Proposal for VotaFun

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Submitted to:
Si Pei Yuan
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Contents

Executive Summary

The project at hand is driven by the imperative need to improve decision-making efficiency among groups of friends when planning activities. The current situation often leads to time-consuming discussions and frustration. Our proposed design centres on the creation of a user-friendly platform while incorporating technology, specifically the integration of ChatGPT to facilitate structured discussions, activity proposals, and voting, all geared toward streamlining the decision-making process. This endeavour seeks to simplify communication by consolidating information within a dedicated platform, reducing misunderstandings and enhancing clarity. Moreover, the project aims to foster collaboration and consensus among friends with varying preferences, ultimately strengthening the overall decision-making process. Through these strategic design objectives, we aspire to revolutionise the way friends plan and decide on group activities, making it a more efficient and harmonious experience.

Statement of Problem

In the context of various activities and choices, groups of friends face a recurring problem: they struggle to agree on a common activity due to their differing preferences and opinions. This diversity complicates decision-making, potentially leading to lengthy discussions and the inability to finalise plans efficiently.

The issue of indecision has real-world consequences. It results in inefficient use of time and undermines group cohesion. Prolonged debates can overshadow the enjoyment of shared activities, causing frustration and tension among friends. The initial enthusiasm and mutual respect can give way to disagreements and disrupt the group's harmonious dynamics.

A solution that balances individual preferences while streamlining decision-making is required. The goal of addressing these challenges is to restore efficiency to the process while maintaining the spirit of unity. Finding a method that respects individual input while allowing for faster decisions is critical for efficient planning.

Preliminary Findings

We are all involved in social groups and activity planning. Some of the common issues we hope to address include:

1. **Diverse Interests and Preferences**: Group members have diverse interests and preferences when it comes to selecting group activities. This diversity often leads to lengthy discussions and disagreements during the decision-making process.

2. **Time Constraints**: Many instances were observed where the group failed to reach a unanimous decision, resulting in delayed planning or even the abandonment of the activity altogether. The time required to reach a decision takes away from the enjoyment of the activity itself. Time-consuming discussions reduce the overall efficiency of planning.

3. **Friendship Dynamics**: Lengthy debates over activity choices occasionally strain the camaraderie among friends, leading to unnecessary tensions and discomfort.

4. **Need for an Organised Platform**: The participants expressed the need for a dedicated platform that would allow them to propose, discuss, and vote on activities in an organised manner.

Objectives

This document proposes a web application, VotaFun. We designed for groups of people in mind, particularly those looking to plan activities such as outdoor excursions, lunch plans or even movies to watch.

The following are objectives that VotaFun should achieve:

1. **Enhancing Decision-Making Efficiency**

   The project's primary goal is to improve decision-making among friends when planning group activities. The current situation of lengthy discussions and indecision frequently results in wasted time and frustration. Our goal in creating a user-friendly platform is to provide a structured environment where friends can collaboratively engage in discussions, propose activity ideas, and cast votes to streamline decision-making.

2. **Simplifying Communication**

   Current communication channels are fragmented. Groups may discuss activities on different platforms, resulting in a sprawl of information. This can lead to misunderstanding since information is discontinuous between users. Our goal is to improve communication by providing a platform dedicated solely to activity planning. This platform will consolidate information, proposals, discussions, and votes, making it easier for friends to stay informed and involved in decision-making.

3. **Collaboration in Promoting Consensus**

   We want to create a culture that values collaboration and compromise. Friends frequently have opposing viewpoints, making it difficult to reach an agreement. The project allows members in a group to vote anonymously. This encourages users to input their opinions when deciding on an activity when they might not have done so in an in-person setting. The app can then reach an activity which can best fit the group’s interests and can keep most of them happy.

Technical Approach

Our team has designed VotaFun for use on a browser. Internet connection on the device is required, as our application has collaborative functionalities in the form of voting.

We have designed the user interface to be clean, simple and intuitive. Users can easily navigate VotaFun to create rooms, get recommendations, and vote for their preferred activity. Whether it is a new user or someone that used VotaFun before, they can easily achieve a hassle-free activity planning experience.

We also designed VotaFun to be a single-page application (SPA), allowing for an enhanced user experience. Content on VotaFun is dynamically updated as users interact with the web application, and users do not need to experience any full-page reloads. This design will result in an engaging and seamless web experience for users.

Communication between the frontend user interface and backend servers is through application programming interface (API) calls. Using APIs allows us flexibility in integrating both the frontend and other services.

Target Specifications

1. The website should allow people to room leaders to create rooms, which will generate a room code to invite other users to it.
2. Users should be able to join rooms with a room code.
3. The users should interact with ChatGPT using a purely voting mechanism.
4. The room leaders should be able to input the location and budget of the activity before the room is created.
5. The number of questions ChatGPT asks and seeks voting responses from users must not exceed 5 before it comes up with a first recommendation.

Technology Consideration

Table 1: Technologies used for application development.

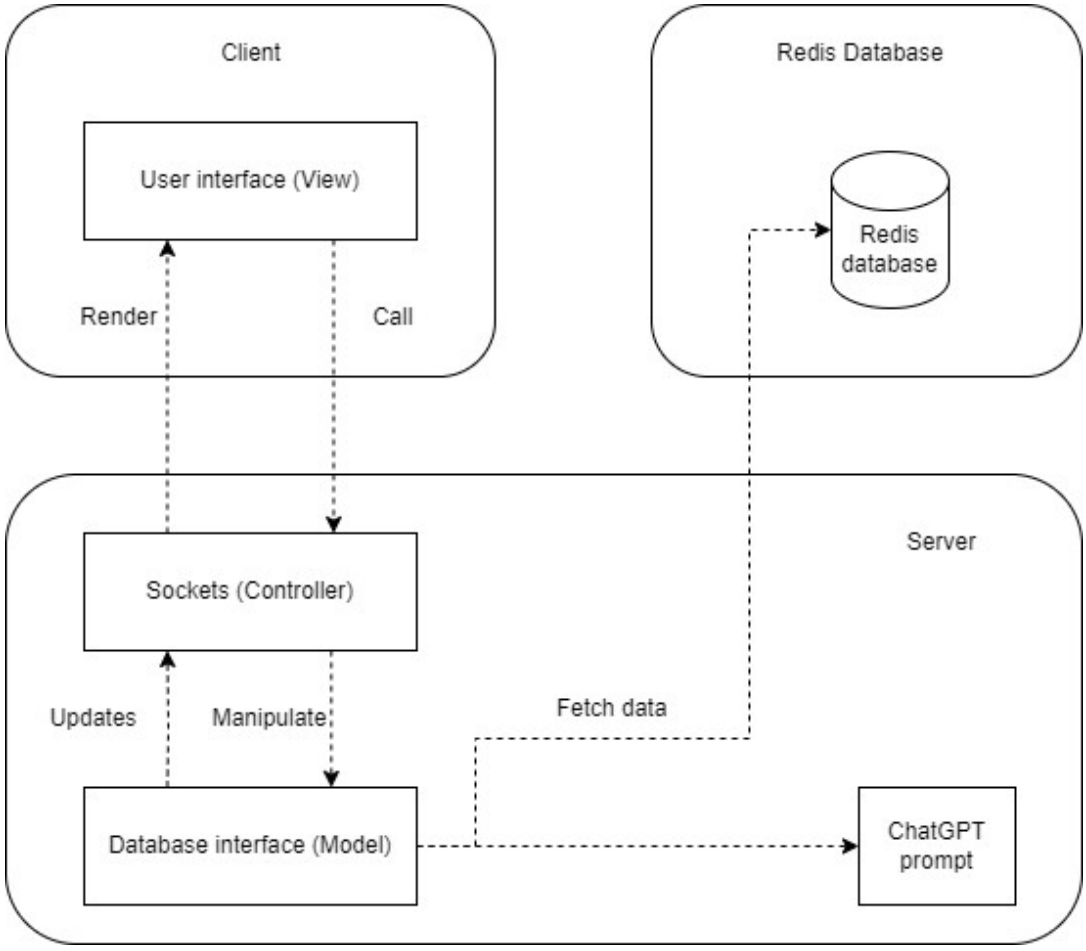
Technology	Description
React (Front-end)	React is a JavaScript library developed by Facebook for building user interfaces. A front-end library that allows developers to create reusable UI components and manage the dynamic rendering of those components efficiently.
Flask (Back-end)	Flask is a lightweight web framework for Python, designed for quick and flexible web application development. It provides essential tools for creating web-based applications, offering features like routing, handling HTTP requests and responses, and managing sessions.
Redis (Database)	Remote Dictionary Server (Redis) is a NoSQL, in-memory database that operates as a key value store. Due to its in-memory features, reads and writes to the database is extremely fast making it a good choice for scenarios that needs to access and retrieve data quickly.

System Architecture/Platform

The choice of system architecture in the frontend will be the use of independent components which call our backend endpoints. The backend endpoints serve as the main controller for the platform. Our team chose this architecture as it allows for the separation of concerns; the View (React) is responsible only for rendering the user interface, the Sockets (Controller) are responsible for controlling the flow of the program and pulling data from ChatGPT and managing users in rooms. Lastly, the database interface (Model) will be responsible for storing and retrieving room data. The modularity of this design is another advantage that allows our developers to independently work on and test each component, allowing for faster development.

SocketIO allows us to develop real-time applications for users. Our application requires participants to vote for their preferred activity, and the server needs to send voting results to all room participants in real time. The application will store necessary data, such as room IDs and user IDs on the Redis database, our NoSQL database.

Figure 1: System architecture design of Votafun



The table below shows the software tools used for the project and their description. Our team will use Github and TortoiseSVN for code collaboration and prototype release. Our team will also use Visual Paradigm and draw.io to create various diagrams, including ER diagrams, use case models, and the system architecture diagram. Additionally, we will host our documentation on MediaWiki. Development teams will also use Trello to manage backlog information.

Finally, the development teams will use Visual Studio as our IDE for application development.

Table 2: Platforms and software tools used for the project.

Platform/Tool	Description
GitHub	Project source code collaboration
TortoiseSVN	Prototype releases
draw.io	System Architecture diagram
Visual Paradigm	Use case model, ER diagram
Trello	Backlog information management
Team Gantt	Gantt Chart creation
MediaWiki	Documentation database
Visual Studio Code	Integrated development environment (IDE)

Project Management

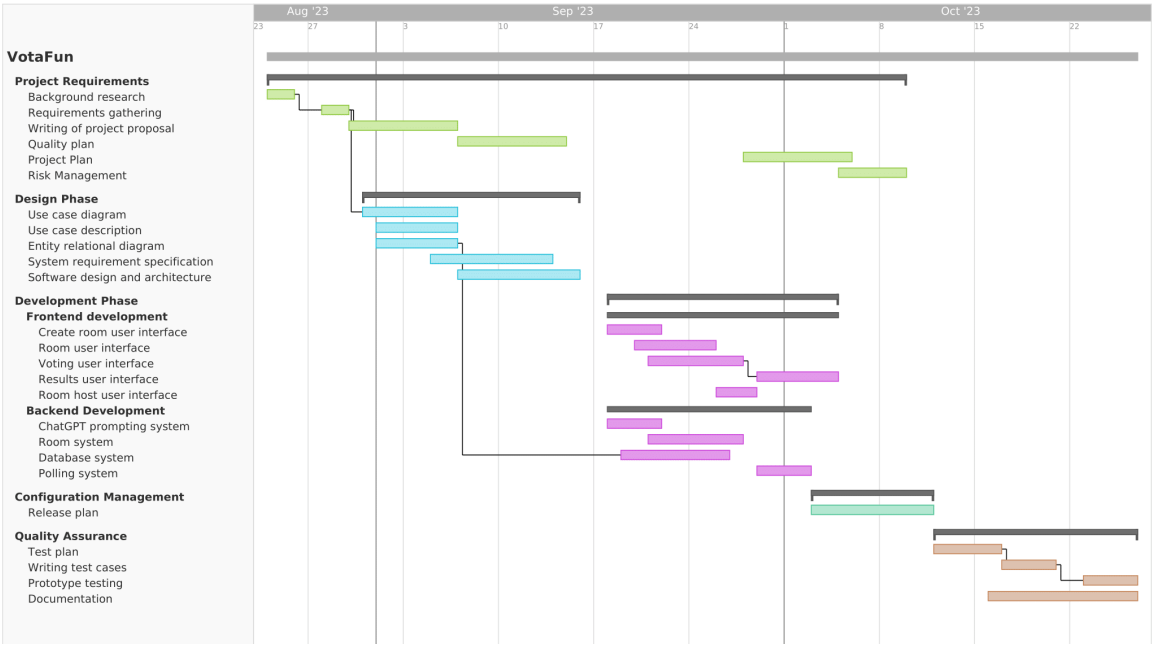
We have chosen the **hybrid of Agile and Waterfall** development methodology to develop VotaFun. Our team will use the **Waterfall** development methodology within the project requirements and design phases as we recognise the need to clearly define our project scope, requirements and design plans before developing software.

During the development phase, our team will use the **Agile** development technique. We separated our development team into the frontend and backend teams, and the teams will have sprint cycles of a week. The project team will also hold daily standups where developers will gather for a 15-minute meeting to discuss progress.

As our team develops the software, our team will constantly refine our requirement specifications, and design plans and update them if necessary.

This project will last for three months, starting on 24th August 2023, and ending on 24th October 2023.

Figure 2: Gantt chart for the project.



Deliverables

Table 3: VotaFun deliverables

Deliverable	Deadline
Project proposal	7 September 2023
Use Case Model	7 September 2023
System requirement specifications	21 September 2023
Quality assurance plans	21 September 2023
Project plan	12 October 2023
Risk management	12 October 2023
Prototype demo	12 October 2023
Design report on software maintainability	26 October 2023
Configuration management plan	26 October 2023
Change management plan	26 October 2023
Release plan	26 October 2023
Presentation slides	26 October 2023
Test plan	26 October 2023
Test cases and requirements test coverage report	26 October 2023

Budget

This section shows the breakdown of the estimated cost of VotaFun. The budget required for the initial design will be $137,489.00, which will cover expenses for three months. The table below shows the entire breakdown of the budget.

Table 3: Estimated Cost of VotaFun

Item	Supplier	Quantity	Unit Price (SGD)	Cost per month (SGD)	Total (3 months)
Project Manager	-	1	-	$7,000.00	**$21,000.00**
Software Developers	-	3	-	$5,500.00	**$49,500.00**
QA/Releas e Engineers	-	3	-	$5,000,00	**$45,000.00**
Laptops	Dell	6	$1,090.00	-	**$5,540.00**
Printer	Fuji Xerox	1	$450.00	-	**$450.00**
Technology Licence	Visual Paradigm	1	$99.00	-	**$99.00**
Cloud Services	Heroku	1	-	$300.00	**$900.00**
Office rental	NTU	1	-	$5,000.00	**$15,000.00**
				TOTAL	**$137,489.00**

Communication and Coordination with Sponsor

Effective communication and coordination are paramount to any project's success. To facilitate communication and coordination, the project team proposes the following plan.

Every week, on Mondays, the project manager will provide email updates on the latest project development to the sponsor. Additionally, the project team will host a video conference using Microsoft Teams every fortnight on Thursday. During the video conference, the sponsor is encouraged to raise concerns (e.g. feature requests, deadlines changes) with the project team. If either day falls on a public holiday, the project manager will provide email updates on the next business day.

Although the video conferencing is held every fortnight on Thursday, sponsors can raise concerns anytime, and the project manager will immediately schedule a meeting between the team and the sponsor.

The team believes that this combination of weekly email updates and fortnightly video conferences will create an environment for open communication and coordination, which is paramount for the initial release of VotaFun.

Team Qualifications

Table 4: Team qualifications.

Name and Roles	Experience and Qualifications
Ng Yue Jie Alphaeus **(Project Manager, Back-end Developer)**	Alphaeus possesses a noteworthy background in software project management. As an experienced Project Manager, he has overseen numerous successful projects, delivering innovative applications that have consistently improved the lives of their users. Alphaeus's proficiency extends beyond technical skills, encompassing strong interpersonal and organisational abilities, validated by positive client feedback.
Abdul Siddiq Bin Mohd Yussaini **(Lead Front-end Developer, Front-end**	Abdul Siddiq is an experienced software engineer with years of experience doing frontend work and web design using React. He has worked on designing websites, such as government websites such as NEA landing page, using Figma and implementing them. He has also worked as a business analyst previously for a Grant System,

QA Manager, Front-end QA Engineer)	where he did quality assurance testing to ensure the system works as intended.
Roy Lau Run-Xuan **(Lead Back-end Developer)**	Roy's interest lies in software engineering and cyber security and aims to develop applications with security in mind. As an avid learner, he enjoys learning about the latest tools and frameworks in the industry. He is most experienced in backend development.
Tran Trung Dung (Charles) **(Back-end Developer, Back-end QA Manager, Back end QA Engineer)**	Charles brings a distinguished background in back-end development and quality assurance. He has worked on developing an robotics application and an automated testing system to ensure the application's quality.
Wang Xin Yan Lloyd **(Front-end Developer, Release Engineer / Manager)**	Lloyd has an interest in developing applications with beautiful interfaces. He has engaged in multiple projects to build his frontend portfolio and enhance his skillset. He has also interned at multiple companies where he worked on backend and devops engineering tasks.
Ryan Teo Cher Kean **(Front-end Developer)**	Ryan is a capable front-end developer with a strong desire to learn new skills. He is competent in front-end development tools such as React Native and JavaScript, and contributed greatly to the development of applications for school projects in the past.

Appendix A:

Résumés of Team Members

The following pages present one-page résumés of the team members for this project.

Alphaeus Ng

HP: (+65) 9359 5310 | **Email:** ang096@e.ntu.edu.sg | **GitHub:** https://github.com/AlphaeusNg | **LinkedIn:** https://www.linkedin.com/in/alphaeus-ng

EDUCATION & ACHIEVEMENTS

Nanyang Technological University, Singapore — **Expected Jun 2024**
- **Bachelor of Engineering (Hons) in Computer Science**
- Specialisation: Artificial Intelligence (AI) and Data Science & Analytics
- Expected Honours (Distinction) GPA: 4.14/5.00
- Relevant Modules: Machine Learning, Data Analytics & Mining, Artificial Intelligence, Neural Network & Deep Learning, Natural Language Processing

Singapore Polytechnic, Singapore — **Apr 2015 — Apr 2018**
- **Diploma In Biomedical Science**
- Gold with honours for Co-Curricular Activities

WORK EXPERIENCES

Home Team Science & Technology Agency (HTX), Singapore — **Jan 2023 – Jul 2023**
AI Developer, Intern (Computer Vision)
- **Python | YOLOv7 | Detectron2 | Image pre-processing | OpenCV | Pillow**
- Built, developed, and documented a data-transformation pipeline using OpenCV and Pillow via Python scripts, automating the cleaning and organisation of 1000+ images.
- Collaborated on the refinement of the YOLOv7 model using transfer learning techniques, as well as tuning of hyperparameters, contributing to the optimisation of object detection accuracy.
- Contributed to the entire data lifecycle, from collection and staging to preprocessing, to support AI model training initiatives. This resulted in accelerated model development.

ACP Group, Singapore — **May 2022 – Aug 2022**
Business Analyst Intern (Customer data)
- **Python | Tableau | MIME | MariaDB | SEO | Snagit | Canva | UI | UX**
- Innovated efficiency within the marketing team by automating the follow-up process for 600+ sales leads using a custom Python script. This reduced the weekly workload of marketing staff by 5 hours, optimising productivity.
- Built a Python script for automating the extraction, and cleaning of data, from MariaDB, to visualisation tools like Tableau, significantly speeding up the business analysis process.
- Researched and proposed software architecture upgrades to ensure xAPI compliance, enhancing the overall system performance.

ACADEMIC PROJECTS

Nanyang Technological University, Singapore
Software Engineering Project – HealthApp — **Jan 2022 — Apr 2022**
- **JavaScript | React-native | Firebase | DataGov API | Google Map API | Figma | UI | UX**
- Served as the Team Lead for a full-stack mobile application project aimed at digitising emergency processes for the vulnerable population.
- Integrated key features, including an automated emergency message, display of nearby AED locations, storage of medical information, and easy access to life-saving guides.
- Managed the project's development lifecycle, ensuring effective collaboration and timely delivery of project milestones.
- Successfully led the team in delivering a user-friendly and functional mobile application that addresses critical healthcare needs.

PERSONAL PROJECTS

Building a Neural Network to Recognise Handwritten Numbers — **Jan 2022 — Feb 2022**
- **Python | Artificial Intelligence | Machine Learning | NumPy | Scikit-learn | Theano**
- Built a Neural Network capable of recognising Handwritten digits up to 95% accuracy in the MNIST's dataset via Python.

LEADERSHIP AND CO-CURRICULAR ACTIVITIES

Hall 2 Chess Team
Captain — **Aug 2022 – May 2023**
- Led and inspired the Hall Chess Team, fostering deep analytical and critical thinking skills among team members.
- Achieved a top 8 ranking in the Inter-Hall Competition, despite being one player down.

SKILLS / INTERESTS

- **Languages:** English, Chinese
- **Programming:** Python, Git, SQL, Java, JavaScript, C, C++, React Native-JS, HTML, CSS, PHP, SVG, Prolog, R
- **AI/ML Frameworks:** TensorFlow, PyTorch, Scikit-learn, OpenCV, YOLOv7, Detectron2, TridentNet
- **Data Science & Analytics:** Tableau, Matplotlib, Seaborn
- **Other skills:** Google Firebase, Figma, Visual Paradigm, SDLC, Agile Development, UML, Microsoft Excel

Lloyd Wang

github | linkedin | +65 91882388 | lloydwangxy@gmail.com

Available for full-time employment from 2 Jan 2024

Education

Nanyang Technological University Aug 2020 – Dec 2023
Bachelor of Engineering (Honours) in Computer Science, Accelerated Bachelors Program, Distinction *Singapore*

Relevant Coursework *Data Structures and Algorithms, Computer Networks, Database Systems, Distributed Systems*

Experience

AI Engineer Intern May 2023 – Aug 2023
GovTech Singapore *Singapore*

- Worked with the Jumpstart team to integrate search engine infrastructure with existing Careers@Gov portal
- Used retrieval techniques such as n-gram, defined search endpoints using FastAPI supported with a Streamlit query interface
- Implemented web scraping and ingestion to Databricks data warehouse and Elasticsearch index using Pyspark and AsyncIO
- Tuned custom text analyzers, acronym conversions and ranking with tests built on Pytest, Faker, Factoryboy
- Assisted in increasing streams payload cap by migrating SQS to RabbitMQ, transitioned to request-driven logging with Celery
- Assisted in designing and integrating secrets injector service to app using Docker, Helm, Kubernetes, Vault, Bash, Terraform

Data Engineer Intern Jul 2022 – Dec 2022
M-DAQ Global *Singapore*

- Worked with Data Science team on Project Sunray to set up data pipelines for consumer credit data
- Developed event-driven email parsing using AWS SES and Lambda to store attachments to dedicated S3 folders
- Designed unit tests using moto and automated with Gitlab CI/CD pipeline, implemented infrastructure in Terraform
- Created Airflow custom operators for loading and monitoring using S3, Snowflake, Lambda, SNS and DynamoDB
- Deployed DBT data lineage UI to a web server for company usage using Docker, Helm and Kubernetes
- Assisted in developing a parallelized script to extract FX quotes data using Python, FIX protocol and Multiprocessing

Young SEEDer Developer Intern May 2022 – Jul 2022
DBS Bank *Singapore*

- Worked with Liquidity Management team on data engineering tasks for a trading analytics application
- Developed data ingestion and housekeeping scripts using Pandas, SQLAlchemy, MariaDB and batch scripts
- Used advanced SQL functions such as CTEs, views and stored procedures with HeidiSQL interface
- Implemented function to derive bond rate for non-standard tenors, and insert Libor rate data from Bloomberg
- Converted Excel functions including lookups and calculations to Python, with alerts for processing status

Process Improvement Intern Dec 2021 – Apr 2022
Gojek *Singapore*

- Worked with Process Improvement and Compliance teams to automate and streamline some of their manual processes
- Automated compliance checks process using Python with Google and Metabase APIs, web scraping with Selenium Webdriver
- Developed dashboard to segmentize ticket categories using regular expressions, Datastudio and Bigquery
- Designed workflows for lost-and-found tickets using an automation platform, assisted in alpha testing of GoCar Premium feature

Projects

What Movie? | *Code* | ReactJS, Bootstrap, Python Flask, SQLAlchemy, PostgreSQL, Bash, Docker
- Built a full-stack website which allows users to view movie showtimes and shortlist them to their accounts
- Features JWT authentication, interaction with MovieGlu Sandbox API and relational database

Property Towkay Bot | *Code* | Async Python, AWS SAM, Lambda, DynamoDB, CloudFormation, BeautifulSoup, Docker
- Built a serverless cloud solution to scrape Propertyguru website using user-defined preferences, and notifies users of new listings
- Used Telegram bot as interface, Lambda for web scraping and a REST API to store and retrieve user preferences

Technical Skills

Languages: Python, Java, JavaScript, SQL, C++
Skills: Software/ Data/ Devops engineering, Machine learning, Data analysis, Agile environment
Certifications: AWS Certified Solutions Architect - Associate

Roy Lau Run-Xuan

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GitHub: https://github.com/roylau98 | LinkedIn: https://www.linkedin.com/in/roy-lau-5a8772159/

EDUCATION

Nanyang Technological University, Singapore — **Aug 2020 – Jun 2024 (Expected)**

- **Bachelor of Engineering (Computer Science)**
- Expected Honours (Highest Distinction)
- Relevant Modules: Cyber Threat Intelligence, Applied Cryptography

Singapore Polytechnic, Singapore — **Apr 2015 – Apr 2018**

- **Diploma in Biomedical Science**

ACADEMIC PROJECTS

Nanyang Technological University, Singapore — **Aug 2021 – Jun 2022**
Undergraduate Research Experience on Campus (URECA) Project
Title: Vulnerability Analysis of Microprocessors

- Explored different published attacks on processors and coded the attacks in C to replicate them on a processor.
- Developed a script with Python to run different attacks as a test suite which can potentially help to benchmark processor security quickly.

WORK EXPERIENCE

DHL Express Global Head Office (GHO) — **Jan 2023 – May 2023**
Cyber Security Intern (Incident)

- Maintained and updated incident management documents, adeptly outlining the incident handling process and incorporated sections to enhance digital forensics.
- Utilised Conducttr to update cyber simulation exercises which are used for cyber simulation training.

PERSONAL PROJECTS

Capture the flag (CTF) — **Dec 2019 - Present**

- Participated in various CTF events with different challenge categories such as pwn, reversing, cryptography, web, and miscellaneous which drove learning in various cyber security aspects.

CERTIFICATIONS

CompTIA Security+ (SY0-601)

- CompTIA, Verification code: CGY0S1ZSGEVQQGC6
- Attained: 22 June 2023, Expires: 22 June 2026

CO-CURRICULAR ACTIVITIES

Singapore Polytechnic Shooting Club — **Apr 2016 – Apr 2017**
Executive Committee (Logistics)

- Collaborated with a team of 15 executive committee members in the planning and execution of events such as the CCA fair and orientation camp.
- Oversaw logistical needs of the club and during events and ensured that items needed are delivered on time.
- Developed leadership and effective communication skills throughout the timespan.

SKILLS

Programming Languages: Python, C, Java, C++
Digital Skills: Microsoft Office, Microsoft Word, Microsoft PowerPoint, Microsoft Excel
Version control: Git
Languages: English & Chinese (Written & Spoken)

Abdul Siddiq Bin Mohd Yussaini

Mobile No: 8606 4601 | Email: devsfiq@gmail.com | GitHub: https://github.com/m-sifi

EDUCATION

Nanyang Technological University, Singapore Aug 2020 – May 2024
Bachelor of Engineering (Computer Science)

Nanyang Polytechnic, Singapore Apr 2016 – Apr 2018
Diploma in Multimedia and Infocomm Technology

- Obtained Dean's List for every Semester until graduation
- Graduated with Diploma with Merit

ACADEMIC PROJECT

Nanyang Technological University, Singapore Aug 2021 – Dec 2021
Web Application Development Project – School Finder Web Application

- Wrote a single application web app using ReactJS to provide a centralised source of information about schools in Singapore for students.
- Agile methodologies and best practices was adopted to speed development efforts.

Nanyang Polytechnic, Singapore Oct 2017 – Mar 2018
Mobile Applications Development Project – Bus Application for Visually Impaired

- Developed a bus app to aid visually impaired people to make everyday commute more accessible for disabled citizens.
- Application leverages on Bluetooth Beacon Technology to provide proximity data from buses that will trigger audio queues to assist visually impaired users during commute.
- Originally developed on iOS before it got ported to Android

INTERNSHIP EXPERIENCE

NCS Pte Ltd Apr 2017 – Sept 2017
Business Analyst, Intern

- Conducted User Acceptance Test meetings with various Government Agencies such as GovTech, NRF, A*STAR, Ministry of Education and Ministry of Health to identify and log design flaws and bugs into JIRA.
- Discussed issues reported by clients to with Developers to help resolve said reported issues before reverting back to clients.
- Created a testing tool to streamline testing efforts and reduce time wastage from manual testing by 50%, leaving more time to focus more on concerns and issues raised during User Acceptance Test meetings.

CO-CURRICULAR ACTIVITIES

Sketch Arts Club Oct 2016 – Dec 2017
Logistics

- Organised Club Recruitment Drive for 2016 and 2017, and increased club strength by 300%
- Held a few workshops and Art Booths during events to promote arts scene as well as to let students de-stress from academic rigour and to encourage healthy wellbeing.

JENESYS Programme Mar 2015 – Sep 2015

- Embarked on a 10-day excursion to Japan to learn more about Japan culture and become a Youth Ambassador
- Presented on cultural events as part of efforts to promote Japan-Singapore relations and Japan culture.

SKILLS

Languages: Proficient in English and Malay
Digital Skills: Mobile Application Development (iOS and Android), Web Application Development (ASP.NET Node.JS, React, Bootstrap, MaterialUI), Photoshop and Microsoft Office Suite
Programming Languages: C, C++, C#, Swift, Java, JavaScript, Python

HOBBIES & INTERESTS

Graphics Programming (OpenGL, Metal and Rendering Architecture), UX Design using Figma, Painting, Reading, Music and Games

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Singapore 636866

Charles Tran

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https://github.com/Charlestran267

SUMMARY

Learning-eager Computer Science Student with experience in flexible coding with a number of programming languages and strong logical thinking ability. Seeking an 3 to 6 months internship to horn programming skills aswell as to contribute valuable output to the company.

EDUCATION

Bachelor of Engineering (CS) **Nanyang Technological University** **Aug 2020 – Present**

Expected to graduate in 2024 with Bachelor of Engineering in Computer Science

School Project:

HomeSeeker:

- An Android mobile application for property classifieds for expats.
- Used **Java Spring** framework for back-end, **MySQL** for database management and **JavaScript React-Native** for front-end.
- Worked in 7-member project team. Developed back-end services and designed database.

WORK EXPERIENCE

Software Engineer Intern **Eureka Robotics Pte. Ltd** **Dec 2022 – Jun 2023**

- Developed a device management application for robots, cameras, and IO devices using **Python** and **PyQt**, which included device simulation and computational graph.
- Implemented an automated testing system utilizing **gRPC** for inter-app communication, **pyautogui** for mouse, keyboard emulation and **Robot Framework** for test cases construction.
- Trained advanced computer vision models including YoloX and MaskRCNN for industrial object detection applications.
- Leveraged **Docker** for efficient and consistent development and deployment environments.

Student Assistant **Earth Observatory of Singapore** **May 2021 – Dec 2022**

- Designed and developed efficient and maintainable web applications for volcanic ash data monitoring, visualization and analytic.
- Developed back-end services, built user interface, and designed effective database for web applications toease process of handling big data, containing more than 10,000 volcanic ash samples and volcanoes.
- Used **Node.js** and **Express.js** framework for developing back-end, **MongoDB** for storing and managing database, **ReactJS** for developing front-end, and **Python** for creating analytic tools.

SKILLS

- Proficient coding language (C, C++, Python, Java, HTML, CSS, JavaScript, SQL)
- Strong logical thinking ability and problem-solving skill
- Quick learning and adaptability
- Excellent and productive teamwork skill

ACHIEVEMENT

- Ranked **61 out of over 300,000** contestants in 2019 Vietnam national university entrance exam (Math, Physicsand English group). Rank **1** of Hanoi High School for Gifted Students.

Ryan TEO | **Mobile No.: 9797 1228** | **Email:** ryanteo2991@gmail.com
GitHub: https://github.com/BakedPotateo | LinkedIn: https://www.linkedin.com/in/ryan-teo-49ab19142/

EDUCATION

Nanyang Technological University, Singapore Aug 2021 – Mar 2023
Bachelor of Engineering (Computer Science) with a Second Major in Business
- Expected Honours (Second Class), Current CGPA: 4.36/5.00

St Joseph's Institution Aug 2021 – Mar 2023
International Baccalaureate Diploma
- Scored well above global average of 28 out of 45 points, scoring 39 out of 45 points.

ACADEMIC PROJECT

Nanyang Technological University, Singapore Jan 2023 – Mar 2023
SC2006: Software Engineering Project – Design a carpark availability application to assist drivers in locating suitable carparks by 30%.
- Recognized gap in driving experience where drivers were unable to find reasonably priced and available lots in 30% of public carparks
- Developed an application for users to check availability of parking lots in carparks, reducing carpark congestion by 25% and enhancing user driving experience by 20%.

INTERNSHIP EXPERIENCE

-

WORK EXPERIENCE

Great Eastern Financial Advisors Jul 2022 – Mar 2023
Financial Advisor
- Analysed financial portfolios of over 30 clients and recommended policies to advise and feedback for future financial decisions.
- Identified key growth areas and presented insights to fellow financial advisors to raise sales by over 30%.

CO-CURRICULAR ACTIVITIES

QP 30 (Hall theatre club) Aug 2022 – Mar 2023
Executive Producer
- Managed 1 major theatre production, secured a total of $9,000 worth of funds through canvassing events and sourcing for grants.
- Planned 3 major bonding activities over 2 semesters, boosting overall efficacy by 60%.
- Oversaw costumes and make-up team to ensure work was timely and thematic, and actors on stage were presentable to audience. Efficacy progressed by 20%.
- Spearheaded publicity efforts and developed outreach strategies to create a consistent image of club, reaching an overall 15% swell in membership.

Hall V Jam Band Aug 2023 – Mar 2023
President
- Planned over 20 live events for 40 members to participate and perform in, including events performed in popular areas such as Gardens By The Bay.
- Trained 10 members over 3 half day workshops to learn new skills and instruments to promote diversity in bands.
- Initiated creative use of funds to acquire specialised equipment for performances.

SKILLS

Languages: Proficient in English and Chinese, conversant in Japanese and French
Digital Skills: Python, C, C++, Java, JavaScript, SQL, Excel Visual Basic, Microsoft Office, Figma

HOBBIES & INTERESTS

Playing video games, Playing musical instruments (Guitar and Drums), Sports (Frisbee), Volunteering at church