# Software Requirements Specification

# for

# Student Result Management System

Version 1.0 approved

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# 1. Introduction

## 1.1 Purpose

This specification document describes the capabilities that will be provided by the software application STUDENT RESULT MANAGEMENT SYSTEM. It also states the various constraints by which the system will abide. The intended audience for this document are the development team, testing team and end users of the product.

## 1.2 Document Conventions

* Database - Collection of data that are either entered by user or administrator.
* OTP – One Time Password
* ID – Identity
* Ph no – Phone number
* Px – Pixel
* OS – Operating System
* LAN – Local Area Network

## 1.3 Scope

* The application will manage the information about various students enrolled in this course in different years, the subjects offered during different semesters of the course. the marks obtained by the various students in various subjects in different semesters.
* The application will greatly simplify and speed up the result preparation and management process.

## 1.4 References

* <http://www.dspmuranchi.ac.in/pdf/Blog/Software%20Requirement%20Specification%20for%20%E2%80%9CStudent%20Result%20Management%20System%E2%80%9D.pdf>
* https://varepsilon.com/index.php/mse/article/download/29/30

# 2. History

2.1 Technical Literature  
 According to Freund et al. (2017), nowadays people interact directly with technology in fields such as education, government, finance, retail, entertainment, health care, science, travel, publishing, and manufacturing. And they also state that, educators and teaching institutions use technology to assist with education. Most equip labs and classrooms with laptops or desktops. Some even provide computers or mobile devices to students. Many require students to have a mobile computer or mobile device to access the school’s network or Internet wirelessly, or to access digital-only content provided by a textbook publisher.

Many schools offer distance learning classes, where the delivery of education occurs at one place while the learning occurs at other locations. Distance learning courses provide time, distance, and place advantages for students who live far from a campus or work full time.

## 2.2 Existing Applications

* https://www.edusys.co/EduSysSchool/
* https://makaut1.ucanapply.com/smartexam/public/

## 2.3 Customer Surveys

Surveys sent- 3000

Answers received- 1524

## 2.4 Expert Advice

The online student management system is the best and most affordable way for schools, colleges and educational institutions to manage their results in a manner that offers academic advancement and benefits to all stakeholders and everyone.

## 2.5 Current/Future requirements

* Faster results processing
* Error free student results management system
* It gives students an accurate insight into their academic performance and motivates them
* Bias-Free system and process

# 3. Overall Description

## 3.1 Product Functions

### 3.1.1 Hardware Requirement

i. A device (Computer/laptop/android/ios) with atleast 2 GB RAM

ii. Hard disk space required – 250 MB

iii. Minimum snapdragon 600 series/ i3 8th gen/ apple a11 bionic

### 3.1.2 Software Requirement

i. A database like DBMS (MySQL) to store the details.

ii. A web browser like Chrome, Mozilla Firefox, etc.

iii. Operating System – Atleast Windows 7 64 bit, android oreo(8), ios 11

## 3.2 Functional Requirements

### 3.2.1 Register

**Description –** Existing members would sign in and new ones will sign up.

#### 3.2.1.1 Sign In

Input: User ID and Password.

Output: The requested page as per prior selections.

#### 3.2.1.2 Create (Admin will create student and teacher accounts)

Input: Email id, name, phone no(optional), birthdate (pvt or public) and other details.

Output: User added confirmation

#### 3.2.1.3 Forgot password

Input: Registered email ID.

Output: Reset password and provide the new one via mail.

### 3.2.2 Admin

#### 3.2.2.1 Add/Edit user information

Input: Select either of name, birthdate, ph no, address etc to add or edit. (name, birthdate, email id can’t remain empty)

Output: Validate the input field and pop a confirmation message.

#### 3.2.2.2 View user info

Input: Search for a user and click on info.

Output: Display user info.

#### 3.2.2.3 Generate report

Input: Retrieve the marks uploaded by teachers and, fill and validate in student performance report.

Output: Confirmation message.

#### 3.2.2.4 Delete user

Input: Search the user and select the option to remove from database.

Output: Confirmation to delete.

#### 3.2.2.5 Search

**Description –** Searching by name, email, ph no.

Input: Type the string.

Output: Display the results.

### 3.2.3 Teacher

#### 3.2.3.1 Search

**Description –** Searching by name, email, ph no.

Input: Type the string.

Output: Display the results.

#### 3.2.3.2 Update student’s marks

**State:** Student should already be searched

Input: Select the subjects and marks from dropdown and click submit.

Output: Confirmation message.

### 3.2.4 Student

#### 3.2.4.1 View report

Input: Login and view result.  
 Output: Display generated marks details report.

## 3.3 Non-Functional Requirements

### 3.3.1 Correctness Requirement

* Minimum bugs with suitable outputs for inputs.

### 3.3.2 Portability requirement

* The software can run properly in maximum OS’ in different devices meeting the system requirements.

### 3.3.3 Efficiency Requirement

* Response Time: The system provides acknowledgment in less than a second once the user inputs anything.
* Capacity: The system needs to support at least 1000 people at once.

### 3.3.4 Usability Requirement

* The system shall allow the users to access the system from the phone using android application.
* The system is user friendly which makes the system easy to use.

### 3.3.5 Reusability Requirement

* System can be used until the storage is full and after increasing the storage it would continue

**3.3.6 Reliability Requirement**

* The system has to be 100% reliable due to the importance of data and the damages that can be caused by incorrect or incomplete data.
* The system will run 7 days a week, 24 hours a day.

### 3.3.7 Maintainability Requirement

* Back-Up: The system offers the efficiency for data back up.
* Errors: The system will track every mistake as well as keep a log of it.

## 3.4 User Characteristics

We have 3 types of users :

* Admin:
* Create accounts for users
* Add/ update user details
* Remove user
* Add/delete comment
* Generate report
* View user info
* Search
* Teacher user module:
* Search
* Update student’s marks
* Student user module:
* View report

## 3.5 Design & Implementation Constraints

### 3.5.1 Hardware and Software constraints

Since the project has been developed entirely using JAVA and object oriented methodology, it is largely independent. The project can be run on any platform. However, it still needs a JAVA framework to run (Net Beans).

### 3.5.2 End user constraints

As mentioned above the major constraints for the end user is having a Java framework on his computer. Also he should be familiar with the operation with the system to a certain extent, although a help document will be provided to oriented users.

## 3.6 Assumptions & Dependencies

The assumptions are -

* Coding is error free.
* The system should have apt storage capacity and provide fast access to database.
* User must use their member id and correct passwords.

The dependencies are -

* + The hardware and the software of the computer/ device on which this specific product will run.
  + There is a database to store the information of all types of users which will be accessible by the Admin.
  + The data entered by all the users are correct.

# 4. Interface Requirements

## 4.1 User Interfaces

* The user-interface screen shall respond within 5 seconds.
* The systems must conform to the Microsoft Accessibility guidelines.

## 4.2 Hardware Interfaces

* Recommended configuration mentioned above.

## 4.3 Software Interfaces

* An OS installed.
* Executable file for running the software.

## 4.4 Communication Interfaces

* NIC (Network Interface Card) – It is a computer hardware component that allows a computer to connect to a network. NICs may be used for both wired and wireless connections.
* CAT 5 network cable- for high signal integrity.
* TCP/IP protocol- Internet service provider to access and share information over the Internet.
* Ethernet Communications Interface- Ethernet is a frame-based computer network technology for local area networks (LANs).
* Ubiquitous, easy to set up and easy to use. Low cost and high data transmission rates.

# 5. Conclusion

The main objective was to enhance and automate the management and declaration of students’ results using a computerized system. A well-defined, efficient, controlled and managed information system or software based on web technology storing, processing and providing information through the internet.