IBM COE AUTHORIZED TESTING CENTER EXAMINATION MANAGEMENT SYSTEM

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Executive Summary

The general paper-pen exam management system are now slowly being replaced by the online internet based management system. For universities managing the examination have never been easy. Now university can manage examination very easily. The Examination Management System is a web based application. The system can be modified and customized to suit the user requirement. This software is particularly suited to IBM Testing Center as it will save valuable time spent on assessing the register to take exam and the results of exam can be obtained in a short time. This system software offers web based examination management software. It enable students to register online and pick the date of taking exam. Whole system is controlled by administrator.

The software maintains the details for each student as well as provides an admin for editing the student details if required. There is password based access for student and admin to access the system. But only the admin are allow to change the data in the system. Authentication is provided via sessions and the password is stored in the database. Admin set exam date and seat layout for student. The task of maintaining the record of result of the tests for which a particular candidate has appeared will be done by the admin.

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CHAPTER 1

1.0 INTRODUCTION

Examination is a basic requirement for an educational system. There are a lot of tasks required to organize an examination from the institution. There are included assigning each subject to a room, assigning a set of proctors to each examination room, and assigning a seating layout for each examination room. These tasks will involve a lot of data from many sources.

IBM Center of Excellence Authorized Testing Center Examination Management System **(IEMS)** is a web based application. This system is developed to help admin to manage the registration of student and the examination management system in UMP. UMP students can register online through this system easily. Besides that, this system will make the staff easier to manage information, arrange student to take exam and show result of student. This system will also manages the date and the time-slot for student takes the exam. Furthermore, this system act as a platform for admin and student to communicate by send message like email. Admin able to send message to Student through mobile phone. Admin can always update the information with student if it has any data changes. IEMS allow all the record can keep well and can be retrieve data or information quickly and efficiently.

Admin will handle the storage and management of the system. Admin also will keep record the result of student and the schedule of student taking exam. Before this, all the registration process for student to take exam and the arrangement of student to take exam is done by admin manually. This may cause waste a lot time and papers to complete the registration process and the arrangement. A lot of paper works also may cause admin to make mistakes easily. Admin need to record all data and information and keep all information in various of files. Recorded as manually will make the data and information lost and hard to refer back. This is not consistent in order to find old record or data. It may cause waste of time when admin want to search any information right now. A systematic method on managing is needed in order to maintain a long lasting management system.

IEMS is belongs to IBM COE Authorized Testing Center. It is a independent centre. This system is going to be build and may be operated by IBM COE Authorized Testing Center for student register to take an exam and arrange them to take an exam.

1.1 PROBLEM STATEMENT

Temporary there are lack of a proper system that can handle every examination management for IBM COE Authorized Testing Center. It is a challenge to achieve the goal by doing it manually. Some more File-based system is very hard to organize and maintain.

There are a lot of students register an exam for each semester. It is very waste time that admin need to record each student mark and need to prepare a lot of files to keep their marks. This make the progress of examination management become very slow and not systematic.

In terms of authorization, having a manual recorded result of student will expose the data to people without authorization, people that don't have the right to look at it or people that could intend to tamper with the data. Anyone can access the data if it is manually stored. This causes the students result expose easily to anyone.

The main aim of this project is to develop an examination management system for IBM COE Authorized Testing Center.

1.1.1 Objectives

The objectives of this project are:

- To develop a examination management system for manage student register exam.
- To produce report on examination details and seat layout.
- To reduce paper work.

1.2 DESCRIPTION OF EXISTING SYSTEM

1.2.1 Maharashtra Online Examination Management system

Maharashtra Online Examination Management system (MOEMS) is a system handle the whole operation of examinations in Universities Maharashtra. The solution of examination management includes manage Student Registration to issuance of hall ticket, question bank, paper bank generation, secure delivery of question papers, OMR and barcode technology in answer sheets, digital scanning and onscreen evaluation of answer sheets, results processing and publication. Online application for re-evaluation through this solution is a reliability, efficiency and accuracy of the entire process of the examination process.

There are problem faced while implement the programme such as need for amendment of Act. There are lack of power in remote places in Maharashtra and lack of technologies knowledge & training among staff. They also may faced internet down at time of examination, lack of staff for setting the papers and evaluation.

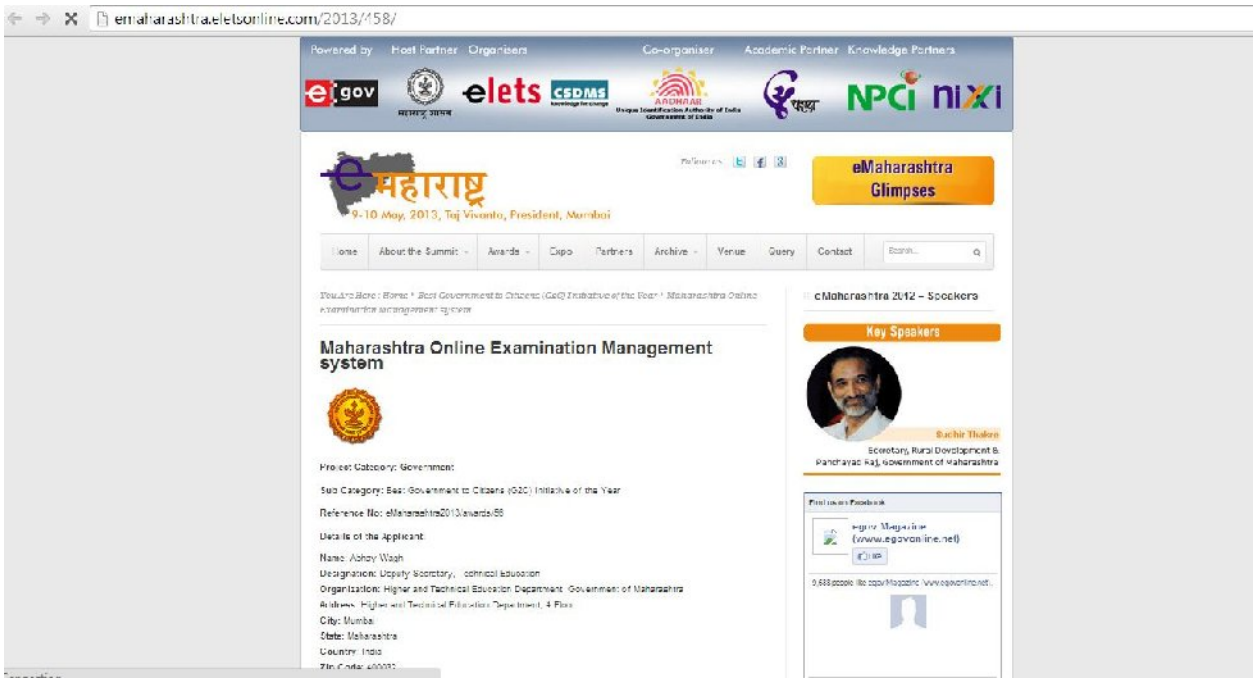


Figure 1.1 : Maharashtra Online Examination Management System Interface

1.2.2 SKMM Examination Management System

SKMM Exam Management System (SEMS) is an online web application. It enables student to submit their application for Amateur Radio Service examinations. There exam is divided into two categories which Amateur Radio Examination (RAE) and Morse Code Examination (CW). This system provides various of function. For example application status checking and exam result status checking.

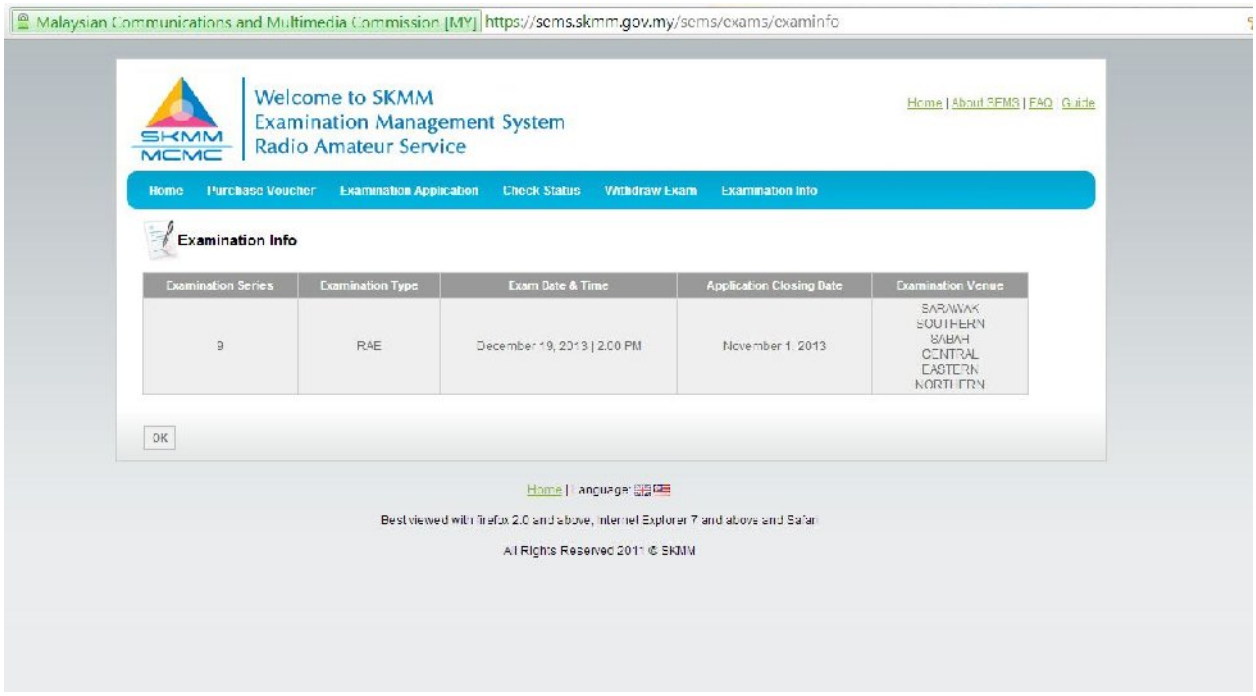


Figure 1.2 : SKMM Examination Management System Interface

1.2.3 Core Examination Management (EMS)

Core Examination Management (EMS) conduct the examination process in a secure environment. CORE EMS able to manage an onerous task. It provides a comprehensive, integrated and highly secure examination solution which supports online processes. The solution automates an institute's entire examination process with its built-in workflow management system. It has been successfully implemented for large and complex exams for millions of candidates for boards, institutes and universities across the world. It manages the entire spectrum of examination processes effectively which included Pre-examination, Examination and Post-examination.

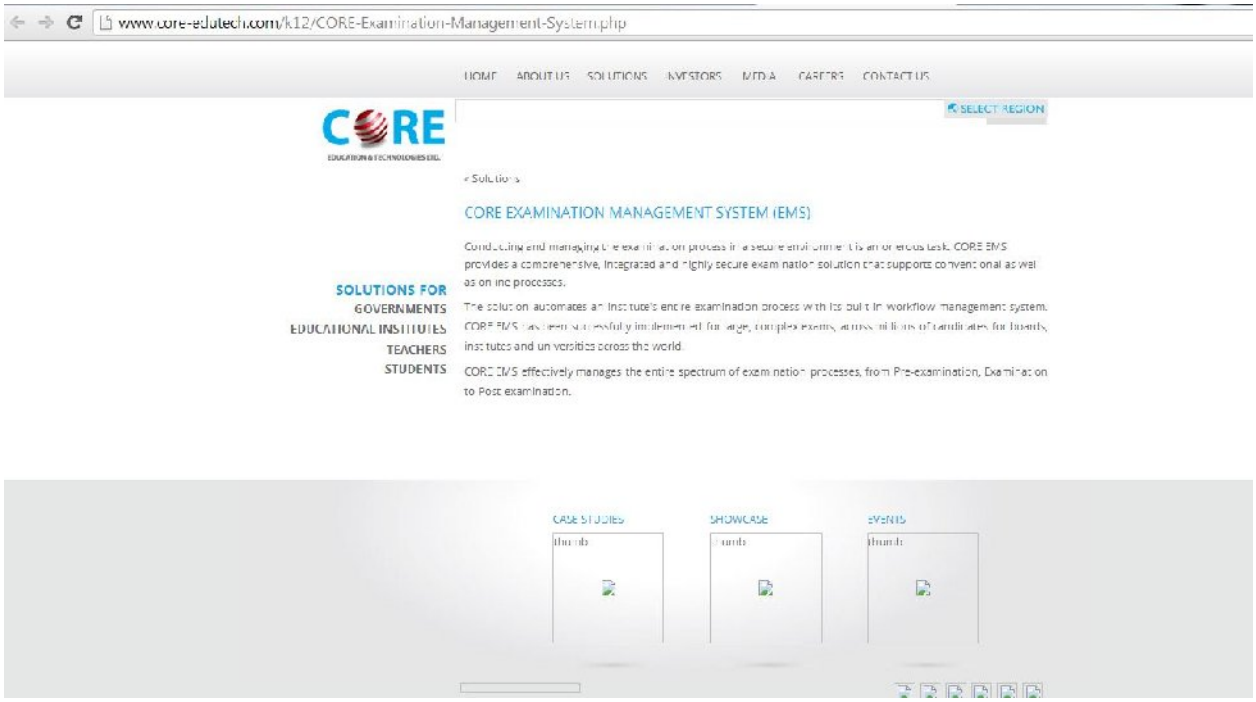


Figure 1.3 : Core Examination Management (EMS) System Interface

1.3 LIMITATION OF EXISTING SYSTEM

Currently there is no system used for IBM Center of Excellence Authorized Tester to manage the examination system. All records are stored and managed manually. A manually Examination Management system could be to failure in managing the arrangement for student take exam. It is also hard to keep track of everything without a proper system. This could cause data loss and waste time. In order to avoid data loss, this system is needed to keep data safe, easy to store and retrieve. A systematic method on managing every step is needed in order to maintain a functionary examination management system.

1.4 TERMINOLOGY

IEMS-IBM Center Of Excellence Authorized Tester Examination Management System

1.5 METHODS OF APPROACH

Source	Model	Stages	Scenario	Resource
(Terasoft, 2004)	Waterfall Model			When the software definition is stable, requirements and implementation of the product are both very well-understood.

1.6 SCOPE

The scope of this project is defined below:

Students

- Students able to register exam, select date and seat to take exam send message to admin

Admin

- Admin able to create new exam and exam date, edit student information, delete student from the seat layout, record result of student, send message to student through this system and mobile phone.

- Admin able to print out name list and seat layout.

System

- This system will use PHP and JAVA to build the management system.

1.7 OUTLINE

This documentation is divided into 3 parts. The next part, part 2 will discuss on gathering the requirements from the client and design description.

For gathering the requirements, an interview session will be held with the client as one of the method on how to get what the client want from the system. Other than interviewing the client, form analysis will also be done. Use Case diagram and Use Case description from UML will also be used to represent the graphical overview of the functionality in the system for the client to understand easier.

For design description, discuss on designing the system. The design description will be used when the Construction phase started in order to ease the developer when developing the system. The overall architecture of the system will be represented also using UML diagrams. The hardware and software that will relate to the system will be identified and represented. Class Diagram will be used to generally classify the classes that are going to be built in the system. State Machine Diagram will be used to show the system's status throughout every path of the system.

The next part which is the last part or part 3 will conclude on the whole report. In this part, the result of this report for this system has been developed and will be discussed on whether the objectives have been fulfilled or not. The main aim of this project will be revised and concluded. The limitations of this project will also be discussed on the possibility of enhancing the project in the future.

Chapter 2

2.0 REPORT BODY

2.1 User requirement

Client's name:

User requirements as below:

Login part

- The system must have some information that are secure to login to ensure that only the particular can login to system to register the exam IBM COE AUTHORIZED TESTING CENTER.
- If the user key in wrong information, then it will come request user login again.

Monitor part

- After user key in correct information, then user can see the menu bar and select which function

they wish to use.

- Admin can create new exam, delete student from eat layout, edit student information and exam.
- Admin can send message to student through inbox and mobile phone.
- Student can select which date to take exam, and can see their seat in exam.
- Admin also can view their result after taken the exam.
- Admin and student can send message to each other.
- Admin can print out student list and seat layout.

Signatures,

( )

2.1.1 PRODUCT PERSPECTIVE

IEMS is a stand-alone system that will only be managed by one person, that is Admin of IBM COE Authorized Testing Center. This system may used to replace the current manual system. The IEMS will provide the registration page for student to register. The system will make an arrangement for student to take exam. The system will also show and store the results of students. The IEMS will automatically generate seat layout for every student in the exam location. Moreover, admin able to send an message as notification about the latest update information to student.1

2.1.1.1 System Interface

Figure 2.1.1 below shows the system interface of IEMS.

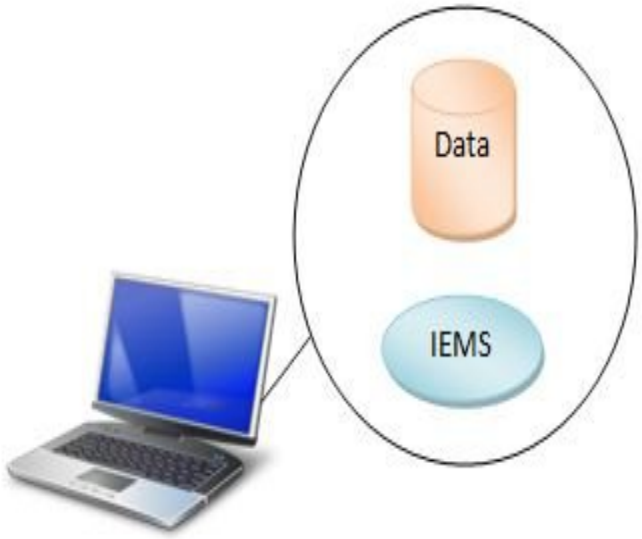


Figure 2.1.1 - IEMS System Interface

2.1.1.2 User Interface using Context Diagram

The context diagram below shows IEMS user interface.

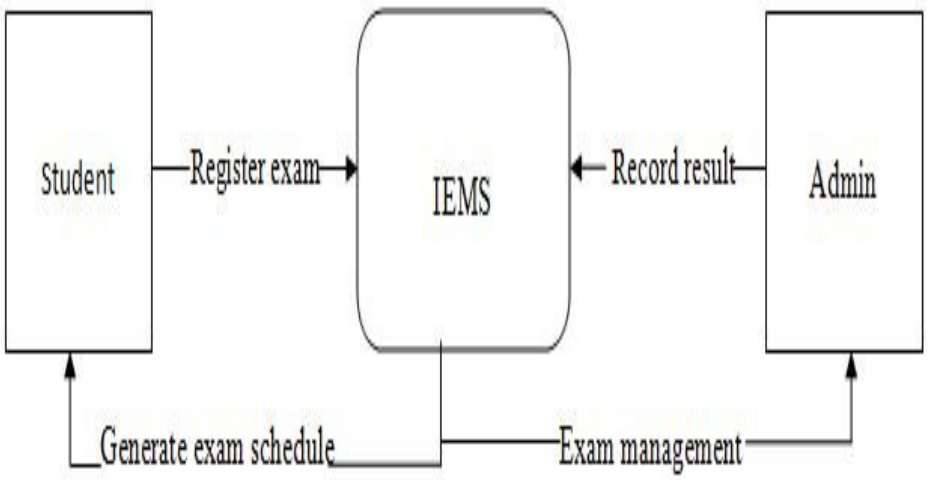


Figure 2.1.2 - IEMS Context Diagram

Admin is the only user of IEMS who will record the results of the exam for every student into the system and manage the exam time and seat layout. Student is the external entity of IEMS. Student can select the exam schedule and seat which have been prepared by admin.

2.1.1.3 Hardware Interface

Table below shows the hardware interface of IEMS.

Table 2.1.3 – IEMS Hardware Interface

Hardware	Description
Personal Computer	IEMS will be installed into IBM COE Authorized Testing Center Admin's personal computer.
Printer	Printer Canon MP287 will be use to print the student list and seat layout for admin view.

2.1.1.4 Software Interface

The table below shows the software interface of IEMS.

Table 2.1.4 – IEMS Software Interface

Software	**Description**
Windows	Operating System • Windows operating system is needed in order to operate IEMS.
PHP database	Data Management System • PHP database will be needed to manage all the data in IEMS.
Server	Server • Server will be needed to send message to student before the exam date.

2.1.2 USER CHARACTERISTICS

The Admin is expected to know all the basic function for the examination management. Besides, he/she must know how to operate and control the system.

2.1.3 GENERAL CONSTRAINTS

- IEMS must be delivered to the client
- Due to technology and expertise limitation, the IEMS that is going to be built can only run on computers with Windows operating system.
- User Admin and student must log in first then only able to access IEMS.

2.1.4 ASSUMPTION AND DEPENDENCIES

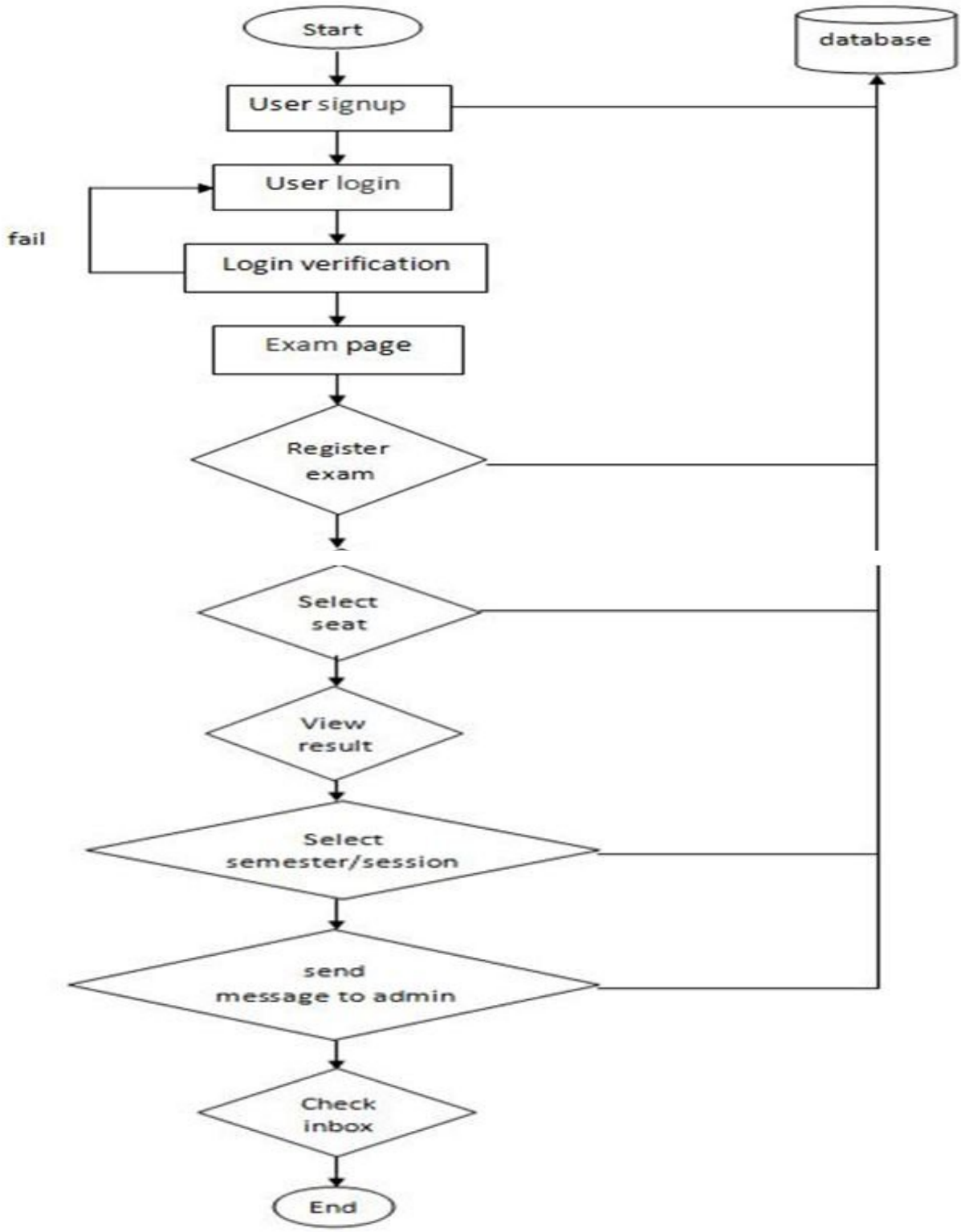
Assumption:

- User understands basic web application function.
- User understands simple English and has experience in managing student academic.

Dependencies:

- IEMS will depends on PHP and Java language in order to manage all data and store the data in database.

2.2 Flow Chart for Student



2.3 SPECIFIC REQUIREMENTS

This chapter of SRS will explain specifically about the requirements of IEMS.

2.3.1 EXTERNAL INTERFACE REQUIREMENTS

2.3.1.1 User Interface

Table 2.3.1 below shows user interface with brief explanation on the functions.

Table 2.3.1 – IEMS User Interface

User Interface	**Function**
Index	Admin can see the login page which consist the header, change theme/skin, menu bar, and a login section.
Display main screen Home	Admin can see the main page which consist the four main functions. Basically they can be divided into four categories which included "Exam", "Message", "Subject", and "Student". There also have an "Home" and "Ajax on menu" in the left hand menu bar.
Exam	Admin can view and delete the student's seat from seat layout. Next admin can create new exam, print student list and seat layout by using printer. Admin is able to key in and update a mark of student's result.
Message	Admin able to view and delete message sent by student. Admin also able reply message to student.
Subject	Admin can create new subject and subject code. Admin can edit and delete the new subject anytime.
Student information	Admin can search student by key in the student ID. Then user can proceed to next step which is to view, update or delete existing member. Admin able to send a message to student through server to mobile phone of student.