

## Malaysia Yemen Student Information System with SMS Notification

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### ABSTRACT

Malaysia Yemen Student Information System (YSIS) with SMS (Short Messaging System) Notification is to take an important role of developing integrated information about Yemen's students that study at all Malaysia's university. YSIS will develop in order to overcome the problems with the current manual system. The system management will give a benefit to every Yemen student in Malaysia, cultural attached to integrate, transfer, and get updated data and information faster and easier. Rational Unified Process (RUP) methodology is used to develop the system. However, it used mobile technology within the web technology to develop part of SMS notification. The system is available as long as internet connectivity is available. The system can be accessed without limitation of the time and place.

**Key words:** Relational unified process, student information system, SMS, web technology, Yemen.

### 1. BACKGROUND STUDY

Now days, the web-based system are spread over the entire world. The manual system suffers from so many faults. It's very difficult to run the whole information and to do the desired operations on database, huge information cannot be managed and the search process for specific data is not easy. These factors and others affect the feasibility of the Yemen culture attached manual system.

The web-based system has a lot of advantages such as more manageable, cross platform, compatibility; reduce cost, quick search and others. All this can be considered for good features for the web-based system [1].

Yemen culture attached does not have electronic database system for Yemen students who are studying in Malaysia. They have just a manual archive system. This is not easy for searching, selecting and archiving the databases for student's information. Then, it makes all the communication become difficult between Yemen government and the students.

Furthermore, when the Yemen culture attached wants to search for specific student's information, they search into all the saved documents. Then, it will take long time to get it. It is also happen when they want to make an announcement for specific Yemen's student or all the students.

This can be considered wasting time, resources and so on. Also, there are many problems are facing by culture attached and one of these problem is the period of study for student. Some time, the limited period of time for students to complete his/her study that is given to his/her from high education is ultimate without known the culture attached. This is because they do not have organized data.

And also, they have many manual documents data of students some lose and sometime they do not know where the file of these students located. This let students continue study even their scholarship had finished. In additional, the miscommunication between students and Yemen culture attached is main obstacles to communicate quickly.

For that, developing Yemen students information system is to help culture attached to discover the faults of the manual system and to be useful for them to communicate with student. This system will recover the previous system that the culture attached still use.

### 2. RUP METHODOLOGY

Rational Unified Process (RUP) is a software engineering process that was developed recently. It is one of the best tools that are used to develop web-based applications and information system. This process enhances the team productivity and delivers software in best practice through guiding principles, templates and tool mentors for all critical software life cycle activities.

RUP was derived from the work on the Unified Modeling Language (UML) and the associated process. Therefore, it allows the developers of the software to invest and use the features of the UML. It is usually described from three main prospective [2].

- i. A dynamic perspective to show the phases over time.
- ii. A static perspective to show the process activates.
- iii. A practice perspective which is suggests for good practices.

RUP is also explains on how to effectively set up a commercially verified approaches on software development for development teams. RUP has six best practices which are described and offer to the development team for the guideline, templates and tool mentors necessary. The six best practices of the RUP are as described below by the Rational [3].

- i. Develop software iteratively.
- ii. Manage requirements.
- iii. Use component-based architectures.
- iv. Visually model software.
- v. Verify software quality.
- vi. Control changes to software.

RUP model process has been selected as prototype in the development of YSIS system. This method focuses on how prototyping the system design that will be designed for the user’s requirement to access the system features. This process model has four phases in terms of the development life cycle for the information system which are consist of Inception, Elaboration, Construction and Transition phase.

These are the main four iteration phases in RUP. In the inception phase, there will be little iteration that is going to define the scope of the project and business use case. While in the elaboration phase the project plan will be in more consideration.

Then, some aspects such as features, requirements and baseline the architecture of the system is also specified in this phase. Construction phase is more conducted with implementation and building the product. The last phase is the transition phase. In this phase, the product is transmitted to the end users and installed in the working environment.

This process can be described in two dimensions, or along two axis. One axis describes the iterations and the other describes the operations that can be performed during the system development life cycle [4]. Figure 1 shows a clear picture of both vertical and horizontal axis.

The horizontal axis represents time and shows the dynamic aspect of the process as it is enacted. And it is expressed in terms of cycles, phases, iterations, and milestones. The vertical axis represents the static aspect of the process: how it is described in terms of activities, artifacts, workers and workflows.

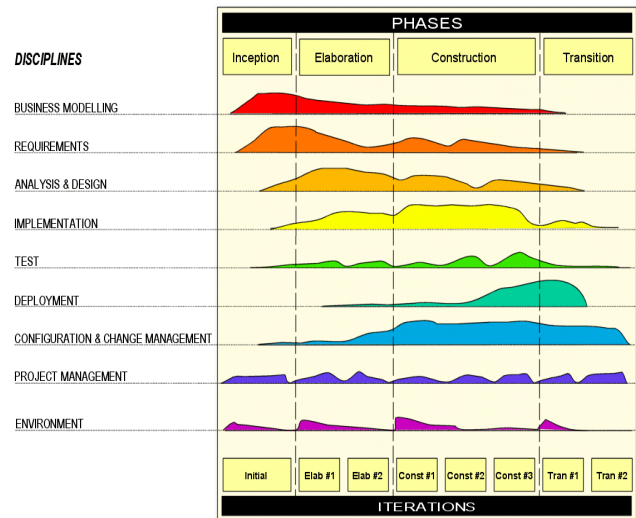


Figure 1: RUP Model

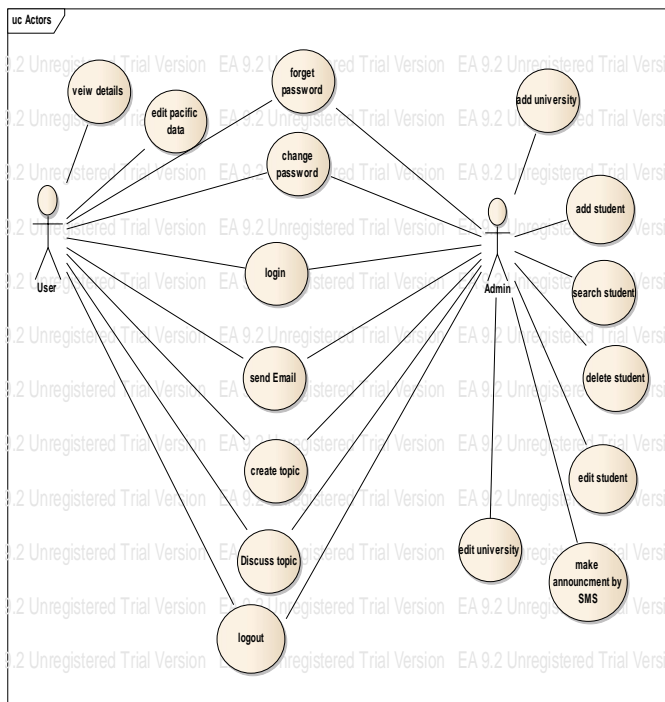
### 3. USE CASE MODEL

Use Case model is one of the most crucial models in the design phase of the system. The use case diagrams must meet the requirements specification [5]. Dividing the use case into small modules was desired in order to reduce the complexity of the understanding of the system function.

Forth more, they illustrate how actors can communicate with the functions of the system. Actors are entities that have interaction with the system [6]. They can be external or internal entities such as people, other system, and organizations.

Figure 2 shows the whole operation of YSIS that explained briefly its functions. It shows that two actors interact with the system. Normal user (student) can perform several functions which is starting from login until discuss the topic.

The administrator (YCA) actor is the one who has the ability to add new student, university to the system and delete any existing student from the system. He can control the users of the system as well.



**Figure 2:** Use Case Model

#### 4. IMPLEMENTATION

The student needs to login to the system to view his data and perform some tasks. The students need to type the information that is show in the following Figure 3.

**Figure 3:** Student Login

Then, after the students login is success, the student platform or module for the system will appear. In the student’s area or module, the students can perform many tasks as state in the following Figure 4.



**Figure 4:** Student Module

One of the function that have in student module is edit personal information such as an address, phone number, image, email and others as state in the following Figure 5.

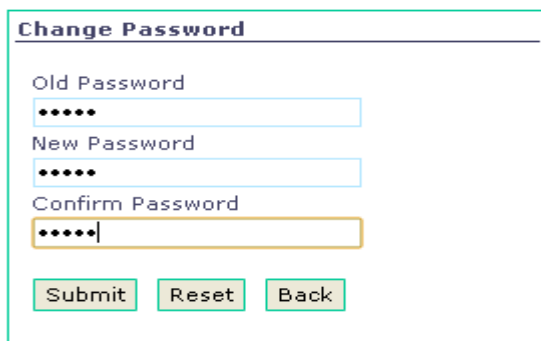
**Figure 5:** Personal Information Edit

Then, the student can create any related topic for discussion as show in the following Figure 6.



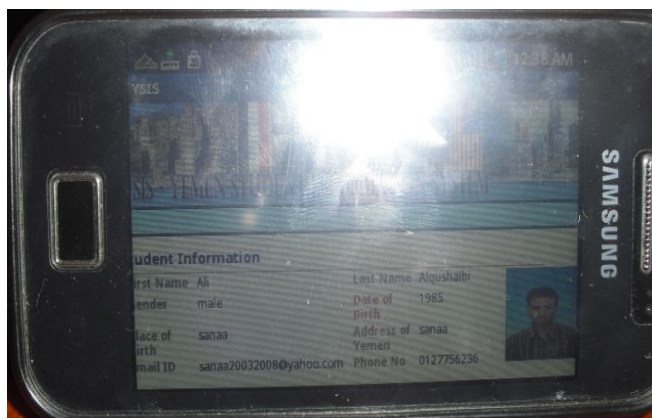
**Figure 6:** Electronic Forum

Then, it also have password change menu. So, in order to be secure in this menu, the process of changing password is state in following Figure 7.



**Figure 7:** Password Change

Then, student is able to access the YSIS system from Android based platform such as smart phone or tablet. In order to view any updated data or information that performs by Yemen culture attaché as state in the following Figure 8.



**Figure 8:** Android Platform

## 5. CONCLUSION

After passing through the processes of consultations, interviewing, reviewing from the Internet, referring to the books, journals and thesis and analyzing existing systems, SMS technology is used in Yemen student information system.

SMS alert function for the YSIS has been identified.

Data gathering, analyzing the existing systems, identifying the system requirements, and coding the module functions are the basic factors behind the success of achieving the following points [7].

- i. Clear understanding of the current Yemen culture attaches system and processes.
- ii. The student and culture attached requirements and needs, and constrains of the project.
- iii. Initial design decisions of the new system already recognized and identified.
- iv. System implementation, debugging, and testing

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