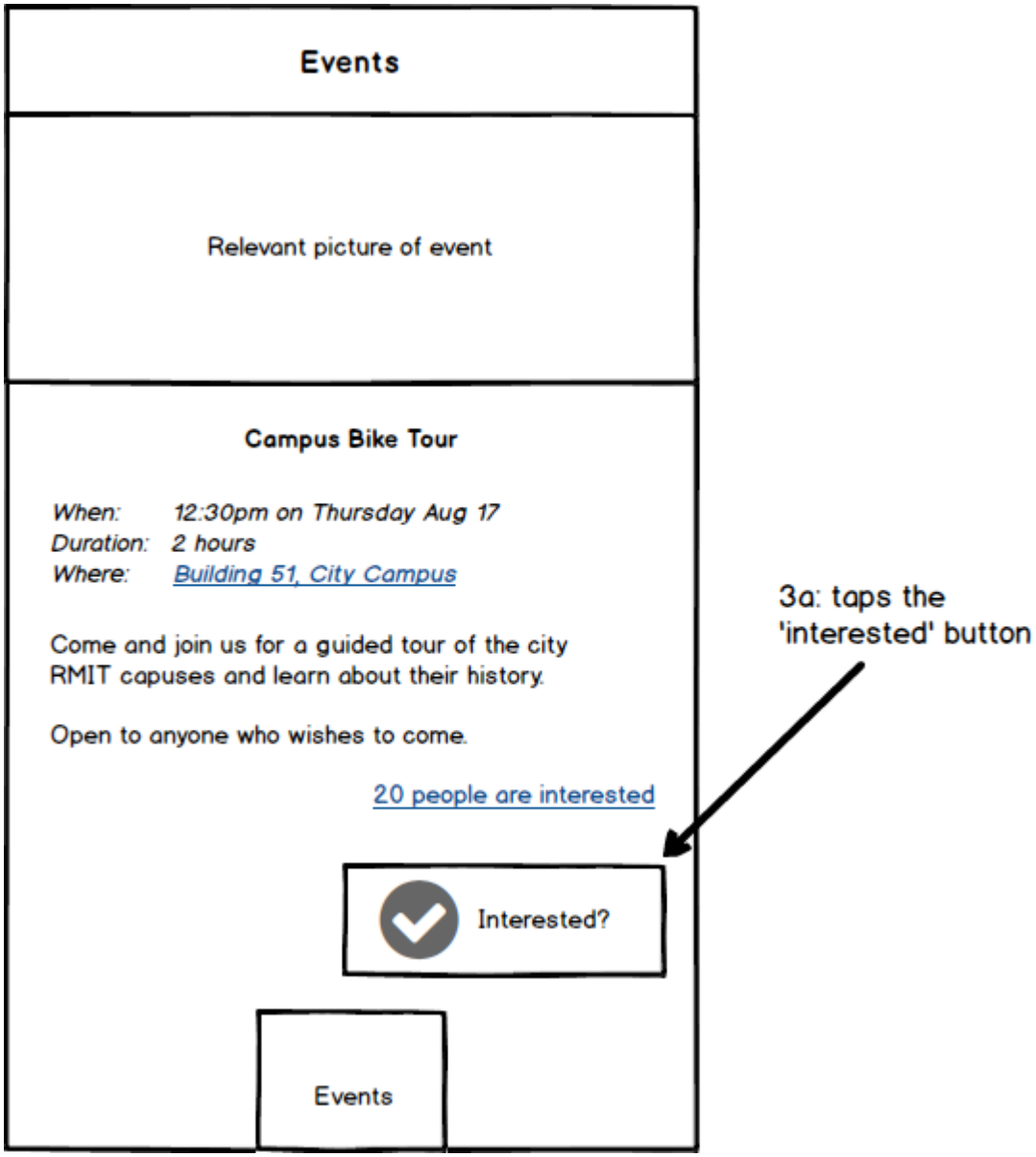


Figure 5 - Step 3a

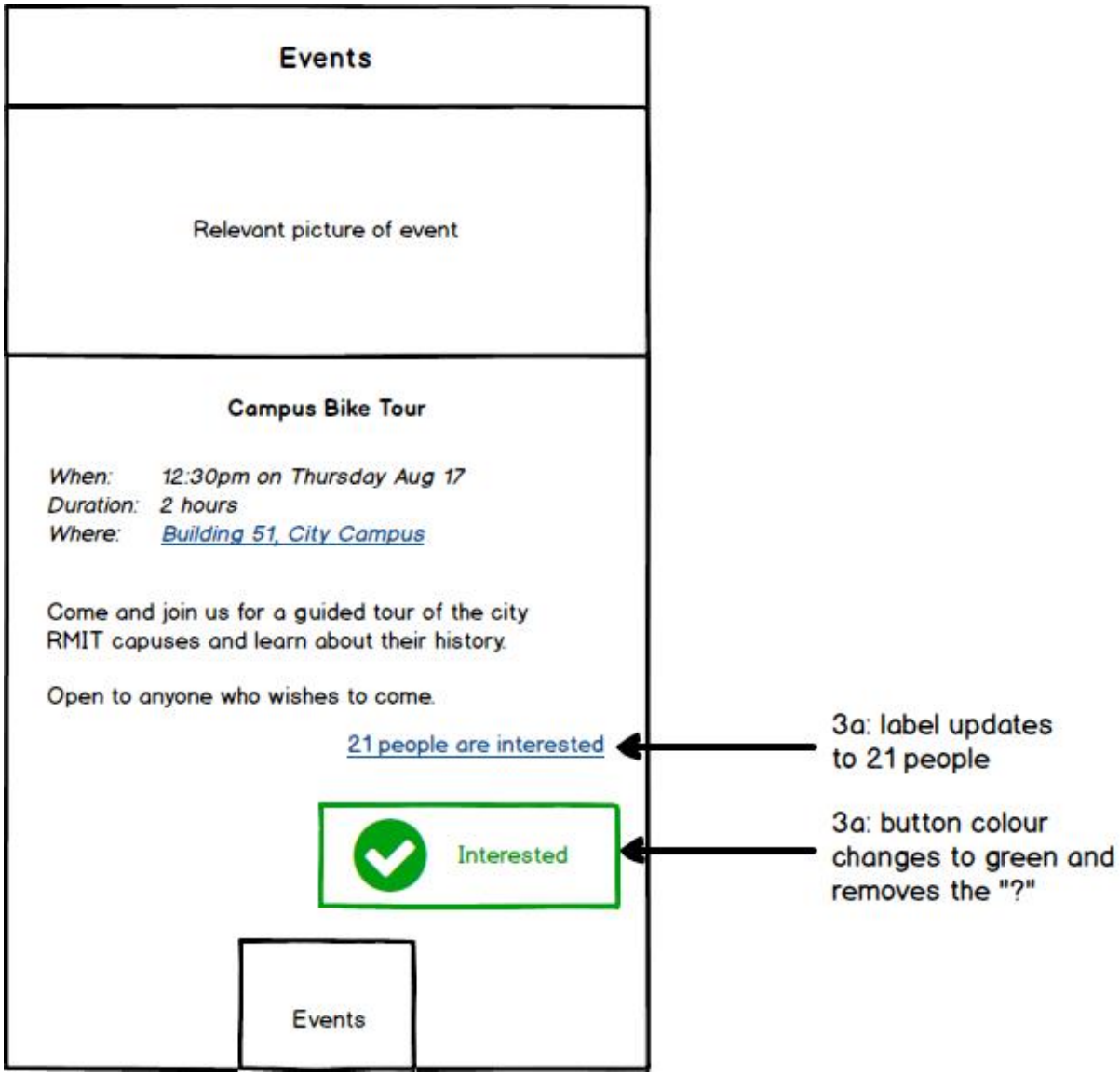


Figure 6 - Step 3b

Design Patterns

This section discusses several design patterns used in the prototype.

Visual Framework

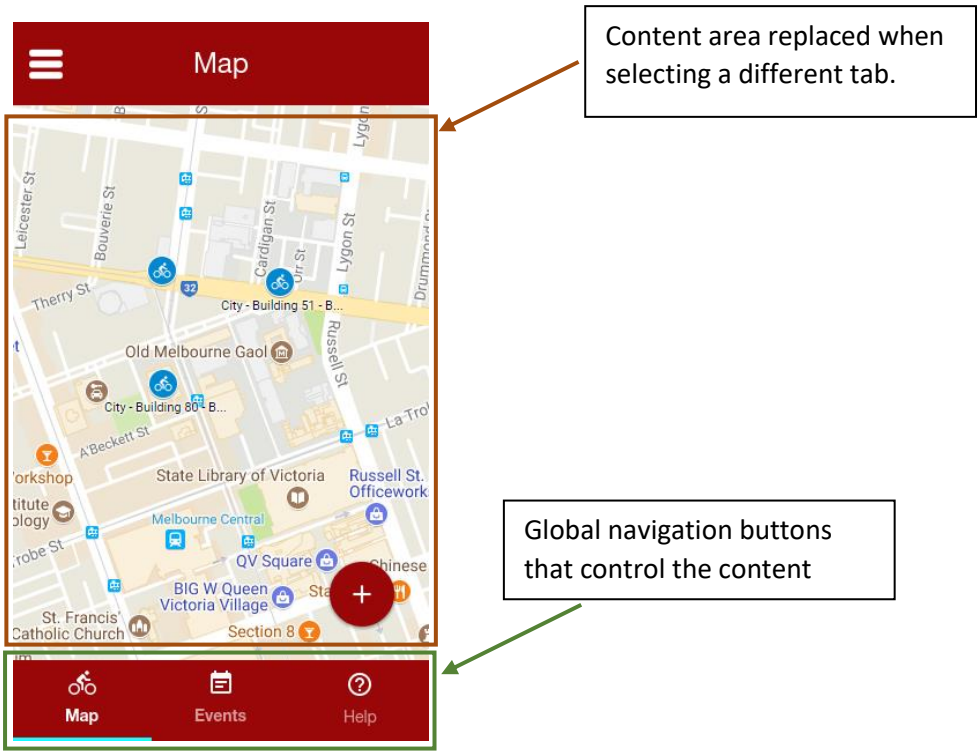
The application has the same basic layout through the application with a:

- Top menu bar containing the title of the current screen.
- Middle content area that is replaced with different content as the user interacts with the application.
- Bottom global navigation bar used to switch between the major areas of functionality.

Keeping the application layout consistent through all screens helps the user learn how to use and navigate the application.

Card Stacking & Global Navigation

Tapping on any of the bottom global navigation tabs replaces the content of the main screen area.



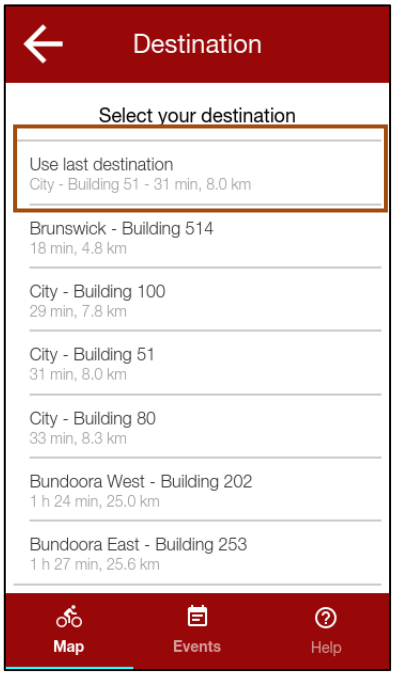
Get Back Pattern

When navigating into deeper locations of the application, a back button is present at the top left of the screen so the user is easily able to back out of what they were doing.

Note to marker: please note there seems to be an issue when viewing Invision Apps in Chrome on desktops where the back button gets caught in an infinite loop when going back from two or more screens. I haven't had this problem occur in IE or when viewing the prototype on mobile.

Good Defaults

When using the navigation feature, the user's last destination is presented as the first option when starting another navigation. This isn't much of a benefit in this case as there are only 6 options in total, but should more locations be added in the future then this feature would become more helpful.



The list is sorted by the destinations closest to the user's current location to reduce the cognitive load required for selecting an option as the most likely candidate will be at the top.

Animated Transitions

When switching between screens that differ in content, an animation is shown to transition out of the current screen and into the next screen. This is done because changing between screens instantaneously can be quite off-putting to the user. For example, when switching from the **Help** tab to the **Apply for Access** screen, the screen is "pushed" to the right revealing the new content, which looks similar to turning the page of a book.

Diagonal Balance

The event detail screen makes use of diagonal balance where the 'Interested' button is on the bottom right to provide a visual balance to the content above it.

Balanced

Not Balanced