CAT400 Undergraduate Major Project

Initial Project Proposal  
University Strategic Partnership CRM System  
Project Development

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Abstract

The University Strategic Partnership Customer Relationship Management (CRM) System is a dashboard system that seeks to improve the academic relation between the main users, university lecturers and industries. The system allows university lecturers, specifically Computer Science lecturers and industry stakeholders to promote their projects, either research and development or teaching and learning projects. The system provides a discussion platform for users to discuss these projects in detail and keep track of their progress. Users can get project recommendations and match their profile with other users which are tailored based on their liking for an enhanced experience. The project is developed for both university and industries to connect with each other in a more efficient way. Other than that, university students can get a hands-on experience of how the industry works, which is beneficial for their future. The system should be a dashboard application that can be used by university and industries to communicate with each other for project collaboration purposes. This should also be able to help users identify any projects and collaborators of their interest based on the recommendations of the system.

Keywords: university, industry stakeholder, research and development, teaching and learning, dashboard

# Project Background

Research and development (R&D) have always been pivotal to the science and technology industry to ensure the industry keeps evolving [1]. Continuous R&D helps create new knowledge and find solutions to certain problem. In university level, collaboration between companies and university are one of the important mechanisms for continuous R&D. This collaboration is also important to ensure education for university students are at their best through multiple teaching and learning (T&L) provided. However, to date, there has not been a proper platform for easier communication between the two sides. Besides, the current traditional ways like through emails are not suitable for proper documentation, as there is no repository to store important documents related to the project such as participants’ certificates.

The University Strategic Partnership CRM System is a system that aims to minimize these problems by offering a platform for university lecturers and industry stakeholders to collaborate with each other easier. Instead of doing it the traditional ways, both parties can do it through this system. The system consists of three users, admin, university lecturers and industry stakeholders. This system uses Customer Relationship Management (CRM) practice to analyze users’ data to identify their preferences, thus enhancing the academic relationship between the university and stakeholders.

The current existing CRM system mostly catered to business industry to boost business sales. Zoho CRM is a popular example where it is available for both mobile and web. It is a cloud-based system that stores and uses customers’ data for better customer service [2]. Other than the basic features such as adding tasks, one of its most outstanding features is Zia, their virtual assistant. User can chat with Zia via voice or text to look for the data they are looking for. User can also communicate with team members via the ‘Feeds’ tab. Figure 1 shows one example of dashboard of Zoho CRM system for its web application. It displays the data for the business sales in various form of graphic.

Graphical user interface, website

Description automatically generated

Figure 1. Zoho CRM dashboard for sales.

# Problem Statements

When it comes to collaborations between university and their stakeholders, there needs to be proper two-ways communication. However, the current ways such as e-mailing, or sending WhatsApp messages are not good enough platforms so both sides cannot communicate properly regarding collaboration. Emails or messages sent may have been buried under a pile of other messages when discussing for collaboration, which may lead to lost or misleading information. There is also no proper archive to store records for the project, including draft agreements.

With the current Covid-19 pandemic still happening in Malaysia, many universities also missed out the opportunities to handle face-to-face events related to working life such as industrial visit. Even though the situation is recovering, it is still hard for university to do such event due to SOP restrictions. Hence, many opt for virtual events, e.g virtual site visit. However, it may be hard for university to look for potential companies for collaborations due to many of them cutting down their resources or ceasing operations because of the pandemic.

Other than that, most CRM systems in the market are developed only for business. To date, there has not been a good CRM system for university-industry collaboration. For its mobile application, Zoho CRM system still lacks some features that makes it unfit to be used. Zoho does not display all tasks user has added in one page, only showing the tasks for the specific day the user has set. User needs to navigate to the date of the task to show the details of a specific task or search for it.

Graphical user interface, text, application, Teams

Description automatically generated

Figure 2. Zoho homepage for adding tasks, meeting and calls

So far, Zoho also only allows one project only for one account at the same time. University-industry collaboration usually involves lots of projects. Obviously, Zoho CRM system is only developed for a group of employees working on the same project to schedule their tasks and meeting, making it unusable for a university-industry collaboration CRM system.

# Motivation

Establishing partnerships effectively is not a walk in the park matter. In fact, many things need to be taken into consideration, especially when it involves university and industry where there are various people with different business goals and drive. Time may also be a hindrance when discussing for a project collaboration, even seeking for a potential stakeholder is time consuming. This system is developed to help these people align their goals despite their busy schedule.

# System Objectives

The objectives of the system are:

* To provide a dashboard system that allows university lecturers and industry stakeholders communicate with each other for collaboration purposes. Through this platform, both sides can reach out to each other easier, whether it be for research and development (R&D) or teaching and learning (T&L) projects.
* To recommend suitable projects to users. The system provides project recommendations based on users’ interest.
* To serve as a centralized repository to keep documents related to discussed projects. In this way, proper documentation can be made for the projects.

# Proposed Solutions

The University Strategic Partnership CRM System is a dashboard application for university and industry stakeholders for research, development and education purposes. Through this, university can keep in touch with industry stakeholders for collaboration. The system contains five modules:

Figure 3. Proposed solution of University Strategic Partnership CRM System

The first module is **User profile** module. The main page of the dashboard will display the profile of the user. All users can update their profile and view other users’ profile. Admin monitors and sets user access to the system. Users are required to update their specialization according to these categories: Information Systems Engineering, Multimedia Computing, Distributed Systems & Security, Network Computing, Software Engineering and Intelligent Systems.

Next, the **Joint R&D pipeline** is the first core module that provides users the opportunity to post any project related to research and development (R&D). This is where user, either university lecturer or industry can look for potential collaborators to work on an R&D project together. This module covers final year project (FYP) project offering by industry partners. It also covers potential research project offering between academic staff and industry partners. Project admin can edit the project while interested collaborators can reach out to the admin. This will be discussed further in the Discussion module. User can also track the R&D project progress. Both parties can update the project with more information as they progress. There will be a repository to store important documents related to the project such as draft agreements and project description. User also has the options to search and filter projects based on their keywords.

The third module, **Industry in classroom** module is the second core module. Teaching and learning (T&L) projects are allowed to be posted such as industrial talk or site visit. This module covers subjects related to Computer Science from first year until final year. The subjects are sorted according to the six categories mentioned in the User profile module. There is also an option to track the project’s progress by updating the details of the project and adding important documents to the repository. User is also able to search and filter projects.

Fourth module, **Discussion** module stems from R&D and T&L projects posted by the admin. For every project user posted, there will be a discussion board for further discussion by admin and potential collaborators. There are two kinds of discussions, pre and post project participation discussion. For pre-project participation discussion, collaborators can comment under a project’s post for a project they are interested with. The discussion will be public where admin can reach out to collaborators that commented. After choosing one they are interested with, there will be a private discussion between the two parties for further content planning, such as discussing the topic in detail. Post-project participation discussion still involves both sides, however it only happens after they have done the project. This is where they can discuss issues such as certificates to participants or agreements.

The last module, **Relationship management** module provides enhanced experience for users, where they can view project recommendation based on their preferences and domain of interest. For users who might be interested to collaborate with a specific collaborator but have not yet decided on the project, may also be matched with user with the same domain of interest with them. This module uses data mining algorithm technique to determine match for users and projects.

# Benefits / Impact / Significance of Project

The benefits of the project are:

* University and industry stakeholders can reach out to each other more easily for collaboration purposes.
* The system can promote healthy idea exchange between university and industry stakeholders through the projects.
* Industry stakeholders can identify and hire talents from university for job training early.
* University students can be exposed to the industry, preparing them for working life earlier.

# Uniqueness of Proposed Solutions

The uniqueness of the proposed solutions is:

* The system employs data mining algorithm to identify user preferences to find industry to their liking.

# Expected Outcomes

The expected outcomes of the system are:

* Communication between university and industry stakeholders for collaboration purposes are easier and more effective.
* More productive idea exchange between university and stakeholders for planned project.
* Young talents among university students can be recruited and nurtured for future projects.

# Status of the Project

The project is new and has never been developed before. The app may, however, take inspiration from existing CRM system available.

# References

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