

Project Proposal

for

Cafe Bunny

PRJPR_PRO_001_V1.3

Version 1.3 approved

Prepared by Team CodeNation

**Nanyang Technological University,
School of Computer Science & Engineering**

26/03/2021

Submitted to:

Dr. Shen Zhiqi, Lab Supervisor

VERSION HISTORY

Version #	Implemented By	Revision Date	Approved By	Approval Date	Reason
1.0	Ong Yi Shen	30/01/2021	Chew Zhi Kang	30/01/2021	Section 1-4.4 1st Draft
1.1	Chew Zhi Kang	06/02/2021	Ong Yi Shen	06/02/2021	Section 1-4.4 2nd Draft
1.2	Bachhas Nikita	06/02/2021	Ong Yi Shen	07/02/2021	Section 5-8 1st Draft
1.3	Ong Yi Shen	26/03/2021	Chew Zhi Kang	26/03/2021	Standardization and update Gantt chart

TABLE OF CONTENTS

Contents

1.	Executive Summary	4
2.	Statement of Problem	5
3.	Objectives	6
4.	Technical Approach	7
4.1.	Needs of Customer	7
4.2.	Target Specifications	8
4.3.	Technology Consideration	11
4.4.	System Architecture/Platform	12
5.	Project Management	13
5.1.	Deliverables	14
5.2.	Budget	16
5.3.	Communication and Coordination with Sponsor	17
5.4.	Team Qualifications	18
6.	Conclusion	19
7.	Appendix A: Résumés of Team Members	20
7.1.	Chew Zhi Kang	20
7.2.	Ong Yi Shen	21
7.3.	Mohamad Asyraaf Bin Abdul Rahman	22
7.4.	Jordan Tan Rei Yao	23
7.5.	Bachhas Nikita	24
7.6.	Ng Qin Wei	25

1. Executive Summary

Cafe hopping is a popular trend among the younger demographic. It involves going to different cafes to take photos and give reviews. In this era dominated by social media, cafe hoppers often post their photos on social media sites like Facebook and Instagram to show off to their peers. Keeping track of the various cafes that someone has been to can be an annoying process and besides through social media, cafe hoppers have no other way to show off their “achievements”.

Cafe Bunny is an application that aims to provide a useful platform for cafe hoppers to allow them to easily keep track of the cafes that they have been to, statistics of different cafes and a way for them to show off to others via achievements. By gamifying the cafe hopping process, Cafe Bunny aims to gain the interest of individuals that enjoy achievement hunting.

The application will display a map with markers of nearby cafes. Cafes that have already been visited by the user will be clearly differentiated by different colour coding. By visiting different cafes, users can gain experience and level up, a high level user would signify that the individual has visited multiple cafes. In addition, cafe coupons will be given to users who have achieved a certain level.

2. Statement of Problem

Cafe hopping is a popular trend among the younger demographic. It involves going to different cafes to take photos and give reviews. In this era dominated by social media, cafe hoppers often post their photos on social media sites like Facebook and Instagram to show off to their peers. Keeping track of the various cafes that someone has been to can be an annoying process and besides through social media, cafe hoppers have no other way to show off their “achievements”. Hence, the aim of Cafe Bunny is to provide cafe lovers a platform to keep track of the cafes visited before, provide cafe reviews to other cafe lovers and to display their achievements in terms of their level, title name (E.g. Expert Bunny) and Experience Points (Exp) attained.

3. Objectives

Our proposal is a mobile application that gamifies the cafe hopping process. The application will feature leaderboards and achievements that users can use to flaunt their cafe hopping progress. The application will be able to display nearby cafes on a map, along with its status such as whether the user has been there before and reviews by other users.

- 1) Gamify the entire cafe hopping process, giving users a sense of pride and accomplishment
- 2) Keep track of users progress
- 3) Display statistics of cafes such as how popular it is and its reviews

The main objective of the mobile application is to tie cafe hopping with achievements in the application. The user will be able to gain progress towards levels by visiting different cafes. A higher level would signify that the user has been to many cafes. The user would then be able to show off their achievements and levels to other users of the application. Since cafe hoppers enjoy taking pictures and giving reviews of multiple cafes, this app can serve as an additional tool to help track their progress and allow them to provide insightful reviews to other cafe lovers. Cafe Lovers can make use of the application to have a quick understanding of the quality and popularity of the cafe by tapping on the cafe they want to visit and looking through the reviews left behind by other users of the application.

The application will provide a user friendly and intuitive interface that displays all the cafes that are near to the user's location along with markers that are color coded (E.g. Green-Not Visited, Blue-Visited) that indicate whether the cafe has been visited by the user. Selecting a cafe will display statistics of the cafe such as reviews from other users and how popular it is. There will also be a page that lists down the user's achievements such as the number of cafes that they have visited as well as a list of the significant milestones attained by the user such as the title achieved (E.g. Cultured Bunny for reaching level 10).

4. Technical Approach

4.1 Customer Needs

Our team conducted interviews and questionnaires on several individuals that frequently cafe hop. The majority agreed that having an easy way to keep track of cafes that they have been to is the most important functionality of the application. Followed closely by the implementation of an achievement and cafe review system. They also brought up that the application also needed to be easy and intuitive to use and should include features that allowed for them to display their progress to other users.

On top of giving out questionnaires to frequent cafe hoppers to find out the main functionalities that they need in our application. We will also be gathering responses from non-cafe hoppers by providing them with the detailed functionality of the application and finding out if our application is able to attract non-cafe hoppers to pick up a new hobby on cafe hopping. With such feedback, we will be able to ensure that our application is not only appealing to the cafe hopping veterans but also be able to gain a greater user base by attracting foodies or cafe hopping newbies into using this application to complement their new-found hobby.

4.2 Target Specifications

Our team will focus on creating a clean, easy to use and intuitive user interface that can display the most crucial information at a glance. All user interfaces must follow the guide according to Schneiderman's Eight Golden Rules.

- 1. Strive for Consistency:**

- a. The application page's layout must be consistent in terms of fonts, sizes, colours, design format.

- 2. Seek universal usability**

- 3. Offer informative feedback**

- a. Successful sign-up, log-in, and reviews submitted must trigger a notification.

- 4. Design dialogues to yield closure**

- 5. Prevent Errors**

- a. All errors must trigger an error message that shows what the error is and proposes practical solutions.

- 6. Permit easy reversal of actions**

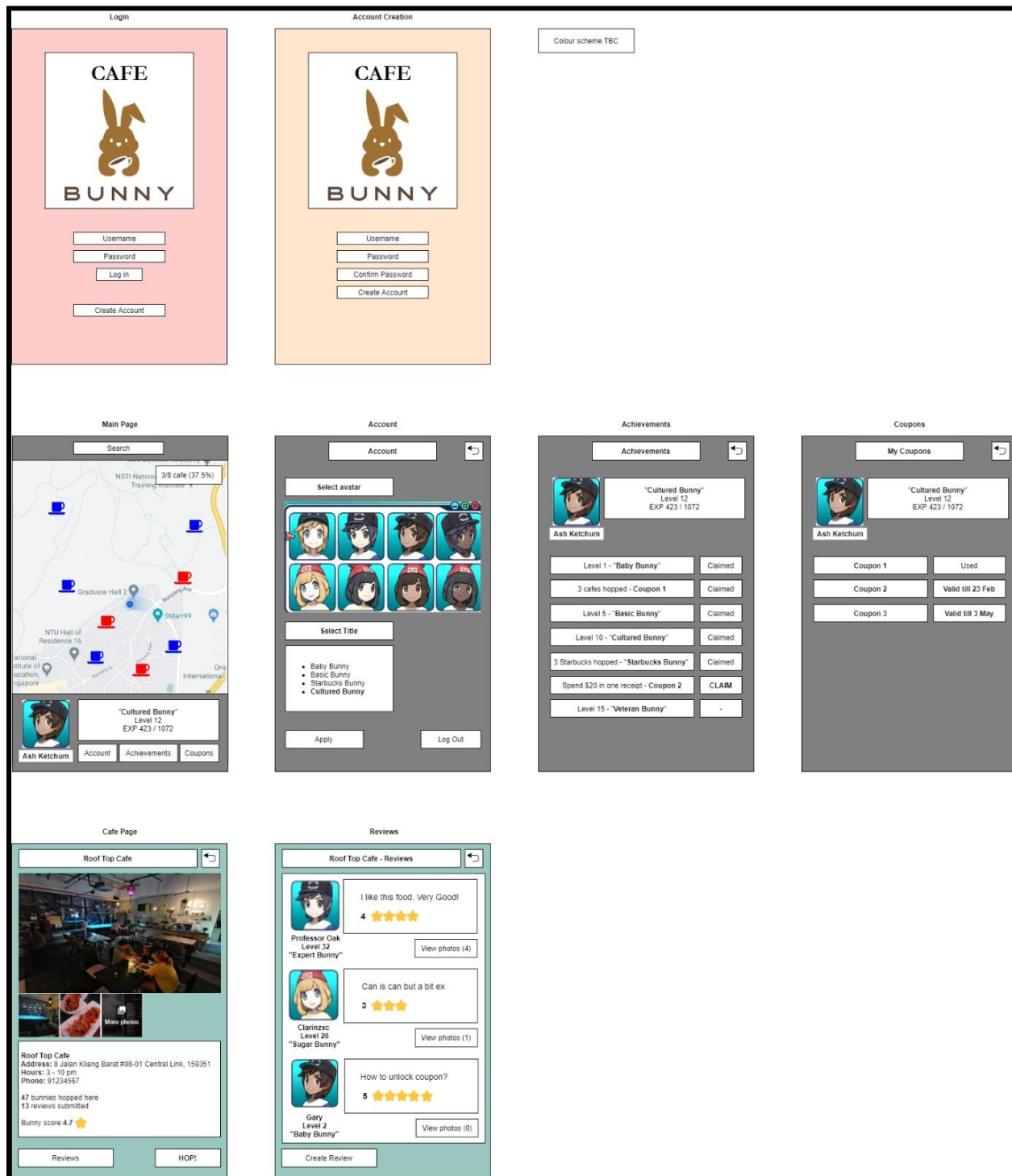
- a. All pages must hold back buttons and a menu navigation bar for users to revert their action or go to a specific section.

- 7. Keep users in their locus of control**

- 8. Reduce short term memory load**

- a. The user interface must use short language so that users can universally understand the action, such as "Login" and "Create Account".

The following are screenshots of the high-fidelity design of the Cafe Bunny application.



The application aims to boost the following features, targeting cafe hoppers.

S/N	UI Pages	Brief Explanation of features
1	Account Creation & Login Page	1. Account creation tied to the unique user and login to the application for future usage.
2	Display Map Main Page (Default)	1. Real map with cafes markers 2. Selecting cafe takes you to cafe page 3. Display subtle stats (E.g. Avatar, Title, Level, Exp)
3	Cafe Page	1. Information and location of cafe 2. Photos of cafe and cafe food (Gallery) 3. View submitted reviews and pictures 4. Option to “hop” (Check-in to cafe) 5. Submit own reviews and photos
4	Profile Page	1. Avatar selection option 2. Display Title, Level, Exp
5	Achievements (level & reward system) Page	1. Reward list <ul style="list-style-type: none">a. Lvl 10 - coupon 1 + “Baby bunny” titleb. Lvl 20 - coupon 2 + “Expert bunny” titlec. 100% visited - “Master bunny title”

4.3 Technology Consideration

We will be developing the application using Flutter. The advantages of using Flutter to develop our app is that it allows for fast development, expressive and flexible user interfaces and native performance. By using Google map's API (Application Programming Interface), we will be able to display a map along with markers for the cafe. The various user interfaces that will be displayed to the user will be handled by Flutter. We will be using Firebase server to store any user information such as cafe reviews.

Technology	Summary
Flutter	Cross-platform application development instrument to build UI components
Firebase Realtime Database	For persisting data

4.4 System Architecture/Platform

We will mainly be using Flutter for Frontend development for our Cafe Bunny Application as it allows for Custom, Animated UI of any complexity available. It provides us with the ability to customize anything we see on the screen, regardless of how complex it may be. While it's usually possible to do a very custom UI on the native platforms as well, the amount of effort required differs by the order magnitude. For Backend development, we will be implementing persistence using Firebase realtime database.

We will develop our application with a Client-Server Architecture. The Client (Mobile Application) supplies an interface to allow a user to request services of the server such as the reviews of the chosen cafe. The server waits for requests to arrive from the client and respond to them. The reason why we have chosen this architecture is due to its scalability which allows us to scale the client or server horizontally or vertically. The server holds all the data, allowing easy data sharing, data protection and authorisation.

Hence, we can easily achieve separation of concerns by decoupling the frontend server from the backend. This will allow both the frontend and backend developers to work independently on both sides of the development in parallel. Application will not be affected and dependencies will not be a concern when we update either the frontend side or backend side. Cafe Bunny will also be supported on both iOS and Android mobile devices.

5. Project Management

This section presents the plan for managing the project. The project will be carried over the time period of ten weeks and will end with a final demonstration of the application developed. It will consist of several different task phases. These phases are as follows: project proposal, planning, concept development, prototype creating, creation of a detailed design, risk assessment, software maintainability, testing and refinement and production. Tasks for each requirement will be split equally among team members. The team will work in either pairs or in threes depending on the task itself. Specific responsibility for each member is further explained below. Figure 1 shows the Gantt Chart of the project, which is a detailed timeline linked to each specific milestone of the project.

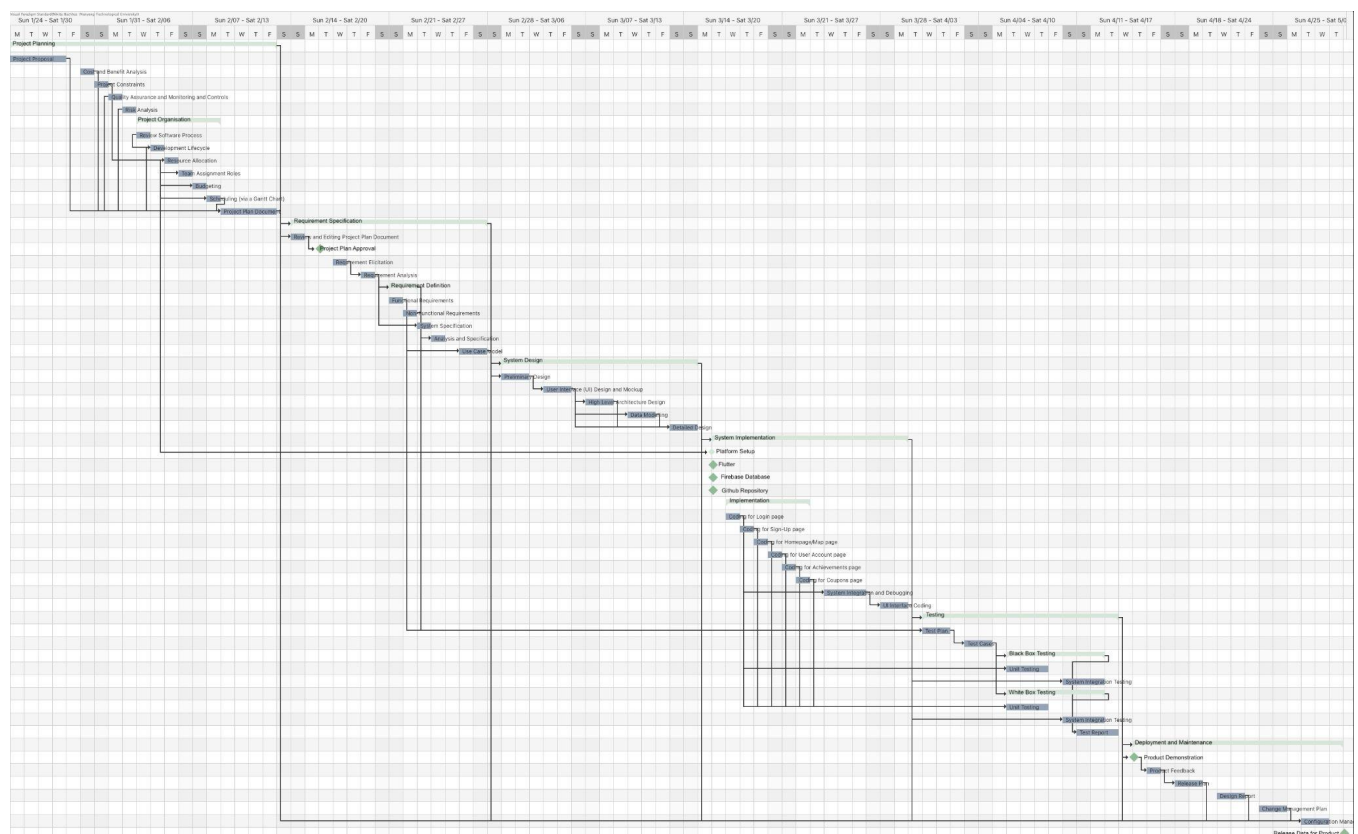


Figure 1: Gantt chart for the project. There are 6 stages in total: Project Planning, Requirement Specification, System Design, System Implementation, Testing, and Deployment and Maintenance. The black arrows depict the dependencies between the different tasks. The project is estimated to span from January 2021 to February 2022.

5.1 Deliverables

The following lists everything that our team will be providing to the sponsor.

8th February 2021 (Before Lab 2):

- a. The Project Proposal consisting of an UI mockup of the idea of the application, along with a use case model describing in detail the functions of the application.

22nd February 2021 (Before Lab 3):

- a. System Requirements Specifications that will outline the main purpose and the direction of the application, along with the critical constraints and the major features of the application. This will also include all the functional requirements, non-functional requirements and an updated use-case model.
- b. Quality plan consisting of how we intend to implement quality management at each stage of the development lifecycle.

15th March 2021 (Before Lab 4):

- a. A physical prototype with the basic functions of the application
- b. A project plan consisting of time estimates for the remaining duration of the project based on the experience with prototyping. This will also include how the project manager plans to allocate resources and determines the schedule to deliver the requirements specified.

29th March 2021 (Before Lab 5):

- a. Design report on software maintainability that outlines how the design can be further improved for better maintainability.
- b. Configuration Management Plan that outlines policies for configuration management and activities
- c. Change Management Plan that consists of roles and procedures after the baseline. It will include the change request form, the change process workflow and the state tracing system.
- d. Release Plan that outlining the stages of multiple releases of the application

- e. Test Plan will outline the different types of tests to be carried out on the application such as the functional test, non-functional test, system test, user acceptance test, white-box testing and black-box testing.
- f. Test Cases and Requirements Test Coverage report will consist of testing done on the application using Black Box techniques with the input parameters, operations performed by the application and the expected output as well the output generated by the application.
- g. CMMI Level 2 Definition consisting of fulfilling the requirements in the four process areas - Requirements Management, Project Planning, Software Quality Assurance and Configuration Management

(During Lab 5)

- h. Completed application with all requirements and functions specified earlier in the project proposal.
- i. Live demonstration of how the application works along with a project presentation

(After Lab 5)

- j. Documentation check in and final submission including of the completed source code and presentation slides
- k. Final backlog and meeting minutes for the entire project

5.2 Budget

The following is the best estimate for the amount of project funds needed for the first design, as well as how they will be spent.

Type	Name	Quantity	Cost	Duration	Total Cost
Staff	Project Manager	1	\$10000/Month	4 Months	\$40000
	Lead Developer	1	\$8000/Month	4 Months	\$32000
	Front End Developer	1	\$7000/Month	4 Months	\$28000
	Back End Developer	1	\$7000/Month	4 Months	\$28000
	QA Manager & Engineer	1	\$7000/Month	4 Months	\$28000
	Release Manager & Engineer	1	\$7000/Month	4 Months	\$28000
	Software Developer	5	\$4000/Month	4 Months	\$80000
	Feasibility Analyst	2	\$4000/Month	2 Months	\$16000
Hardware	Desktop PCs	11	\$2000	-	\$22000
	Backup Desktop PCs	5	\$2000	-	\$10000
	Servers	4	\$3000/Month	12 Months	\$144000
	Backup Servers	2	\$1500/Month	12 Months	\$36000
	Printer	2	\$400	-	\$800
	Stationaries	1	\$100	-	\$100
Software	Microsoft Office	15	\$80	-	\$1200

Total Cost: \$494100

Contingency (10% of total cost): \$49410

Total Cost with Contingency: \$543510

5.3 Communication and Coordination with Sponsor

Weekly interactions will be held with the sponsor along with weekly team meetings and bi-weekly lab sessions. Communication will either be held in person in NTU or via Zoom video conferencing. Important information will be passed down from the lab technical assistant or professor to either the team leader (Ong Yi Shen) or the team deputy leader (Bachhas Nikita), which will be later disseminated to the rest of the team members. Information dissemination is an “Information only” action. “Reply requested” action will require team members to reply to the message sent out. “Action required” action requires the respective team member to carry out the specified update or change for the task.

5.4 Team Qualifications

Ong Yi Shen is the Project Manager for this project. He has had experience being the team leader at Rayton Solutions Pte Ltd along with being a product development intern at Pactera Singapore Pte Ltd.

Mohamad Asyraaf Bin Abdul Rahman is the Lead Developer for this project. He has developed several different projects such as the Medical Inventory Management System as well as Hotel Reservation and Payment System.

Jordan Tan Rei Yao is the Front-End Developer for this project. He has had experience as an Data Science Intern at the Government Technology Agency and has a wide range of computer skills suitable for this project.

Bachhas Nikita is the Back-end Developer for this project. She has developed several different projects such as the DengueSafe application as well as the STARS module planning platform for NTU.

Ng Qin Wei is the QA Manager, as well as the QA Engineer for this project. He has had internship experience at A*STAR ARTC and has also worked as an assistant lab researcher at Temasek polytechnic.

Chew Zhi Kang is the Release Engineer/Manager for this project. He has several different computing skills and has the added skill of being a business analytics student along with a computer science student as well.

6. Conclusion

In conclusion, our project aims to create an application that will allow “Cafe Hoppers” to record their journey of visiting different cafes. We have gamefied the application to make the application more enjoyable to use as users will be able to collect reward points as well as be able to create their own bunny avatars. The project will also be carried over the period of 10 weeks starting from week 3 of NTU’s academic calendar to week 11 (inclusive of recess week). Over this 10 week period, the team will start with the project proposal and the use case model, move on to the coding and prototyping phase and finish with a live demonstration of the application in week 11. Various tasks in the project will be done equally by the team members. The team members roles comprises of the following: Project Manager - Ong Yi Shen, Lead Developer - Mohamad Asyraaf Bin Abdul Rahman, Front-End Developer - Jordan Tan Rei Yao, Back-End Developer - Bachhas Nikita, QA Manager and Engineer - Ng Qin Wei and Release Engineer/Manager - Chew Zhi Kang.

8. Appendix A

Résumés of Team Members

The following pages present the résumés of each team members for this project:

8.1 Chew Zhi Kang

Chew Zhi Kang

Mobile Number: 98836912

Email: CHEW0379@e.ntu.edu.sg

Education

Nanyang Technological University (NTU), Singapore

School of Computer Science and Engineering

Bachelor of Engineering (Computer Science)

Nanyang Business School

Bachelor of Business (Business Analytics)

Skills

Written and spoken languages: English and Mandarin

Skills: Proficient in Python, C, Microsoft Office

Hobbies: Travelling, Outdoor Activities, Sports (Badminton and Cycling)

8.2 Ong Yi Shen

Ong Yi Shen | Mobile No.: 97558726 | Email: ongyishen24@gmail.com

EDUCATION

Nanyang Technological University, Singapore Aug 2019 – May 2023

Bachelor of Engineering (Computer Science)

- Expected Honours (Distinction), Current CGPA: 4.30/5.00

Singapore Polytechnic, Singapore

Diploma in Computer Engineering

- CGPA: 3.547/4.00

INTERNSHIP EXPERIENCE

Pactera Singapore Pte Ltd May 2015 – Jun 2015

Product Development Department, Intern

- Worked closely with 2 contracted engineers from Pactera Singapore to update the existing web banking site of UOB

WORK EXPERIENCE

Rayton Solutions Pte Ltd Nov 2018 – April 2019

Team Leader

- Led a team to deploy new computers in 5 different government schools, making sure every new device was properly accounted for and had proper software installed.
- Acted as a bridge between the school and company, troubleshooting any problems the staff encountered and answering any queries.
- Taught new and inexperienced team members on how to install various software needed on the new devices

National Service

Admin Support Assistant

- Created and maintained different excel sheets along with formulas that were used to track information on the soldiers in my battalion.
- Worked with superiors to plan out necessary resources needed for different training exercises

SKILLS

Languages: Proficient in English, conversant in Chinese

Digital Skills: C++, C#, C, Python, Java, Microsoft Office

8.3 Mohamad Asyraaf Bin Abdul Rahman

Asyraaf Rahman

HP: +65 87937651 | Email: masyraaf@hotmail.com

EDUCATION

Nanyang Technological University, Singapore

Aug 2019 – Dec 2022 (Expected)

- **Bachelor of Engineering (Computer Science)**
- Specialization: Artificial Intelligence
- Achieved A in: Intro to Data Science and Artificial Intelligence, Data Structures, Algorithms, Introduction to Databases, Operating Systems, Software Engineering, Object Oriented Design & Programming and Net Centric Computing.

Temasek Polytechnic

Apr 2014 – Apr 2017

- **Diploma in Computer Engineering**
- Director's List Award 2016

ACADEMIC PROJECTS

Nanyang Technological University, Singapore

Software Engineering Project

Aug 2020 - Nov 2020

Title: Medical Inventory Management System

- Utilized machine learning to predict the number of cases of diseases.
- Developed an android application to help medical professionals with inventory management.
- Applied good software design architecture and patterns.

Data Science and Artificial Intelligence Project

Jan 2020 - Apr 2020

Title: Predicting price and review ratings of Airbnb listings

- Analyzed product review comments using Natural Language Processing(NLP) for Sentiment Analysis to predict product review ratings.
- Explored and compared different machine learning models on test data including Ensemble Model, Voting Classification and Bagging and Boosting..

Object Oriented Design and Programming Project

Jan 2020 - Apr 2020

Title: Hotel Reservation and Payment System

- Applied Object Oriented Design and Programming concepts in Java application using J ava programming language.
- Utilized git for version control and project management.
- Developed an application to help hotel staff to keep track of processes such as hotel reservations, room service orders and other records.

Temasek Polytechnic

Final Year Project

Sep 2016 - Feb 2017

Title: iOS mobile application aimed at goal achieving

- Goal tracking with a point system to make accomplishing goals fun.
- Developed an iOS mobile application using Swift programming language to get people to stay motivated towards achieving goals.
- Utilized MongoDB and NodeJS for backend servers to handle data transactions.
- Set up simple automated test cases to run on Docker platform.

INTERNSHIP EXPERIENCE

Quantum Inventions, Singapore

Apr 2016 - Sep 2016

Software Development Intern

- Collaborated with a team of software developers to construct new features in new mobile applications.
- Worked closely with the supervisor and overseas research team to build a suite of tools to automate testing of mobile applications. Successfully cut down the testing process from weeks to days.
- Highlighted potential improvements to supervisor to accelerate software development process.

8.4 Jordan Tan Rei Yao

Jordan Tan Rei Yao

Contact Number: 91901316 | Email: jordanreiyao@gmail.com

Skills

Computer Skills: Python, R, Java, Javascript, Vue.js, Node.js, React, C, C++, HTML, NoSQL, MySQL, MongoDB, SQLite, Jupyter Notebook, Tableau, Git

Soft Skills: Effective communication, Teamwork, Strong Work Ethic, Time Management, Creativity, Critical Thinking, Attention to Detail, Open-Mindedness

Education

Nanyang Technological University (2018-2022)

- Double Degree Programme in **Business Analytics** and **Computer Science** (Year 3)
- Awarded the **Nanyang Scholarship** in 2018
- First Class Honours for both degrees
- **Dean's List** for School of Computer Science and Engineering (AY 2019/2020)
- **Dean's List** for Nanyang Business School (AY 2018/2019)

Anglo-Chinese Junior College (2014 to 2015)

- Graduated with 6 distinctions (90/90 rank points) for A levels
- Honour Roll in 2014 for achieving top results in the cohort
- Scholastic Merit Award for achieving top results in 2015 GCE A Levels

Work Experience

Government Technology Agency - Data Science Intern (May 2020 to July 2020)

- Attached to the Data Science and Artificial Intelligence (DSAI) division of GovTech
- Tasked to analyse using text analytics the major concerns of SMEs in Singapore, especially in the Covid-19 situation.
- Used both Python and R to work with a dataset comprising more than 30000 textual enquiries from SMEs all over Singapore.
- Used NLP concepts such as TF-IDF, Word2Vec, Unigrams, Bigrams, Stemming, Lemmatization, and RegEx as part of the data cleaning process to ensure data is optimal for use in machine learning models.
- Employed the use of models such as Latent Dirichlet Allocation, K-means Clustering, K-Medoids Clustering to uncover important concerns faced by SMEs in Singapore.
- Used metrics such as Topic Coherence and Elbow method to fine tune the parameters of the machine learning models.
- Regularly checked in with the end users using an Agile approach to make sure that the project's results met their needs.

8.5 Bachhas Nikita

Bachhas Nikita | Mobile No.: (65) 86610400 | Email: Nikitabachhas25@gmail.com

EDUCATION

Nanyang Technological University, Singapore	Aug 2019 – May 2023 (Expected)
Bachelor of Engineering (Computer Science)	
• Currently in Year 2, Semester 2	
National Junior College, Singapore	Feb 2017 – Dec 2018
Singapore-Cambridge GCE A-Levels	
• Rank Point: 81/90	

ACADEMIC PROJECTS

Nanyang Technological University, Singapore	Aug 2020 – Nov 2020
--	---------------------

Software Engineering Project – Designing of a Software Application that uses Government APIs

- Use of DART language and software tools like Flutter and Android Studio
- Developed a software application that tracks the number of dengue cases occurring within NTU campus
- Linked with Google Maps API, such that anyone living or currently near the hall location of registered patient will be immediately alerted
- Linked with government data API (Data available on National Environment Agency (NEA)'s website) to analyse dengue cases island-wide, find trends and anomalies and predict trends of cases in NTU campus
- Project URL: <https://www.youtube.com/watch?v=I07JdE6q9GU&feature=youtu.be>

Nanyang Technological University, Singapore	Aug 2020 – Nov 2020
Object Oriented Design and Programming Project – Designing of NTU's STARS Platform (Console-Based Application)	

- Designing and programming of an object-oriented application: NTU's STARS Platform (Console-based application, i.e. non-graphical UI), which is a Course Registration IT System
- Use of Java language through the use of Eclipse IDE and MS Visual Studio Code
- Allow students and admin staff to carry out various activities such as to access registration system to add and drop courses, change their courses, check their registered courses, add new students and add, remove or change courses, indexes, and their timings/venue.
- Project URL: <https://www.youtube.com/watch?v=uH1fUIElwYA&feature=youtu.be>

Achievements

Tennis	Mar 2017 – Nov 2018
Quarter Finalist – National Inter-School Competition for Junior Colleges	

CO-CURRICULAR ACTIVITIES

Freshmen Orientation Camp	Jun 2019 – Aug 2020
----------------------------------	---------------------

Chief Programmer - Main Committee Member

- Planned games and camp activities for over 400 freshmen to encourage interaction and bonding
- Trained 30 camp programmers on facilitation skills during several workshops over zoom to enhance ability to conduct camp activities safely


Work Experience

Institutional Statistics NTU	Jun 2019 – Aug 2020
-------------------------------------	---------------------

Research Assistant

- Assisted in collecting and verifying data for several different projects
- Developed research algorithms using python programming language to sort through data at a faster rate

8.6 Ng Qin Wei

Ng Qin Wei | Mobile: 90064367 | Email: jullsignet@gmail.com 

EDUCATION

Nanyang Technological University August 2019 – May 2023

- Bachelor of Engineering (Computer Science)

Temasek Polytechnic April 2014 – April 2017

- Diploma in Mechatronics with Merit
- A*STAR Science Award (Scholarship)
- Temasek Polytechnic Scholarship 2016/2017
- Temasek Polytechnic Scholarship 2015/2016
- Director's List Award 2016
- Director's List Award 2015
- GPA 3.87

ACADEMIC PROJECTS

Temasek Polytechnic

Internship attachment @ A*STAR ARTC April 2016 – September 2016

Title: Implementation of ROS-Industrial on aerospace robotic frameworks

- Implemented aerospace processes using Robot Operating System – Industrial.
- Performed demonstration at ROSCON Singapore 2016 with large robots such as ABB and Fanuc
- Used 3D AutoCAD software such as Creo and Solidworks to create robot and enclosure meshes
- Created teaching manual for ROS Industrial for robotics department

WORK EXPERIENCE

Assistant Lab Researcher @ Temasek Polytechnic September 2015 – October 2015

Project title: Lower body wearable bionics for stroke rehabilitation (SGH)

- C++ micro-controller programming to create algorithm for human gait cycle recognition, rejection, and integration.

Jabil Singapore March 2017 – May 2017

Supply chain assistant

CO-CURRICULAR ACTIVITIES

YEAH Mentoring Programme @ Tampines West Community Centre September 2014 – April 2017

- President
- Youth at risk outreach and academic mentoring
- Supervise and train mentors to establish good rapport and holistic engagement