**** COMSATS University Islamabad, Attock Campus

Assignment# 02

Software Requirement Specification

Project Title :University Management system

Subject: Software Quality Engineering

Submitted to: Sir Muhammad Kamran

Submitted by: Aqsa Bibi (CIIT-FA17-BSE-041)

Due Date: 07-11-2019

Contents

[1 INTRODUCTION: 3](#_Toc24050463)

[1.1 PURPOSE : 3](#_Toc24050464)

1.2 DOCUMENT CONVENTION ………………………………………………………………………………………………………………4

[1.3 INTENDING AUDIENCE AND READING SUGGESTION 4](#_Toc24050465)

1.4 SCOPE ……………………………………………………………………………………………………………………………………………..5

2 OVERALL DISCRIPTION ………………………………………………………………………………………………………………………5

2.1 PRODUCT PERSPECTIVE ………………………………………………………………………………………………………………….6

[2.2 PRODUCT FUNCTIONS: 6](#_Toc24050466)

[LOGIN: 6](#_Toc24050467)

[2.2.1 ADMIN: 6](#_Toc24050468)

[2.3 USER CLASSES AND CHARCTERISTICS 6](#_Toc24050469)

[2.4 OPERATING ENVIROMENT 6](#_Toc24050470)

[2.5 DESIGN AND IMPLEMENTATION CONSTRAINTS 6](#_Toc24050471)

[2.6 USER DOCUMENTATION 7](#_Toc24050472)

[2.7 ASSUMPTION AND DEPENDENCIES 7](#_Toc24050473)

[3. EXTERNAL INTERFACE REQUIRMENTS 7](#_Toc24050474)

[3.1 USER INTERFACES 7](#_Toc24050475)

[3.2 HARDWARE INTERFACES 7](#_Toc24050476)

[3.3 SOFTWARE INETRFACES 7](#_Toc24050477)

[3.4 COMMUNICATION INTERFACES 7](#_Toc24050478)

[4. SYSTEM FEATURES 7](#_Toc24050479)

[4.1 FUNCTIONAL REQUIRMENTS 7](#_Toc24050480)

[5. OTHER NON FUNCTIONAL REQUIRMENTS 8](#_Toc24050481)

[5.1 PERFORMANCE REQUIRMENTS 8](#_Toc24050482)

[5.1.1 Usability: 8](#_Toc24050483)

[5.1.2 Efficiency Of Use: 8](#_Toc24050484)

[5.1.3 Security: 8](#_Toc24050485)

[5.1.4 Reliability: 8](#_Toc24050486)

[5.1.5 Performance: 8](#_Toc24050487)

[5.1.6 Availability: 8](#_Toc24050488)

[5.1.7 Scalability: 8](#_Toc24050489)

[5.2 DESIGN CONSTRAINTS 9](#_Toc24050490)

[5.3 LISCENCING REQUIRMENTS 9](#_Toc24050491)

## INTRODUCTION:

University Management System(UMS) deals with the maintenance of university, Faculty, student information with in the university. UMS is an automation system which is used to store the faculty, student, courses and information of a varsity. Starting from registration of a new student and maintains all the details regarding the attendance and marks of the student. The project deals with retrieval of information through an intranet based campus wide portal. It collec

ts related information from all the departments of an organization and maintains files, which are used to generate reports in various form to measure individual and over all performance of the student. Development process of the system starts with system analysis. System analysis involves creating a formal model of the problem to be solved by understanding requirements.

* The application can be used in a varsity to reduce processing work load. This project main idea is to develop an online centralized application connected to database which will maintain faculty leaves, notices information and their replacements. Leave management application will reduce paperwork and maintain record in a more efficient and systematic way. This module will also help to calculate the number of leaves taken monthly and help gather data with respect to number of hours worked there by helping in calculating the work hours by the HR Department.

# PURPOSE :

* The purpose of Software Requirement Specification (SRS) document is to describe the external behavior of um. Requirement Specification defines and describes the operations, interfaces, performance, and quality assurance requirements. The document also describes the non-functional requirement such as the user interfaces. It also describe the design constraints that are to be considered when the system is to be designed, and other factors necessary to provide a complete and comprehensive description of the requirements for the software. The SRS captures the complete software requirements for the system, or a portion of the system.
  1. DOCUMENT CONVENTION:
* The SRS will provide a detailed description of the UMS. This document will provide the outline of requirements , overview of characteristics and constraints of system.

## INTENDING AUDIENCE AND READING SUGGESTION

The intending audience for SRS consists of:

* Developers
* Project managers
* Marketing staff
* Admin
* Users
* Testers
* Documentation writers
* Student
* Professor
  1. SCOPE

Online Project marketing system in developing for school for computing .This System is used to replace old paper work system and PUMS.OPMS is to build open the existing web based project marketing system PUMS in order to implement the project marketing process and allocating the supervisor ideas to student.

SCOPE of the Project The requirement of the user is to

Access / Search information.

Login to the system through the first page of the application.

Change the password after logging into the system.

View / change his / her details.

Can get help through the ‘HELP’ option to view different features of the system.

Students can give feedback on college / staff / any other student.

An admin login should be present who can read as well as remove any uploads.

* The Semester Admission Module manages the admission record of students for each semester. It manages the academic year record, criteria for admission, tests and interviews, and merit lists along with customized report generation.
* The Fee management is an important UMS module this particular module is responsible for handling the process of Fee collection from the students as well as the fee for all sorts of admission test and interview .
* The Student Registration Module allows the managing the student registration. It manages the registration schedule, student registration, student management, and board. Customized reports of student registration are also generated.It can also be used for student management system.
* The Schedule Management Module helps in managing the semester time table, teachers' availability, student enrollment in courses, and the management to different classes of a semester.
* The Examination Management Module allows managing the stations and centre for conducting the examination. The paper checker and papers setters' information in kept secret. The degrees and result records are managed. The payments of supervisory staff are also managed here.
* The Library Management Module is all about the library and its functions. Library racks records are managed. The administration manages the authors, publishers, and editors records along with the circulation and requisitions processes.It can also be used as an online library management system.
* The University Accounts Management System in the UMIS as the name suggest maintains all the university accounts. This Accounts Module is a complete MIS that manages the chart of accounts and maintains the financial year records. It will also handle preparation and approval process of Vouchers for different transactions. The bank reconciliations are managed and the system generates different accounts reports.
* The Electronic Notice Board manages the university notices. The notice requests are approved and the approved requests are displayed at the electronic notice board.
* The Event Management allows the administrator to manage all the university events. It includes different activities, member's profiles, organizing bodies of events, planning the event, news related to events, and customized reports.
* The Pay Roll Section facilitates the university management in the pay roll system of university employees. It includes basic pay, taxation, allowances, loan management, deductions, and salary details of employees and other advance features that makes it top payroll software in Pakistan.

1. OVERALL DESCRIPTION:
   1. PRODUCT PERSPECTIVE:

The proposed UMS is an online university management system. This system will provide view, submit, online payment, uploading various document and others. Further the university management staff personnel (faculty) can add, update, remove resources or an automatic removal of accessing features when the time limit completes.

The system will also have an ADMIN who has full\_ fidget rights with regards to managing resources

Each across the branches.

Each user facilitates with different account etc. There are basically two types of user one are students and other are faculty member.

Each user have account number and password for private use.

## PRODUCT FUNCTIONS:

LOGIN: This module records on password and username and if the password is correct then it allow access to the user to perform functions.

### ADMIN:

Add Student Detail: Admin can add the detail of student when he/she get admission and admin assign him/her unique id, registration number which they use throughout their time period in university.

Updated when required.

Delete Student Record:This system UMS allows to delete the record of the student who is pass out from university.

TEACHER MODULE:

Teacher Details:Teacher allow access to administrator to store the detail information about students.

Course Detail:Teacher have course details which they teach to the student and have knowledge about that subject.

Online Delivery of Assignment**:**  Teacher can upload assignment on some online port or website.

## USER CLASSES AND CHARCTERISTICS

They are various kind of users for product. Usually web product are visited by various user for different reasons.

The user include:

* Admin who will acting as a controller and he will have all the privileges of administrator
* Faculty member who will be using the above features by using the UMS online.
* Students who will be using the above features by accessing the UMS online.

## OPERATING ENVIROMENT

The Product will be operating in windows environment. Also it will be compatible with the IE 6.0.Most of the features will be compatible with the Mozilla ,Firefox and opera 7.0 or higher version the only requirement to use this online product would be the internet connection.

## DESIGN AND IMPLEMENTATION CONSTRAINTS

The product is develop using ASP .The Backend database for this SQL server .The product is accomplished with login facilities so, that specific function is available to specific student.

## USER DOCUMENTATION

The product will include user manual .The user manual will include over view ,complete configuration of the use software (such as sql server),technical details, backup procedure and contact information which will include email address .The product will be compatible with the internet explorer 6.0 or higher. The data basis will be created in the Microsoft SQL server 2000.

## ASSUMPTION AND DEPENDENCIES

The product needs following third party product.

* Microsoft SQL server to store the database.
* ASP to develop the product.
* The user should know English language as the user interface will be provided in English.
* The users have sufficient knowledge of computers.

# EXTERNAL INTERFACE REQUIRMENTS

## USER INTERFACES

The user interface will make use of existing Web browsers such as Mozilla Firefox or google chrome. The user interface shall be designed in C Sharp WPF application.

## HARDWARE INTERFACES

Server side

* + Operating system :window 9x/xp,windows me
  + Processor :Pentium 3.0 GHz or higher
  + Ram:256 MB or more
  + Hard drive : 10 GB or more

Client side

* + - Operating system : window 9x or above ,MAC or Unix
    - Processor: Pentium III or 2.0 GHz or higher
    - RAM : 256 MB or more

## SOFTWARE INETRFACES

* Database: SQL server
* Application : ASP (Active server pages)

## COMMUNICATION INTERFACES

The customer must connect to the internet to access the website:

* + Dialup model of 52 KBps
  + Broadband internet
  + Dialup or broadband connection with a internet provider

# SYSTEM FEATURES

## FUNCTIONAL REQUIRMENTS

This section gives the list of functional and nonfunctional requirements which are applicable to the university management system .

# OTHER NON FUNCTIONAL REQUIRMENTS

## PERFORMANCE REQUIRMENTS

The proposed system that we are going to develop will be used as the chief performance system within the different camp uses of the university which interact with the university staff and students.Therfore,it is expected that the database would perform functionally all the requirements that are specified by the University.

### Usability:

Usability define how difficult it will be for user to learn and operate the system. Usability can be accessed from difficult point of view.

### Efficiency of Use:

The average time it takes to accomplish a user’s goals, how many tasks user can complete without any help, the numbers of the transaction complete without any error etc.

### Security:

Security requirements ensure that the software is protected from unauthorized access to the system and its stored data. It considered different levels of unauthorized and authentication across different user’s roles. I.e. data privacy is a security characteristic that describe who can create , see copy change or delete information.

### Reliability:

Reliability defines how likely it is for the software to work without failure for a given period of time. Reliability decrease because of bugs in the code hardware failure with other system components.

### Performance:

Performance is a quality attributes that describe the responsiveness of the system to various user interaction with it. Poor performance leads to negative user experience.

### Availability:

is gauged by the period of time that the system functionality and the services are available for use with all operations .so scheduled maintain period is directly influence with the parameters.

### Scalability:

Scalability requirements describe how the system must grow without negative influence on its performance. This means serving more user processing more data and doing more transitions. Stability has both hardware and software implications. For instance you can increase scalability by adding memory, server or disk space. On the other hand you can compress data, use optimization algorithms, etc.

## DESIGN CONSTRAINTS

The system must be designed to allow web Usability .That is, system must be design in such a way that will be easy to use and visible on most of the browsers .

## LISCENCING REQUIRMENTS

The usage is restricted to those who purchase the UMS software and by using the show that they agree by the rules of UMS.