

Development of Schedule Notifier Application for DIU

BY

Md. Tareq Rahman

ID: 151-15-236

This Report Presented in Partial Fulfillment of the Requirements for the
Degree of Bachelor of Science in Computer Science and Engineering.

Supervised By

Md. Tanvir Rahman

Senior Lecturer

Department of CSE

Daffodil International University

Co-Supervised By

Bulbul Ahammad

Lecturer

Department of CSE

Daffodil International University



DAFFODIL INTERNATIONAL UNIVERSITY

DHAKA, BANGLADESH

JANUARY 2020

APPROVAL

This Project titled “Schedule Notifier Application for DIU”, submitted by Md. Tareq Rahman ID No: 151-15-236 to the Department of Computer Science and Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Science in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 20th January, 2020.

BOARD OF EXAMINERS

Dr. Syed Akhter Hossain Chairman

Professor and Head

Department of Computer Science and Engineering

Faculty of Science & Information Technology

Daffodil International University

Dr. S M Aminul Haque

Associate Professor & Associate Head

Department of Computer Science and Engineering

Faculty of Science & Information Technology

Daffodil International University

Internal Examiner

Saif Mahmud Parvez

Lecturer

Department of Computer Science and Engineering

Faculty of Science & Information Technology

Daffodil International University

Internal Examiner

Dr. Mohammad Shorif Uddin

Professor

Department of Computer Science and Engineering

Jahangirnagar University

External Examiner

DECLARATION

We hereby declare that this project has been done by us under the supervision of **Md. Tanvir Rahman, Senior Lecturer, Department of CSE, Daffodil International University**. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

Supervised by:

Md. Tanvir Rahman

Senior Lecturer

Department of Computer Science and Engineering

Daffodil International University

Co-Supervised by:

Bulbul Ahammad

Lecturer

Department of Computer Science and Engineering

Daffodil International University

Submitted by:

Md. Tareq Rahman

ID: 151-15-236

Department of Computer Science and Engineering

Daffodil International University

ACKNOWLEDGEMENT

First and foremost, I would like to thank Almighty God for giving us the strength, knowledge, ability, and opportunity to complete the final year project successfully.

We would like to express our sincere gratitude to our honorable supervisor **Md. TanvirRahman, Senior Lecturer, Department of CSE Daffodil International University, Dhaka** and Co-supervisor **Bulbul Ahammad, Lecturer, Department of CSE Daffodil International University, Dhaka** for their time, generous guidance, patience and encouragement throughout the whole dissertation project, from which we have learned a lot regarding our title.

We would like to express our heartiest gratitude to **Dr. Syed Akhter Hossain, Professor and Head, Department of CSE, and Dr. S. M. AminulHaque , Associate Professor and Associate Head Department of CSE** for their kind help to finish our project and would like to extend my deepest appreciation to faculty member, all our course mate who took part in this discuss while completing the course work and staff of CSE Department of Daffodil International University for kind support and help on the technical and the administrative aspect of the study.

Finally, we must have acknowledged with due respect the constant support and patience for our parents. Their love, encouragements, and continuous pray have made us stronger each and every day on completing this study.

TABLE OF CONTENT

CONTENTS	PAGE NO
Board of examiners	ii
Declaration	iii
Acknowledgement	iv

CHAPTER

CHAPTER 1: INTRODUCTION	1
1.1 Introduction	1
1.2 Objectives	1
1.3 Scope	1
 CHAPTER 2: REQUIREMENT SPECIFICATION	 2-6
2.1 Project Development Lifecycle	2
2.2 Requirement Analysis	2
2.2.1 User Requirement	2
2.2.2 Technical and Legal Requirement	3
2.2.3 Requirement Components	3
2.2.3.1 Hardware Requirement	3
2.2.3.2 Software Requirement	4
2.3 Use Case Modeling and Details	5
2.3.1 Use Case Model	5
2.3.2 Use Case Details	6
2.4 ER Diagram	8
2.4.2 ER Diagram and Description	8
2.5 Sequence Diagram and Description	9
2.5.2 Sequence Diagram	9

CHAPTER 3: DESIGN	10-13
SPECIFICATION/METHODOLOGY	
3.1 Front-end Design	10
3.1.1 Hypertext Markup Language	10
3.1.2 Cascading Style Sheet	10
3.1.3 JavaScript	11
3.2 Back-end Design	11
3.2.1Hypertext Transfer Protocol	12
3.2.2Types of HTTP request	12
3.2.3HTTP header fields	13
 CHAPTER 4: IMPLEMENTATIONAND TESTING	 14-16
4.1 Implementation of Database	14
4.2 Implementation of Front-end Design	15
4.2.1 Web application	15
4.2.2 Home Page	16
 CHAPTER 5: CONCLUSION	 17
 REFERENCES	 17

LIST OF TABLES

FIGURES	PAGE NO
Table2.1: Hardware Requirement	3
Table2.2: Software Requirement	4
Table 2.3: Use Case 1	6
Table2.4: Use Case 2	6
Table 2.5: Use Case 3	7

LIST OF FIGURES

FIGURES	PAGE NO
Figure 2.1: Use Case Model	5
Figure 2.2: ER Diagram	8
Figure 2.3: Sequence Diagram	9
Figure 5.2: Home Page View for User	16

Chapter 1

Introduction

1.1 Overview

As the semester schedule is very tight, it is difficult to remember all of the academic tasks efficiently. Sometimes the date and time of a particular task changes then it creates a misunderstanding between faculty and students. So, it becomes very tough to maintain the deadline of individual tasks and maintain the appointment for both the faculty and students.

1.2 Objectives

- To cope with the tight semester schedule.
- To help both student and teacher as reminder.
- To maintain the appointment with advisor in a timely manner.

1.3 Scope:

Except a Student notified System, guiding and observing the details of students is a exhausting job for any organisation. Information system of students will gather all the details, academic qualifications, and all the information related to their resume.

Chapter 2

Requirement Specification

2.1 Project Development Planning:

A three-stage model viz is prepared for the project plan.

Strategic System Planning: - Creating concern among plans for candidate system.

Information Requirement Analysis: - Recognizing exam requirements to straight the specific application of report at computer institution.

Resource Allocation: - Realizing Hardware, Software, telecommunication facilities and economic harbor to conduct the improvement of the process.

2.2 Requirement Analysis:

This is Development of Schedule Notifier Application For DIU. This application is formed and improved in accordance with the requirement. Necessary of a system one another in two class: Software and Hardware necessity. We got all the information for this system. We also make sure that this system is compatible with the computer hardware.

2.2.1 User Requirement:

- Overview of the website
- Information about Student.
- Information about Teacher.
- Maintain the deadline of individual tasks.
- Maintain the appointment for both the faculty and student.

2.2.2 Technical and Legal Requirement:

The system should be design as to ensure that they continue to work efficiency, that the comply with relevant legislation and to check that they are safe guarded from threats such as virus and hackers. The requirement is listed below:

- Data guard facilities and Security data transmission facilities.
- Guard facilities against logical and physical threats.
- Guard facilities against hacker and cracker and Guard against virus.

2.2.3 Requirement Components:

To carry out project we need hardware and software and those are given below:

2.2.3.1 Hardware Requirement:

To run this project minimum one pc and INTERNET connection need.

Processor	Intel Pentium/AMD processor (500 MHZ)
Motherboard	Any
Ram	512 or more
Lan	Any
AGP Card	Any
Sound Card	Any
Hard Disk	60GB
Floppy Disk (not mandatory)	1.44 MB
Casing	ATX
Monitor	Any Color Monitor
Keyboard	Any

Mouse	Any
CD ROM	52X

Table 2.1 Hardware Requirement

2.2.3.2 Software Requirement:

Various Types of software needed to improved and observing projectwebsite. Description is Given below:

Software	Usage
Any windows system	To start the computer and adjust all hardware elements, application and customize software.
Xamp	To provide the service for the project
Sublime Text	For server-side scripting
Phpmyadmin	For Database Server
Antivirus software if working on windows operating system	To protect Data from Virus

Table 2.2 Software Requirement.

2.3 Use Case Modeling and Details:

2.3.1 Use Case Model:

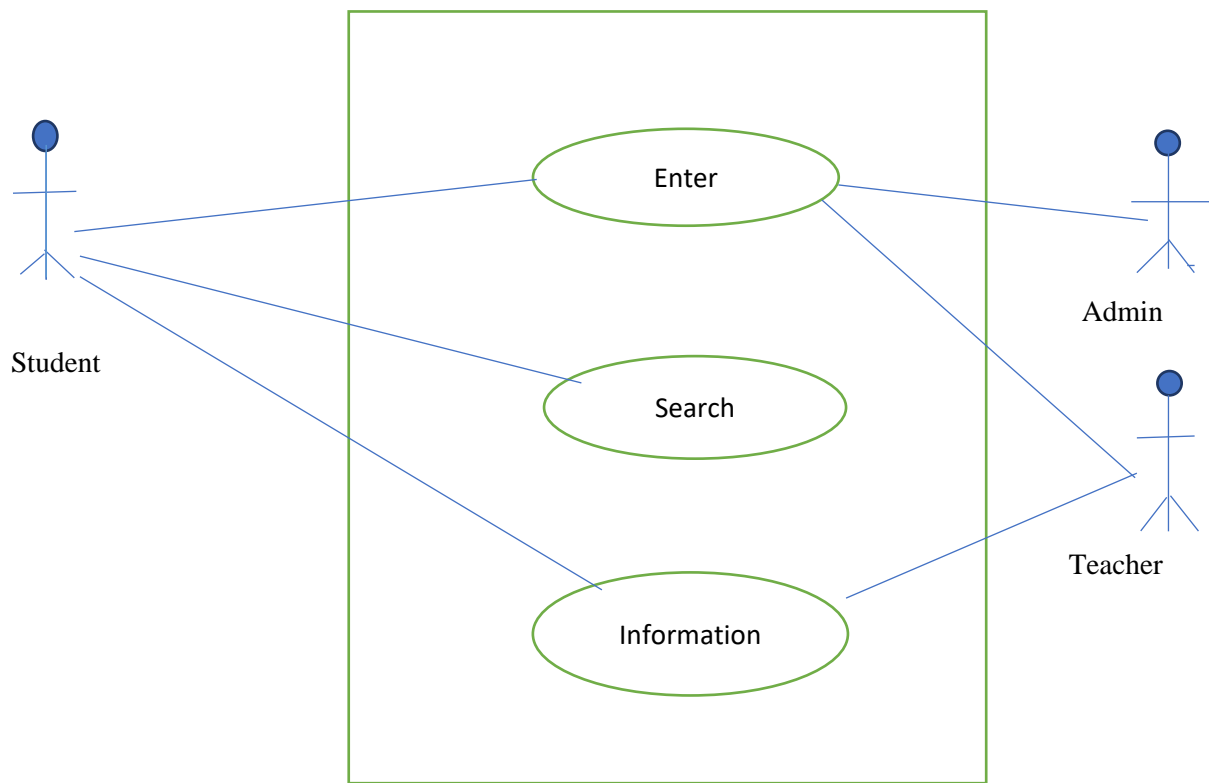


Figure 2.1 Use Case Model

2.3.2 Use Case Details:

ID of Use Case :	1
Name of Use Case:	Enter
Created By:	Tareq
Date Of Creation:	26-8-2018
Details:	This use case will accommodate user to enter the system. User can effortlessly enter the system and see whatsoever wants to view.
Primary Actor:	User
Secondary Actor:	None
Precondition:	None
Post condition:	System will show the home page

Table 2.3 Use case 1

Id of Use Case:	2
Name of Use Case:	find
Created By:	Tareq
Date Of Creation:	26-8-2018
Description:	Use case accommodate user to find. User can effortlessly found what he/she want in the system
Primary Actor:	User
Secondary Actor:	None
Precondition:	None

Post condition:	system will display the outcome.
-----------------	----------------------------------

Table 2.4 Use case 2

Id of Use Case:	3
Name of Use Case:	Information
Created By:	Tareq
Creation date:	26-8-2018
Details:	It will accommodate user to send message for live chat.
Primary Actor:	User
Secondary Actor:	System
Precondition:	User have to send correct info.
Post condition:	The app will gather the info.

Table 2.5 Use case 3

2.4 ER Diagram and Description:

2.4.1 ER Diagram:

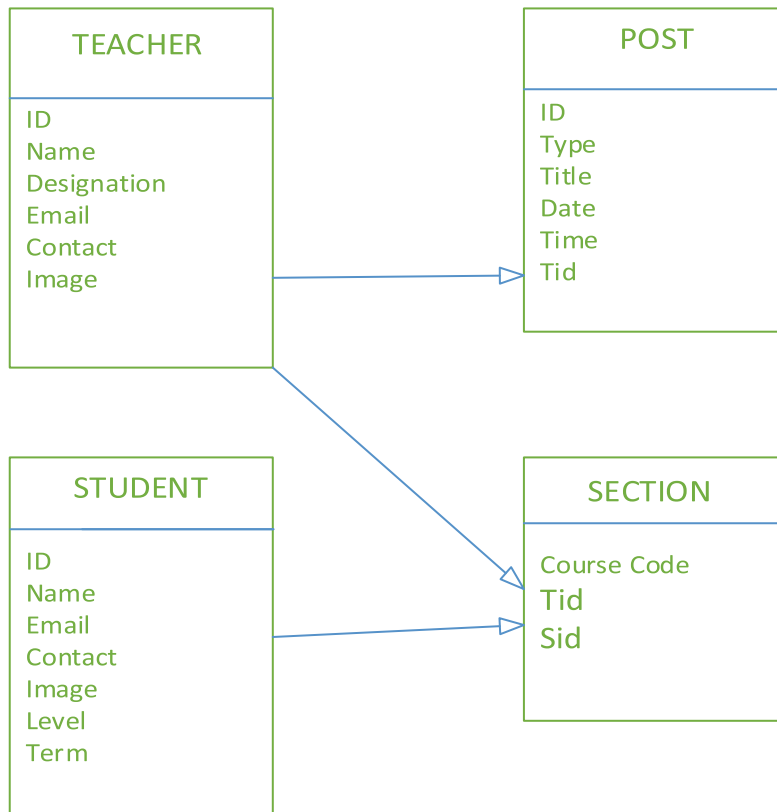


Figure 2. 2 ER Diagram

2.4.2 ER Diagram Description:

An existence relevance model is a descriptive presentation of entities and their relevance to one another, used in computing consideration to the organisation of info within database or Info systems. An existence is a portion of data an purpose or topic about which data is gather in.

2.5 Sequence Diagram and Description:

2.5.1 Sequence Diagram:

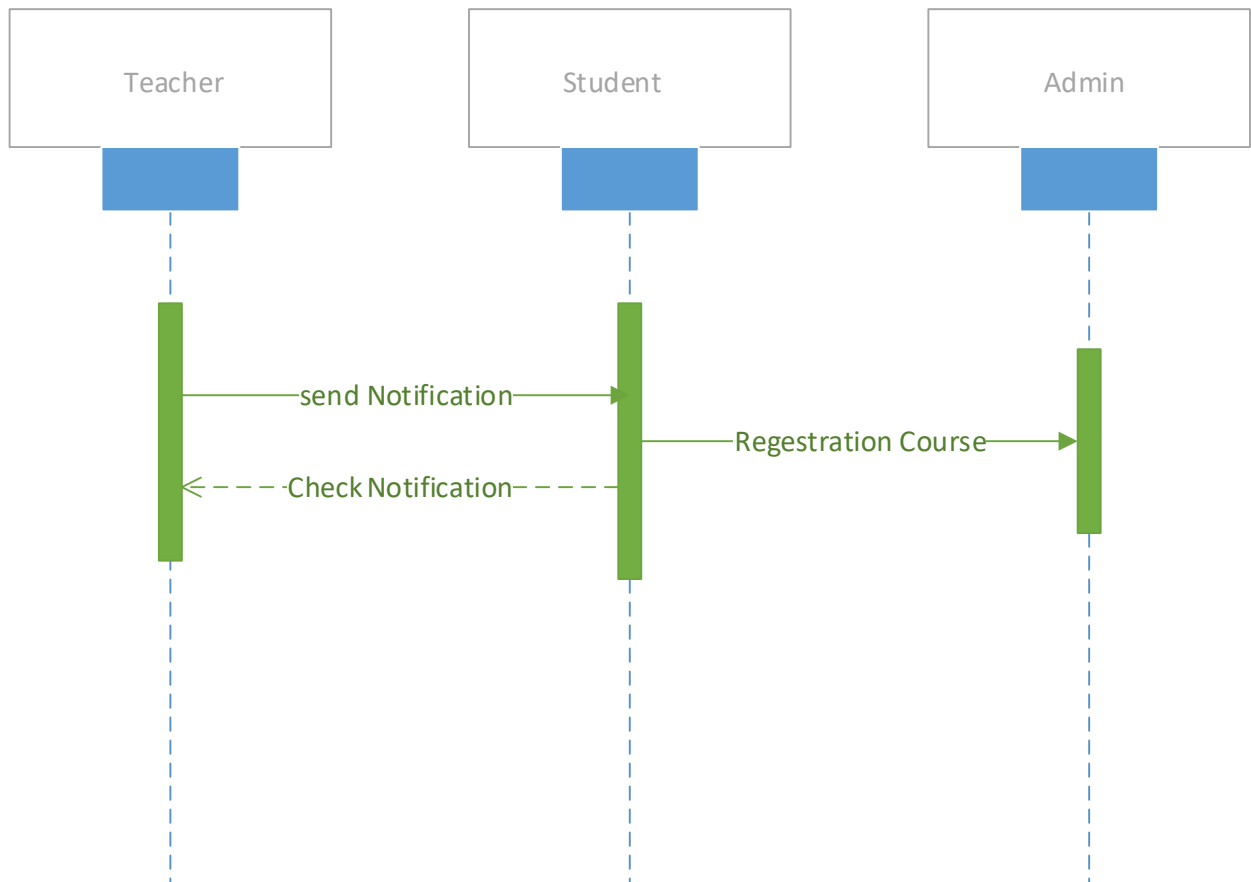


Figure 2.3 Sequence Diagram

2.5.2 Sequence Diagram description:

The Sequence diagrams explain interactions between class in terms of an interchange of message on time. It's also called event diagrams. A sequence diagram is a better path to notice and verify different runtime scenarios. This can help to forecast how a system will

act and to find liabilities a class may necessary to have in the procedure of modelling a new system.

Chapter 3

Design Specification

3.1 Front-end Design:

Completing front-end development, we've used three main languages in my project

- HTML
- CSS
- Bootstrap frameworks
- JavaScript programming
- libraries like jQuery

3.1.1 Hypertext Markup Language:

HTML is a mark-up language use to make web page. It belongs to a family of declaratory programming languages, who means HTML specifies satisfied of a web page and its structure, but does not specify how this content is styled or behaves. Parts of HTML document are labeled by using HTML tags; each tag mark type of content. It consists of a tag name wrapped together with tag attributes in angle brackets, i.e. "< name attributes >". Then, HTML component is a summation of opening and closing tags enclosing the content. Structure, of a web page is created by nestling HTML components inside of one another.

3.1.2 Cascading Style Sheet:

It is a good practice to separate page structure from its design. To do so, CSS is using like a styling language. It identify layout, colour, size and other quality of page components. CSS page is a text file comprising a set of CSS regulation, which rule formation of

selector and declaration block. Every rule affects page content verify in selector pointing either to: All components of one type in a DOM, e.g. all tags.

- Components of a same class or id (all are tag attributes). In CSS, this rules begin with dot (.) and hash (#) for classes and ids, respectively, e.g. “. list” and “#example-btn”.
- Components in a particular state, e.g. the elementover the mouse.
- Components founded on relevance position in a DOM tree. This are specified as a summation of previous types of selectors, e.g. “. list li” matches only listed items of “. list” class Components. Declaratory block is a semicolon divided list of separate style proposition in a form: "property name": "value": e.g. "color: red". CSS can be covered to HTML file by used one of the following process.
- External style sheet, CSS is written into exotic file and covered use tag in of HTML file.
- Internal style sheet, CSS rules are written as a portion of the relevant tag.

3.1.3 JavaScript:

JS interpret programming language usually used at consumer side to possession user input, possession browser actions, load additional content to a browser and make changes to the DOM. In short, it gives functionality to a page. JS code can be added to HTML document in two ways

- Inline JavaScript, JS code is written as content of HTML document between sss <Script> tag.
- External JavaScript, JS code is written in external file and reference to the file is defined in <script> tag attribute. Any content enclosed by the <script> tag is not executed.

Where HTML <script>Component is reached, this time parsing of HTML document, the JS code defined by the tag is immediately executed in a browser using built-in JS interpreter

3.2 Back-end Design:

For finding, save, or shift data and distribute it back to the user in front-end code, we've used

- Server-side languages- PHP
- Tools like MySQL Server

3.2.1 Hypertext Transfer Protocol:

HTTP is a protocol describing how browsers and distribute connection with each other over the Internet in order to change data. The process works as follows:

- Establishment of a conjunction among client and WA server.
- If the conjunction is successful request is sent by the client. It is a message requesting data from a WA server. The data could be of various types - web pages, images, client-side scripts, confirmation of user authentication and more.
- The server then give response which contains requested data together with a status code. There are several types of status codes rely on success or failure of the requested function.
- Last step closes the connection by either both parties. Request and response, are text-based messages, each message has three part:
 - i. an initial line, defines mainly source of information,
 - ii. Header, zero or more lines specifying additional parameters of the request.
 - iii. An optional message body contains data sent by client/server.

3.2.2 Types of HTTPrequest:

When user accesses the WA for the first time, browser sends an categorical HTTP requests to a server. Server sends back the requested data and the browser may cache the data for later use, if the response's header allows it. If a subsequent request is make, disperse and max-age parameters of the copied response are checked in order to determine whether the resource is fresh or not. If the cached copy is not expired, it is using and no HTTP request is made. Theoretical part on the another hand, if the source is dispersed, the browser gives a conditional request to a server to check if the source has been modified since last request or not. The request contains If-modified-since header field indicating last version of the source in a cache. The server returns either response containing Not Modified header, signaling that the cached copy is up to date and therefore can be used, or response containing new data in a body of the response.

3.2.3 HTTP header fields:

Following is a list of HTTP header fields whose setting relates to a rending of FE:

- Disperse field containing date/time info when the response becomes stale.
 - Cache-control specify the highest time in seconds to cache response in a client's memory. If browser confirmation disperse and cache control and both are present, according to HTTP specification cache control parameter is preferred.
 - Last-modified information specifying date/time of last modification of requested file.
 - If-Modified-Since using when conditional request is made.
 - Accept-Encoding is list of compression algorithms confirmation in a browser.
- Demarcation of all available header fields can be found on.

Chapter 4

Implementation and Testing

4.1 Implementation of Database:

The database execution or spread is the method of installation of database software, configuration and customization, running, testing, integrating with applications, and instruction the users. Its various stages and methods are:

Defining the database project scope:

- Recognizing the subsection of association.
- Recognizing about the operation which is exploit by the database.

Organizing Database project:

- Design team development.
- Formation of database administrators.

Selection of DBMS products:

- Reading a formal overview and necessity list.
- Selecting the vendor for DBMS.

Development of initial implementation plan and schedule:

- Concretion of files need to convert.
- Determination of time requirement for transformation.
- Preparing of execution schedule.

Database design:

- Recognition of data requirement.
- Determining the formation of data and entire design specifications.
- Review and vindication of design specifications.
- **Training about database project:**
- Preparing of the training necessity.
- Training to use the data manipulate language.
- Training for database dictator to use data manipulate and covered language.

Database testing:

- Coding of data manipulate and monitoring language, schema, and subschema.
- Database creation.
- Testing and debugging.
- Review and approval.

Periodic review and performance review:

- Evaluate the goals, info, and functional necessity.
- Evaluate the success of the execution.

4.2 Implementation of Front-end Design:

Development of client side of WA is called front-end development and front-end (FE) itself is then understood as every content user can see and can interact with in a browser. It is usually a mixture of Hypertext Markup Language (HTML), Cascading Style Sheet (CSS) and JavaScript (JS). All this languages are interpreted and controlled by a web browser become in a web page - interface user can interact with. Set of all available web pages is called web site.

4.2.1 Web application:

WA can be described by using simple client-server model. WA is an application using a web browser as a client. Client communicates over the Internet with a server using Hypertext Transfer Protocol (HTTP) in order to deliver content of WA to a user, who interacts with a browser (client). More details about client, server and HTTP can be found in sections respectively. Using browser as a client has many benefits. One of the most important is fact that updates of WA need to be made only on server side. When users entry an application after an update, new version of WA is automatically use. This removes the need of installing new version of the application on potentially thousands of client computers. It also made cross-platform compatibility support easily to accomplish. Finally, users do not need to own high-performance computers, since only browser is needed for using WA. Other benefits usually depend on the type of WA.

4.2.2 Home Page:

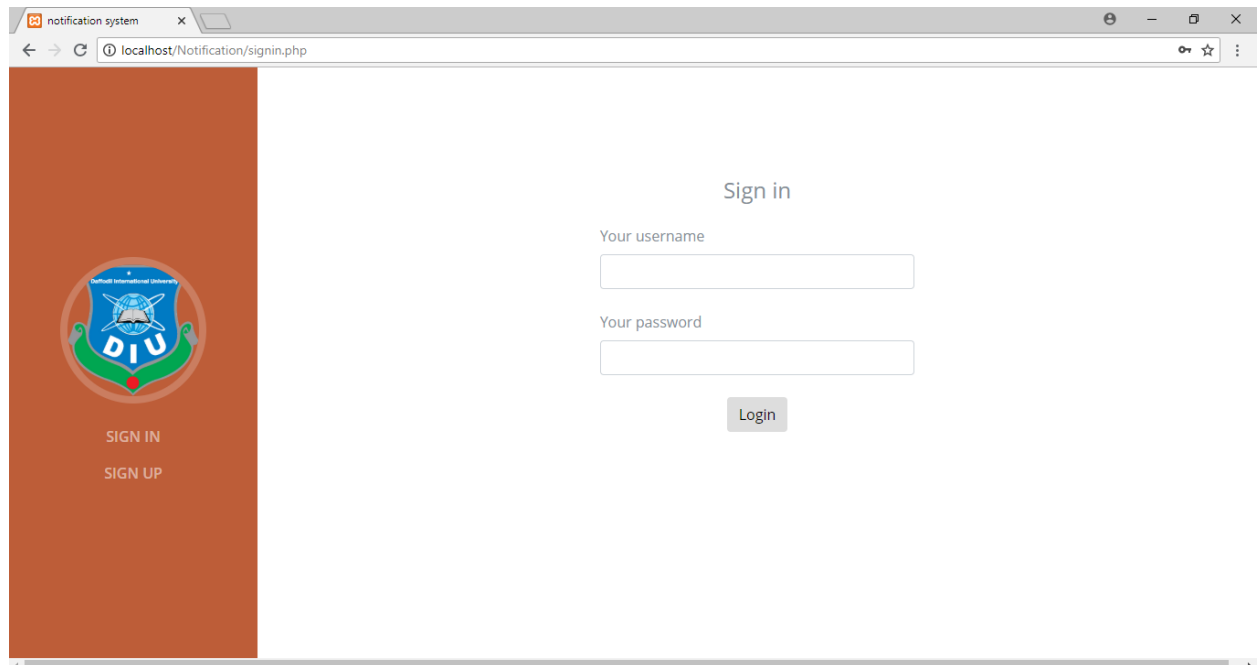


Figure 5.2 Home Page View for User

CHAPTER 5

CONCLUSION

As the semester schedule of DIU is very tight, this application can help both the students and faculties to achieve a smooth conduction of each academic activities.

References:

1. Learn about Lucidchart, available at <<<https://www.lucidchart.com/page/uml-use-case-diagram>>>, last accessed on 18-01-2020 at 07:00 PM.
2. Learn about Capterra, available at <<<https://www.capterra.com/database-management-software>>>, last accessed on 18-01-2020 at 07:00 PM.