Software Requirements Specification

for

Student Evaluation System

Version 1.0

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1. Introduction

1.1 Purpose

The actual purpose of this project is to develop a system that would help the teaching faculty to evaluate the internal term work marks based upon the performance parameter. Student Evaluation System is to automate the manual task of faculty for evaluating student's term work. Evaluation is based on Assignment Marks of each lab, Unit Tests of each theory subject, and Overall theory attendance. Term Work is calculated by a standard formula that can be out of 25 or 50 according to the marks allocated by the university for that particular lab.

1.2 Document Conventions

There are no standard document conventions for this document.

1.3 Intended Audience and Reading Suggestions

Primary readers of this document are the users, web designers and developers contributing to and testing of the Student Evaluation System. The remaining sections of this SRS describe the functional requirements for the Student Evaluation System. The system is intended to be used by the staff member of the college. Contributors to this document are members of the Information Technology Department of PICT.

1.4 Product Scope

The main goal of this system would be to ease the task of the faculty. Getting internal marks based upon performance parameters is the key objective behind this system. The evaluation of every student will be based on the basis of some key parameters so that no one can complain about the criteria of evaluation. This system can be used by any educational organization.

1.5 References

1. https://pict.ethdigitalcampus.com/PICT/

2. Overall Description

2.1 Product Perspective

This system is aimed to be used for student evaluation. The system originated from the need of having a system that can calculate the term work of students. The system is intended to be a web-based system and is supposed to use the client/server paradigm. Performance measures are already available in the system i.e. the faculty is responsible for updating all the data such as assignment submission and unit test performance throughout the semester This project is the demo version of the existing MIS portal. But if the system satisfies all the constraints then it can be used for calculating term work.

2.2 Product Functions

Following are the key features of the product

- Term-work for the student should be correctly calculated and the same can be downloaded in the form of an excel sheet.
- Admin is able to map teachers to class.
- Admin is able to correctly assign the teachers to the lab.
- Faculty are able to enter appropriate marks for assignments performed by a student.
- Teachers will be able to enter the marks for Unit Test for a particular class.
- Teachers will also be able to recover their passwords using their email id.

2.3 User Classes and Characteristics

There are mainly two users for this product:

1) Administrator

   The administrator will have more privileges in terms of functionality. There will be only one admin user.

   - Admin will be able to insert all assignment lists for all lab subjects in the systems.
   - Admin will be able to assign a particular teacher to a particular class.

2) Faculty / Teachers

   Teachers will have lesser privileges than administrators.

   - Teachers are able to get the term work for a particular student.
   - Teachers are able to assign marks to students based on their performance in labs.
   - Teachers are allowed to enter the marks for unit tests for the particular class.

2.4 Operating Environment

The system will run on the server.

- The system can run on Windows as well as Linux OS.
- The software uses the MySQL database as a backend.
- Apache tomcat server used to deploy the project on the server. (Tomcat V9.0)
- It uses JDK greater than version 1.8
- Any web browser.

2.5 Design and Implementation Constraints

- The system will need staff details such as their email and mobile number to make use of the forgot password functionality.
- The Excel file used to insert the subject details, student details, staff details, and Unit Test marks should have the format specified by the developer in order to have a seamless experience.

2.6 User Documentation

No documentation provided along with software.

2.7 Assumptions and Dependencies

The following are the assumptions made for this project.

- One batch in a lab session can have only one teacher for one subject due to the fact that even if two teachers are teaching to one batch for one subject, the evaluation is made by only one teacher.
- Files used to upload data should have proper format.

3. External Interface Requirements

3.1 User Interfaces

The Student Evaluation System will have the following user-friendly and menu-driven interface:

1. **Login:** There will be two logins, for admin and teacher, only authorized users with valid login id and password are permitted.
2. **Admin Pages:** To make an entry for mapping of teachers to class and subjects, mapping of the teacher to batch and practical subject, and list of assignments entry.
3. **Faculty Pages:** To add Unit test marks of associated subject and class and to add practicals subject marks of associated batch and subject
4. **Term Work Calculation Page**: At the end of semester examination the total term work is calculated by faculty.

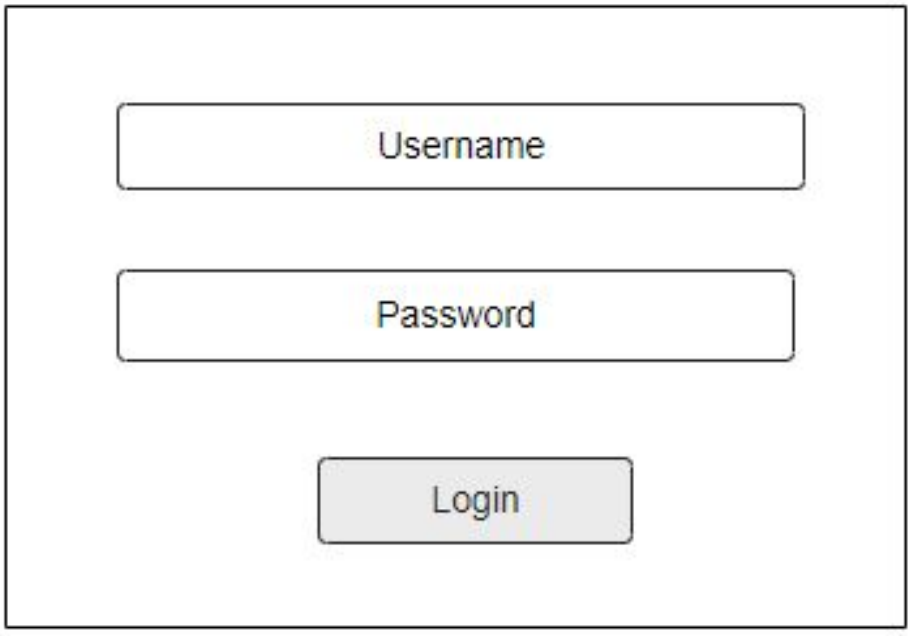

Figure 1: Login Page

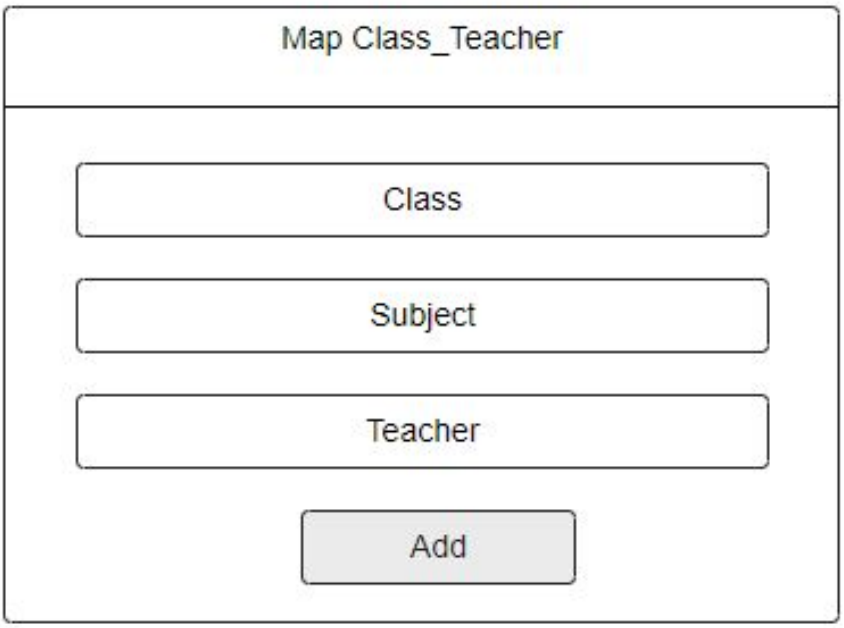

Figure 2: Admin Page- Map Class_Teacher

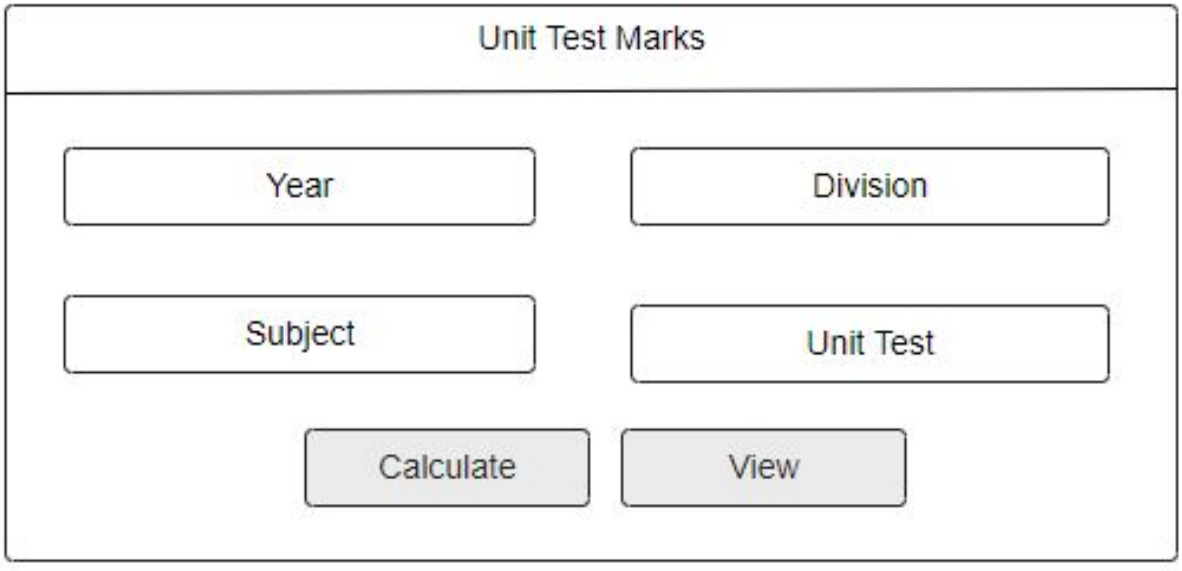

Figure 3: Faculty Page- Unit Test Marks

3.2 Hardware Interfaces

1. Screen resolution of at least 640 * 480 or above.
2. Computer systems will be in the networked environment as it is a multi-user system.
3. RAM: 1 GB and above
4. CPU: 32 bits or 64 bits

3.3 Software Interfaces

1. Operating System: Linux / Windows
2. Java Development Kit (JDK)
3. IDE Eclipse Oxygen / NetBeans 8.0
4. MySQL Database v5.7
5. Tomcat 9.0 Server
6. Any Web Browser.

3.4 Communications Interfaces

None

4. System Features

4.1 System Feature

4.1.1 Description and Priority

Maintaining an easy to use UI friendly site is deemed of the highest priority in order to calculate student's term work and easy to maintain the student performance data of Unit Tests and Labs.

4.1.2 Stimulus/Response Sequences

Stimulus1: A user requests the list of students in a particular batch that is assigned to him.

Response1: The Evaluation System will provide an interface to select the batch to get students of that batch.

Stimulus2: User requests to update marks of students for the assignment.

Response2: The System will provide an interface to update the marks of the assignment.

4.1.3 Functional Requirements

1. Introduction

   Steps that must be followed to log into the Student Evaluation System.

2. Actors
   - Administrator
   - Faculty
3. Pre - Condition
   - The user i.e Admin and Faculty must have a valid Login Id and password.
   - The Excel files to be used should have a specific format.
4. Post- Condition

   If the use case is successful, the actor is logged into the system, if not the system state remains unchanged.

5. Basic Flow

   Starts when the actor wishes to login into the Student Evaluation System

   - If the user is login for the first time (with default password) then he is asked to change his password otherwise he will use his credentials to log in.
   - After login according to the privileges, he can perform operations. For example, if the user is faculty he/she is only allowed to enter the marks for the class and labs assigned to him.
   - If a user is an admin then he/she can perform all the tasks of entering class, students, faculty, subjects, and their mapping.

- If faculty forgets the password then the system can be used to recover the password and along with password change after the first login we can ask for email id to confirm that the already given is correct or you want to change it.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

Performance requirements are :

- Minimum 10 GB HDD space
- Minimum 2 GB RAM
- Intel I3, 500 MHz
- Tomcat 9.0, MySQL and JDK >= 1.8

5.2 Safety Requirements

There are no special safety requirements.

5.3 Security Requirements

- Users should have a login credential.
- Users must change their passwords from default to one of their choices.
- Data produced or used in the system should be limited to the organization.

5.4 Software Quality Attributes

Availability

If the internet service gets disrupted while sending information to the server, the information can be submitted again.

Security

The main security concern is for user's accounts hence proper login mechanism should be used to avoid hacking.

Usability

As the system is easy to handle and navigates in the most expected way with no delays.

6. Other Requirements

No other requirements

Appendix A: Glossary

1) **JDK** - Java Development Kit
2) **IDE** - Integrated Development Environment