

Research Article

Exploring the Benefits of the ClubNet System Development

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Abstract: The ClubNet system was developed to ease the process of signing new members for UiTM club registration. In order to successfully administer both academic and extracurricular student clubs at UiTM Machang, it offers information on the individual students as well as club history and current events. The system helps students get the most out of their participation in club events and keeps track of each club's success while also maintaining an extensive database for event information. Offering arranged registration information, it provides a remedy for students who are having trouble finding their preferred groups. Additionally, the technology sends messages directly to students about club events and permits involvement without official membership. All UiTM Machang students and those engaged in club registration have access to it. The technique guarantees a methodical approach to problem-solving and adherence to project requirements. The system is developed using the five-phase Software Development Life Cycle (SDLC) methodology. The impact of this system will help in organizing and managing the development process. It demonstrates how the system may improve club registration and management, encourage student engagement, and operate as a useful tool for planning and monitoring club events.

Keywords: Student Clubs; Student engagement; Database Management; Software Development Life Cycle (SDLC); UiTM club registration.



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1. INTRODUCTION

Universiti Teknologi MARA Cawangan Kelantan (UiTMCK) was established in Kem Kijang on July 1st, 1985. One of Universiti Teknologi MARA's branches, UiTM Kelantan Branch (UiTMCK), is situated in Kelantan Darul Naim. It was created in a temporary facility close to Kota Bharu in July 1985 as the ninth UiTM branch campus. The UiTM Kelantan branch campus moved to Machang in January

1996 and is now permanently there. The ninth branch campus of Universiti Teknologi MARA (UiTM), originally known as Institut Teknologi MARA, was opened on July 1, 1985, by YAB Tan Sri Dato 'Haji Mohamad bin Yaakob, the Menteri Besar of Kelantan at the time. The Central Government has provided funding for many ancient buildings renovation and the construction of new buildings for RM 1.5 million. The first group of 185 students signed up to take the Diploma in Accounting, Diploma in Business Studies, Diploma in Bank Management, and Diploma in Secretarial Science from July through December 1985. 71 employees comprise the initial staff, including 7 lecturers and 64 non-academic employees. In 1993, work on the permanent campus officially began. 200.32 hectares of land in Bukit Anjing, Machang, have been given by the federal government for use as a permanent campus. The original name of Bukit Anjing was changed to Bukit Ilmu in accordance with the purpose of UiTM, which offers learning opportunities in numerous disciplines for Bumiputras, thanks to the late Dato 'Nik Abd. Rashid Nik Abd. Majid, the former Director of ITM at the time. On January 1st, 1996, the transfer to Machang Campus officially started. On August 26, 1999, ITM became Universiti Teknologi MARA (UiTM). The UiTM Kelantan Branch is now expanding quickly to suit the need to be a top institution in Kelantan.

The ClubNet is a system developed to accommodate convenience for registration as a club member. This system provides needed information such as student's personal information, the club's background, and the club's activity. The system aimed at helping UiTM Machang to manage all its academic and non-academic student clubs effectively and for the students to make the best use of all the activities conducted by the club. This system not only maintains a database of all the details related to the events but also showcases the performance of each club in different aspects for a better understanding of each club's growth. Moreover, this system offers a solution to students having difficulty finding their desired club and provides well-organized information about student club registration at the moment. In addition, the system can notify all activities about the club and remind all students of the activities that are available at that time, and they can join the activities without being a club member. All members will receive notifications through the system directly. The system is officially for all students and those involved in student club registration at UiTM Machang.

1.1 Problem Statement

Numerous academic and extracurricular student groups are available at UiTM Machang. Currently, Google Forms and interviews are used in the enrolling procedure. Club events are advertised on social media sites like Facebook and Instagram, and the gathered data is kept in files. This strategy, nevertheless, has been inconvenient. Data mishandling might result from students being too busy to attend interviews or visit the club center. Additionally, students could overlook significant social media developments, and registration links supplied by groups might become invalid. In addition, groups have a hard time enlisting new members owing to low student awareness. Finding groups that complement their talents might be difficult for some motivated kids. A suggested approach attempts to simplify student registration and allow effective club registration session administration to solve these issues.

1.2. Objectives

The objectives of the project are as follow;

1. To ease all data on club activities that students participate in.
2. To properly manage data on student engagement and clubs.
3. To develop a computerized system that catered to all students.

2. METHOD & MATERIAL

The methodology is a method for methodically solving the research problem. The standards help guarantee that the project adheres to the flow for the greatest results. The system methodology is also a framework for structuring, planning, and controlling the development of an information system. A methodology is an arrangement of principles and rules derived from a specific approach to solve a problem and govern a sequence of actions to generate an information system. Spiral approach, scrum, crystal, extreme programming, Joint application life cycle, Agile development, Software development life cycle, and many more can be utilised to apply in the system. To expound on the methods adopted in this student's registration club system. The Software development life cycle (SDLC) approach will be used to create the system, consisting of five phases. This chapter will highlight and explain each process in greater detail.

2.1 System Development Life Cycle (SDLC)

The system development life cycle is a project management model that specifies the processes involved in taking a project from start to finish (Veracode, 2023). The System Development Life Cycle (SDLC) is a framework that defines the tasks done at each stage of the software development process. It may also refer to a sequence of steps that help with life cycle management. The SDLC will essentially cover all process aspects, such as planning, analysis, design, implementation, and maintenance. These phases are critical for launching and expanding the information system (Satzinger et al., 2012).

A systems development methodology is a systematic procedure that an organization uses to carry out all of the stages required to assess, create, implement, and manage information systems. The SDLC is a standard process for developing, maintaining, and replacing information systems. Aside from that, this SDLC approach comprises five phases: requirement planning, analysis, design, implementation, and maintenance.

Table 1. The SDLC phases, activities and deliverables of this system

Phase	Activities	Deliverables	Objective
Planning	1. Identified whether need a new or enhanced system. 2. Determine the scope of the proposed system and feasibility study. 3. Identified and analysed the problems students face while engaging in clubs at UiTM Machang.	1. Requirement of systems. 2. Scope needed system. 3. Data requirement current issues.	To study the student's club registration issues to be used in the system.
Analysis	1. Conduct the interview sessions. 2. Questionnaire. 3. Observe Committee members. 4. Analysis requirement. 5. Document requirement.	1. Data requirements from the advisor of the club and student. 2. System requirement specification documentation. 3. Use Entity relational	To gather and analyze the requirement.

		diagram, data flow diagram and context diagram.	
Design	1. Design the system. 2. Design interface. 3. Document system design. 4. Database design.	1. Detail entity relationship diagram, data flow diagram and context diagram. 2. Interface of system. 3. The interface of database.	To design the student's club registration.
Implementation	1. Programming language 2. Local Server	1. Use HTML, PHP language and MySQL. 2. Local server XAMPP.	To implement the SCR system
Maintenance	1. Systems performance	1. Ability to meet user needs.	To maintain the system.

2.1.1 Planning

The first step, "planning," is an SDLC method phase for selecting an acceptable strategy for developing the system. As a result, we must analyse and identify the issues that students have when participating in clubs at UiTM Machang. Also investigated what was causing the students to miss out on information about club recruitment forms. The appropriate features for the student registration club system ClubNet are user-friendly, allowing students to utilise it. During the planning phase, the developer researches student demands that may assist them in organising their calendars as well as being engaged students. Examined the system scope and planning specifications, as well as high-level system, needs or features.

It needs to examine the precise stages and work plans during project planning. The feasibility study aims to discover the reasons for building the web development and whether the software can be developed using existing technologies within a given time frame. During this phase, all information concerning ClubNet must be acquired to analyze the ClubNet system's aim. All of the data is utilised to ensure that the system meets the users' needs. Aside from that, brainstorming with team members was required to establish a plan to ensure the system development project ran successfully. To properly execute the project, all plans must be followed.

2.1.2 Analysis

This phase is critical in the analysis phase since all requirements, processes, and data must be established and found by genuine data. This phase determines and documents all of the stakeholder and customer requirements. Furthermore, requirement analysis is a step that defines the system's function, as stated by the stakeholder. An interview session may be used to collect data, and this sort of session is typically formal since it seeks to obtain favorable data to be used in creating this system. The key and critical talks between developers and stakeholders will be documented as data in the system. For analysis in, project requirements are conditions or tasks that must be completed to ensure the success or completion of the project.

Interview: The student club advisor seems interested in the proposed system. The interviewee has a big expectation of us to implement the system for students to register as club members.	
Interviewee: Miss Nur Ainatul Mardhiah Mat Naw	Date: 30th January 2023
Location: Kemayang Chalet	Time: 11:00 am-11:30 pm
Objectives: The objective of this interview is to get the information regarding the system requirement needed to develop our system	Reminders: The club students need a systematic system for the student to apply as the club member. The interviewee is searching for a system developer to develop a system for her organization
Issue	The data of students who enroll in the club is not organized properly, and some of the data is easily lost because the data is still stored in paper
Question	Notes
Can you explain the background of Society of Information System Management (SISMA)	Society of Information System Management (SISMA) was established in 2010 under Faculty of Information Management as academic club
What are the procedures used by the club to recruit new members?	Students can fill out the Google form that has been created, and community members will hold face-to-face (F2F) interviews in charge to find potential candidates
does the club set any limit to find candidates during registration as club members?	If the club is open for 30 members and there will 30 candidates join the interview so they will accept to become the club member, but if the candidates are out of the limits or have more than 30 members, we will find the most potential candidates to set as club members
How did club promote or announce its club activities?	Before this, our activities will be blasted on Instagram, Facebook and Whatsapp.
What other requirements do you want to have as a key feature of the system?	The student club registration system must improve data privacy, providing effective student registration and support in the for a student to become a club member. interest in delivering better results

An interview was conducted for this system with a possible partner or stakeholder, Miss Nur Ainatul Mardhiah binti Mat Naw, the advisor of the SISMA club. A lot of information on the student club registration procedure was gathered throughout the interview sessions. One of the methods used by a committee member to acquire data and system requirements for student club registration is to monitor the committee member. During this phase, pay attention to how they manage information about club events and members. Observe committee members at specific moments to determine the information required for their duties.

A questionnaire is used as part of the data collection process. A questionnaire is a series of research or survey questions that are frequently asked of respondents and are aimed to elicit particular

information from them (Bhat, 2023). Sets of questionnaires have been distributed to students for this system. After reviewing the website and determining the breadth of the system, the developer discovered that most students were encountering challenges, such as missing out on a fantastic opportunity to join a club because they missed the deadline. The developer discovered that some students lost out on knowledge because there was too much material in the group.

Requirements are collected from a form filled in by a student in a survey conducted through Google Forms to collect information about the student's behaviors, needs, and opinions. Surveys can be used to find out attitudes and reactions, to measure client satisfaction, to gauge opinions about various issues, and to add credibility to the proposed system. Using observation in project requirement gathering should come fairly early on in the process by watching community members of the club and students in action during the registration club member process. The analyst should know what data is to be collected, how observation will be done, when and where to observe, how the data will be collected, and what the data will be used for after analysis.

The problems at UiTM Machang involved club registration by blasting the registration form in a Whatsapp group. The analysis is a collection of factual data. Furthermore, analysis is the act of understanding the flow of system development, finding problems in prior systems, and proposing appropriate suggestions to improve system function in development. This includes acquiring operational data, understanding information flow, and developing solutions for the system to meet the goal. Furthermore, all online research and reviews should be analyzed to determine the best methodology and procedure for the job. As a result, this project will employ PHP and HTML to create a web-based system and a rule-based system to choose the system.

2.1.3 Design

At this point, all the information evaluated and analyzed is transformed into graphical data. The design will depict the system's flow in greater detail and provide an overview of the system's aim. This phase includes architecture design, user interface (UI) design, and database design.

This phase also includes the context diagram (CD), data flow diagram (DFD), and entity relationship diagram (ERD) to represent the relationship of the entity to display the flow of the database. A competent architecture design may provide a clear perspective while constructing a project. The design step includes creating the system's interface.

2.1.4 Implementation

This is the stage of development. This project system began with HTML coding, and the CD and DFD were constructed for the system flow process. To connect to the database, this SCR system employs the programming languages HTML, PHP and the local server known as XAMPP. As a result, the implementation phase verifies that the system satisfies the aim and that the user requirements have been met. The period during which the information system is coded, tested, implemented, and maintained within the company is known as implementation. At this phase, the system is built and tested. The developer writes the computer code and builds the system based on the prior design documents and the specifications specified during the design phase. Developers will adhere to all of the organization's coding rules and use various tools such as compilers, debuggers, and interpreters.

2.1.5 Maintenance

Maintenance is required during the support and operation period, as is a regular system upgrade. This phase often focuses on the system's performance and ability to meet user needs. The

following effective metrics are used to measure the maintenance needs in the ClubNet: first, the number of failures; second, the duration between each failure; and finally, the kind of failure. The final stage is maintenance. The stage at which the information system is enhanced or updated regularly to improve performance. Even though testing should have fixed any issues that may have arisen, the new system must still be monitored to verify that it is functioning properly. It is also vital that the system receives regular maintenance to perform effectively. Furthermore, the organization's requirements may change over time, necessitating system changes based on user requests and needs. As a result, new skills or requirements will be included at this point. Developers are active in this stage because they must do the tasks necessary to resolve concerns end users report.

3. FINDINGS

Several features are available in the newly created student club registration system CLubNet to streamline the registration process and enhance overall club management. These consist of:

- a. Online registration: The method enables students to register their clubs electronically, eliminating the need for paper forms and lightening the administrative load.
- b. Membership Management: Through the system, club members can simply join or leave clubs, and administrators may monitor membership statuses and effectively share crucial updates.
- c. Event Management: The system offers resources for organizing, arranging, and publicizing club events and keeping members updated and involved.

The study's findings emphasize the essential elements of the ClubNet system, such as online registration, membership administration, and event management. UITM Machang can implement this system to promote student participation, streamline the club registration process, and offer a helpful resource for organizing and managing club events. The method deals with the problems of improper data handling, lack of student knowledge, and difficulty locating desired groups. Additionally, it guarantees effective communication and offers a systematic approach to problem-solving.

Online registration, which takes the place of customary paper-based registration forms, is one of the main features. This change reduces the possibility of data handling errors by eliminating the administrative overhead associated with manual data entry and storage. Students can sign up for clubs, choose their preferences, and submit their information electronically through an online platform. This expedites the registration procedure and saves club administrators and students time.

The ClubNet system's membership administration is a key component. The system enables effective management of club memberships and gives administrators access to membership status information. Clubs can use this tool to keep an accurate record of their members, making it simpler to contact them and give them information about club events. Additionally, it makes joining and quitting groups easier, improving the overall club experience for students.

The ClubNet system's event management capabilities are yet another important feature. The system offers tools for organizing, coordinating, and promoting club events. Thanks to this feature, students can participate in events that interest them by accessing the most recent information regarding club activities. The solution allows clubs to effectively convey event details to their members by centralizing event management, increasing student engagement and involvement.

The ClubNet technology helps UITM Machang overcome issues with data handling errors, limited student awareness, and locating preferred clubs. The system ensures that student data is safely

preserved and readily available by digitizing the registration process and maintaining a single database. Inconsistencies or data loss are less likely as a result. The system also encourages student awareness by offering thorough details about clubs, their activities, and events. Students can easily browse and investigate various clubs, making educated decisions based on their interests and skills.

The system's messaging capabilities make it easier for clubs to communicate effectively with students and alert them to future events and activities. By enabling students to take part in club activities even if they are not formal members, this feature encourages inclusivity. It helps kids feel like they belong and encourages them to attend numerous clubs and participate in different activities.

In sum, the findings emphasize the important qualities and advantages of the ClubNet system at UITM Machang. The institution may simplify club registration, raise student participation, increase communication, and give club event planners and monitors a useful tool by using this system. The system provides a thorough solution for successfully organizing and maintaining student clubs, addressing the difficulties experienced by UITM Machang. Overall, the ClubNet technology helps students have a more effective and enjoyable club experience and supports the expansion and accomplishment of clubs at UITM Machang.

4. DISCUSSION

Student clubs play an important part in students' holistic development by offering a forum for them to pursue their passions, interests, and hobbies outside of the academic curriculum. The process of club registration is an important component of student club membership since it provides multiple benefits and has substantial value for both individual students and the larger student community. In discussion, we will discuss the advantages and significance of the student club registration system. The registration process encourages student involvement and engagement. It encourages students to take the initiative and build communities around their interests by offering a structured mechanism for creating clubs. Students may use the system to promote their interests, attract members, and plan club activities and events. More students actively participate in extracurricular activities as a consequence, creating a vibrant and dynamic campus environment. The registration process makes it easier for groups, their members, and the larger student to communicate clearly and exchange information. It provides a platform for clubs to disseminate announcements, event details, and important updates. The system also enables students to browse and research other groups, their goals, and forthcoming events. This transparency and accessibility encourage inclusion and provide students with the information they need to decide whether or not to join a club. The registration system serves as a platform for student group networking and collaboration. It allows groups to interact with one another, establish mutual interests, and explore partnership options. This networking improves the sharing of ideas, facilitates multidisciplinary connections, and supports collaborative projects. Collaborations like this enhance students' perspectives, encourage innovation, and develop a sense of interaction among clubs and their members.

5. CONCLUSION

To conclude, the student registration club system is a user-friendly online registration system for student usage, which allows students to register as club members. Furthermore, it also provided the advanced features of keeping track of activities conducted by the club and displayed club information. This system would also be beneficial for both students and HEP UiTM Machang. Students can simply register at their convenience and submit their information immediately when using student registration club systems. As for the student's club management, this system will provide a report about

the data students such as student detail, club detail, and activities detail. The system does everything and the student just needs to log in. We believe that through our system, users will become more aware of how crucial information management systems will be in the future.

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