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PROJECT TITLE: ROBOADVISOR FOR STUDENT ACTIVITIES FROM MALAYSIA UNIVERSITIES

ABSTRACT

In this Cenozoic era, graduating from University is like a standard procedure for getting a diligent job in the society. University also getting more in numbers and became common for students to achieve their high level studies in every industry. In Malaysia, there are a approximately number of 70 public and private universities all around the states. It is to believe that competition is necessary and involved as a part of our everyday lives. However, informations from every university's website are rarely standardize and some even fragmented which had caused the third party such as students and parents had their hard time to do researches with every single university. This phenomena will bring students into an unfavorable situation where they might choose the wrong university for themselves due to the difficulties in investigating the aspects and beneficial in each university. Hence, it is a necessity to create a platform for the students, parents and lecturers to have a close connection and understanding from each and every universities, faculties and departments in every university. Thus, we would like to propose an AI-based system, RoboAdvisor, as the solution for the above statement where this system will store all data related to Malaysia University and produce out a meaningful information from these data.

PROBLEM

In this technology and information era, the number of teenagers enrolling into and graduating from university is gradually increasing. It also closer to being a common achievement that every teenagers needs to have, it is also a border line of employing an office or industry job. As the demands in student needs of enrolling into higher education, the number of universities also increasing proportionally as a supply to the demands which is quite a basic theory in economics. As in Malaysia, it is recorded that there are approximately 70 public and private universities all around the states.

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With these loads of universities in Malaysia, it takes time for third party such as the teenagers, parents and lecturers to explore and do researches of the universities with every aspects such as the Courses, Subject material, Social activities, Portfolios and et cetera. However, it is found guilty that the information that we can find in websites of most universities are counted as fragmented information which are all broken pieces of data that are not close together. Some universities even irresponsible to update their university information to the latest such as the alumni of the university and facilities developments. Therefore, these fragmented data became the core problem of third party having difficulties in getting true real-time information.

This core problem, the fragmented data issues in every university had effected two main phenomena in the society. The phenomena could easily discovered are the third party had hard time to produce a better choice in targeting the most suitable university for every individual. Feedbacks of every subject from every student will always collect from the universities after every semester. However, the feedbacks are disclosed by every universities which actually the feedbacks are very vital to the third party as they able to feel the true learning environment from the feedbacks of the students. Websites and advertising will always show the best from their facilities but feedbacks will show the true feeling towards the surrounding. Thus, It is possible for students to remain anonymous and providing feedbacks in the surveys or forums to show the true experience received from the universities

The second phenomena is the connection between the third party, universities and alumni is weak which happens to became fragmented data. The role of alumni in every universities are to build and grow the institution's brand to increase the application rates of the university. University also rely on alumni to provide mentoring, internships and career opportunity to the students. However, some of the universities did not manage well the interaction with alumni. This issue had affected the students and alumni lack of communications as students actually can see their career path from the alumni themselves.

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SOLUTION

The solution I provide are developing an AI-based System named as RodoAdivsor that will store all relevant data and update itself with 70 universities. Each of theirs informations included career news(job opportunities, mentors, alumnus), students activities(clubs, societies, event, unions) and universities(profiles, history, location, Board) and more shown in Appendix 1, will be directing to a central database to prevent further data fragmentation from every university in Malaysia.

RoboAdvisor also allows students to provide feedbacks to ensure real time data occur in the system with all kind of information such as learning environment. These data and informations will be used to propose out a accurate analytic and statistics for the students with entire results such as the strength and trending in universities, students' feedbacks and et cetera. These features also enable the universities to connect and understanding each other among own faculties and different universities.

For instance, the Student Activities module focus in information relating to every social activities of the students to determine the activeness and the encouragement of getting student socialise in each universities. The information will be collected such as the info and activities of Clubs and Societies in every universities. Unions between every universities also will be collected for analysis. With the data scraped from these aspects, UI/UX also will be developed to show the dashboard from the analysis with central database. Analysis also will use various algorithms to achieve the best outcome for the third party.

Thus, we will give our best contribution into each of our modules to develop a complete functional AI system, RoboAdvisor.

The essential functions and features of the AI System are as below:

1. Provide a centralised database that enable to store each and every relevant information of the universities with auto search and filter function.

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2. Perform analytic and statistics with all the trends, strength and students' satisfaction of every university.
3. Dashboard that provide highly accurate predictions and recommendations to users based on the statistic and analytic produced.
4. Platform that able to connect all the students in every university all over Malaysia.

Technology that will be used during developing will be show in Appendix 2.

TARGET MARKET

The System is beneficial to the community in university mainly the academic staff, students and alumni. These are the community that mostly plan to have a collaborations with different universities and exploring different universities in Malaysia. A little research will be involved to prove the involvement and demands from the community. Market size will be set among these 70 Universities to predict a realistic market size.

COMPETITION/CONTRIBUTION

The system that we are developing is to form a centralised database among all 70 universities and collect all sort of data and information from them to provide a highly accurate analytic and statistics with meaningful information produced. The system surely able to ease every community related to university when exploring and investigating every designed university which able to solve the scenario of spending wholesome of time in scrolling each and every university's website to gather all information they need.

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MILESTONES

The approach that I will going to use in this Final Year Project (FYP) is the development model approach.

Mile Stone	Mile Stone Goal
Web Scraping	Scrap all the related information of Malaysia Universities and produce output in .csv format.
Database development	Push all the scraped information into one central database with auto search and filter functions.
Database UI/UX development	Development of UI/UX for the database to produce information needed and data flowchart.
Dashboard Design and Development	Design and development of the dashboard of the RoboAdvisor AI-based system.
Live feeds scraping	News scraping for latest development/trend

REFERENCES

1. MyFinB Group, 2021, RoboAdvisor Module Specification, unpublished photograph, viewed 17 March 2021

2. MyFinB Group, 2021, Technical Stack Across System Components, unpublished photograph, viewed 17 March 2021

3. Bishop, R., 2021, Why Alumni Are Important for Higher Ed Institutions | Signal Vine. [online], Accessed 17 March 2021,

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<HTTPS://WWW.SIGNALVINE.COM/ALUMNI/WHY-ALUMNI-ARE-IMPORTANT-FOR-HIGHER-ED-INSTITUTIONS#:~:TEXT=ALUMNI%20SERVE%20MANY%20VALUABLE%20ROLES,AND%20CAREER%20OPPORTUNITIES%20TO%20STUDENTS.>

4. LOVE, J., 2021, [ONLINE] LEADERONOMICS.COM. , ACCESSED 17 MARCH 2021, <HTTPS://WWW.LEADERONOMICS.COM/ARTICLES/PERSONAL/NECESSITY-COMPETITION-LEADERSHIP>

5. AUGUSTYN, A., 2021, SUPPLY AND DEMAND | DEFINITION, EXAMPLE, & GRAPH. [ONLINE] ENCYCLOPEDIA BRITANNICA, ACCESSED 17 MARCH 2021 <HTTPS://WWW.BRITANNICA.COM/TOPIC/SUPPLY-AND-DEMAND>

6. STATISTA, 2021, MALAYSIA: HIGHER EDUCATION ENROLLMENT | STATISTA. [ONLINE], ACCESSED 17 MARCH 2021, <HTTPS://WWW.STATISTA.COM/STATISTICS/794845/STUDENTS-IN-PUBLIC-HIGHER-EDUCATION-INSTITUTIONS-BY-GENDER-MALAYSIA/#:~:TEXT=STUDENTS%20IN%20PUBLIC%20HIGHER%20EDUCATION,MALAYSIA%202012%2D2019%2C%20BY%20GENDER&TEXT=IN%202019%2C%20AROUND%20291.53%20THOUSAND,ENROLLED%20IN%20PUBLIC%20HIGHER%20INSTITUTIONS.>

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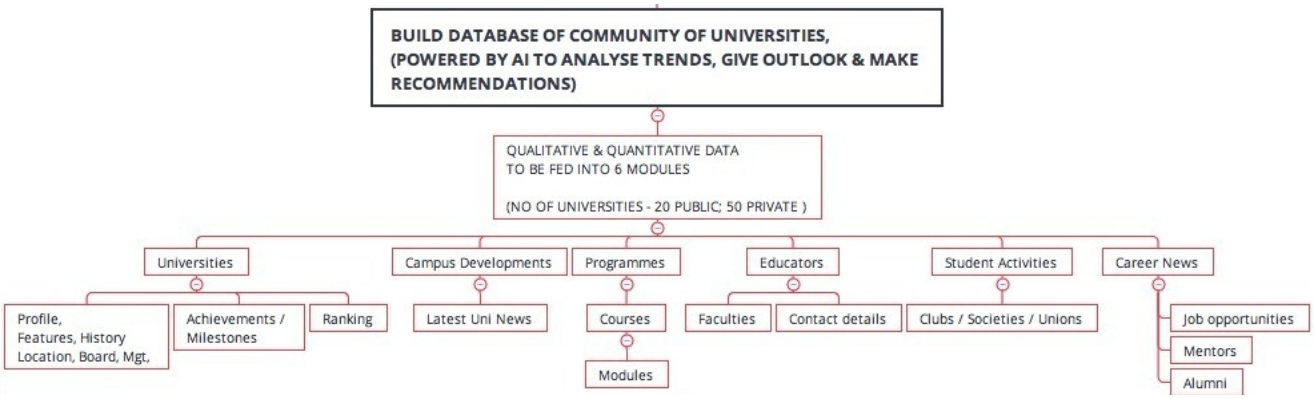
APPENDIXES



Appendix 1: Areas of information to collect in University

Technical Stack Across System Component			
Database	Scraping	Platform & Analytic	Dashboards/ UIUX
Oracle	Python	Python	Python
MySQL		Kotlin	Visual Studio
		Java	Google Colab

Appendix 2: Tools to use during development