PROJECT PROPOSAL

Melbourne Backpack

Team 18: Melbourne Backpack

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Executive Summary

Problem Statement

Our associates often find it overwhelming to search for a suitable residence, shopping, and transportation around RMIT Melbourne in a timely manner. Additionally, the information is spread out all over, including RMIT Mobility, Facebook pages, RMIT official website. They result in generality that does not consider current RMIT students' needs, so it takes extra time and effort to research information.

Goal

This project sets a course for understanding the Agile methodology's successful management, operation, and administration, specifically the Scrum process. We hope to meet all our high, medium, and low priority features of our mobile app and get the future negotiation of financial resources needed for deploying and maintaining the platform. Finally, the mobile app will deliver a more convenient way to gather exchange and transfer information to RMIT Melbourne.

Solution

Our solution is to develop a free platform that integrates all in one solution (pack in "backpack") and deploys that capability across all mobile platforms. We will make the membership available to all associates in RMIT that require them to sign up using their RMIT account and answer some personal questions for us to customize their best needs. This technology platform contains four simplified core features: housing information, shopping places, transportation details, and supportive community that the students can view and contact their peers online. The app, which is created by developers who are RMIT students that will exchange to RMIT Melbourne, will be excellent for anybody searching for realistic recommendations to help them accomplish their objectives.

Competitive Advantage

We set the mobile app's Unique Value Proposition to provide RMIT Vietnam students a focus, on-demand information with their peers to RMIT Melbourne via the phone compared to distributed information on the web like most similar products.

Technical and Management

Regarding the project's technologies, we will develop a cross-platform (iOS and Android) mobile app using React Native and integrate it with our backend using Firebase. Furthermore, we used a whiteboard to sketch out our low fidelity wireframe and created a prototype on Figma to visualize the product before the actual coding implementation.

We will maintain communication via Teams and Messenger and weekly Scrum face-to-face meeting. At the same time, we use Trello to manage Scrum workflow, tasks, and progress and GitHub as a version control to collaborate and manage our code.

Expenses and Funding

The price of hiring developers and managers to build and maintain the platform is the most significant expense for this mobile app. Salary and technical support (deployment, API) prices are necessary for app developers. Personal savings are used during development, but the university are the most common funding sources if we want to deploy in production environment.

1. Statement of Problem

Since we are future transfer students, we noticed that there is no formal RMIT channel for students to find information related to living in Melbourne, such as accommodation, places to go shopping, and transportation. Hence, students must visit many outside sources to find all this information, which can be very time-consuming. Moreover, the suggestions on many online sources are too general, which may not be the best options in terms of price, quality, and facility for RMIT students specifically. Additionally, students usually join Facebook or Messenger groups to know other students who are also going to RMIT Melbourne. Therefore, with so many resources scattered on the Internet and social media, it can be challenging and inconvenient for students to do their research and preparation.

1.1. Importance of problem

Since we used to study abroad, we are aware of the challenges students can face when going to a new city. When students first arrive at an unfamiliar place, they can feel overwhelmed and lost. The lack of help and guidance can also affect the mentality of students when their family may not be around. Hence, it is necessary and beneficial for students to do their research and preparation before coming to a foreign country. For example, students should know the essential shopping areas around them so that they can purchase necessities for daily lives, such as food and cutlery, especially when they first arrive. Students should also know what types of transportation a city has, how it operates, as well as how they can commute to school. With this knowledge, students can quickly adapt and become familiar with the new environment. Another problem international students usually face is fitting in with the new culture and the native students. Therefore, connecting to people who will share the same experience before going abroad will help students feel less lonely, as they can support each other.

All these challenges are especially relevant at RMIT Vietnam, since many students are interested in the exchange and transfer opportunities to RMIT Melbourne. Figure 1 shows an email from Mobility RUVN to successful cross-campus applicants in Semester 2-2022. There are around 200 recipients in this email, which mean there are about 200 students who plan to exchange to RMIT Melbourne in the next semester. This figure does not count for transfer students and exchange students in other semesters, so the number of RMIT Vietnam students planning to study at RMIT Melbourne per year are even bigger. Hence, it is important that RMIT Vietnam students have a concentrated information channel to help them find information about living in Melbourne more easily and convenient.

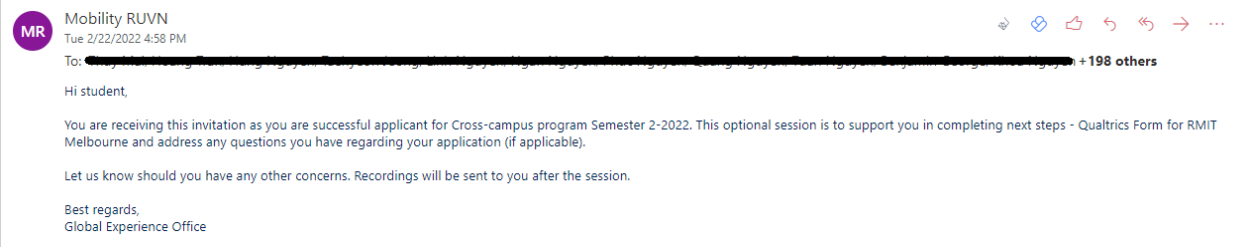

Figure 1: Number of successful applicants for exchange in semester 2-2022

1.2. Background information

As we are also interested in studying at RMIT Melbourne, we have done some research on living in Melbourne. We noticed that this process could take up much time as the information we need is scattered and spread out on multiple websites as well as Facebook groups. Even though RMIT has a Global Experience and Mobility department to help with documents and procedures for admission to Australia, other important life-related aspects do not yet have an official information channel to help RMIT students.

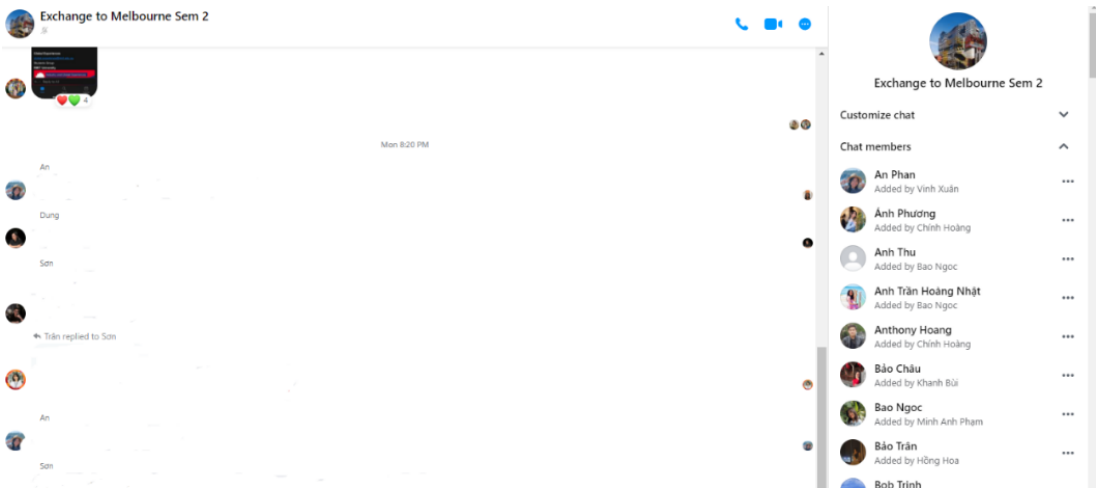

Figure 2: Messenger group chat for RMIT exchange students

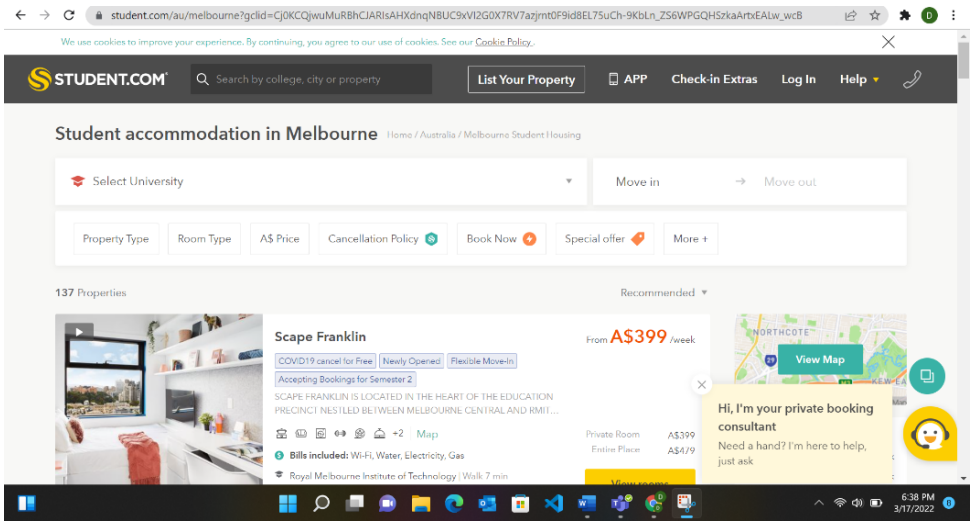

Figure 3: Student accommodation recommendations in Melbourne [1]

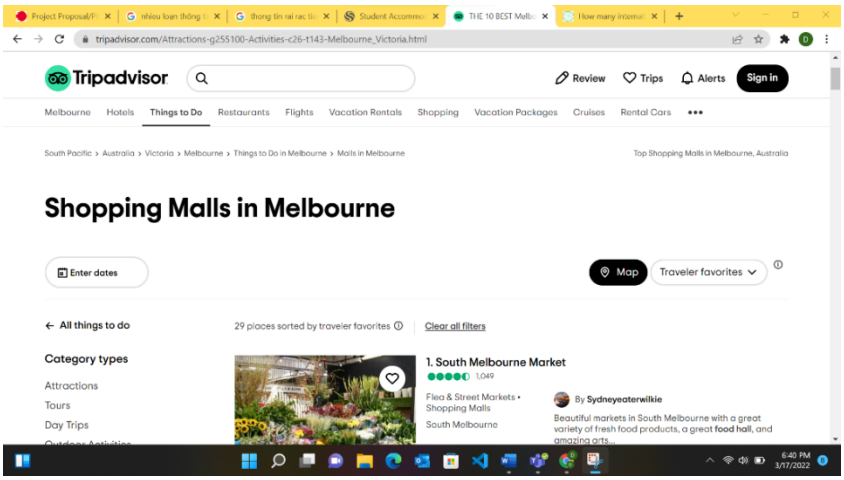

Figure 4: Shopping places recommendations in Melbourne [2]

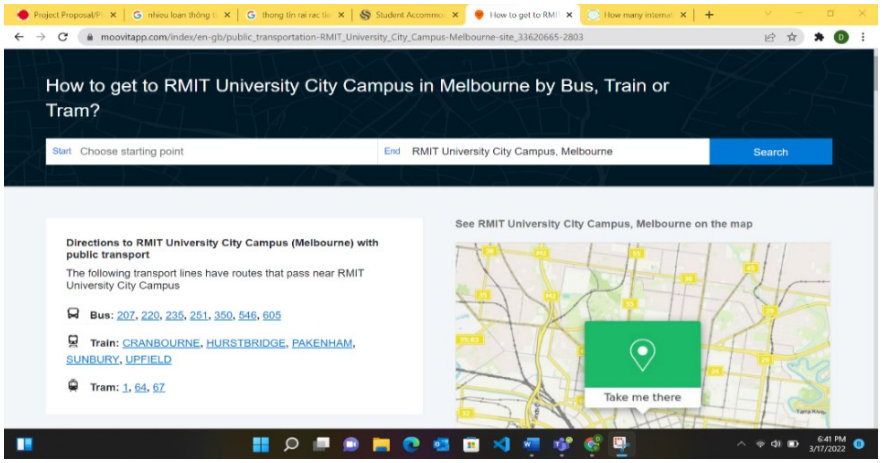

Figure 5: Public transport recommendations to go to RMIT Melbourne [3]

As can be seen from Figures 2 to 5, we must visit at least 4 different sites to get some of the most important information we need for living in Melbourne and find other people who also want to go there. In reality, students often have to visit even more sites and spend more time to find the best and most suitable options available. Moreover, some results might be very general and not catered to the specific needs of RMIT students, such as the shopping mall results in Figure 4. Hence, preparing to study at RMIT Melbourne can take a lot of time and effort.

2. Objectives

2.1. Objective

To solve the aforementioned problems, we came up with an idea for an all-in-one mobile application called Melbourne Backpack. This will be the official information channel to help RMIT students with living in Melbourne. We believe the application will be a great solution because it will provide students with the whole package of information: accommodation, shopping, and transportation recommendations near RMIT Melbourne. As a result, students can reduce the amount of effort and time looking for this information on the Internet. Our recommendations and data are also based on reputable materials and previous RMIT international students' feedback, so the results will be catered specifically to RMIT students. Another aspect that we will focus on is to build a community among all general students as well as the ones that share the same interest, such as major and campus. With this feature, students can easily see others who also want to study at RMIT Melbourne and reach out to them via their contacts. As important information and features mentioned above are all concentrated into one app, preparing to live in Melbourne can be faster, easier, and much more convenient for RMIT Vietnam students. In addition, we would like to collaborate with RMIT and authenticate our application using the school's accounts (similar to how students sign in Canvas and Outlook), so using the app would be very convenient for RMIT students.

Product	Specification
Front-end	• Build with React Native framework. • Responsive design to support all Mobile Phone screen sizes. • Deployed and testing on Expo Go application. • Styling and navigation using React Native libraries.

Back-end	• Deployed on Google Firebase. • Users will be authenticated with Firebase authentication.
Database	• Stored on Cloud Firestore as a OLTP (Online Transactional Processing) database • Create a copy to data lake and preprocess data to OLAP (Online Analytical Processing) data warehouse to Firebase for ease to query the needed information

2.2. Scope

- Intended users:
  - First user group: RMIT Vietnam students who want to exchange or transfer to RMIT Melbourne
  - Second user group: RMIT Vietnam students who are interested in using features of the app
  - Third user group: sponsors
- User stories:
  - As a transfer student, I would like to find public transportation near RMIT Melbourne so that I can know how to commute to school.
  - As an exchange student, I would like to look for a quality accommodation around RMIT Melbourne campus that fit my budget because I need a place to stay.
  - As a transfer student, I need to know where to go shopping to buy necessary items for daily activities.
  - As a student who is interested in future exchange programs, I want to connect with other students that also plan to go abroad so exchange useful information.
  - As a future international student, I want to filter out my search so that I can find the most suitable recommendation for me.

From these user stories, we have decided the features and functionalities of our app along with their priorities using the Moscow technique.

	Priority	Functionality	Details & description
Scope	High – Must have	Splash screen	First screen displayed when opening the app. Has application name and image of Melbourne as background
		Login screen	Authorized students must login with RMIT account.
		Tell-me-more screens	Collect personal information to build a full profile of the user.
		Home/ Menu screen	Display menu of the application which contains four categories.
		Community screen	Display recommendation of students who share similar major and campus and wants to go to Melbourne.
		Housing screen	Display recommendation of accommodation with rating and comments.
		Shopping screen	Display recommendation of shopping places and market nearby RMIT Melbourne campus.
		Transportation screen	Display nearby transportation around RMIT Melbourne campus.
		Bottom navigation	Help users navigate between the recommendation screens and profile.
		Profile screen	Display user profile.
	Medium - Should have	Filter	Filter options, available on all recommendation pages.
		Rating and comment on the detail screens	Users rate stars and leave a comment for the recommendation.
		Loading screen	Displayed when app is loading.
		Detail screen	Display the detailed information of a housing: area, rooms, types
	Low – Could have	Error page	Display 404 when the app fails to connect to the internet or load the screen.
Out of Scope	Will not have	Edit Profile	Users will not be able to edit the information on their profile.
		Forgot Password screen	As we want to use RMIT accounts, students must use the school's reset password service if they forgot password.

		Register	As we want to use RMIT accounts for login, students do not need to create an account to use the app.
		Chat functionality	Due to time constraints and the complexity of other important functions like rating and filter, we will not implement the chat functionality. Though users cannot chat with each other through the app, they can use social media links provided by us to contact others.

2.3. Critical design issues, constraints, and limitations

There are certain limitations and constraints to our app. As mobile applications have narrower screens, they can display less information on a screen compared to a website application. As a result, if there is a lot of data on a page, users may have to scroll down a lot, which can be detrimental to user experience. Moreover, our mobile application depends on internet connection to fetch data. Therefore, users cannot use the app if the Wi-Fi is down, or the app may take some time to display information if the Wi-Fi is slow. A big downside for iOS is expensive deployment fee $99/year, especially if we deploy the application in long term.

Regarding the technological constraints, React Native - our main front-end technology – has certain limitations. Firstly, React Native is difficult to debug as we need to get familiar with the syntax of React or some native platform-specific modules. Secondly, as developers, we must have concrete knowledge of both web and native technologies because React Native is a cross-platform framework. We must have understanding about JavaScript, project configuration, and components [4]; hence, it can be challenging to start coding in React Native. For backend and database, we use Google Firebase. However, one of the biggest downsides of Firebase that might affect our project is the limited support for iOS functionalities since Android is a commercial partner of Google. One more issue that we can have with Firebase is vendor lock-in. Since Firebase has some unique and inherent functionalities that are not present in other platforms, it can be very challenging to migrate and move our database to another service [5].

3. Project Implementation and Management

3.1. Expected project results

3.1.1. Non-functional requirements

- *Availability time*

Since we are building a mobile app, available in general is based on the availability of the backend. We aim to have our backend available 99% of the time. To achieve this, our downtime should take no more than 7 hours per month (calculation below), and the downtime will be used for maintenance and fixing errors. 99% available time is acceptable for the app as we do not run critical tasks and the current size of the team is not large.

Total hours per year	365 * 24 = 8760
Total available time in hours	8760 * 99% = 8672.4
Total downtime hours	8760 – 8672.4 = 87.6
Downtime per month	87.6/ 12 = 7.3

- *Response time*

All the screens that do not have to interact with the backend, such as Splash and Menu screens, will be displayed within 2 seconds. As interacting with the database may take some time, screens that work with the database will have a response time of 3 seconds. For example, since the Housing screen needs data to display, all the data fetching and rendering processes will happen within 3 seconds.

We decided to use React Native due to its cross-platform nature and optimization for speed and performance. React Native leverages GPU instead of CPU, so its speed can be faster than other technologies for hybrid mobile applications [6]. Therefore, this framework can help us achieve the desired response time mentioned above.

- *Mobility*

Since this is a mobile app and it needs to fetch data, the app will only be available on phones that can connect to the Internet. As React Native is a cross-platform development framework, the app will be compatible and available on both Android and iOS.

- *Security*

The login authentication will be performed using Firebase authentication libraries. The database will be protected by setting security rules on Firebase to restrict access and grant permissions [7].

- *Maintainability*

Each maintenance session is aimed to be within 7 hours, and 98% of the issues that arise at the time will be resolved within this time.

3.1.2. Interfaces

Firebase has some very convenient APIs, such as APIs for login and query data. However, since we may switch to another database hosting service, we would have to change our frontend code if we call Firebase APIs directly. Hence, to avoid breaking our frontend code in the future, our backend functions will serve as an interface to connect the frontend and Firebase. To be more specific, we will write some backend functions to call and handle Firebase APIs as well as some data logic. The backend functions will be written separately from the frontend code, and the frontend code just needs to call these functions to fetch or upload data. With this approach, we only need to rewrite the backend functions if we move our data to another database hosting platform.

3.1.3. Dynamic behavior

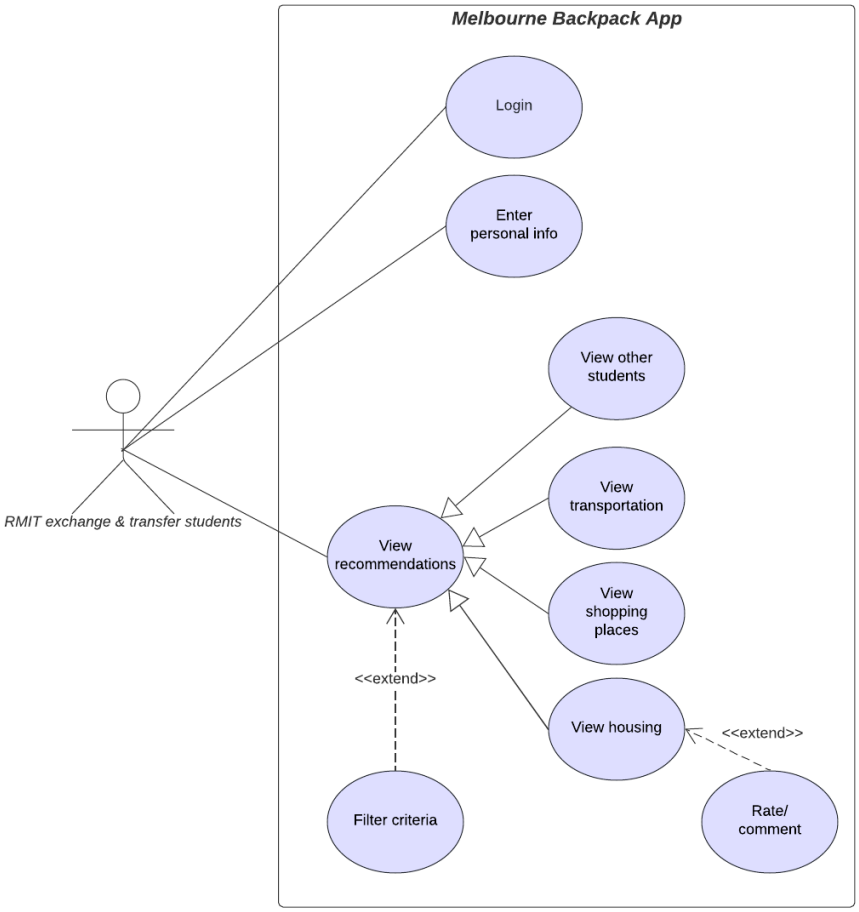

Figure 6: General Use Case Diagram

Figure 6 demonstrates how RMIT Vietnam exchange and transfer students, the main actor of our system, can interact with our app. RMIT students can login with their existing RMIT account (same email and password used for Canvas or Outlook), and enter some personal information like their major and campus. After login, students can view all our recommendations regarding housing, shopping places, and transportation in Melbourne, as well as other students who are planning to study at RMIT Melbourne. They can also filter the criteria if needed to find options suitable easily and quickly for them. While looking at Housing options, they can give star rating or feedback on the accommodation they have stayed at.

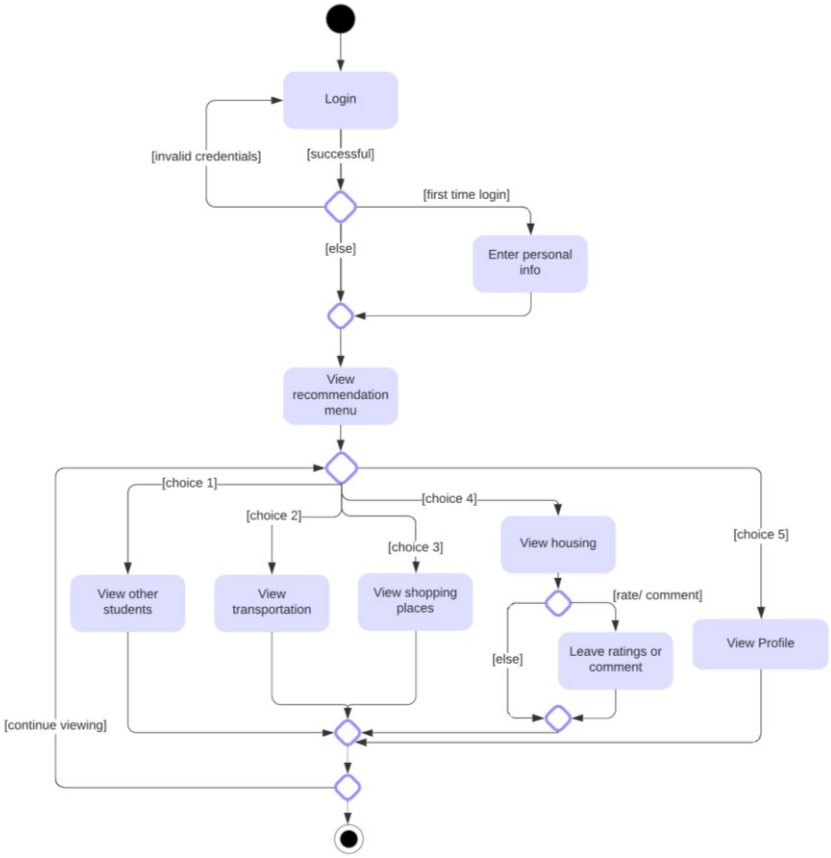

Figure 7: Melbourne Backpack Activity Diagram

Figure 7 Illustrates an overview of the system's activity flow. Upon starting the app, RMIT Vietnam students need to login using their RMIT credentials. If this is the student's first-time logging into the app, they will need to enter some personal information like major and campus after the login step. Next, students will be taken to a recommendation menu screen, and on this screen, they can choose to view one of the following: Housing, shopping places, transportation options, and Community, where they can see other students' information who are also going to RMIT Melbourne. If they go to the Housing option, they can also leave ratings or reviews of the places they have stayed at before.

After viewing one of the above, they can continue to view other recommendation topics by using the bottom navigation to switch between recommendation screens, profile, or exit the app.

3.1.4. UI/ UX design

Figure 8: Splash

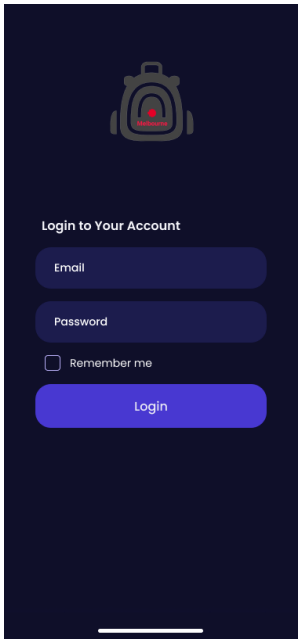

Figure 9: Login

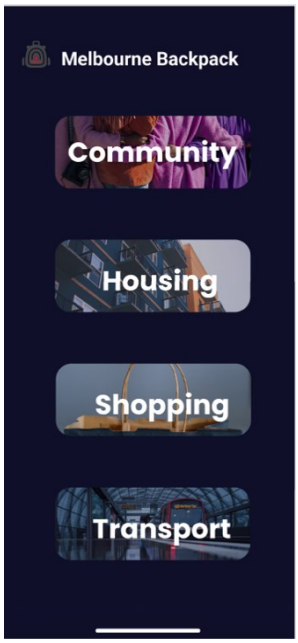

Figure 10: Home

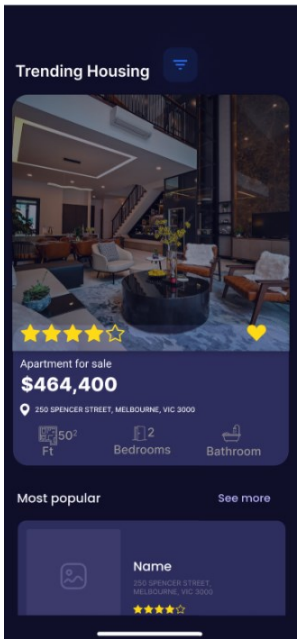

Figure 11: Housing

Figures 8 to 11 illustrates the UI/ UX design of our system. Our application uses an overall dark theme. The design of the recommendation screens, such as Housing (Figure 11), are similar to the appearance of other recommendation websites. This can make our app easier and more intuitive to use, which would improve the quality of user experience.

3.2. Project activities and work plan

ACTION	RESPONSIBLE	STATUS	WEEK	START-END	NOTES
Goal #1: High priority					
Research and understand the project requirements	All	Complete	W1	2/28/2022 - 3/6/2022	
Consult with Ms. Anna and finalize project idea	All	Complete	W2	3/7/2022 - 3/13/2022	
Break down task from user stories	All	Complete	W2	3/7/2022 - 3/13/2022	
Figma Mobile Prototype	Thu & Nhi	Complete	W1-W2	2/28/2022 - 3/13/2022	https://www.figma.com/file/7s7EjKIwZ8p3CBTIv3RWVn/SEPM?node-id=0%3A1
Project proposal	All	Complete	W2-W3	3/7/2022 - 3/20/2022	
Set up project structure and repo	Linh & Nhi	In progress	W3	3/14/2022 - 3/20/2022	W3: project structure and convention walkthrough
Splash screen	Thu	In progress	W3-W5	3/14/2022 - 4/3/2022	W4 - 1 page / each, W5 - finished front-end
Bottom navigation	Nhi	In progress	W3-W5	3/14/2022 - 4/3/2022	Stack Navigation, TabNavigation, DrawerNavigation
Login screen	Nhi	In progress	W3-W5	3/14/2022 - 4/3/2022	
Tell-me-more screens	Linh	In progress	W3-W5	3/14/2022 - 4/3/2022	
Home screen	Thu	In progress	W3-W5	3/14/2022 - 4/3/2022	
Housing, Transport, Shopping screens	Linh	In progress	W3-W5	3/14/2022 - 4/3/2022	
Profile page	Manh	In progress	W3-W5	3/14/2022 - 4/3/2022	
Community screen	Manh	In progress	W3-W5	3/14/2022 - 4/3/2022	
Final Report	All	Not started	W11-W12	5/9/2022 - 5/22/2022	
Prepare for the project demo	ALl	Not started	W12	5/23	
Goal #2: Medium priority					
Rating and comments	Nhi	Not started	W6-W7	4/4/2022 - 4/17/2022	Pair Programming?
Filter options	Linh	Not started	W6-W7	4/4/2022 - 4/17/2022	Pair Programming?
Details screen	Thu	Not started	W8-W9	4/18/2022 - 5/1/2022	
Loading screen	Linh	Not started	W8-W9	4/18/2022 - 5/1/2022	
Error screen	Manh	Not started	W8-W9	4/18/2022 - 5/1/2022	
Design Database Schema	Manh	Not started	W8-W9	4/18/2022 - 5/1/2022	
Design Server Configuration	All	Not started	W8-W9	4/18/2022 - 5/1/2022	
Set up Firebase	All	Not started	W8-W9	4/18/2022 - 5/1/2022	
Development Testing	All	Not started	W10	5/2/2022 - 5/8/2022	
Goal #3: Low priority					
Deployment	All	Not started	W11-W12	5/9/2022 - 5/22/2022	
System Testing	All	Not started	W11-W12	5/9/2022 - 5/22/2022	

Figure 12: Activity Plan

3.3. Project Beneficiaries

The project will directly benefit RMIT Vietnam students, especially ones who would like to exchange or transfer to RMIT Melbourne, while the indirect beneficiaries are RMIT and the developer team.

- *For RMIT Vietnam students*

As mentioned above, the main benefit for exchange and transfer students is that all necessary information, such as housing, shopping, and transportation, as well as the ability to connect to students in similar situations, is concentrated in one application instead of being scattered on the Internet. Hence, students do not have to spend too much time or effort looking at various sources to find what they need.

- *For business (RMIT University)*

With this app, RMIT can attract more students to the exchange and transfer options to Melbourne, as the information is more readily available and transparent. In addition, RMIT can gain positive points in the student's eyes since they are providing students with even more resources. Lastly, RMIT may also discover potential partners they can cooperate with based on the students' ratings and comments on the housing recommendations.

- *For developers (our team)*

Through the project, developers can gain more practical experience in building a user-oriented mobile app. Furthermore, the developers also have a chance to research and understand the situation of housing, shopping, and transport services in Melbourne, as some of us also want to study abroad at RMIT Melbourne.

Since RMIT students are the direct beneficiaries, we have sought out some advice from our RMIT friends regarding the features of the app during the project design stage. We also let them try out our Figma prototype to receive feedback and suggestions on how we can improve the design and user experience. During the project implementation and evaluation stage, some RMIT students will be selected for Beta testing to potentially uncover bugs, evaluate our app, and provide their opinion and feedback. Since we want to collaborate with RMIT and use RMIT accounts, RMIT is expected to help us connect to their account database for implementation. RMIT will also need to evaluate our app to see if it follows the school's guidelines and verify our source of recommendations.

3.4. Implementing agent management of project

Role	Member	Description
Supervisor	Ms. Anna Felipe	Supervise and give feedback
Scrum Master	Tran Ngoc Anh Thu	Manage projects and meetings, create work plan and backlogs
Full stack developer	Nguyen Hoang Linh, Doan Yen Nhi, Tran Ngoc Anh Thu, Du Duc Manh	Develop front-end of the mobile app and use Firebase as back-end
Designer	Tran Ngoc Anh Thu	Create UI design using Figma
Meeting minute taker	Du Duc Manh	Note important information in meetings
GitHub administrator	Nguyen Hoang Linh, Doan Yen Nhi	Setup, manage GitHub repository and workflow

To ensure effective coordination between members as well as project activities, our Scrum master has created a Trello board to share resources, manage tasks and workflow, and keep track of our progress. Regarding communication, we have a Messenger group for daily communication and Team group for online meetings. We have a meeting at least once a week to review everyone's work, reflect, discuss, and plan for the next sprint. The GitHub administrators have also set up a new organization and repository on GitHub and determine the GitHub workflow to facilitate code collaboration.

After the initial phase of development, the project aims to be proposed to RMIT due to the initial motivation of collaborating with RMIT. If the proposal is accepted, the financial them aspect of the project will be discussed with the school to support the continuation of the project. The database plan will be different if RMIT accepts the project, as we will have to connect to their database instead of ours to authenticate app with RMIT credentials. In addition, the project can help RMIT to connect with local services, especially in housing. Therefore, we can build an interface in the future to help RMIT add their partners into our recommendation system if needed. Another aspect we would like to expand on is to implement a chat or forum discussion functionality so that students can connect directly through the app. Lastly, if the project and application grow and scale significantly, we need to care more about quality control and hire a QC tester.

Our project has certain risks, especially with the tools and technologies we plan to use. As a result, it is crucial to identify these risks and devise backup plans.

Risk	Potential occurrence time	Solution	Impact
Cannot use Firebase/ Firebase goes down	Week 7 or after	Migrate database to MongoDB Atlas, change backend to MongoDB and ExpressJS, host backend API on Heroku	Need more time and resources to implement backend and migrate data, can incur more costs to host on Heroku
Cannot deploy on Expo	Week 5 or after	Deploy app on an Android Virtual Device/ simulator or Android phone using Android Studio	Cannot test or demonstrate our app on iPhone
API for data goes down	Week 7 or after	Create mockup data to demonstrate the project	The solution is temporary and needs to find an alternative API for long-term plan
API has null or invalid records	Week 5 or after	Backup data by having an ETL pipeline to clean data and put it into data lake before uploading on Firebase	Need more time and resources to backup

4. Budget

4.1. Salary for staff

Position	Member	Salary per hour	Total hours	Total salary
Project Manager	Tran Ngoc Anh Thu	$70	400	$28,000
Full-stack Developer	Nguyen Hoang Linh	$35	400	$14,000
Full-stack Developer	Doan Yen Nhi	$35	400	$14,000
Full-stack Developer	Du Duc Manh	$35	400	$14,000
UX/UI Designer	Tran Ngoc Anh Thu	$44	80	$3,520

4.2. Deployment

Deploy	Fee
App Store	$99/ year [8]
Google Play Store	$25 [8]

4.3. Technologies & tools

- Prepaid:

Technologies & tools	Pricing
Firestore (1 GB of storage per day)	Free [9]
API during development	Free

During the development and initial phase, we will use free APIs as well as the free tier of Firebase since 1GiB of storage is enough for development.

- Pay-as-you-go type payment:

Technologies & tools	Pricing
Real-time real estate API	$49/ month [10]
Every additional 1 GB of storage	$0.1846/ month [9] (based on pricing for Singapore as it is close to Vietnam)

If RMIT accepts our proposal, we will need to expand the project. In this case, we will use a real-time real estate API from a third party and purchase more storage to accommodate the growth of the app.

5. Team Qualifications

5.1. Tran Ngoc Anh Thu (s3879312)

Thu is an IT student who is a minor in Artificial Intelligence. She was a project manager for several previous courses at RMIT: Big Data for Engineering, Software Engineering Fundamentals for IT, User-centred Design, Programming 1. Thu's latest work is MongoDB, Databricks, Spark and MLflow to build an entire data pipeline and implement a data warehouse SQL server 2019. Some other programming languages she has used are Python, Java, and Javascript. Although Thu works in the data science area, she can familiarize herself with her web understanding from building the FinTech club website at RMIT using Figma, HTML/CSS, and Firebase.

5.2. Doan Yen Nhi (s3880599)

Nhi is a student in the Bachelor of IT program, and her minor is Mobile and Web Development. She has strong problem-solving and collaboration skills, and she knows Python and Java, as well as tools like Trello and GitHub. She took the course “Further Web Programming,” where she learned about ReactJS. This is very helpful as ReactJS and React Native are similar, so the transition to React Native would be relatively easy. Furthermore, she is familiar with CSS, which she learned through the course “Web Programming”. Being proficient in CSS styling is advantageous since styling in React Native and CSS are alike. In addition, she also studied “Software Engineering Fundamentals,” so she is familiar with the agile methodology. Lastly, she also worked with Figma and Firebase for a club website project. Since we will also be using Figma and Firebase in this project, her experience will be very useful.

5.3. Du Duc Manh (s3878480)

Manh is an IT student with the minor being Cloud technologies. He learned ReactJS, MongoDB, ExpressJS, NodeJS from the “Further Web Programming” course and Python, Java, PHP from other programming courses. He is familiar with the AGILE model through the course “Software Engineering Fundamentals” and other programming projects in previous courses. Prior knowledge will help him to move to React Native as it shares

similar structure to ReactJS and Firebase as it is also a type of document-oriented database.

5.4. Nguyen Hoang Linh (s3880313)

Linh is an undergraduate student enrolled in Bachelor of Information Technology program. Linh's strong soft skills are problem solving, giving opinions, as well as being responsible for assignments. For the programming skill, Linh has experienced with mobile (Android – Java) and web (ReactJS – NodeJS) development through courses that he took in university such as Mobile Development Fundamental, Further Web Programming, and Further Programming. He has also worked on a project through the course Software Engineering Fundamentals which applied the Agile technique and managed tasks with Trello and GitHub very efficiently. With knowledge in using ReactJS, Linh will take charge of learning and applying React Native to implement features and functions of our project. He will also be responsible for backend work with Firebase to store the database and connect with the front end of the project.

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Appendix A: Resume

HOANG LINH NGUYEN

hlinh.jobs@gmail.com
0345583680
Hanoi, Vietnam

https://www.linkedin.com/in/hoa linh-nguyen-760330186/
hlinh88

EDUCATION

RMIT University Vietnam — Oct. 2020 to Current
Bachelor of IT - Information Technology 2023

York University — Sept. 2019 to May 2020
Bachelor of Science - BS Computer Science

SUMMARY

A self-motivating second-year student at RMIT University, majoring in Computer Science (Information Technology).
Passionate about Game Development, Software Development, Artificial Intelligence and related fields along with the study of PC components.
Seeking an opportunity in the technology field that enables me to contribute to the company and computing society as a whole by putting my existing experience into practice as much as learning and growing as an individual.

EMPLOYMENT

Sept. 2021 to Nov. 2021 — **VNG CORPORATION** — Ho Chi Minh City, Vietnam
Software Intern
- Join R&D team to help us build the enterprise-grade Cloud Computing, Big Data products
- Research and develop a stable, highly available and fault tolerant Web Applications for big data platform
- Leverage modern technologies to build cutting-edge solutions for an Enterprise-grade Data Platform for the purpose of centralization, monitoring and protection for all data
- Platform (Infrastructure & Platform as a Service): process hundreds of gigabytes data-volume per day, thousands of real-time ingestion events per seconds by Tera-bytes-RAM & Hundred-CPU-cores Infrastructure.
- Services (Software & Data as a Service): provide (i) self-service daily workspaces for the Data Engineer, Data Analytics and Data Scientists and (ii) valuable Data-Insight services to all VNG Game Studios.

Mar. 2021 to Oct. 2021 — **MINDX TECHNOLOGY SCHOOL** — Floor 5, 71 Nguyen Chi Thanh, Ha Noi
Coding Mentor
- Provides students a foundational understanding of algorithms and data structures throughout Web Development and Computer Science (Python) courses.
- Design and evaluate critical thinking and logical practice for learners.

PROJECTS

UDEMY UNITY COURSES — Jan. 2022 to Current
Learn Unity Courses on Udemy:
- Complete C# Unity Game Developer 2D
- Unity Game Development: Create 2D And 3D Games With C#

KURI TEAM - JAVASCRIPT GAME FOR RMIT WIRELESS NETWORK — Nov. 2020 to Jan. 2021
Building a website that includes a small game which created with Javascript in order to solve a case without wireless network in our SGS campus.

POIOS - TUTOR INSTANT MESSAGING APPLICATION — Aug. 2021 to Aug. 2021
We came up with an idea to build a real-time online instant messaging service aimed specifically at higher education students to connect with tutors. With this service, the user needs to register as a student or tutor, then set up their profile appropriately, such as declaring their major and the subjects they're interested in. After logging in, the student user can see the tutor lists and join a chat room of an available tutor. The application provides features including text messaging, voice call, video call, and screen sharing to assist the study session.

TRADING COMPANY SYSTEM — May 2021 to June 2021
Building a JAVA backend components of an enterprise application. The project is built with Spring Boot, Hibernate, and Spring MVC to build REST API to perform CRUD of all the entities.

TWITTER SENTIMENT ANALYSIS - PREDICT STOCK PRICE — Jan. 2022 to Jan. 2022
The study revolves around building a model to predict stock price trends by classifying data and factors affecting stock prices by sentiment analysis, thereby analyzing the positive and negative of information, supporting assist investors in filtering information in the process of analyzing and making stock trading decisions.

AWARDS

Junction · CHAMPION OF JUNCTIONX HANOI 2021 — Dec. 2021
IDP Education Ltd · IELTS 7.0 — Mar. 2021
BITEX Casino Calculator Math Test Open 2015 · THIRD PRIZE — Apr. 2015

VOLUNTEERING

NETCOMPANY · Netcompany Vietnam Ambassador — Feb. 2022 to Current
Ho Chi Minh, Vietnam
Organizing events for IT students in Ho Chi Minh city.

YORK UNIVERSITY - LASSONDE SCHOOL OF ENGINEERING · Peer Mentor — Dec. 2019 to Feb. 2020
Toronto, Canada
Mentoring at Computational Thinking Club

YEN NHI DOAN

11-19 Hoa Sua, Vinhomes Riverside,
Long Bien, Hanoi
0365775866
nhiidoan@gmail.com
https://github.com/doanyennhi

OBJECTIVE

A responsible, passionate second-year university student who would like to expand their skills, network, and practical experience in the field of Information Technology. Has some experience in IT-related school projects.

EDUCATION

Bachelor of Information Technology | RMIT University Vietnam
10/2020 – PRESENT
Current GPA: 3.50

PROJECTS

RMIT Vietnam FinTech Club Website
- Build a website for FinTech club using HTML, CSS, JavaScript, Firebase

Kuri Drawing
- An ice-breaker game for KPIM challenge in JunctionX Hanoi 2021
- Based on a real-time draw-and-guess game Scribble It
- Uses HTML, CSS, JavaScript, NodeJS

Poios App | Student – Tutor Instant Messaging Web Application
- Full stack MERN App
- Real-time online instant messaging service for tutors and students

Yabe online mall
- Full stack web application using HTML, CSS, JavaScript, PHP
- An e-commerce platform for stores to sell their products

ACHIEVEMENTS

- IELTS 8.5 (08/2019)
- Champion in JunctionX Hanoi (12/2021)

Duc Manh Du

Full stack developer

Nationality Vietnam **Phone** 0966 364 333

E-Mail duducmanh2002@gmail.com

Summary

I am interested in being a full stack developer as the job helps me to learn and develop my programming skills and understanding of software architecture. I worked with ReactJS, ExpressJS, MongoDB, MySQL and PHP in web programming courses at the university.

Experience

Group projects at University Participated in programming projects on https://github.com/kuri-team

Education

2020 - 2023 **Bachelor of Computer Science, RMIT University (Minor: Cloud Technologies)**

Skills

Networking - basic knowledge of TCP/IP model, IP, DHCP, Linux

Programming skills - basic knowledge of Python, Java, PHP, Javascript (ReactJS, ExpressJS)

Database - basic knowledge of MySQL, MongoDB, worked with MongoDB Atlas

Cloud - basic knowledge of AWS services

Language

Vietnamese

English IELTS 7.5

Thu Tran

Passionate picture all cleaning, EDA, building statistical and ML models processes

Details

Phone
0976284284

Email
ngocanhthu20102002@gmail.com

Date of birth
20-10-2002

Links

My GitHub profile

My YouTube Channel about Tech

Skills

SQL

Java

Hadoop

ML Pipelines

Spark

Adobe Premiere Pro

Python

SQL Server

Languages

Vietnamese
●●●●●

English
●●●●○

Chinese
●●○○○

Education

RMIT International University Vietnam, IT Bachelor, AI minor

Oct 2020 — Present HCMC

Employment History

Data Analyst Intern, KPIM Joint Stock Company

Jan 2022 — Present Hanoi

+ Built Database and Data Warehouse on SQL Server for football datasets

+ Processing stock streaming data using Python and Hadoop

+ Created SQL community for beginner to advanced learners

Projects

Leader in Binance Batch Processing Project using AWS

https://youtu.be/C2aEykB41Nc

+ Design, Create, Deploy ETL for the project's batch-processing data section (Kinesis, Firehose, S3 Buckets).

+ Visualization for streaming and batch processing on Power BI

Leader in Kuri Drawing

https://github.com/hlinh88/kuri-drawing

+ My team created a multiplayer draw and guessed game with Socket.io, Nodejs, Reactjs.

+ I was in charge of the idea, front-end, video editing, and presentation

Member in Yabe Online Mall - Ecommerce Website

https://yabe-mall.herokuapp.com/mall/

Full-stack web application: Vanilla JavaScript, HTML, CSS, PHP

Leader in Dash & Streamlit webapp for predicting house price ranges in Hanoi

https://github.com/tnathu-ai/Predicting-House-Price-Ranges-Hanoi

Cleaning, EDA, building a machine learning model web app to predict and classify the sale price ranges of homes based on different explanatory variables describing aspects of residential houses.

Honors & Awards

Championship Hackathon JunctionX Hanoi 2021 Competition

Dec 2021 Vietnam

Demo: https://youtu.be/94_cRXHb6cQ

National Honor Society member

2020 USA

SAT - 1320

Oct 2019

Certificates

Convolutional Neural Networks with TensorFlow in Python, Data365

2021

Data-driven Decision Making (online), PwC

Aug 2020 – Aug 2020

Fundamentals of Graphic Design (online), California Institute of the Arts

2020 – Aug 2020

Extra-curricular activities

Media manager, Order of the Heart (non-profit orgranization)

2017 – 2019 HCMC

Analyzed, edited, marketed the Facebook page

CAD designer, Top 40 The American Rocketry Challenge

2019 USA

Modeled rocket's nose cone and overall shape design in Fusion 360 to optimize the desired height

Appendix B: Resources

- PowerPoint: Melbourne Backpack Proposal.pptx
- Activity Plan Excel File: Action-Plan-Melbourne_Backpack.xlsx
- Trello Project Management System: https://trello.com/invite/b/c85KQUtQ/d1448bbd3d4ed8bbeb98e3e74d2a7a85/team-18-melbourne-backpack-sepm

- General folder for the whole project: https://drive.google.com/drive/folders/1C5n_HWoQz421SLwNcJcfOa3aBZWP3gEj?usp=sharing