Islamic University of Technology (IUT)

The Organization of the Islamic Co-operation (OIC)

Attendance Management System

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DEDICATION

This Project is dedicated to all Muslim ummah, for their best wishes and prayers our Beloved Parents, for their endless love, absolute care and guidance's. Thanks to The member states of the Organization of Islamic Co-operation (OIC) which granted of us with scholarship opportunity to obtain a career in the world of technology, and indeed the host country, peoples republic of Bangladesh. We are forever grateful to our project supervisor

Mr. Abdullah Al-Tariq

Sir for the guidance, inspiration and constructive suggestions that help Motivate us in the preparation of this project. . Thank you sir.

CERTIFICATION

This is to certify that this report embodies the original work done (Attendance software) by Abdoulrahmaine Mohammad, Mohammad Elmi Hassan and Muslim Musa. They have successfully completed their Final Project in Computer Science and engineering Department at Islamic university of Technology Dhaka, Bangladesh. Project submitted by them is here by approved in partial fulfilment of requirements for their programme in Computer Science and engineering.

_____   _____   _____

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Date: *Date:*

ABSTRACT

This document is meant for describing all the features and procedures that were followed while developing the system. This document specially mentions the details of the project and how it was developed, the primary requirement, as well as various features

And functionalities of the project and the procedures followed in achieving these objectives.

Over the years the manual attendance management has been carried across most of educational institutions.

To overcome the problems of manual attendance, we have developed "web based attendance Management System and Mobile Android Version".

 Attendance Management System is based on web server, which can be implemented on any computer or Android Phone. In This application,

PHP is server side language, MySQL and PHP is used as back-end design and HTML, CSS and JavaScript are used as front-end tools.

The system communicates with database residing on a remote server. It calculates automatically, the attendance percentage of students

Without any manual paper-based work.

The system facilitates the end users with interactive design and automated processing of attendance management.

With the effective use, any Institute can apply the "Attendance Management System" for conducting quick attendance and getting better results in less time.

ACKNOWLEDGEMENT

The satisfaction that accompanies that the successful completion of any task would be incomplete without the mention of people whose ceaseless

Cooperation made it possible, whose constant guidance and encouragement crown all efforts with success.

We are grateful to our project guide Mr. Abdullah Tarik Sir for the guidance, inspiration and constructive suggestions that helpful us in the preparation of this project.

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Chapter 1

Introduction

Attendance Management System is software developed for daily evaluation of students in their continuous assessment record, and performance in accordance with the principle of the institution. It is facilitated to access the performance and information of attendance of a particular Student in a particular semester of study. The information **is** sorted by the teachers, instructors and advisors, as provided by the student for a particular day throughout a complete semester. This system will also enable the evaluation of student regular presence in various lectures which will determine the eligibility of the student to sit for a semester examination. Attendance Management System basically has three main modules for proper functioning

- First module is admin which hold the key for editing and updating information. The admin has absolute right to all the users which are the Teachers and Student.

- Second module is handled by the user which can be a Teacher or Instructor. This user has a right of making daily attendance, updating, editing and generating reports to the students.

- Third is handled by a user which is the Student, he has less privilege to the access of the system; the student can only view his own record by providing his username and password. He will be able to see the percentage of his attendance as well as his results. If any comment or change of class schedule the student can see in his own profile only.

  This user can receive alert / message from his teachers related to his attendance performance. It is obvious that Students with poor

Attendance Management System

attendance will see their attendance in a Red warning table that can make the student to be careful not to miss classes anymore.

Objectives

- ➢ Create a Window application to be used in place of old paper based user Employee Salary manage process.
- ➢ Use the technologies and Server technology used in here to create strong and secured database connectivity.
- ➢ Incorporate the server software within the code.
- ➢ Runtime package and deployment instructions are given.
- ➢ Eliminate duplicate data entry and errors in time and attendance entries
- ➢ Eliminate paperwork and save time.
- ➢ Automatic calculation of attendance
- ➢ To Increase security.

Uniqueness & Special features of our project

- ## Concrete functionalities:-

  Our software contains lots of functionalities in it each having specific operations to perform.

- ## Efficiency and accuracy

  This software developed is very fast, flexible, efficient and is 100% accurate.

- ## Frame work

  Contains a very special Frame work which was discussed below in software's and technology used.

- ## Web Services

  Web service is a service offered by an electronic device to another electronic device, communicating with each other via the World Wide Web. In a Web service, Web technology such as HTTP, originally designed for human-to-machine communication, is utilized for machine-to-machine communication, more specifically for machine

readable file formats such as XML and JSON. In our Attendance Software,

The Web service typically provides an object-oriented Web-based interface to database server, utilized by another Web server, or by a mobile application, that provides a user interface to the end user.

- # Availability of Both Computer and Android Version

Our software can be used in either computer or mobile depending on User's choice, by signing in with both devices everything will work normally. People are always with their mobile phones, so where ever you are you can use your mobile to use our software in any situation and work splendid.

Chapter 2

PROJECT OVERVIEW

Apparently in our today world things cannot be done organized, accurately and efficiently using file based system so making things globally in a digitized way is a tremendous advantage in especially this type of Attendance management system program. Just think what if your institution does not have an online presence, the chances are you could be losing valuable and efficient data and by so doing you will eventually lose business and customers to your competitors who do have effective and active online presences.

➢ **Purpose:-**

The purpose of developing this attendance management system is to computerized the tradition way of taking attendance. Another purpose for developing this software is to generate the report automatically at the end of the semester.

➢ **Scope:-**

The scope of the project is the system on which the software is installed, i.e. the project is developed as a laptop or phone (android) application, and it will work for a particular school or college. But later on the project can be modified to operate it online.

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Chapter 3

System Analysis

CHALLENGE & WEAKNESSES OF CURRENT SYSTEM.

Current System

In the present system all work is done on paper. The whole session attendance is stored in register and at the end of the semester the reports are generated and it takes more time in calculation. By the way we are not interested in generating report in the end of the semester but during the semester for the student to take note of his situation, and the department to know what action to take on students with poor attendance even before Exam.

So, we are not able to get student regularity report and take necessary action on students whenever we want because of having very time consuming process.

Weaknesses in Current System

1. **Not User Friendly:**

    The existing system is not user friendly because the retrieval of data is very slow and data is not maintained efficiently.

2. **Difficulty in report generating:**

We require more calculations to generate the report so it is generated at the end of the semester. And the student doesn't get a single chance to improve their Attendance.

3. **Manual control**:

All calculations to generate report are done manually so there is greater chance of errors.

4. **Lots of paperwork**:

Existing system requires lot of paper work. Loss of even a single register/record led to difficult situation because all the papers are needed to generate the reports.

5. **Time consuming**:

Every work is done manually so we cannot generate report in the end of the semester or as per the requirement because it is very time consuming.

Attendance Management System

Requirements of New System:

User Requirements

The User requirements for the new system are to make the system fast, flexible, less prone to errors and reduce expenses and save time.

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➢ A system that can automate the checking of answers which are pre-stored so that results can be generated as soon as the Student gives the reason.

➢ A facility that can generate result charts as per required.

➢ The New system should be more secure in managing Student records and reliable enough to be used in any condition.

➢ Finally, it should prove cost effective as compared to the current system.

Chapter 4

Feasibility Study

A key part of the preliminary investigation that reviews anticipated costs and benefits and recommends a course of action based on operational, technical, economic, and time factors. The purpose of the study is to determine if the systems request should proceed further.

➢ **Technical Feasibility:**

The system being developed is economic with respect to student attendance. It is cost effective in the sense that it has eliminated the attendance work completely. The system is also time effective because the calculations are automated which are made at the end of the month or as per the student requirement. The result obtained contains fewer errors and are highly accurate as the data is required.

➢ **Economic feasibility:**

The technical requirement for the system is economic and it does not use any other additional Hardware and software.

➢ **Behavioral Feasibility:**

The system working is quite easy to use and learn due to its simple but attractive interface. User requires no special training for operating the system.

Attendance Management System

CHAPTER 5

FEATURES OF THE NEW SYSTEM

Features of the New System

The new system has been designed as per the user requirements so as to fulfill almost all them.

1. **User Friendly**: –

    The proposed system is user friendly because the retrieval and storing of data is fast and data is maintained efficiently. Moreover the interface provided in the proposed system, provides user to deal with the system very easily.

2. **Reports are easily generated**:-

    Reports can be easily generated in the proposed system so user can generate the report as per the requirement (weekly, monthly) or in the middle of the semester. User can give the notice to the employees to be regular.

3. **Very less paper work:**

    The proposed system requires very less paper work. All the data is feted into the computer immediately and reports can be generated through computers. Moreover work becomes very easy because there is no need to keep data on papers.
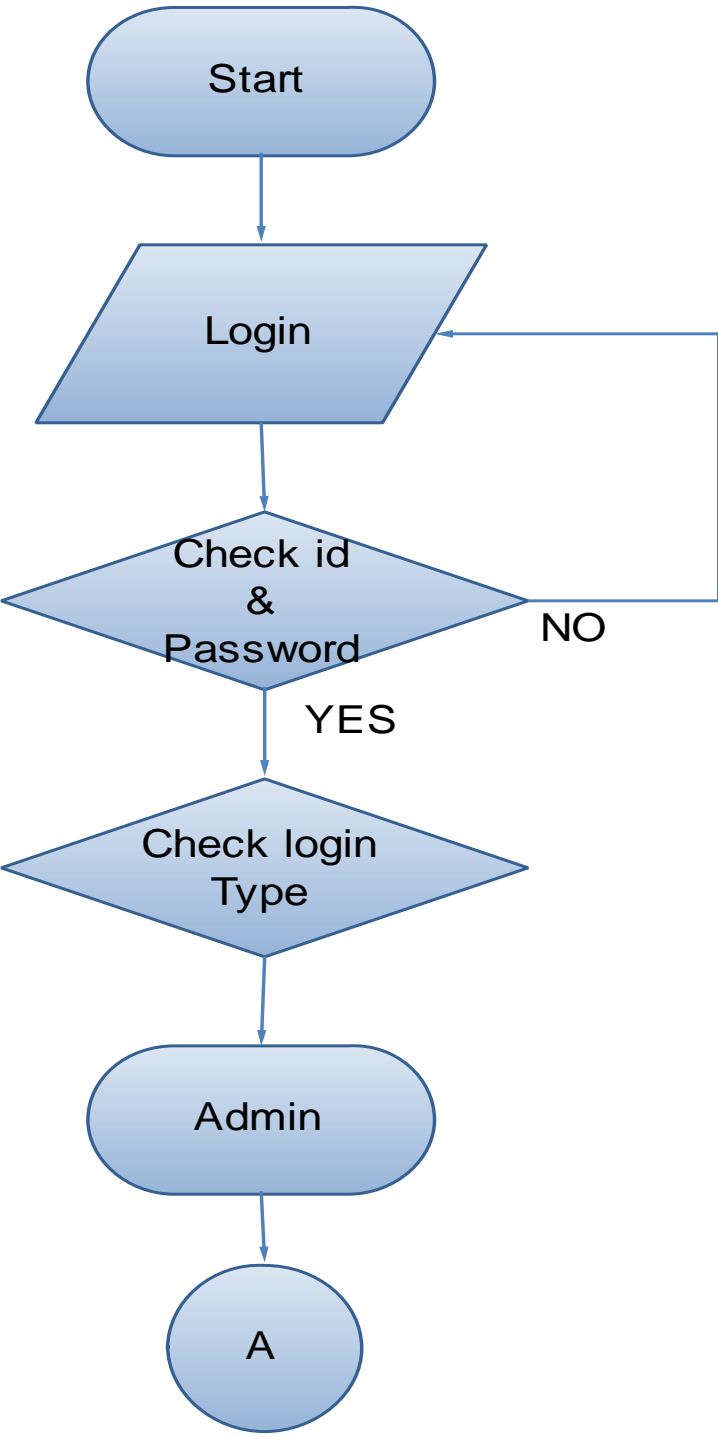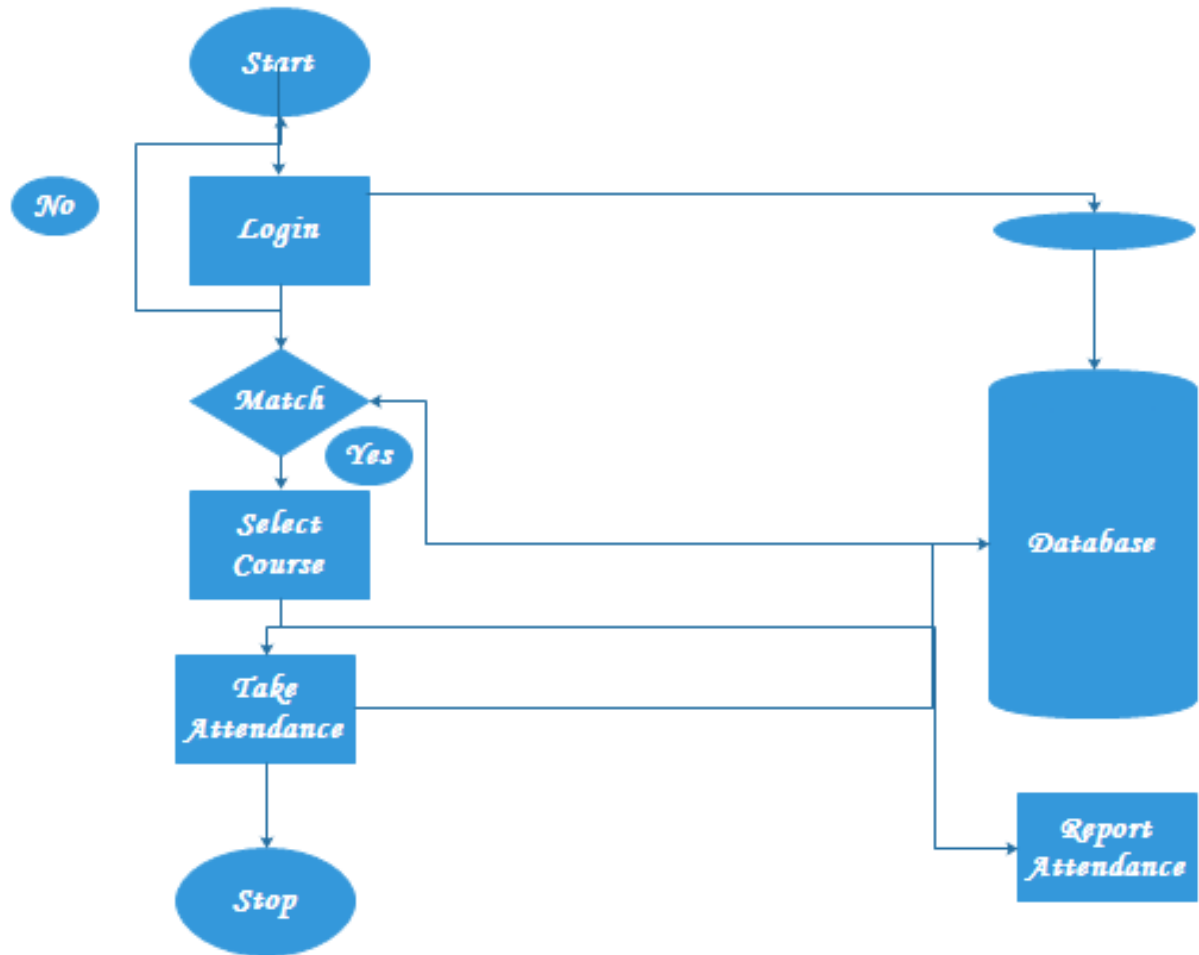
CHAPTER 7

TABLES, DIAGRAMS
&
INTERFACES

Attendance Management System

The ER Diagram

Admin
- ID
- Admin ID
- Name
- Username
- password
- DOB
- Role

Depatment
- ID
- Dept-ID
- Name

Faculty
- ID
- Faculty-ID
- Name
- Role

dept_fact

dept_cour

std_dept

TakeAttendance
- ID
- Course-ID
- Date
- Semester
- Student

Course
- ID
- Course-ID
- Name
- Dept-ID
- Semester-ID
- CreditHour

Teacher
- ID
- Teacher-ID
- Name
- Course-ID
- Username
- Password

Student
- ID
- Student-ID
- Name
- DOB
- Email
- Phone
- Gender
- Department
- Semester
- Username
- Password

cour_Tech

Note
- ID
- Course-ID
- Student-ID
- Message

std_semt

Semester
- ID
- Semester-ID
- Name
- Department

Flowchart Diagram of Admin


```
         ┌──────────────┐
         │    Start     │
         └──────┬───────┘
                │
                ▼
         ╱──────────────╲
         │    Login     │◄────────────┐
         ╲──────────────╱             │
                │                     │
                ▼                     │
         ╱──────────────╲             │
        ╱   Check id     ╲            │
        ╲       &        ╱  NO ───────┘
         ╲  Password    ╱
          ╲────────────╱
                │ YES
                ▼
         ╱──────────────╲
        ╱  Check login   ╲
        ╲     Type       ╱
         ╲──────────────╱
                │
                ▼
         ┌──────────────┐
         │    Admin     │
         └──────┬───────┘
                │
                ▼
              ╱────╲
             │  A   │
              ╲────╱
```

Attendance Management System

Flowchart Diagram of Teacher

Start

No

Login

Match

Yes

Select Course

Take Attendance

Database

Report Attendance

Stop

Flowchart Diagram of the Student

```
            ┌─────────┐
            │  Start  │
            └─────────┘
                 │
                 ▼
            ┌─────────┐
    NO      │  Login  │──────────────────┐
            └─────────┘                  │
                 │                       │
                 ▼                       ▼
            ◇ Match ◇ ◀─────────────  ┌────────┐
                 │                    │Database│
                Yes                   └────────┘
                 ▼                       ▲
          ┌──────────┐                   │
          │  Select  │                   │
          │  Course  │                   │
          └──────────┘                   │
                 │                       │
                 ▼                       │
          ┌──────────┐                   │
          │   View   │───────────────────┘
          │  Report  │
          └──────────┘
                 │
                 ▼
            ┌─────────┐
            │  Stop   │
            └─────────┘
```

Attendance Management System
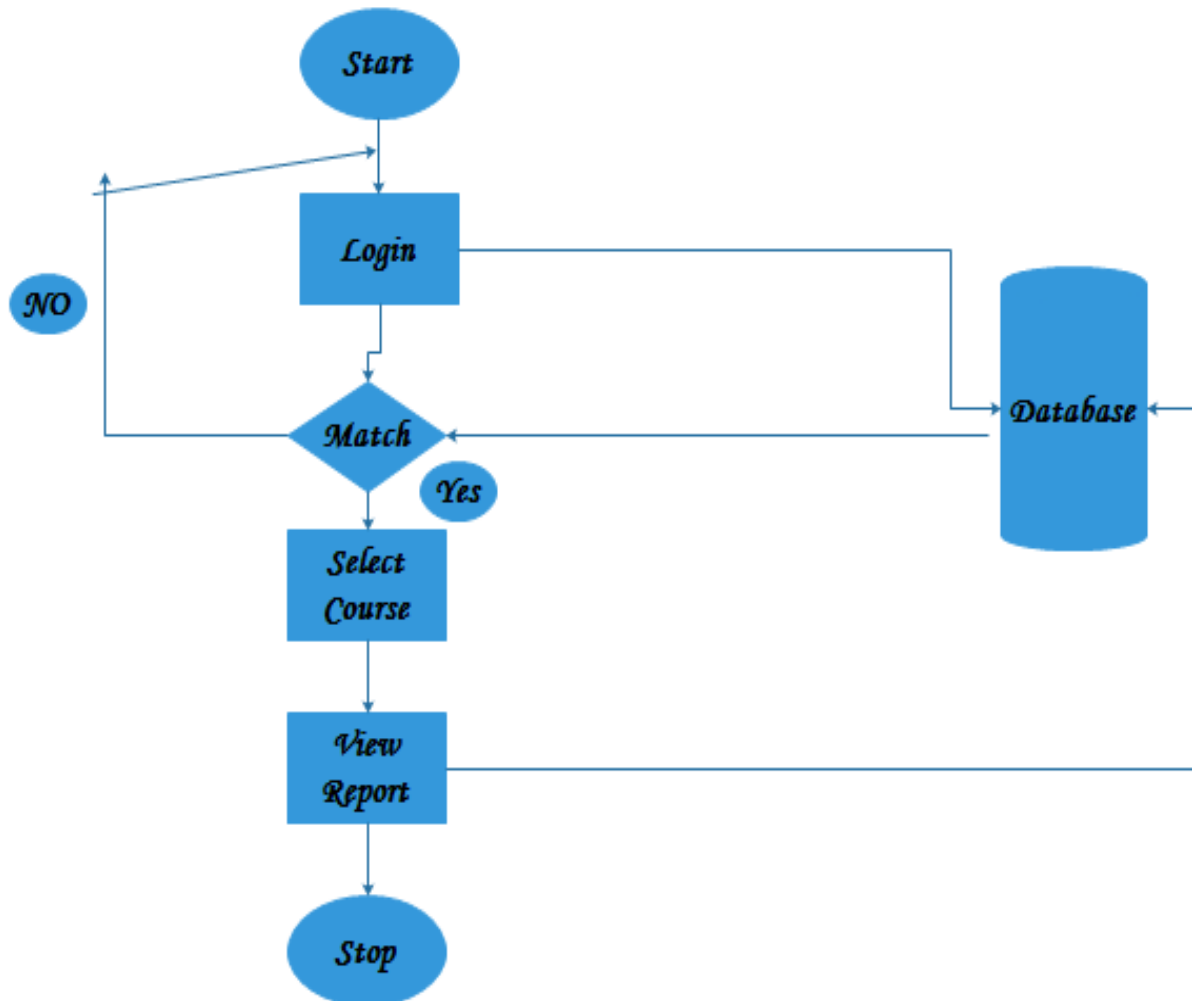
Admin Table:

S.No.	Field name	Data Type	Description
1.	User name	Text	Store user name for checking correct username
2.	Password	Text	Store password corresponding to username
3.	User Type	Text	User Type Administrator or User

Attendance Table:

S.No.	Field name	Data Type	Description
1.	Student Name	Text	Name of Student
2.	Status	Number	Total number classes attended by particular Student
3.	Semester	Text	In which Semester Student is Studying
4.	Subject	Text	The Subject Wise Attendance Is maintained
5.	Month	Text	The Month Wise Attendance is maintained where total working days in month=20

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Student Table:

S.No.	Field name	Data Type	Description
1.	Student ID	Number	This is the roll no of the student
2.	Student Name	Text	This is the name of student
3.	Course	Text	This is the course in which the students are studying .By default course is MCA
4.	Semester	Text	This is the semester in which Students are Studying. By default Semester is IV sem

Teacher Table:

S.No.	Field name	Data Type	Description
1.	Teacher Id	Number	Unique key for Every Teacher
2.	Teacher Name	Text	Name of Teacher

Attendance Management System

This is the first Home page where you can register or login as:

Admin, Teacher or Student.

ATTENDANCE MANAGEMENT SYSTEM

Dashboard

Students

Teachers

Courses

Departments

Views teachers   Assign Course

Adding new teacher

Asign Course

Select Teacher

Mohamed Elmi

Enter course Id

Asign Course   Reset Button
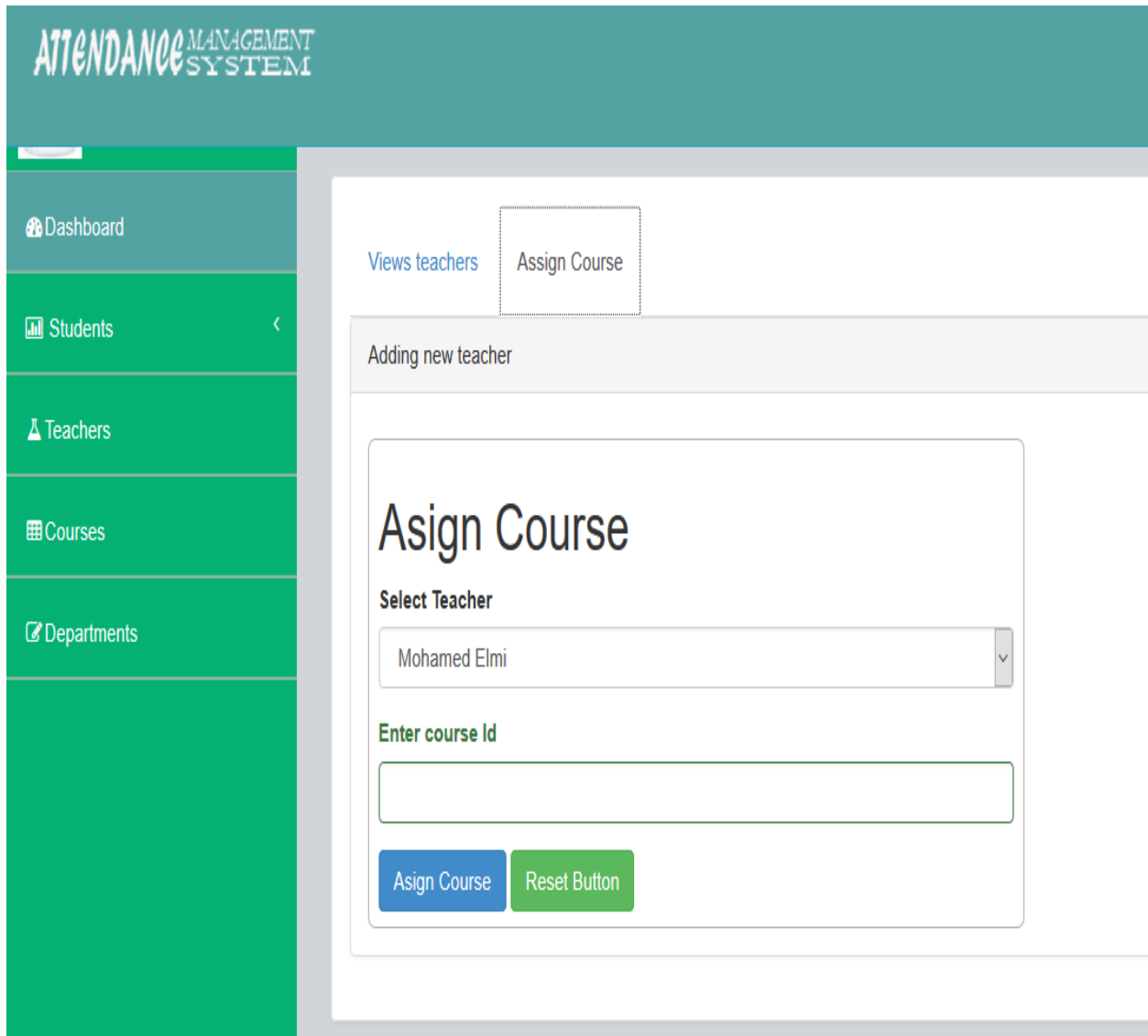
Here is the Admin interface where he is assigning course to a teacher

Admin making changes to the students table.

Teacher's Page handled by Admin

Student profile

Teacher interface taking students attendance

Attendance Management System

Teachers Page

View Attendance

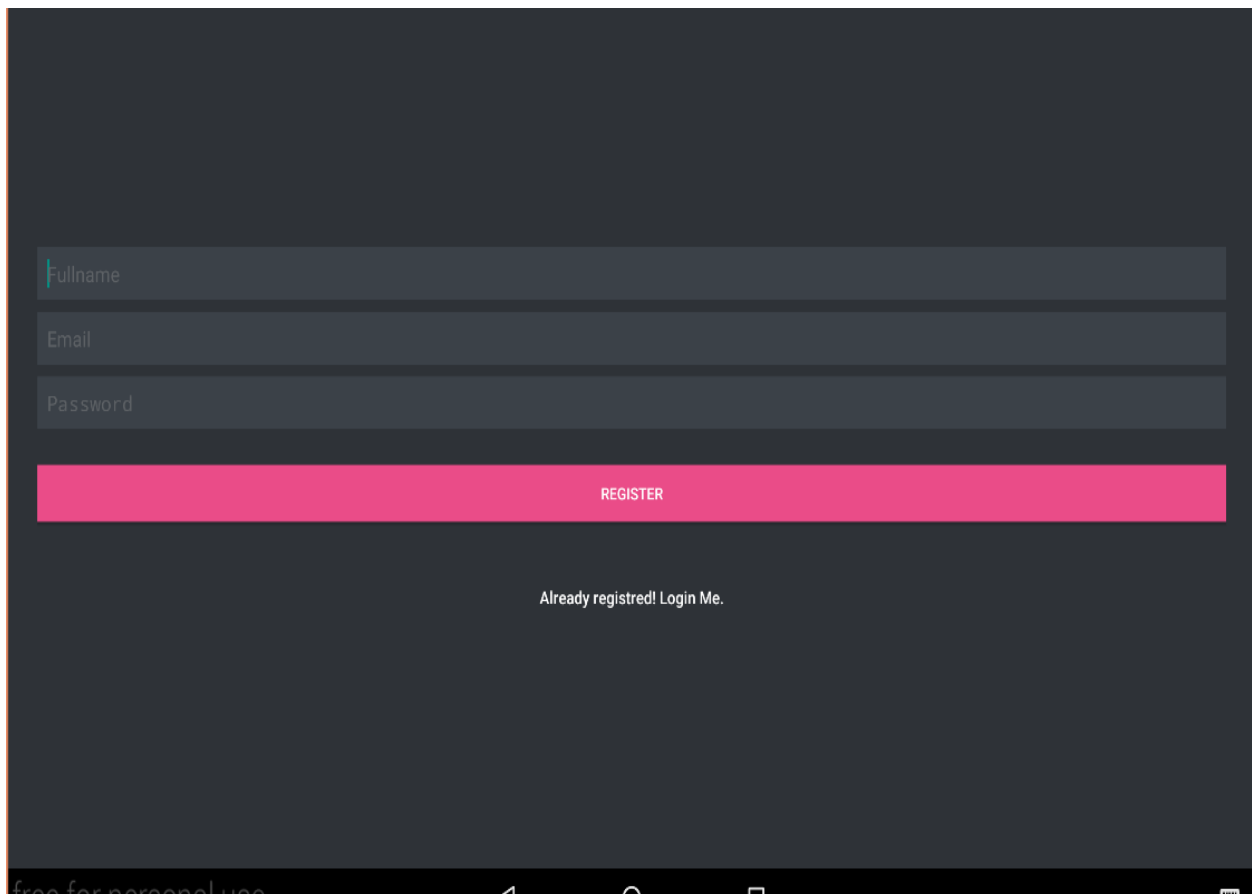| Course	Select Course ▾			Classes taken : 5	

View Attendance

Export to Excel

Entry Number	Name	Percentage Attendance	Oct 5, 2016	Oct 5, 2016	Oct 9, 2016	Oct 13, 2016	Nov 7, 2016
2013CSB1004	Mohamed Elmi Hassan	40%	√	√	✗	✗	✗
2013CSB1036	Moussa Muslim	60%	√	√	√	✗	✗
2013CSB1069	Abdourahman Mmadi	40%	✗	√	√	✗	✗

Teacher Viewing Taken Attendance

The Android Version of our Software

Registration using the Android version

User signing in using the Android version.

Welcome

Mohamed Elmi Hassan

maxto@iut-dhaka.edu

CSL105

Percentage

50%

TotalClasses

2

LOGOUT
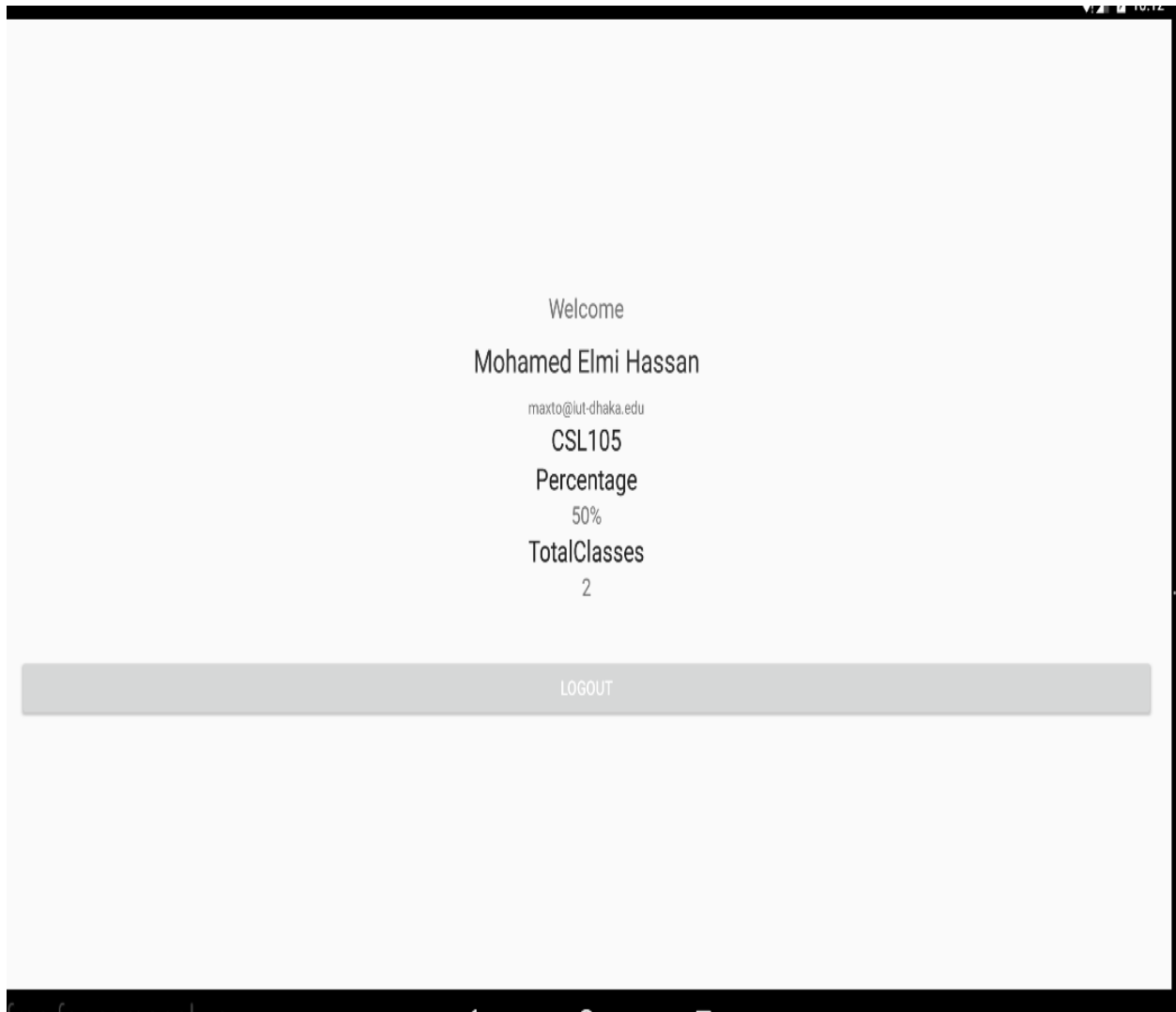
User already logged in using the Android Version

Chapter 7

System Design and Implementation

The tools and technologies used during the development and implementation of our project include:

Programming & Scripting Languages used:

- HTML

  HTML AND CSS HTML stands for Hypertext Markup Language and CSS stands for Cascading Style Sheets are the crucial technologies for creating web pages. HTML supplies the structure of the page, and CSS the layout, for diversity of devices. Together with scripting and graphics, HTML and CSS are the fundamental of building Web Applications and Web pages. HTML provides designers and developers the following facilities,
  1. To design forms for directing transactions with remote services, for use in making reservation, searching for information, ordering products, and others
  2. Retrieving online information through hypertext links.
  3. To include video and sound clips, spread sheets, and other applications straight in their documents
  4. Designer can publish online documents with text, headings, tables, photos and others.

- JavaScript

  JavaScript Framework (jQuery) JQuery is JavaScript library intended to make simple the client-side scripting of HTML. It is the most popular

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JavaScript framework, which is free and open-source software licensed under the MIT License. Several of the largest companies, including,

1. Google
2. IBM
3. Microsoft and Netflix are using the jQuery.

- **F**rame Work

  Frameworks Bootstrap Bootstrap is front-end framework and collection of tools and mechanisms for building web applications. It consists of HTML and CSS based design templates for navigations, forms, buttons, typography, and other interface elements, and also JavaScript extensions. Bootstrap is free and open source, and its purpose is to make easy the development of dynamic websites and web applications. It is the most starred project on GitHub, with more than 85,000 stars and 34,000 forks. Bootstrap was developed by Mark Otto and Jacob Thomton and named Twitter Blueprint. Before Bootstrap framework, designers were using different libraries for interface development, which had many inconsistencies and their maintenance were difficult. On 31 Jan, 2012, Bootstrap 2 was released. This framework has brought many changes to the existing components and, also, added 12 column grid layout and responsive design constituents. On August, 19, 2013, Bootstrap 3 was announced, which moved to first approach of mobile and using a flat design. The first alpha version of Bootstrap was spread out on 19, Aug, 2015.

- J-Query

  JQuery is a fast, small, and feature-rich JavaScript library. It makes things like HTML document traversal and manipulation, event handling, animation, and Ajax much simpler with an easy-to-use API that works across a multitude of browsers. With a combination of versatility and extensibility, jQuery has changed the way that millions of people write JavaScript.

- PHP

PHP It stands for PHP: Hypertext Preprocessor but, originally stood for Personal Home Page. Is a server side scripting language that designed for web development, as well as used for general purpose language. It was created in 1994 by Rasmus Lerdorf, in the present time the reference execution of PHP is produced by the PHP group.

In January 2013, PHP was installed on more than 240 million websites, and 2.1 million web servers. The PHP code can be combined with several web frameworks and templating engines or simply it can be mixed with HTML code.

The PHP code is generally processed by a PHP interpreter, which is commonly executed as native module of web server or a Common Gateway Interface (CGI) executable. After interpretation and execution of the PHP code, the results will be sent by web server to its client.

Zend Engine has powered the standard PHP interpreter, which is free software liberated under the PHP license.

There are many versions of the PHP, and the version, I have used for my application is the PHP.

PhpMyAdmin It is an open source tool and also, it is free written in PHP, XHTML, CSS, and JavaScript planned to manage the administration of MySQL by using of a web. It is able to perform various missions like creating, modifying databases, tables, fields, executing SQL statements or managing and supervise users.

PhpMyAdmin is being translated into 72 languages in order to make the usage easy to a wide domain of people and it supports both LTR and RTL languages.

Following is some features of the phpMyAdmin,

1. It is web interface
2. It administrates multiple severs
3. It is able to create PDF graphics of the database layout

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4. Importing data from SQL and CSV
5. Export data to different formats such as SQL, PDF, CSV, XML and others
6. It works with various Operating Systems
7. And others

- CSS

  CSS describes the Web pages presentation, involving layout, colors, and fonts. It enables the designer to adjust the presentation to various types of devices, like a small screens, large screens, or printers. CSS is separate from HTML, and their separation makes it easy to preserve and maintain sites, share style sheets across pages, and accommodate pages to various environments

Software tools Used:

- Sublime

  The Sublime Text 3 editor Sublime Text is a cross platform source code editor written in C++ and python. It originally supports plenty of programming and markup languages, and its functionality can be increased via users with plugins.
  Sublime Text 3 has two main features that are symbol pane management and symbol indexing. Through pane management users are to move between panes by hotkeys and symbol indexing 10
  Enable Sublime Text to scan files and build an index to make easy the features Go to Symbol and Go to Definition in project.
  - It is downloaded from www.sublimetext.com/3, site.
  - A list of some features of Sublime Text is as following,

- It is python based plug-in API
- It is cross platform (Linux, Linux, OS X)
- Compatible with numerous language framers form Text Mate
- Project specific preferences and others [20].

- MySQL Database
- Chrome Browser
- Photoshop

Platform Used:

Windows

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Conclusion

Being the Final year students of HD-CSE we were able to implement what we learnt in our web programming, System Analysis & Software engineering class into practice. We were able to attain our set objectives, and this helped us gain confidence in writing our own code and our own applications.

We worked as a team, and gained some experience on how professional programmers work in the industry.

There is always room for improvement, and this application we created can also be improved. This is especially because we had to create it within a limited time due to other projects, quizzes and Exams. With more time, the software can be vast and improved to include security and different types of users.   Thanks a lot.