Software Requirements Specification

for

Time Table Management System

Version 1.0 approved

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Revision History

Name	Date	Reason For Changes	Version

1. Introduction

1.1 Purpose

Time Table Management System. Release Number 1. This product is meant for generation and modification of the time table, by rescheduling classes according to user, time and class room vacancy.

1.2 Document Conventions

NIL

1.3 Intended Audience and Reading Suggestions

This document is intended for developers, project managers, users, testers and documentation writers. The SRS provides a brief description of the Product.

1.4 Product Scope

This product will be used by institutions for the generation of timetable, according to the faculty and students' convenience. Time table will modify itself according to faculty or class-representative's requirements.

**Class attendance may be included.*

1.5 References

MySQL Documentation: https://dev.mysql.com/doc/
Express JS Documentation: https://expressjs.com/en/guide/routing.html
React JS Documentation: https://reactjs.org/docs/getting-started.html
Node JS Documentation: https://nodejs.org/api/documentation.html
Axios: https://www.npmjs.com/package/axios
Node Mailer: https://nodemailer.com/about/
Antd: https://ant.design/docs/react/introduce
Developer's forums: https://www.stackoverflow.com

2. Overall Description

2.1 Product Perspective

This product is first of its type. Any similarity with any other product is a mere coincidence.

2.2 Product Functions

1. Generation of time table.
2. Modification of time table according to the requirements.
3. Attendance

2.3 User Classes and Characteristics

1. Faculty.
    1.1 HOD
    1.2 Professors
2. Students.
    2.1 Class-Representative.
    2.2 Others
3. Administration.

2.4 Operating Environment

This product is a web based application. It can be used using a mobile phone or a computer which has an internet connection.

2.5 Design and Implementation Constraints

1. Developers will need time tables of all the classes to develop this product.
2. Developers will need knowledge in Javascript and MySQL.
3. Developers should be able to code in node (Javascript Framework).
4. Developers should be familiar with the usage of github.

2.6 User Documentation

NIL
Further additions after development of prototype.

2.7 Assumptions and Dependencies

NIL

3. External Interface Requirements

3.1 User Interfaces

NIL
Further additions during development

3.2 Hardware Interfaces

This product is compatible for the users who have a mobile phone or a computer. This product will use http protocol through a stable internet connection. This product uses smtp protocol for mailing purpose.

3.3 Software Interfaces

This product functions with the use of node and libraries like express js, react js of node. This product uses http and smtp protocols. This product uses MySQL for database purpose and uses axios for connection between the client side and the server side. This product uses MySQL server and the server for this product is setup in express js.

3.4 Communications Interfaces

1. Web Browser for client side rendering.
2. SMTP protocol for mailing.
3. HTTP for connection with the server.

4. System Features

1. Generation of time table.
    - 1.1 Medium Priority. Generate time table according to a faculty's subject of expertise and their students' subjects.
    - 1.2 Only accessible by the administrator.
    - 1.3 Generation requires subject expertise of the respective faculty and their students' curriculum.
2. Modification of time table.
    - 2.1 High Priority. Modify time table according to a faculty's subject of expertise and their students' subjects.
    - 2.2 Accessible by class-representative and faculty.
    - 2.3 Requires defined time table and class room vacancy.
3. Viewing of time table.
    - 3.1 Low Priority. View a user's time table.

3.2 Accessible by any user.
3.3 Requires defined time table.
4. Inclusion of pre-defined time table.
4.1 High Priority. Generate a time table according to institution's currently used time table.
4.2 Accessible by administrator.
4.3 Requires defined time table.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

1. Latest version of Flash Player.

5.2 Safety Requirements

This is a web based application and no safety requirement from the user is required.

5.3 Security Requirements

Respective class-representatives and faculties should not share their passwords with anybody for security purpose. Same is applicable for all the users.

5.4 Software Quality Attributes

The client side part is developed in react js which increases the ability to make the components dynamically. Most of the functions and processes are executed on the client side and this reduces the time required to process things and provides a good user experience. This has a very great advantage over a similar product developed in php if exists.

5.5 Business Rules

A class-representatives can confirm the modification in the time table.
A faculty can schedule a class and request for vacant class room.
A user who is neither a faculty member nor a class-representative can only view the time table.

6. Other Requirements

No other requirements.