

INTERACTIVE ITC MAP

DESIGN MANUAL



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Introduction

My goal for this project is to create a map application of the IT Carlow campus. The map should allow students enter a location and plot a route to it, either from their location or an entered starting point. It should make getting around the campus easier for students who may not be familiar with it.

In this document I will go through the various design decisions of the project, including:

- What technologies will be used
- Mock screens for the application

Technologies

React Native

React Native is an open-source JavaScript framework, designed for building apps on multiple platforms like iOS, Android, and web applications, utilizing the very same code base. It is based on React, and it brings all its glory to mobile app development.

React Native was created by Meta Inc. It was created to solve the company's issue of maintaining two code bases for Facebook.



Figure 1. React Native Logo. Source: ubidreams.fr

The benefits to using React Native include code reusability, faster development and better performance, although it comes with the drawback of being a new technology. This can lead to difficulty with finding support online.[1]

Benefits of using React Native



Figure 2. React Native Benefits. Source: InvoZone.com

I decided to go with React Native to develop for Android and iOS simultaneously with a single codebase.

Expo

Expo is a framework and a platform for universal React applications. It is a set of tools and services built around React Native and native platforms that help you develop, build, deploy, and quickly iterate on iOS, Android, and web apps from the same JavaScript/TypeScript codebase.[2]

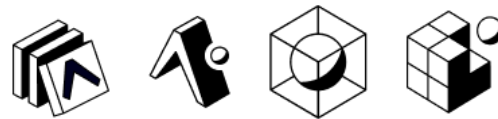


Figure 3. Expo Logo. Source: expo.dev

I decided to use Expo as it integrates well with React Native. The companion application 'Expo Go' will also allow me to test my project on my phone.

Mock Screens

The following images are mock up screens of what a user should see while using the application. The images show an instance of a user starting at the main campus entrance and looking for a route to room A323.

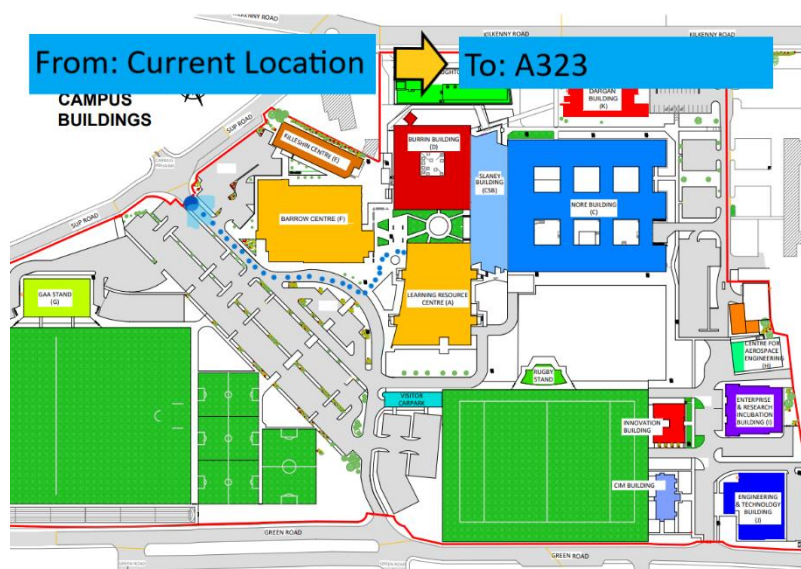


Figure 4. Mock Screen of Campus Map

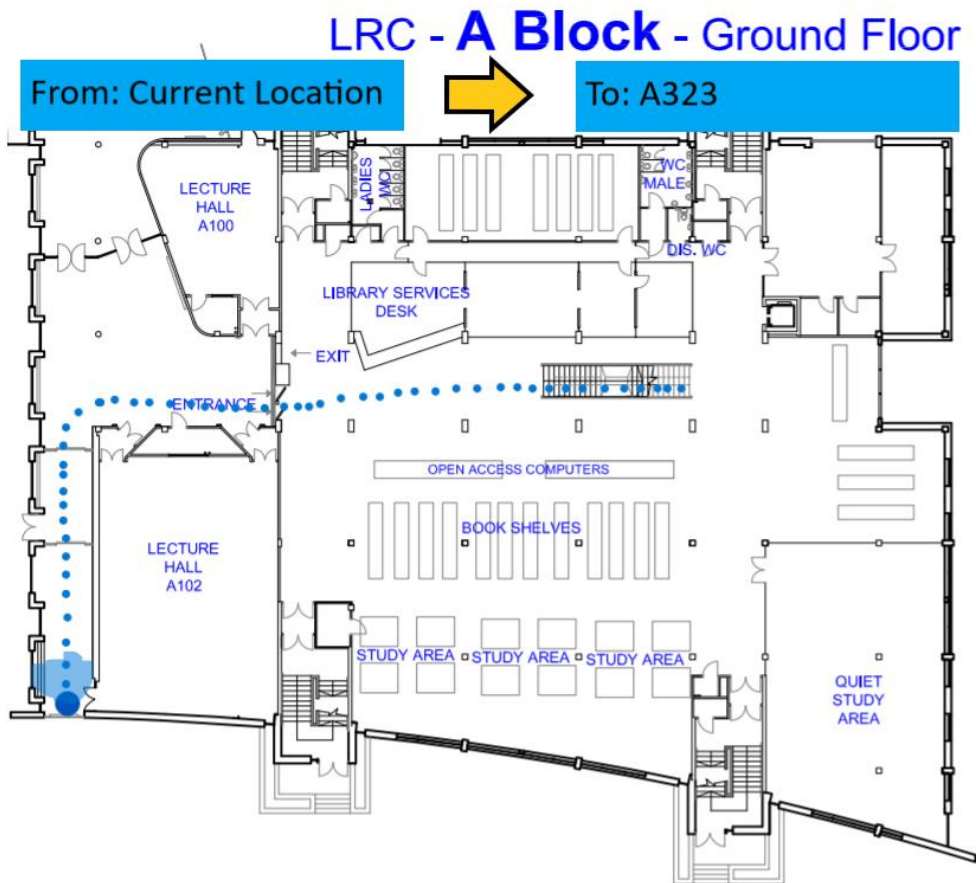


Figure 5. Mock Screen of LRC Ground Floor

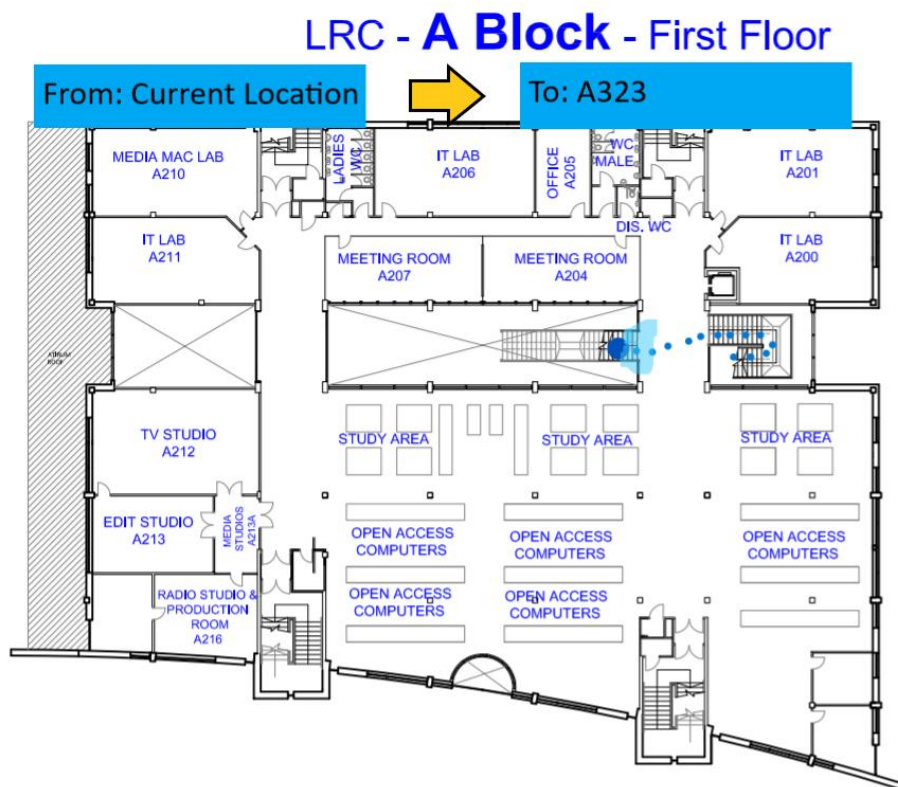


Figure 6. Mock Screen of LRC 1st Floor

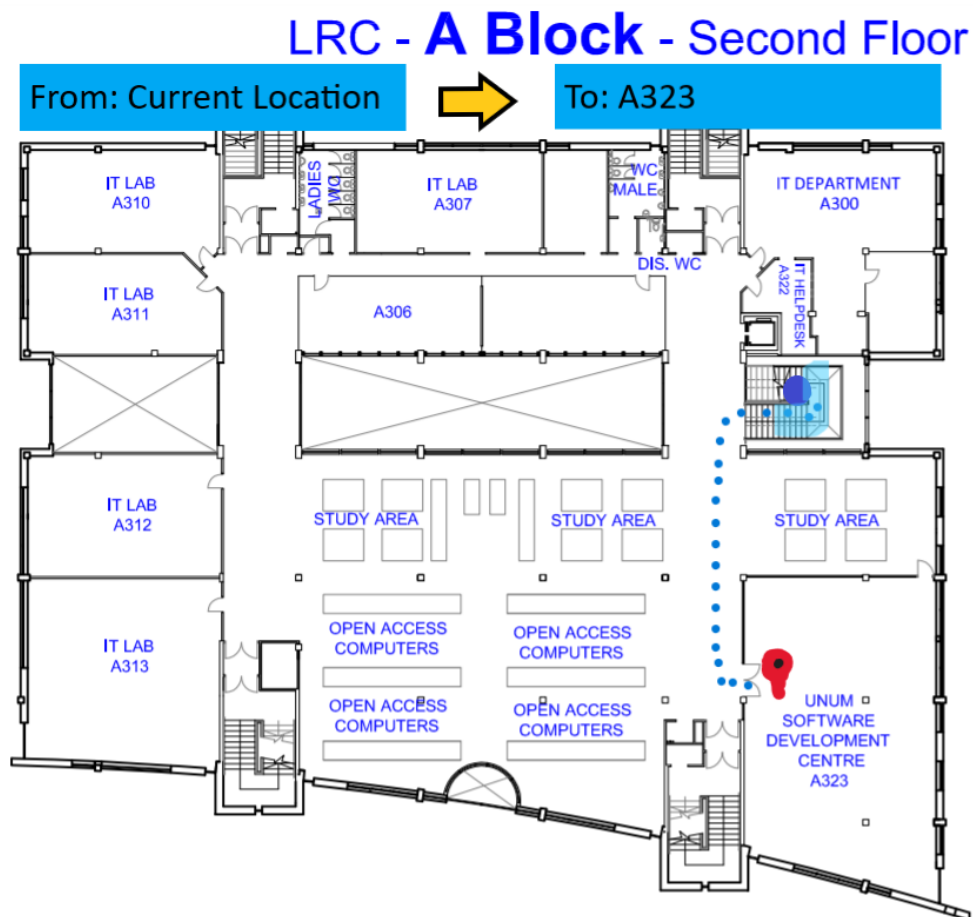


Figure 7. Mock Screen of Destination

Appendix

Bibliography

[1]P. Paterska, "What is React Native and When to Use It For Your App? (Updated) - elpassion.com", *Elpassion.com*, 2021. [Online]. Available: <https://www.elpassion.com/blog/what-is-react-native-and-when-to-use-it>. [Accessed: 13- Nov- 2021].

[2]"Introduction to Expo - Expo Documentation", Expo Documentation. [Online]. Available: <https://docs.expo.dev/>. [Accessed: 16- Nov- 2021].

Plagiarism Declaration

Projects & Plagiarism

All projects are individual projects. The project is expected to be all your own work. Under certain circumstances, you may be able to incorporate material from other sources. This "incorporation" needs to be discussed with, and agreed upon by, lab supervisor and all such material must be referenced appropriately.

- Plagiarism is defined as " ... *presenting someone else's work as if it were your own, whether you mean to or not. 'Someone else's work' means anything that is not your own idea, even if it is presented in your own style. It includes material from books, journals or any other printed source, the work of other students or staff, information from the Internet, software programs and other electronic material, designs and ideas. It also includes the organization or structuring of any such material ...* " [taken from: Victoria University of Wellington, New Zealand, <http://www.victoria.ac.nz/home/glossary.aspx#p>].
- What this means is that it is wrong to copy another's work or download material for incorporation into your project from the Internet (without the express permission of your supervisor). Even if you take someone else's algorithm/code and rewrite it, this must be documented in your program to state where you got the original algorithm from. Failure to do so is considered plagiarism. If you are in any doubt, always ask your lab supervisor.
- Plagiarism is a **serious academic offence** (equivalent to cheating on an exam) and the consequences of being found guilty of plagiarism are severe.
- Students can use the internet to research information on their projects, they can ask lab supervisors for help with their project and they can also discuss problems with their fellow class mates.
- Students should be able to explain fully their code and may be asked to do so by one of your lab supervisors.

Work submitted for assessment which does not include this declaration will not be assessed.

DECLARATION

*I declare that all material in this submission e.g. thesis/essay/project/assignment is entirely my/our own work except where duly acknowledged.

*I have cited the sources of all quotations, paraphrases, summaries of information, tables, diagrams or other material; including software and other electronic media in which intellectual property rights may reside.

*I have provided a complete bibliography of all works and sources used in the preparation of this submission.

*I understand that failure to comply with the Institute's regulations governing plagiarism constitutes a serious offence.

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Date: 26/10/21

Please note:

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