Software Requirements Specification

for

Tesla

A College Management System

Version 1.0

Prepared by Jatin Rohilla  
Jatinrohilla69@gmail.com

Deen Dayal Upadhyaya College

August 7, 2016

Table of Contents

Table of Contents ii

1. Introduction 1

1.1 Purpose 1

1.2 Intended Audience 1

1.3 Product Scope 1

1.4 Technology Stack 1

2. Overall Description 1

2.1 Product Perspective 1

2.2 Functional Requirements 2

2.3 User Classes 2

2.4 Operating Environment 2

2.5 Implementation Constraints 2

3. External Interface Requirements 2

3.1 User Interfaces 2

3.2 Hardware Interfaces 3

3.3 Performance Requirements 3

3.4 Safety Requirements 3

3.5 Security Requirements 3

3.6 Software Quality Attributes 3

4. Feasibility 3

4.1 Technical Feasibility 3

4.2 Operational Feasibility 3

4.3 Legal Feasibility 4

4.4 Schedule Feasibility 4

# Introduction

## Purpose

This document is the Software Requirement Specification (SRS) for the college management system named **TESLA**, version 1. This SRS will describe the general scope of the project, the basic features, its intended audience and the future scope.   
After a specified time, a more detailed SRS will be released with module and sub-module functioning and detailed features.

## Intended Audience

This document is intended for developers, project managers, users, and documentation writers.  
The product being developed is intended to be used by educational institutions, colleges to manage all their data online.

## Product Scope

Tesla is a website that serves as a college management system. Starting with basic modules, the website can be developed to be an independent automated system that provides all necessary features required by the college administration.

## Technology Stack

The front-end will be HTML pages with CSS with Java Script for client side validation whereas all business logics will be in Java reside at middle layer. JSP will be used to dynamically generate web pages Third layer of database will be interacted with these layers, which would be Oracle database. The web server would be Tomcat 5.5 version.

Server having Tomcat5.5 as web server is required to start working on this project environment like Java Runtime Environment (JRE) as development environment and MySQL as database.

# Overall Description

## Product Perspective

Even in this era of digitalization, old administration offices such as that of colleges still use the hardcopy system, maintaining copies of all the records. Even if the system is computerized the software is outdated and does not serve its purpose effectively. This very thought led to the development of an Online Intranet College Management System (CMS) that is of importance to either an educational institution or a college. Once the website is up and running, everything will be on cloud and will give seamless access to the services. The main server can reside in the college itself giving a local access to the administration and the online website will give remote access to its services via the internet.

## Functional Requirements

The client requires the following features-

* The administrator governs the working of the system.
* The staff can view the student’s details.
* A mechanism to uniquely identify each student
* The students can view their marks/attendance/exam/schedules.
* The system should have a login.
* The system should have help feature.

## User Classes

* Admin: The admin will have access to all the features of the website such as adding new students, removing students, uploading notices, uploading subjects, and viewing all types of information.
* Staff/ Teachers: Teachers will be limited to their domain, and use features such as, uploading attendances and mark sheets, viewing details of students, etc.
* Students: Students will have access to their profiles, mark sheets, attendance sheets and basic features pertaining to students.

## Operating Environment

* Client:   
  Hardware Requirements - core 2 duo or higher, 1 GB Ram, 3 GB hard disk.  
  Software Requirements - java enabled browser
* Server:

Hardware Requirements – 5th generation core i5, 16 GB Ram, 300 GB Hard disk

Software Requirements – Java, oracle 10g, MySQL, Apache Tomcat.

These are the preliminary requirements. A more detailed set of hardware and software requirements will be released at a later stage.

## Implementation Constraints

The dynamic web pages will be generated using JSP and JAVA. JavaScript will be used for user side validation. The developer must be familiar will all these languages or any support developer learn all these before modifying the code.

# External Interface Requirements

## User Interfaces

The user interface should be simple and clean and should avoid any redundant features.  
It must be easy to use.

## Hardware Interfaces

Any browser which supports Java 7 is well suited. Any device with such a browser can actively use the website.

## Performance Requirements

The website should be fast and fluid. It should be capable of handling multiple requests at once. It should be effectively implemented to reduce server load.

## Safety Requirements

A backup copy of all the data will be maintained at all times in case of website failure or any cyber-attack.

## Security Requirements

Every user must login to the website before using its features. Passwords are not stored in plane texts and proper measures are taken to prevent any kind of cyber-attack such as SQL injection.

## Software Quality Attributes

* Adaptability – adaptable to new requirements.
* Maintainability – Should be easy to maintain for the developer.
* Availability - Available round the clock.
* Reliability – Data should be consistent and reliable.
* Portability – System should be easy to port in new technology.
* Robustness – System should be Robust and free from bugs.

# Feasibility

## Technical Feasibility

Technological feasibility is carried out to determine whether the company has the capability, in terms of software, hardware, personnel and expertise, to handle the completion of the project.

Can the product be made using current technology and expertise?  
Yes. The product and its features can all be made using current technology stack.

## Operational Feasibility

Yes. The product fulfills all the user requirements. It is simple to use and easy to learn. The use of this product will enhance the overall efficiency of the administration.

## Legal Feasibility

Yes. The product is legally feasible and does not violate any copyright laws. The law and enforcement has been verified and does not use any private content.

## Schedule Feasibility

Yes. The product can be completed in the given time frame of 2 months.