PROJECT DOCUMENTATION

# School Management

Revision History

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| --- | --- | --- | --- |
| Version No. | Date | Prepared by / Modified by | Significant Changes |
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|  |  |  |  |

Glossary

|  |  |
| --- | --- |
| Abbreviation | Description |
| DB | Database |
| DDB | Distributed Database |
| ER | Entity Relationship |

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# INTRODUCTION

When the entire world gets digitized for better efficiency and productivity, why not schools? When large scale and small scale industries, local, national and international companies, hospitals etc. are making use of technological advancements, why can’t schools accept aid from the latest technologies?

To better perform the school administrative activities of educational institute and to assure parents the real-time progress and security of their children, educational institutes utilizes School Management Software nowadays. Such applications often offer many features that help to enhance the performance of schools with minimum efforts. School Management software does it by avoiding the manual paper works and automation of many academic and administrative activities.

## Significations

* Easy to update information.
* Work becomes speedy.
* Access of any information individually.
* Decrease the load of the person involve in existing manual system.
* Well-designed reports.
* Easy & fast retrieval of information.
* Accuracy in work.
* It contains better storage capacity.
* Robust database back-end.
* Creating and changing data at ease.

## Scope

Our project aims to safe and easy handling of restaurant. i.e. we have made a computerized process to store data and distribution.

* It satisfies the admin(Owner).
* It is easy and safe to store data.
* It is easy to operator.
* Have a good user interface.
* It saves time and function faster.
* It helps the owner to manage the restaurant.
* We have tried to develop safe and secure software with above mentioned specifications.

## Definitions, Acronyms and Abbreviations

The Student Management System has to handle records for many number of students

and maintenance was difficult. Though it has used an information system, it was totally

manual. Hence there is a need to upgrade the system with a computer based information

system.

# SCOPE OF CHANGE

Change will not be entertained and whatever specifications mentioned in this document is final.

# APPROVALS

This document requires the following approvals.

Signed approval forms are filed in the Management section of the project files.

|  |  |  |  |  |
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**2.4      Distribution**

This document has been distributed to:

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# Design and Detailed technical updates

## Process model

### Use case Model

### C:\Users\TSS_HCL\Downloads\MicrosoftTeams-image (2).png

### Overview Description

|  |  |
| --- | --- |
| Brief Description | Admin Registration |
| Basic Flow | This use case describes how a client register in to the system   1. The admin has to register himself into the system. 2. After the successful registration, admin will get a success message. 3. The following information is required during registration.  * Name * Email * Password * Confirm Password |
| Alternate Flow | 1. The system will validate the information provided. If any invalid data is found, the input form will be redirected with error message. |
| Validation | 1. Name is required and can’t be empty. 2. The Email should be valid. 3. Password should be valid. 4. Password needs to be confirmed one more time. |
| Pre-Conditions | User should have network access and Browser with latest updates. |
| Post-Conditions | Success message should be shown. |

|  |  |
| --- | --- |
| Brief Description | Admin Login |
| Basic Flow | This use case describes how a user log-in in to the system   1. After the successful login, user will be taken to the appropriate landing page. 2. The following information is required to login.  * Username * Password |
| Alternate Flow | 1. The system will validate the credentials provided. If credentials are invalid, login form will be redirected again with error message. |
| Validation | 1. Valid username 2. Valid password |
| Pre-Conditions | User should have network access and Browser with latest updates. |
| Post-Conditions | Landing page has to be displayed. |

|  |  |
| --- | --- |
| Brief Description | Student Registration |
| Basic Flow | This use case describes how a supplier register in to the system   1. The students are being registered by the admin into the system. 2. After the successful registration, student will get a success message. 3. The following information is required during registration.  * Name * Date of Birth * Admission Details * Parents Name * Address |
| Alternate Flow | 1. The system will validate the information provided. If any invalid data is found, the input form will be redirected with error message. |
| Validation | 1. Student Name is required. 2. Date of Birth is required with a valid date, month and year. 3. Admission Details consists of class, admission date and roll number 4. Parents’ Name is required. 5. Address is required and can be alphanumeric. |
| Pre-Conditions | User should have network access and Browser with latest updates. |
| Post-Conditions | Success message should be shown. |

## Database design changes

|  |  |  |  |
| --- | --- | --- | --- |
| NAME OF FIELD | TYPE | SIZE | Description |
| Id | number | 12 | Primary key |
| Username | Varchar2 | 50 | Not null, unique |
| Password | Varchar2 | 20 | Not null |
| Description | Varchar2 | 200 |  |

## Architecture Diagram

**Logical View**

**Technology/ Framework**

**Layer**

UI Components

Angular

Presentation Layer

Add

delete

Search

Update

Web-Server Classes

Java 1.8/ Spring

Boot

Application

Layer

Controllers

Configuration

REST Controllers

Service

Entity/ Model Classes

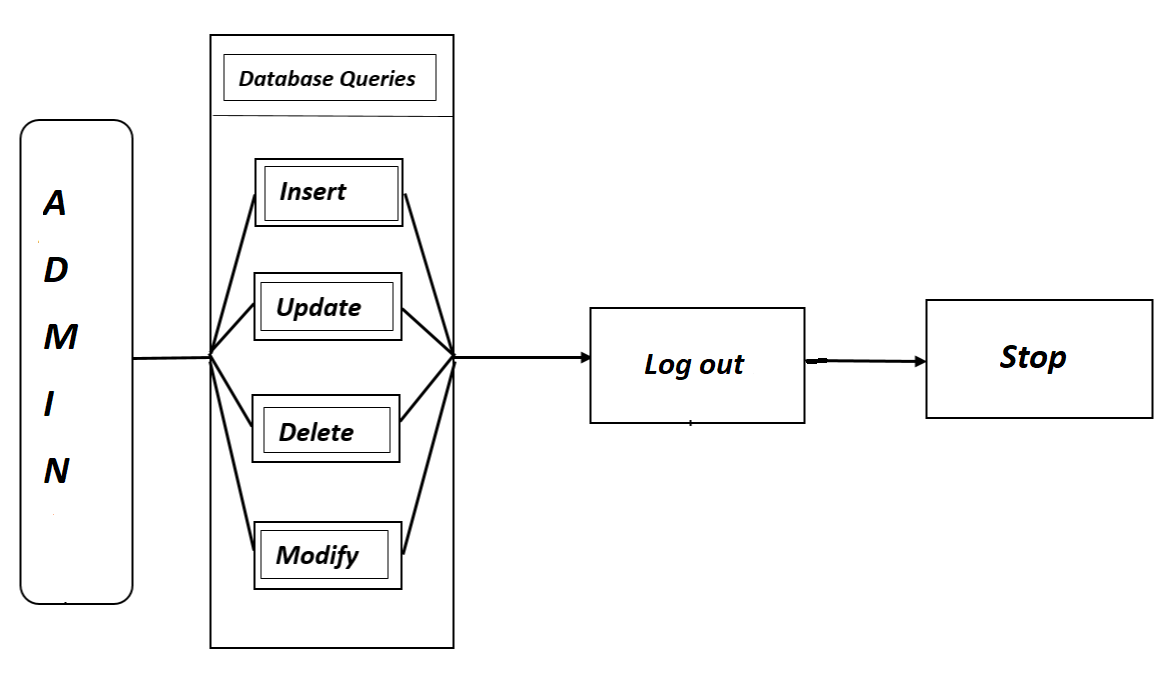
Data Access Layer

Spring JPA

Repository classes

Oracle 11g Database

# DETAILS OF ALTERNATIVE DESIGN APPROACH



# Additional details

## 6.1 Software Requirements

* Windows version 7+.
* A browser which supports CGI, HTML & JavaScript.
* Front-end software:

**HTML** - HTML (Hypertext Markup Language) is the code that is used to structure a webpage and its content. For example, content could be structured within a set of paragraphs, a list of bulleted points, or using images and data tables.

**CSS** - Stands for "Cascading Style Sheet." CSS sheets are used to format the layout of Web pages. They can be used to define text styles, table sizes, and other aspects of Web pages that previously could only be defined in a page's HTML.

**Angular** - Angular is a platform and framework for building single-page client applications using HTML and Type Script. Angular is written in TypeScript. It implements core and optional functionality as a set of Type Script libraries that you import into your applications. The architecture of an Angular application relies on certain fundamental concepts.

* Back-end software:

**JAVA** - Java is a general-purpose, class-based, object-oriented programming language designed for having lesser implementation dependencies. It is a computing platform for application development. Java is fast, secure, and reliable, therefore. It is widely used for developing Java applications in laptops, data centers, game consoles, scientific supercomputers, cell phones, etc.

**Spring Boot** - Spring Boot is an open-source micro framework maintained by a company called Pivotal. It provides Java developers with a platform to get started with an auto configurable production-grade Spring application. With it, developers can get started quickly without losing time on preparing and configuring their Spring application.

**Spring Data JPA** - JPA is a Java specification that is used to access, manage, and persist data between Java object and relational database. It is a standard approach for ORM.

**Spring Security** - Spring Security is a powerful and highly customizable authentication and access-control framework. It is the de-facto standard for securing Spring- based applications. Spring Security is a framework that focuses on providing both authentication and authorization to Java applications.

* Database:

**Oracle SQL** - SQL (pronounced sequel) is the set-based, high-level declarative computer language with which all programs and users access data in an Oracle database. Although some Oracle tools and applications mask SQL use, all database tasks are performed using SQL.

## 6.2 Non Functional Requirements

* **AVAILABILITY:** The flight should be available on the specified date and specified time as Admin may need it any time.
* **CORRECTNESS:** Correct data should be displayed.
* **MAINTAINABILITY:** The administrators should maintain correct data.
* **USABILITY:** Can be used by Admin.