KULLIYYAH OF INFORMATION AND COMMUNICATION TECHNOLOGY, IIUM

COURSE TITLE:

WEB APPLICATION & DEVELOPMENT

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INFO 3305

SECTION:

02

PROJECT TITLE:

STUDENT INFORMATION MANAGEMENT SYSTEM

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Github link of the Project: https://github.com/IffatJahanEra/Web-Application-Project

STUDENT INFORMATION MANAGEMENT SYSTEM

1.1 INTRODUCTION

For this project we aim to develop a web-based application on “Student Management System”. Student management system provides a lot of functionalities to manage personal profiles that contain the information regarding identification number, email address, first name and last name all the data related to students. In this system users can manage their information with the basic features like list, insert, update, delete in other words. This system will be developed using the CURD operations - Create, Update, Read and Delete. This system will be operated by the admin to perform each and every operations and students will be able to see their own information. There will be a limited and restricted access level to maintain the confidentiality.

1.2 PROBLEM DESCRIPTION

1.2.1 Background of the Problem

Traditional paper based information management had introduced various problems especially to academic staff and students. While paper records are a traditional way of managing information there are several drawbacks to this method. First, paper records are difficult to manage and track. The physical exertion required to retrieve, alter, and re-file the paper records are all non-value added activities. Most of the time, It is very difficult to manage and update a lot of information or dataset manually especially when there are huge chances of human error.

The design and implementation of a comprehensive user management system and user interface is to replace the current paper records. The proposed “User Management System” will allow users to handle information like, inserting, updating or deleting information with more flexible and hassle free way regardless of physical location and manual paper works and ease the users to keep records.

1.2.2 Problem Statement

An upgraded system is a supremacy to replace the manual traditional system where the administration has to deal with the information maintenance difficulties .Automation of student data maintenance system will remove redundancy and increase data efficiency. Therefore it has no possibility information missing or destroyed in case of crisis.This system will keep track of the student information related to all academic matters such as admission, course registration, contact information etc.

In the new system, there will be different types of functionalities that will be performed by the admins. They will be responsible for the login operation where role based login will be implemented according to different access level with the function of 'Forget password' and manage the students as well where only admins can add new students, edit the information of exiting students, view all student profile and create reports of the students. Each student will be able to see all their information using own identification number and password. Therefore no formal communication or meetings will be required to accomplish academic information.

1.3 PROJECT OBJECTIVE

In order to define the scope of a project, it is important to initially build up the project goals. The main purpose of this project is to develop an application that will approach to handle the activities of students' information management in order to:

- Provide the online interface for students, faculty, etc.
- Increase the efficiency of students' record management.
- Decrease time required to access and deliver student records.
- Make the system more secure.
- Decrease time spent on non-value added tasks.

Hardware and Software Requirements:

- Operating System Server: Windows XP or later, Mac OS, Linux.
- Database Server: Microsoft SQL server – 2010 or similar

- Client: Microsoft Internet Explorer or similar
- Server: Apache Tomcat
- IDE: Eclipse EE or Netbeans 7.4

1.4 PROJECT SCOPE

Project scope is all about project planning that determines a list of specific project goals, deliverables, functions, features and tasks.

1.4.1 Scope

- Design a web application which contains up to date information of the students.
- Help to improve efficiency of student record management.
- Decrease the hassle of manual paper-works.

1.4.2 Targeted User

The development of this system will be targeting the educational institutes and its staffs who would be able to access all aspects of a student's information through a secure, online interface embedded in the system and keep up-to-date records.

1.4.3 Specific Platform

In order to implement the system we will be using

- HTML as the page layout and CSS to design the interface.
- JAVASCRIPT for all the client-side server validation task and animations
- JSP for all the front-end logic
- JAVA to write all the business logic
- MYSQL will be used as the database for the project
- TOMCAT where the project will be run as the server.

1.5 CONSTRAINTS

Constraint is the definite and inflexible limitation by which can limit any project options. The constraints that may occur within the student management system are-

- Website traffic: As the system will be built for students, system may respond slowly due to web traffic
- Server Down: Backing up the system may cause server hangs.
- Website Security: It can be difficult to implement in order to protect student personal information.
- Storage limitation: it may occur due to the number of students
- Human Factor: Admin may slip while inserting information for an individual student.

1.6 PROJECT STAGES

User layout for the system will be created using HTML, CSS for interface design and JavaScript for client-side scripting functionality. MYSQL will be used to connect database and store the information to the website. We have to use JSP for server-side scripting using the current version of JSP.

For the software design we will be using controllers as it differentiates the user interface layer from the application logic. Controller will receive all the request for the application and will work with the application to create the view according to the data input by the user. View then will be responsible to display the required information to the user.

MODEL-VIEW-CONTROLLER: Model View Controller or MVC as it is popularly called, is a software design pattern for developing web applications. A model View Controller pattern is made up of the following parts: MODEL: The lowest level of the pattern which is responsible for maintaining data. VIEW: This is responsible for displaying all or a portion of the data to the user. CONTROLLER: Software code that controls the interactions between the model and view. The MVC abstraction can be graphically represented as follows:

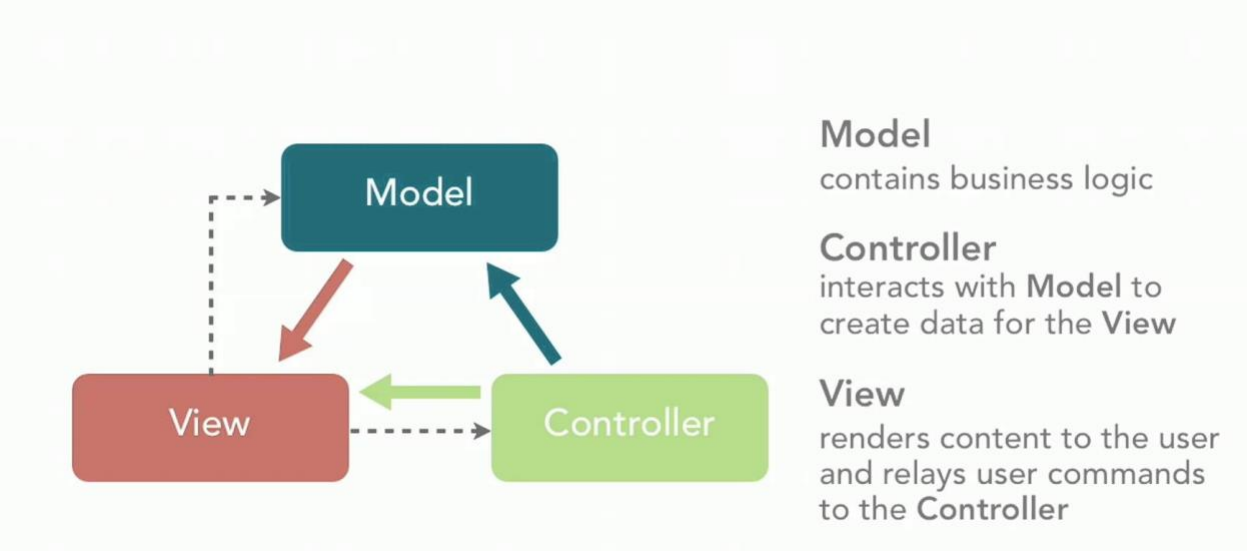

Figure 1 Graphical representation of MVC- Model-View-Controller

MODULES AND DIAGRAMS:
Flow Chart:

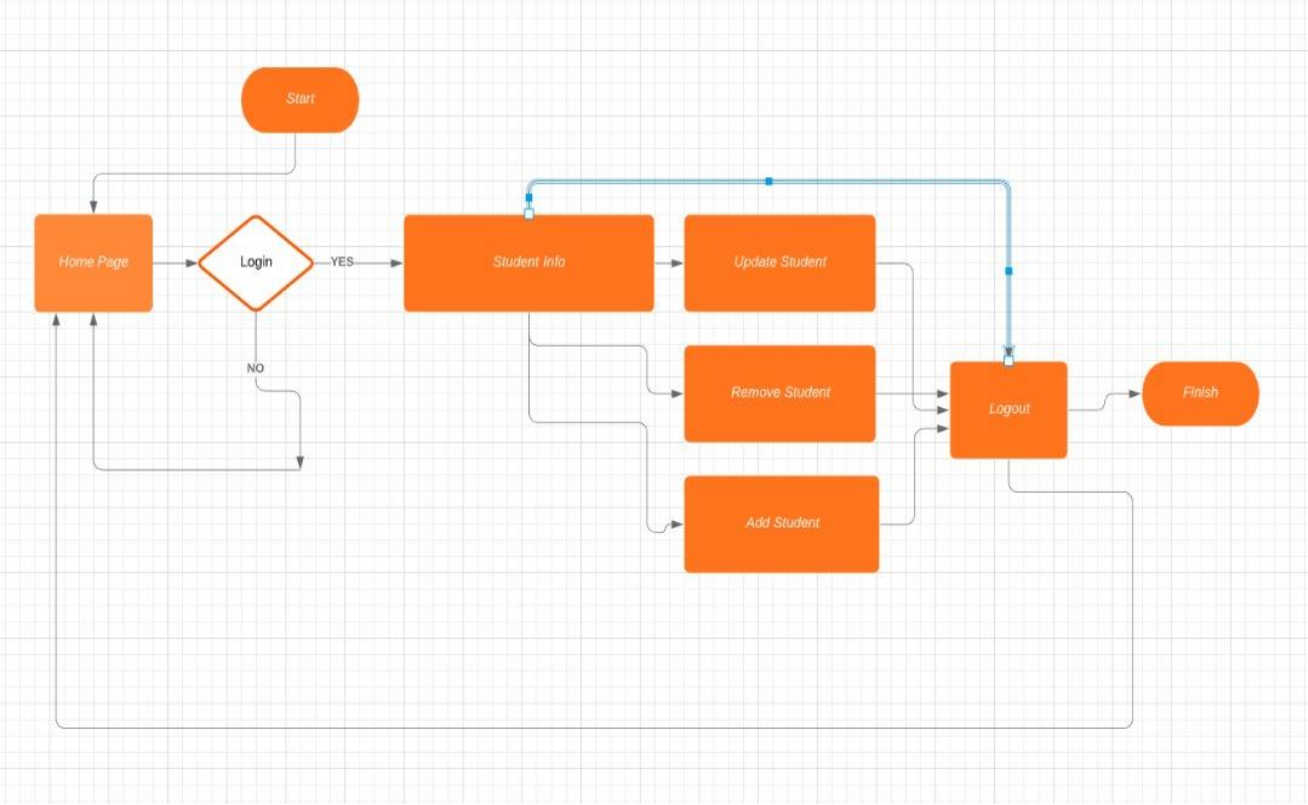

Figure 2 Student management System Flow Chart

Views:

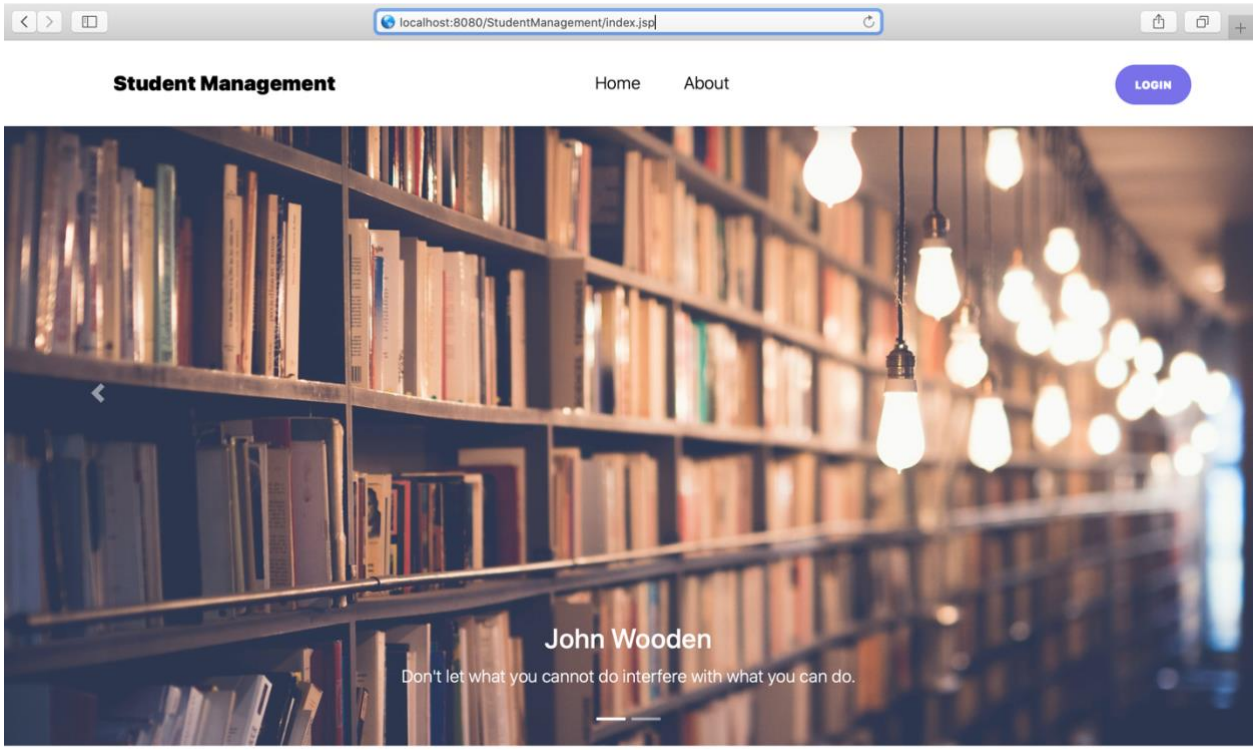

Figure 4 Home Page

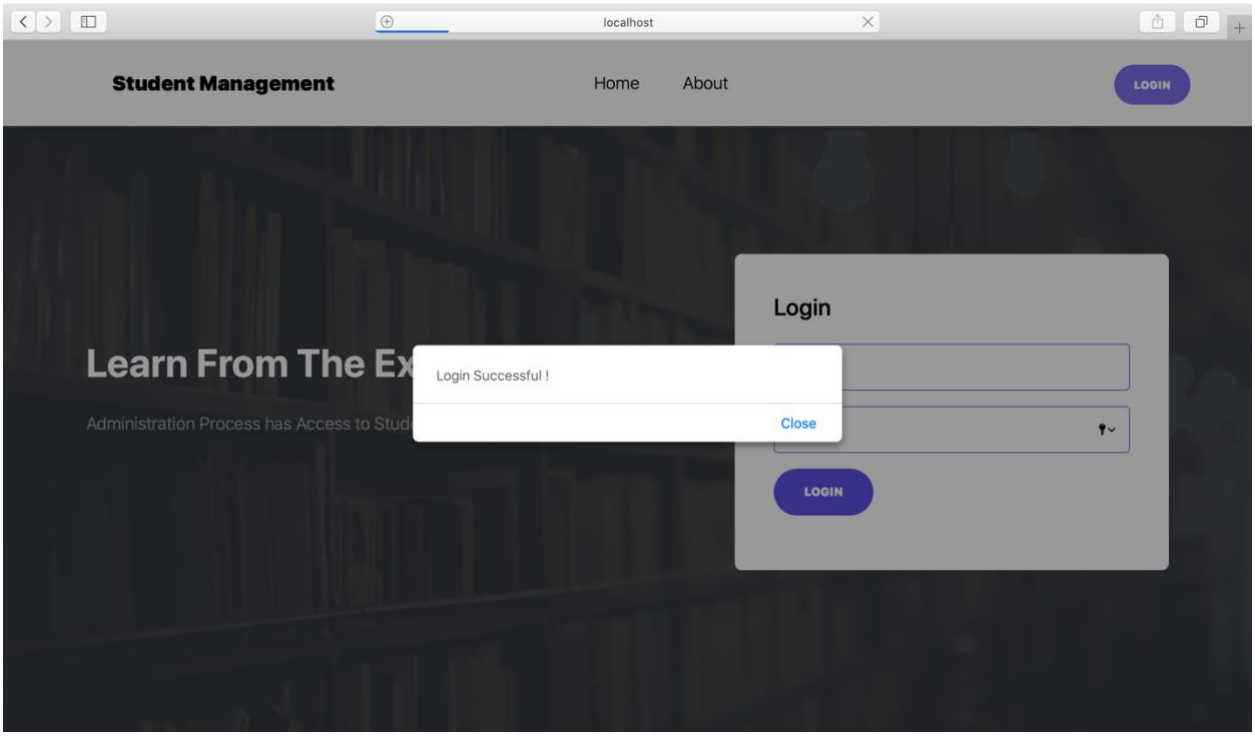

Figure 3 Successful Login

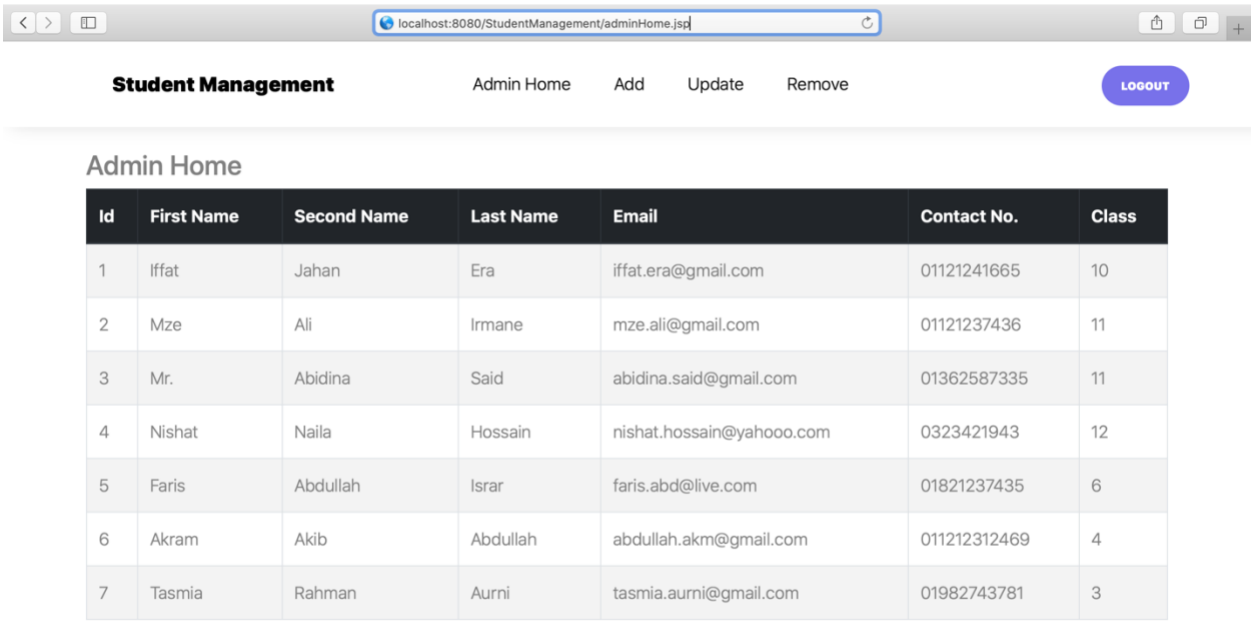

Figure 5 Admin Home Page

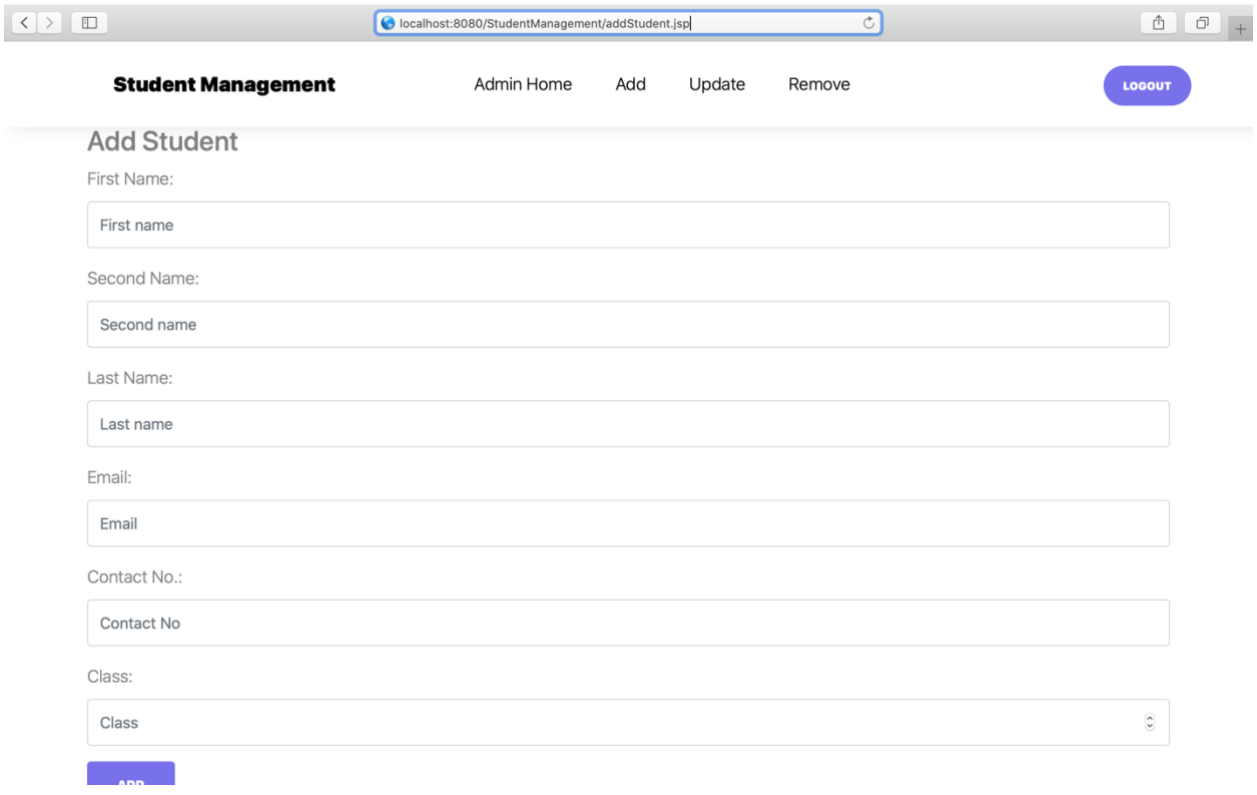

Figure 6 Add Student Page

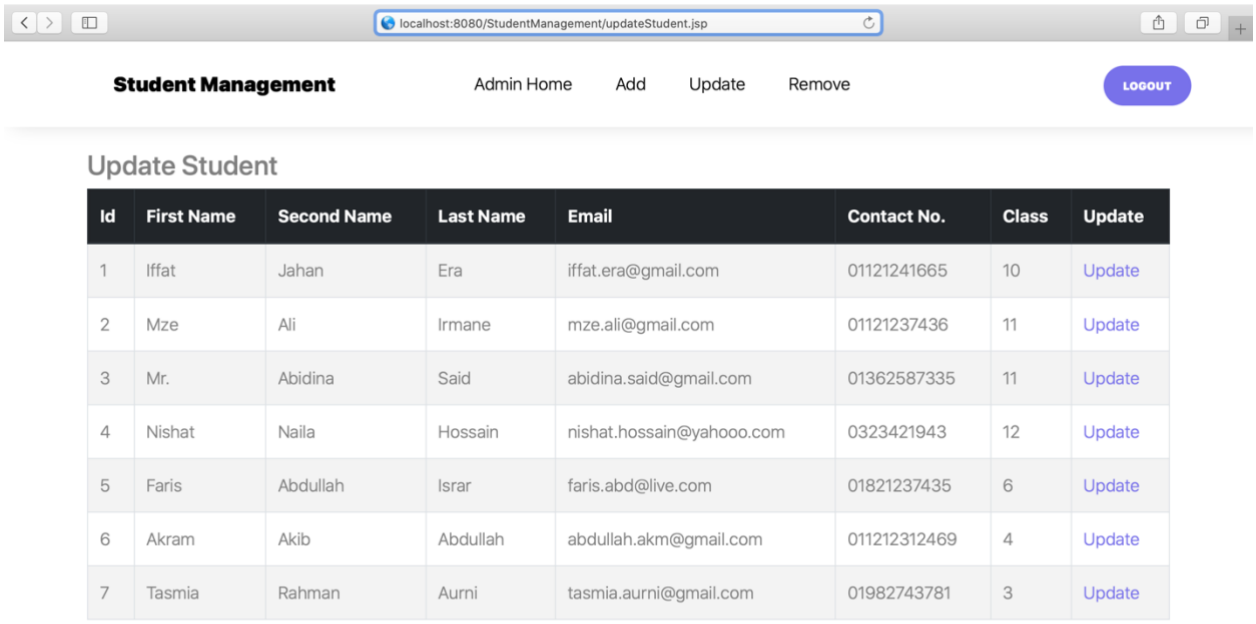

Figure 8 Update Student Page

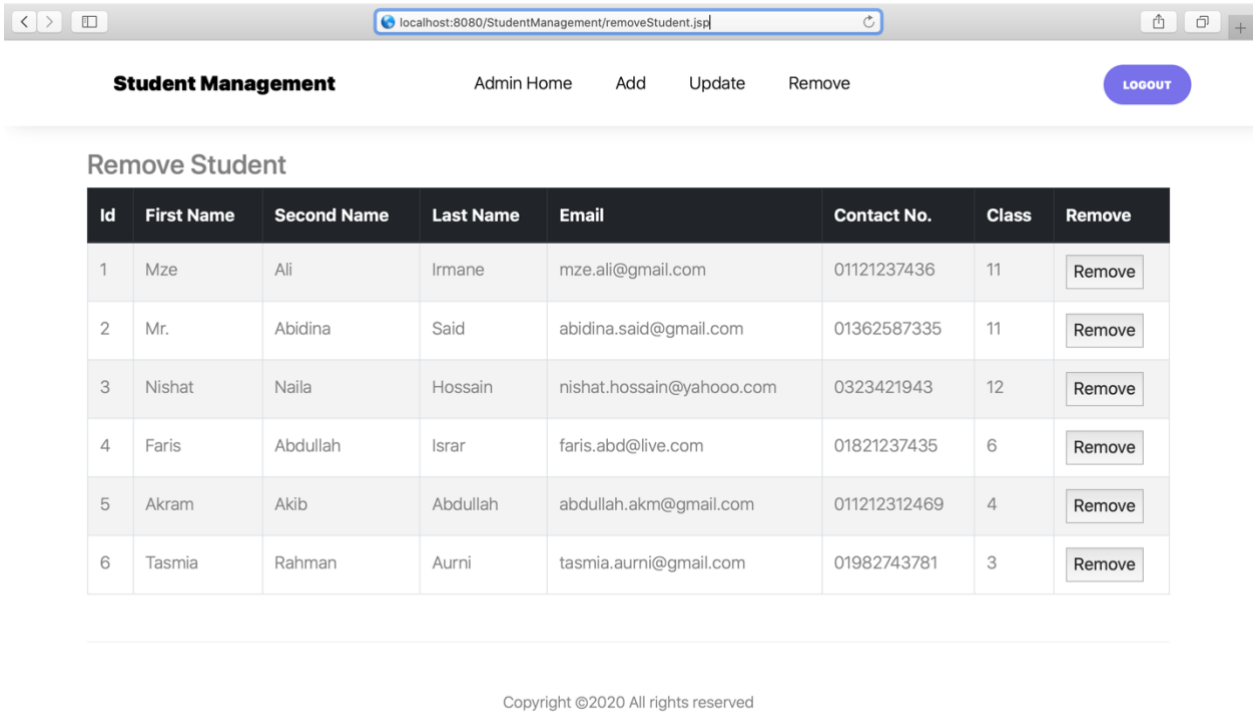

Figure 7 Remove Student Page

1.7 SIGNIFICANCE OF THE PROJECT

A good student management system helps the students perform to their fullest potential. A student tracking system equipped with dashboards makes it easier to track what work has already been done and by whom, and what work needs to be done and by whom. The best part of all this is that one can get all the necessary information on a single screen, which helps you get the best possible view. It creates a user friendly environment which reduce communication gap between the students and the administrations. Other than that a student management system can help to centralize data and ensure easy access to all. Last but not the least it ensures data accuracy and increases efficiency.

1.8 SUMMARY

Student Management System can be utilized by instructive organizations to keep up their student records effectively and accordingly. Accomplishing this goal is difficult through the traditional manual system as the data can be both dissipated and refunded and organizing these data might be very monotonous and tiring.

These issues can be solved by a student management system. This system helps in maintaining the information of students within the institution. As the system is stored into the server it can be kept safe for a long period of time without any interruption.

Task Distribution:

1. Interface design – Mze Ali Irmane
2. Handling login system – Mze Ali Irmane
3. Database connection – Iffat Jahan Era
4. Add students – Iffat Jahan Era
5. Remove students – Abidina Said
6. Update Students – Abidina Said

1.9 REFERENCES

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