****COMSATS University Islamabad, Attock Campus

Assignment# 02

Software Requirement Specification

Project Title: Online Project Management System

Subject: Software Quality Engineering

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# Introduction

This Software Requirement Specification is written accordance with the IEEE Std 830-1998 model.

## Purpose

This SRS Document contains the complete software requirements for the Online Project Marking System (OPMS) and describes the design decisions, architectural design and the detailed design needed to implement the system. It provides the visibility in the design and provides information needed for software support.

## Scope

Online Project Marking System is developing for School of Computing, University of Portsmouth and used to replace old paper work system and PUMS. OPMS is to build upon the existing web-based project marking system PUMS in order to implement the project marking process and allocating supervisor/ideas to students. This increase in efficiency of project marking, audit trails of marking process, give feedback to student, finally, publication and email student result. It provides a mechanism to edit the online marking form which makes the system is flexible

**1.3** **References**

|  |  |
| --- | --- |
| Briggs 2005 | Briggs, J. (2005). SUMS documentation. Retrieved 3rd December 2005, from <http://www.tech.port.ac.uk/staffweb/briggsj/jimapp/SUMS/> |
| IEEE 1998 | IEEE Std 830-1998, IEEE Recommended Practice for Software Requirements Specifications. ISBN 0-7381-0332-2. |

* <https://www.google.com/search?sxsrf=ACYBGNR_jtqt813kz62rAWEwZruZFspBTQ%3A1572888542985&ei=3l_AXbPaO8GYadSQtagP&q=competetive+exam+counsellingsrs&oq=competetive+exam+counsellingsrs&gs_l=psy-ab.3..33i160.34615.47220..47620...0.2..0.2692.19568.4-3j4j6j0j1j4......0....1..gws-wiz.......0i71j0i7i30j0j0i30.OVLYEYAF72c&ved=0ahUKEwizwYC3itHlAhVBTBoKHVRIDfUQ4dUDCAs&uact=5>

## Overview

This document has been prepared in accordance with the IEEE Std 830‐1998, IEEE Recommended Practice for Software Requirements Specifications [IEEE 830‐1998 (1998)]. It provides the information of Product perspective, Product functions, User characteristics, Constraints, Assumptions and dependencies and specific requirement.

# Overall description

This section of the SRS describes all general factors of the product and its requirements.

## Product perspective

### System interfaces

The SUMS is the new updated version of PUMS – the web-based project unit management system. It is intended to implement all PUMS's features for the administration of student projects. The SUMS is using J2EE platform and Struts Model 2. All components follow Model-View-Controller pattern. SUMS import JimApp packages that can either connecting to an Oracle database or MySQL database through the Database Utility components. The possible extension is to inter-connection to UP Link System which provide student with many functions, including the ability to check assessment results. Students can connect both systems to retrieve information on their academic progress.

### User interfaces

All pages of the system are following a consistent theme and clear structure. The occurrence of errors should be minimized through the use of checkboxes, radio buttons and scroll down in order to reduce the amount of text input from user. JavaScript implement in HTML in order to provide a Data Check before submission. HTML Tables to display information to give a clear structure that easy to understand by user. Error message should be located beside the error input which clearly highlight and tell user how to solve it. If system error, it should provide the contact methods. The page should display the project process in different colour to clearly reflect the various states that student done. Each level of user will have its own interface and privilege to mange and modify the project information such as supervisor able to monitor/manage his student progress and make comment on it, student can change his detail, view the progress, submit project idea. The System should provide a feedback form for all users to give comments or asking questions. It should provide a FAQ to minimize the workload of system administrator.

### Hardware interfaces

#### Server Side

The web application will be hosted on one of the department’s Linux servers and connecting to one of the school Oracle Database server. The web server is listening on the web standard port, port 80.

#### Client Side

The system is a web based application; clients are requiring using a modern web browser such as Mozilla Firebox 1.5, Internet Explorer 6 and Enable Cookies. The computer must have an Internet connection in order to be able to access the system.

### Software interfaces

#### Server Side

The UOP already has the required software to host a Java web application. An Apache Web server will accept all requests from the client and forward SUMS specific requests to Tomcat 5.5 Servlet Container with J2EE 5.0 and Strut 1.2.8 hosting SUMS. A development database will be hosted locally (using MySQL); the production database is hosted centrally (using Oracle).

#### Client Side

An OS is capable of running a modern web browser which supports HTML version 3.2 or higher.

### Communications interfaces

The HTTP protocol will be used to facilitate communications between the client and server.

## 2.2)System functions

This section outlines all the main feature of OPMS.

**2.2.1)Student Role**

The Student can register a SUMS accounts and start the progress of project. On the register form, student should enter all their detail such as Address, Email and contact number. The system will generate activation code and send email to student and confirm the registration. After, the system allow student to change information and provide the function forget password for student to retrieve back the password.

### 2.2.2)Administration Role

The system administrator must be able to:

* deactivate and reactivate student account login
* force the sending of a new password to a student via email.
* change any of a student's details if student want to reset.

**2.2.3) Assumptions and dependencies**

Although basic password authentication and role based security mechanisms will be used to protect OPMS from unauthorised access; functionality such as email notifications are assumed to be sufficiently protected under the existing security policies applied by the University network team. Redundant Database is setup as the role of backup Database Server when primary database is failure.

The correct functioning of OPMS will partly be dependant on the correctness of the data stored and managed as part of the PUMS system. Also, the application will be hosted by the UOP as one of many applications; the event of the server failing due to an error with one of these applications might result in OPMS becoming temporarily unavailable.

### )Audit Trailing

Each user will have an associated record of history. This will provide information on various events such as ….

Previous Development – a number of components have been developed by the client, Jim Briggs, and previous developer, Steven J Powell. New components need to compatible to the exist system.

# 3)Specific requirements

## Functional requirements

### 3.2.1) User class – Student

This section is for UOP School of Computing Student.

* Student registration form:

Student can be register on the system and fill in all detail and forward to

project/supervisor.

* Change Detail:

Student can change detail if information is incorrect such as telephone number ,address ,email etc.

* Change Password:

Student can change his login password at any time for security reason.

* Forget password:

Student can request for his password if he/she forgotten the password.

### )User class – Academic Staff

All staff can view the details of all the students in the School.

**3.2.3) User class – co-ordinator**

Certain staff may be designated as Co-ordinators and can change the details of any student doing their unit or project .

* Change Student Detail

Unit co-ordinator can change student detail if he has incorrect information.

* View Student Detail

Unit co-ordinator can view student information and monitor all their progress.

* List Student

Unit co-ordinator can list all students in different period of which who has of

Different group.

* Change Password

Unit co-ordinator can reset the student’s password if required.

**3.2.4) User class – System Administrator**

List Student

* System Administrator can list all students in different period of different group to check any error.
* Change Password
* System Administrator have access that he can reset the student’s password if required.

**3.2.5) User class – Administration Staff**

List Student

Administration Staff can list all students in different period of different group.

**4 ) Design constraints**

The system need to design base on the existed code and database using J2SE 5.0.

**4.1) Software system attributes**

**4.1.1 )Security**

The system needs to log client’s information of registration such as IP address and time for security purpose.

Password should encrypted and store in the database.

**4.1.2) Maintainability**

The system developing using Struts, all action is detailed in struts-config.xml and web.xml that easy to modify and make update.

**4.1.3) Portability**

The web application is coding in. It should be transferable between different OS and Java container.

**5)Other requirements**

For further extending, is able to send notification by SMS.

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