SOFTWARE REQUIREMENT SPECIFICATION

**2. Software Requirement Specification**

**2.1 Introduction**

A software requirement specification (SRS) is a document that describes what the software will be expected to perform. It also describes the functionality the product needs to fulfil all the user’s needs.

A basic purpose of software requirement specification is to bridge the communication gap between client and developers. It provides critical information to all the teams, including development, operations, quality assurance (QA) and maintenance, ensuring the team are in agreement.

The software requirement specification is the part project planning that involves determining and documenting a list of specific project goals, deliverable, task, cost and deadlines. SRS document provide reference for validation of the final software.

**2.2 Overall Description**

This section describes the function of the project and their aim. It also includes the constraints and the requirements of the project.

**2.2.1 Product perspective**

**2.2.1.1 System Interfaces**

This application runs in the latest version of Chrome or Firefox browser on the Window, Linux and Mac.

**2.2.1.2 User Interfaces**

This application GUI provides menus, buttons, textbox allowing for easy control by a keyboard and a mouse.

**2.2.1.3 Hardware Interfaces**

Keyboard, mouse.

**2.2.1.4 Software Interfaces**

This application allows to DML, DDL &DCL query with MYSQL Server...

**2.2.1.5 Communications Interfaces**

Our project uses internet and LAN as communication interface

**2.2.1.6 Interfaces with Server**

This application allows to interfacing with MYSQL Server, xampp, apache tomcat.

**2.2.2 Product Function**

The product is the proper College Activity Management and it will manage the students and Staff for particular program.

**Admin**

* View activity Details.
* View attendance.
* Manage Association.
* Manage Staff

**Staff**

* View Activity Details.
* Manage Student.
* Record Attendance.
* Manage Activity.
* Edit Profile.

**2.2.3 User Characteristics**

User characteristics refer to the specific traits, qualities, and attributes of individuals or groups of people who interact with a system, product, or service.

**Admin and Staff**

* Admin and staff should have knowledge of college associations and activities.
* They should have common knowledge of using computer.
* Admin should have ability to manage associations, activities, staffs.
* Staff should have ability to manage associations, activities &students.

**2.2.4 General Constraints**

General constraints refer to the limitations and restrictions that affect the design, development, and implementation of a system, product, or service.

At present, we have an i3 core processor running on top of the Linux/Windows operating system. The current constraints on the project are related to the provision of hardware resources and software resources.

**2.2.5 Assumption and Dependencies**

These factors are not design constraint on the software but any changes to these factors can affect the requirement in SRS.

This project requires operating system with Window 7 or above configuration and our application run in above operating system.

**2.3 Special Requirements**

Not Applicable

**2.4 Functional Requirements**

**2.4.1 Login**

**Input:** User id, password.

**Process:** Authenticates the input details.

**Output:** Admin or staff page will be displayed.

**2.4.2 Admin**

**2.4.2.1 View Activity**

**Input:** Button click.

**Process:** Retrieve the activity information from database. **Output:** Display the activity details.

**2.4.2.2 View Attendance**

**Input:** Button click.

**Process:** Retrieve student attendance information from database.

**Output:** Display the attendance details.

**2.4.2.3 Manage Association**

**2.4.2.3.1 Add Association**

**Input:** Association id, association name, association icon.

**Process:** Validates the inputted details & stores into database.

**Output:** Successful or unsuccessful message will be displayed.

**2.4.2.3.2 Update Association**

**Input** Button click.

**Process:** Updated information will be stored into database.

**Output:** Successful or unsuccessful message will be displayed.

**2.4.2.3.3 Delete Association**

**Input:** Button click.

**Process:** Deleting information from the database.

**Output:** Successful or unsuccessful message will be displayed.

**2.4.2.4 Manage Staff**

**2.4.2.4.1 Add Staff**

**Input:** Staff id, password, email, contact no, department, association id.

**Process:** Validates the inputted details & stores into database.

**Output:** Successful or unsuccessful message will be displayed.

**2.4.2.4.2 Update staff**

**Input:** Button click.

**Process:** Updated information will be stored into database.

**Output:** Successful or unsuccessful message will be displayed.

**2.4.2.4.3 Delete staff**

**Input:** Button click.

**Process:** Deleting information from the database.

**Output:** Successful or unsuccessful message will be displayed

**2.4.3 Staff**

**2.4.3.1 View Activity**

**Input:** Button click.

**Process:** Retrieve the information from database. **Output** Display the activity details.

**2.4.3.2 Manage Student**

**2.4.3.2.1 Add Student**

**Input:** Student id, student name, class, association id.

**Process:** Validates the inputted details & stores into database.

**Output:** Successful or unsuccessful message will be displayed.

**2.4.3.2.2 Update Student**

**Input:** Button click.

**Process:** Updated information will be stored into database.

**Output:** Successful or unsuccessful message will be displayed.

**2.4.3.2.3 Delete Student Input:** Button click.

**Process:** Deleting information from the database.

**Output:** Successful or unsuccessful message will be displayed.

**2.4.3.3 Record Attendance**

**Input:** Button click.

**Process:** Record student attendance and store in database.

**Output:** Student attendance details will be recorded.

**2.4.3.4 Activity Management**

**2.4.3.4.1 Add activity**

**Input:** Activity id, activity name, description, image path, date, place, association id.

**Process:** validates input information and stores in database.

**Output:** Successful or unsuccessful message will be displayed.

**2.4.3.4.2 Update activity**

**Input:** Button click.

**Process:** Updated information will be stored in database.

**Output:** Successful or unsuccessful message will be displayed.

**2.4.3.4.1 Delete activity**

**Input:** Button click.

**Process:** Delete activity record from database.

**Output:** Successful or unsuccessful message will be displayed.

**2.4.3.5 Edit Profile**

**Input:** Button click.

**Process:** Updates staff record in database

**Output:** Successful or unsuccessful message will be displayed.

**2.5 Design Constraint**

The client environment may restrict the designer to include some design constraint that must be followed.

**2.5.1 Hardware Constraint**

* **CPU:** Intel core processor with 64-bit support, Recommended: 2.8 GHz or faster processor.
* **Disk Storage:**4 GB of free disk space or higher.

**2.5.2 Software Constraint**

* **XAMPP , Apache, MySQL** Servers.
* **Frontend:** HTML, CSS.
* **Backend:** PHP, MYSQL**.**
* **Notepad++** or similar editor for writing code.
* **OS:** Windows 7 or higher windows system.

**2.5.3 Fault Tolerance**

Fault tolerance requirements can place a major constraint on how the system is to be designed. Fault tolerance requirements often make the system more complex and expensive, so they should be minimized. How the system tolerates the fault arise in the system like network failure, hardware failure, process failure to protect integrity of the data or consistency of the data. Our application use different validation and exception handling mechanism whenever it requires.

**2.5.4 Security**

Currently security requirements have become essential and major for all types of systems. Security requirements place restriction on the user of certain commands control access to database, provide different kinds of access. Requirements for different people, require the use of passwords and cryptography techniques, and maintain a log of activities in the system. Each user can login to the application using their password and only admin can view the database.

**2.5.5 Standard Compliance**

It specifies the requirements for the standard system must follow. We followed all the standards like naming the labels, buttons, textbox colouring layouts.

**2.6 System Attributes**

* **Availability**

Availability refers to the percentage of time that the infrastructure, system, or solution remains operational under normal circumstances in order to serve its intended purpose.

* **Portability**

Portability, in relation to software, is a measure of how easily an application can be transferred from one computer environment to another. A computer software application is considered portable to a new environment if the effort required to adapt it to the new environment is within reasonable limits.

* **Reliability**

Reliability refers to the probability that the system will meet certain performance standards in yielding correct output for desired time duration.

* **Maintainability**

Maintainability refers to the ease with which you can repair, improve and understand software code. Software maintenance is the phase in the software development cycle that starts after the customer has received the product.

* **Scalability**

**Software scalability** is an attribute of a tool or a system to increase its capacity and functionalities base on its users demand. Scalable software can remain stable while adapting to changes, upgrades, overhauls, and resource reduction.

**2.7 Other Requirements**

Applicable.