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STUDENT RESULT MANAGEMENT SYSTEM

INTRODUCTION

A software requirements specification (SRS) is a document that describes what the software will do and how it will be expected to perform. It also describes the functionality the product needs to fulfill all stakeholders (business, users) needs.

1.1 Document conventions

The Software requirement documentation defines, in writing, all the capabilities, functions, and limitations of a software development project. SRS is a precisely written document that takes into account the wishes of all stakeholders, from project developers to clients, all elements (non-functional and functional), software features, real problems, and so on. This document is good support for the design and development processes.

1.2 Requirement Elicitation techniques

There are a number of requirements elicitation methods. Few of them are listed below –

1. Interviews

   Objective of conducting an interview is to understand the customer's expectations from the software.

Interviews maybe be open-ended or structured.

2. Brainstorming Sessions

   It is a group technique. It is intended to generate lots of new ideas hence providing a platform to share view.

3. Facilitated Application Specification Technique (FAST)

A team oriented approach is developed for requirements gathering. Each participant prepares his/her list, different lists are then combined, redundant entries are eliminated, team is divided into smaller sub-teams to develop mini-specifications and finally a draft of specifications is written down using all the inputs from the meeting.

4. Quality Function Deployment (QFD)

   In this technique customer satisfaction is of prime concern, hence it emphasizes

on the requirements which are valuable to the customer.

- Identify all the stakeholders, e.g. Users, developers, customers etc
- List out all requirements from customer.
- A value indicating degree of importance is assigned to each requirement.
- In the end the final list of requirements is categorized as –
  - It is possible to achieve
  - It should be deferred and the reason for it
  - It is impossible to achieve and should be dropped off

5. Use Case Approach

This technique combines text and pictures to provide a better understanding of the requirements. The components of the use case design includes three major things – Actor, Use cases, use case diagram

1.3 Purpose

An SRS gives you a complete picture of your entire project. It provides single source of truth that every team involved in development will follow. It is your plan of action and keeps all your teams from development to maintenance.

This layout not only keeps your teams in sync but it also ensures that each requirement is hit. It can ultimately help you make vital decisions on your product's lifecycle, such as when to retire an obsolete feature.

1.4 Project scope

In this, overall working and main objective of document and what value it will provide to customer is described and explained. It also includes a description of development cost and time required.

OVERALL DESCRIPTION

2.1 Product perspective

The application will be windows based self-contained and independent software product

Online Student Result Management System this software is used to maintain and manage the result of the student .This software help the user to easy access the result of students. This software is also helpful for the administrator because he can easily bring changes to the records of the student.

2.2 Product Features

Depending upon the user role he/she will be able to access only the specific modules of the system.

- Login facility for enabling only authorized access the system.
- Information about the various Users
- Information about subjects offered in various semesters
- Marks obtain by Students in different semesters
- Generation of Reports

2.3 User classes and characteristics (Stakeholders)

The various classes will be

1) Student

2) Administrators

3) Teachers

The system is confined to and intended for the students. They possess privileges to check their results after he/she is provided with a specific username and password for a secure login. The entire system is managed by a system administrator, who possesses the full control of the system, to read, write and execute the results and to assign privileges to teachers and students. And the teachers have the privilege to assign the students' marks, through which, a result will be generated automatically and each student will have access to their results only, using their respective account.

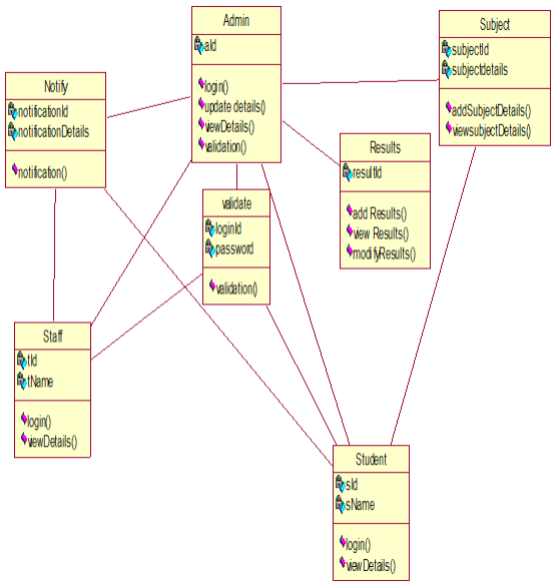


Fig: User classes

2.4 Operating environment

1. Client side requirement:

OS: Linux, win-xp

Software packages: MySQL, Apache server, web browser, php (LAMP).

2. Server side requirements:

OS: Linux

Software packages: MySQL, Apache server, web rowser, php server (LAMP).

REQUIREMENTS PROJECT

3.1 Functional requirements

Depending upon the user role he/she will be able to access only the specific modules of the system.

1) Login facility for enabling only authorized access to the system .

2) User (with role Data Entry operator) will be able to modify /add/delete information about different students that are enrolled for the course in different years .

3.2 Non-Functional requirements

1. Safety Requirements

The database may get crashed at any certain time due to virus or operating system failure. Therefore, it is required to take the database backup.

2. Security Requirements

We are going to develop a secured database for the university .Depending upon the category of user the access rights are decided. It means if the user is an administrator then he can be able to modify the data, delete, append etc.

All other users other than staff only have the rights to retrieve the information about database.

3. Hardware Constraints

The system requires a database in order to store persistent data. The database should have backup capabilities.

3.3 User requirements

1) User (with role Data Entry operator) will be able to modify / add / delete information about different students that are enrolled for the course in different years.

2) User will be able to add/modify/delete information about different subjects that are offered in particular semester. The semester wise list of subjects along with their credit points and type will be displayed.

3) User will be able to add/modify/delete information about elective subjects opted by different students in different semester.

4) User will be able to add/modify/delete information regarding marks obtained by different students in different semester.

5) User will also be able to print mark sheets of students

6) User will be able to generate printable reports.

7) User will be able to reset the system leading to deletion of all existing information from the backend database.

8) User will be able to create/modify/delete new/existing user accounts.

3.4 SYSTEM REQUIREMENTS

Software requirements

Operating System : Window 2000, XP

User interface : Java, Servlets, JSP

Database : My SQL

Documentation Tool : Ms Office

Hardware requirements

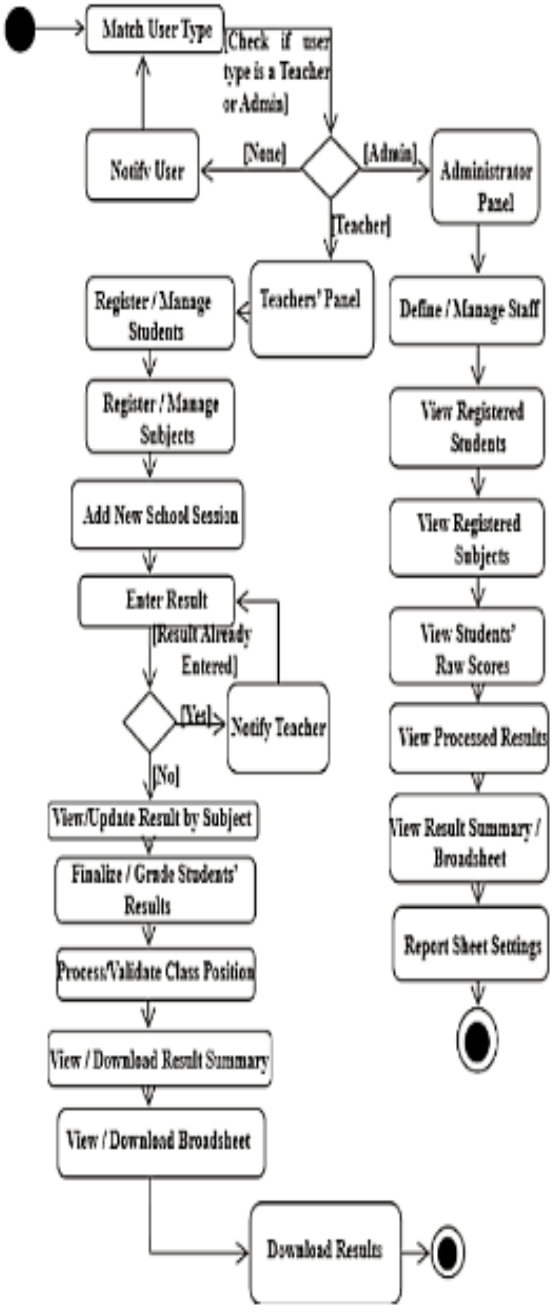
Processor : Standard processor with a speed of 1.6 GHz or more

RAM : 256 MB RAM or more

Hard Disk : 20 GB or more

REQUIREMENTS VALIDATION TECHNIQUES

4.1 Prototyping



4.2 Test-case design

For a Test Scenario: Check Login Functionality there many possible test cases are:

- Test Case 1: Check results on entering valid User Id & Password
- Test Case 3: Check results on entering Invalid User ID & Password
- Test Case 3: Check response when a User ID is Empty & Login Button is pressed, and many more.

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