

Departmental Resource Planning

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

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APPROVAL

This Project titled “**Departmental Resource Planning**”, submitted by Al Amin Firdows, ID No: 161-15-1013 and Mahmudul Hasan, ID No: 161-15-995 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 10 Dec 2019.

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We hereby declare that, this project has been done by us under the supervision of **Dr. S.M. Aminul Haque, Associate Professor, Department of CSE** Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for the award of any degree or diploma.

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ABSTRACT

Departmental Resource Planning is a web application that been created for the computer science and engineering department of the permanent campus of Daffodil International University. The application gives the privilege to the faculty of the course offering and relative distribution for each new semester, a central database for the faculty members involved with the department, course registration and advisor details for the new semester, the class routine for the new semester, activities related to examination for the new semester, activities related to the final year project for the whole semester. Information related to each of the above components will be stored in the database. Using this information, the respective faculty members can solve the above problems of the CSE department. By using this web application Head/Associate Head, Faculty Members and Coordination Officers can find data so easily and fast because data is categorized in a way so they can get the required data smoothly and fast.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

The main focus of this project is to reduce the time to find the required data of Computer Science and Engineering of the permanent campus of Daffodil International University. With the help of this project Head/Associate Head, Coordinate office and Faculty members can find the information easily what they want.

The Departmental Resource Planning for the department of Computer Science and Engineering of the permanent campus of Daffodil International University has to be developed.

The system developed should contain the following major components of the department:

1. The course offering and relative distribution for each new semester.
2. A central database for the faculty members involved with the department.
3. Course registration and advisor details for the new semester.
4. The class routine for the new semester.
5. Activities are related to examination for the new semester.
6. Activities related to the final year project for the whole semester.

Information related to each of the above components will be stored in a database. Each component will have its own functionalities and can be coordinated with others if necessary. The access across each of these components will be controlled depending on the scope and privilege given to the users of the system.

In added to the above, there will be different roles to perform the functionalities of these components, these roles will be assigned to the respective faculty members/coordination officers (according to the discussion in the department acting) by the department/section Head. The roles of the Head/Associate Head will be assigned by himself/herself

By using this web app teachers can easily find their important information and they can handle their routines.

1.2 Motivation

We live in an era of technologies. In each step from our life, we see the effects of the internet and other technology. Sometimes it performs an easier life. Apart from this, we are practicing technology every day every step of daily jobs.

At this time, we have a lot of students from the Department of CSE at Daffodil International University and day by day it grew swiftly. For this vast number of students, we have to process a lot of data. Another problem is we can't find the specified data in time.

That's why we make a solution that demands a central database to store and retrieve data when we need it. Almost all university is using an online web portal to control the information and vital data and store on a central database.

Finally, we take the decision to develop a web app for the Department of CSE at Daffodil International University to control the activities and store the data. This Web App will help to store data of course offering and relative placement for each new semester, a central database for the faculty members associated with the department, course registration and advisor details for the new semester. activities are related to examination for the new semester activities related to the final year project for the whole semester.

This web app is developed by the Laravel framework of PHP programming languages with a MySQL database.

1.3 Objectives

The main target of our project “Departmental Resource Planning” is to make works of the Department of CSE at Daffodil International University easier as well. Other related goals of our project are,

- To create a central database for the Department of CSE at Daffodil International University.
- To easily maintain the course curriculum, semester, course offering and course distribution for the new semester.
- To create an easy way to course registration and advisor details for the new semester.

- To manage the class routines for the new semester.
- To manage and maintain the activity related to the final year project for the whole semester.
- To manage and maintain the activities related to examination for the new semester.

1.4 Expected Outcome

This web application has been created for the computer science and engineering department of the permanent campus of Daffodil International University. By this platform, the faculty members can view his/her assigned courses for a particular semester of invigilation duties for a particular semester both mid and final. And they can know their specific roles/tasks with the deadline. Also, Coordination Officers view specific roles/tasks with deadlines. They also find their necessary rules in the final year project. So, it will be an easy way to communicate with function easily. This fond-end design is so simple and user-friendly. So, we can hope every user will get a great and smooth experience by using this application.

CHAPTER 2

BACKGROUND STUDY

2.1 Introduction

In this chapter, we present the technologies and related programming languages used to develop this web application. This chapter briefs the related works with this project. It also briefs the related studies including project management, development platform, and database optimization. During the development phase, we have applied some software development approaches to make it faster for our development. We have used our previous software development knowledge to develop this project. We read many blogs, watch some YouTube videos and it helped us a lot, by viewing those tutorials we have learned a lot. Most time documentation is not enough to learn the technology properly; many deep things are not understandable in the documentation that is why video tutorial is the greatest way to learn the technology.

2.2 Related Works

Almost all university indeed has their own ERP and management tools but we didn't find any project exactly like this one. But we find some open source project where get a little bit idea to implement our project.

In this part, I want to mention some Open source project like,

- [cosminstefanxp/University-Management-System](#) [7],
- OSUMS [Open Source University Management System][8],
- Collejo [9],
- University-Management-System [10],
- Electronic Document Management System [11],
- Student Portal - DIU [12].

As a reference, the ERP of Daffodil International University. There have some modules the same as our project. But it's a total combo for a university, not for a particular department.

2.3 Comparative Studies

Purpose: From all possible technologies and existing applications in our system is different and more efficient. There will be several tasks to implement the functionalities of these segments, these functions will be assigned to the respective faculty members/coordination officers (according to the analysis in the department performance) by the department/section Head. The roles of the Head/Associate Head will be assigned by himself/herself.

Approach: This system has developed concentrating on the Department of CSE of Daffodil International University. Head/Associate Head, coordination officers, and faculty members can achieve their daily job by using this system smoothly.

Originally: This project is further beneficial for the users (Head/Associate Head, coordination officers, and faculty members) of this application. Any member can get the facility from this system.

2.4 Scope of the problem

It is very challenging and too much important to complete the development of a project within a fixed time. Sometimes it is too hard to find the real solution for a particular problem. On this development interval, we faced a lot of problems but we tried to complete our project within the fixed time by using some online tools like GitHub, Trello and some other project management tools. GitHub is the best platform for source controlling and collaborating with the team members. Trello is an awesome project management tools, we distribute the works on Trello and try to complete the task before the due time.

2.5 Challenges

To develop this project, we fetch some problem and finding the solution was the main challenge of this project.

- I. As the student, we had to do a lot of work besides the implementation of our project, so it was very tricky and harder to learn all those technologies and execute it to our project.

- II. This web application is run in a browser by using the internet. So, without the internet, it can't be available.
- III. During the implementation of this project, we got a lot of errors and to solve those errors we spent a very troublesome and frustrating time.
- IV. Another challenge of this is to maintain and update process.
- V. Database optimization was the most important for this project because we have to deal with millions of data within a year.

CHAPTER 3 REQUIREMENT SPECIFICATION

3.1 Introduction

Business process modeling is the graphical representation of a project's business processes. It is the best way of representing and showing user demands. It also shows the business data graphically. Several topics are related to context, functional flow, cross-functional flow, etc. It creates a diagram and graphical representation that can be easily understood. Our business process model shows in Figure 3.1.

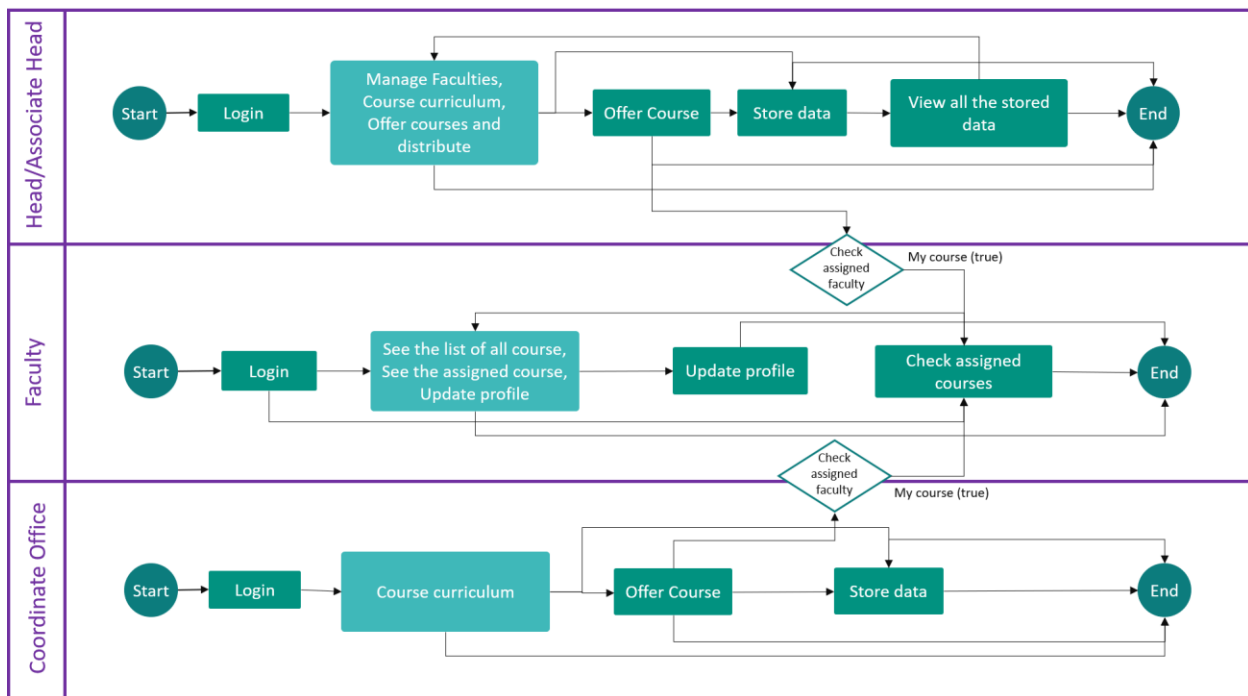


Figure 3.1: Business Process Model

3.2 Requirements Collection and Analysis

To develop a system, we must need to collect data and necessary information from the users and other related actors. It is the most important part of the software development lifecycle (SDLC). The main goal of collecting requirements and analysis is to get a clear idea about the project as well as the functional specification of the system.

In this chapter, we represent the specific role of Head/Associate Head, Faculty Member, and Coordination Officers. Also Maintained team access any data on what kind of requirement the user must follow. Head/Associate Head can enter data after a successful login by providing his username and password to confirm their identity. Coordination Officers and Faculty Members only edit his/her profile.

3.2.1 Head/Associate Head

- Will have full access to the system
- To be able to control the access of the faculty members and coordination officers.
- To be able to assign specific roles to the faculty members with a specific duration.
- To be able to assign a specific task with deadlines to the members
- To be able to login with the necessary login credentials to access the system.
- To be able to aggregate view of different roles and tasks with task completion status those were assigned to the members.
- To be able to add/remove/view new roles/tasks to be assigned to the members.
- To be able to view login – logout status logs of the members.
- To be able to publish roles assigned to different faculty members in the title of “Academic Committees” with version no. (.pdf/.docx) format.
- To be able to entertain the role of a regular faculty member.
- To be able to upload and download/view necessary formats related to different roles/tasks in .docx format.
- The account will be automatically logged out after 60 min of inaction.
- To be able to view currently logged in members.
- To be able to add/remove/view classrooms and lab rooms with detail capacity.

3.2.2 Faculty Member

- To be able to access/view/edit his/her profile.
- To be able to view his/her assigned courses for a particular semester.
- To be able to view his/her number of invigilation duties for a particular semester (both mid and final).
- To be able to view specific roles/tasks with the deadline as assigned by the Head/Associate Head.

- To be able to redirect to the corresponding page of the roles/tasks assigned to his/her.
- To be able to download/view necessary formats with respect to the roles/tasks assigned to his/her.
- To be able to login/log out with the necessary credentials to access the system.
- To be able to view his/her roles/tasks completion status with feedback from the Head/Associate Head.
- be able to break down specific roles/tasks related to a committee assigned to his/her corresponding members if he/she is the convener of the role/committee.
- The account will be automatically logged out after 30 minutes of inaction.
- To be able to view all the courses under the curriculum.
- To be able to view all the courses offered by a particular semester.
- To be able to set preferences on a set of courses offered for a particular semester.

3.2.3 Coordination Officers

- To be able to access/view/edit his/her profile.
- To be able to view specific roles/tasks with deadlines as assigned by the Head/Associate Head.
- To be able to login/log-out with the necessary credentials to access the system.
- be able to download/view the necessary format with respect to the roles/tasks assigned to his/her.
- The account will be automatically logged out after 30 minutes of inaction.

3.2.4 Technical and Legal Requirement

Departmental Resource Planning (DRP) web application has been developed by the most popular PHP framework named Laravel. Now Laravel is the best and most popular PHP framework because it supports the MVC Architecture. It ensuring clarity between logic and presentation. Another challenge has to ensure that this system is more secure and reliable. Laravel has many protections tools so that the user's data can't be stolen from the system. It has a large community that continuously fixes bugs, improves the system and brings a lot of features.

Laravel helps,

- To protect this application from SQL Injection
- To protect cookies from hackers.
- To protect from Cross-site Request Forgery (CSRF)
- To store a password with a protected strong hashing algorithm.

3.2.5 Hardware and Software Requirements

To run this web app, we need an Apache/Nginx (LAMP) server with some required specifications. Here are the requirements that are given below.

Server Type	Apache/Nginx (LAMP)
Ram	512 MB
PHP version	7.2
Database	MariaDB 10.4.8
Drivers	Mbstring PHP Extension, OpenSSL PHP Extension, PDO PHP Extension, Tokenizer PHP Extension, XML PHP Extension, BCMath PHP Extension, Ctype PHP Extension, JSON PHP Extension
Storage	2 GB

Table 3.2.5.1: Hardware and Software Requirements

3.3 Data Flow Diagram

The data-flow diagram helps to represent a flow of data of a system. The DFD also provides information about the inputs and outputs of each entity. The data flow diagram has no control flow, there are no decision rules and no loops.

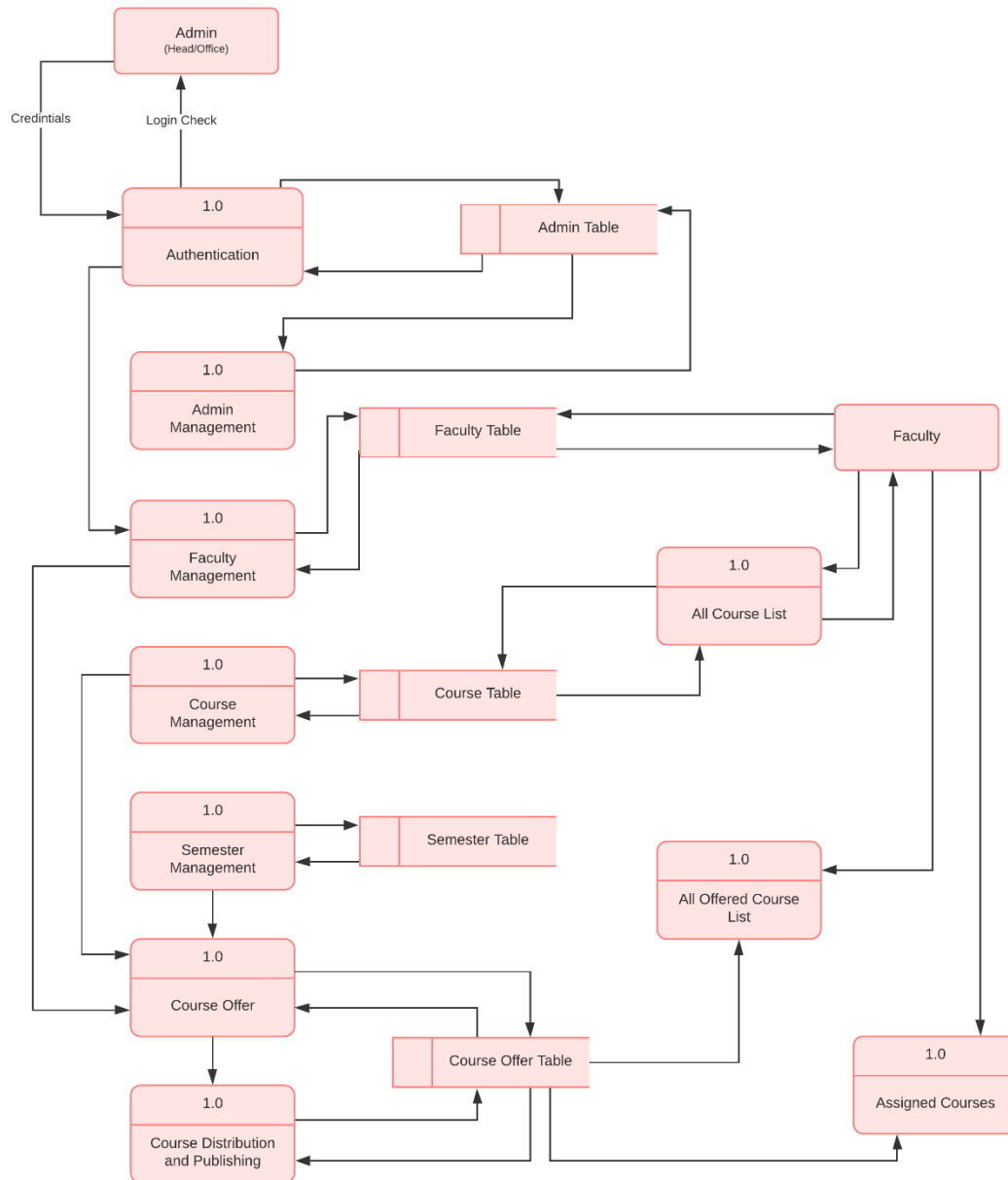


Fig 3.3: Data Flow Diagram

3.4 Sequence Diagram

A sequence diagram simply depicts interaction between objects in a sequential order.

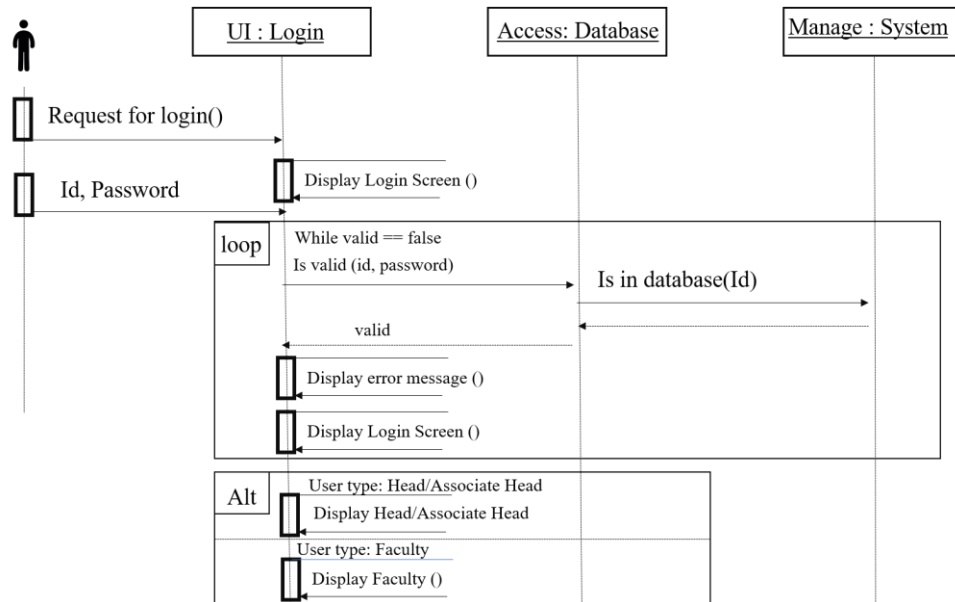


Fig 3.4.1: Sequence Diagram - 1

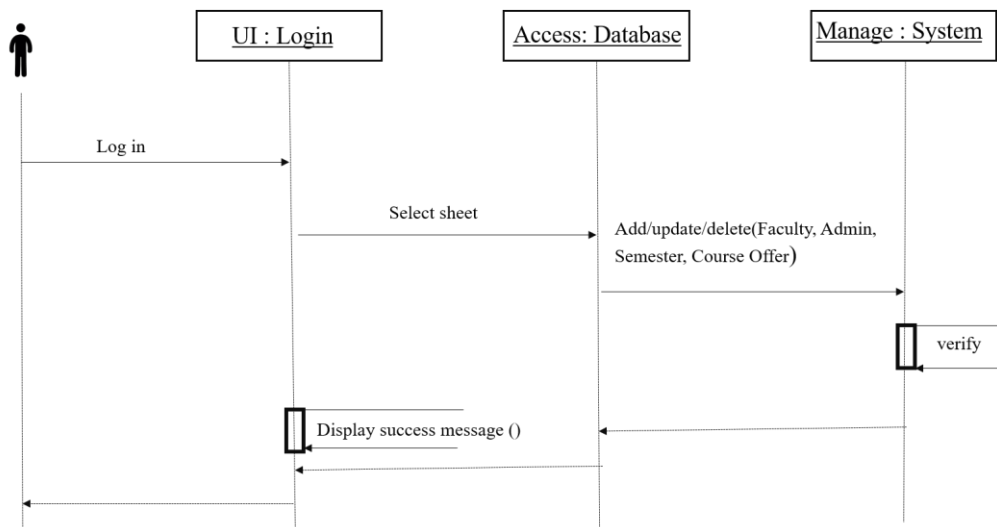


Fig 3.4.2: Sequence Diagram - 2

3.5 Use Case Modeling

The use case model is the best way for representing the user's interaction in a system. Several kinds of users are linked in a system. In this system, we have different users such as Head/Associate Head, Coordinate office and Faculty members. All of them are playing an individual role in our system to do their own job.



Fig 3.5: Use Case Diagram

3.5.1 Use Case Description

The use case is an elaborate description that shows how a user will perform on this system. It represents a user's point of view, a system's behavior as it responds to a request.

Table: 3.4.1.1 Use Case for Admin Login

Use Case Id	Admin_1
Use Case Name	Admin Login
Created By	Al Amin Firdows
Created At	23-11-2019
Use Case Description	Head/Associate head can log in
Primary Actor	Admin (Head/Associate)
Secondary Actor	None
Pre-condition	None
Post-condition	You can maintain the system

Table: 3.4.1.1 Use Case for Add faculty

Use Case Id	Admin_2
Use Case Name	Add new faculty
Created By	Al Amin Firdows
Created At	23-11-2019
Use Case Description	Head/Associate head can Add faculty
Primary Actor	Admin (Head/Associate)
Secondary Actor	None
Pre-condition	Login as Head/Associate head
Post-condition	None

Table: 3.4.1.1 Use Case for Edit faculty

Use Case Id	Admin_3
Use Case Name	Edit a faculty
Created By	Al Amin Firdows
Created At	23-11-2019
Use Case Description	Head/Associate head can Edit faculty
Primary Actor	Admin (Head/Associate)
Secondary Actor	None
Pre-condition	Login as Head/Associate head
Post-condition	None

Table: 3.4.1.1 Use Case for Delete faculty

Use Case Id	Admin_4
Use Case Name	Delete a faculty
Created By	Al Amin Firdows
Created At	23-11-2019
Use Case Description	Head/Associate head can Delete faculty
Primary Actor	Admin (Head/Associate)
Secondary Actor	None
Pre-condition	Login as Head/Associate head
Post-condition	None

Table: 3.4.1.1 Use Case for Add Semester

Use Case Id	Admin_5
Use Case Name	Add a new semester
Created By	Al Amin Firdows
Created At	23-11-2019
Use Case Description	Head/Associate head can Add a semester
Primary Actor	Admin (Head/Associate)
Secondary Actor	None
Pre-condition	Login as Head/Associate head
Post-condition	None

Table: 3.4.1.1 Use Case for Edit semester

Use Case Id	Admin_6
Use Case Name	Edit a semester
Created By	Al Amin Firdows
Created At	23-11-2019
Use Case Description	Head/Associate head can Edit semester
Primary Actor	Admin (Head/Associate)
Secondary Actor	None
Pre-condition	Login as Head/Associate head
Post-condition	None

Table: 3.4.1.1 Use Case for Add course

Use Case Id	Admin_7
Use Case Name	Add a new course
Created By	Al Amin Firdows
Created At	23-11-2019
Use Case Description	Head/Associate head can Add a course
Primary Actor	Admin (Head/Associate)
Secondary Actor	None
Pre-condition	Login as Head/Associate head
Post-condition	None

Table: 3.4.1.1 Use Case for Edit course

Use Case Id	Admin_8
Use Case Name	Edit a course
Created By	Al Amin Firdows
Created At	23-11-2019
Use Case Description	Head/Associate head can Edit course
Primary Actor	Admin (Head/Associate)
Secondary Actor	None
Pre-condition	Login as Head/Associate head
Post-condition	None

Table: 3.4.1.1 Use Case for Offer new course

Use Case Id	Admin_9
Use Case Name	Offer a new course
Created By	Al Amin Firdows
Created At	23-11-2019
Use Case Description	Head/Associate head can Offer a new course
Primary Actor	Admin (Head/Associate)
Secondary Actor	None
Pre-condition	Login as Head/Associate head
Post-condition	None

Table: 3.4.1.1 Use Case for Assign a course

Use Case Id	Admin_11
Use Case Name	Assign a course to faculty
Created By	Al Amin Firdows
Created At	23-11-2019
Use Case Description	Head/Associate head can Assign a course
Primary Actor	Admin (Head/Associate)
Secondary Actor	None
Pre-condition	Login as Head/Associate head
Post-condition	None

Table: 3.4.1.1 Use Case for Add new faculty

Use Case Id	Admin_12
Use Case Name	Add new faculty
Created By	Al Amin Firdows
Created At	23-11-2019
Use Case Description	Head/Associate head can Add new faculty
Primary Actor	Admin (Head/Associate)
Secondary Actor	None
Pre-condition	Login as Head/Associate head
Post-condition	None

3.6 Logical Data Model

The logical data model is a graphical relationship between entities of a DB. For our database design we have several tables and have maintained normalization. Several entities such as Head/Associate Head, Faculty Member, and Coordination Officers are available in our database. This is a diagram of the logical data model of Departmental Resource Planning for our project Department of Computer Science and Engineering, Daffodil International University.

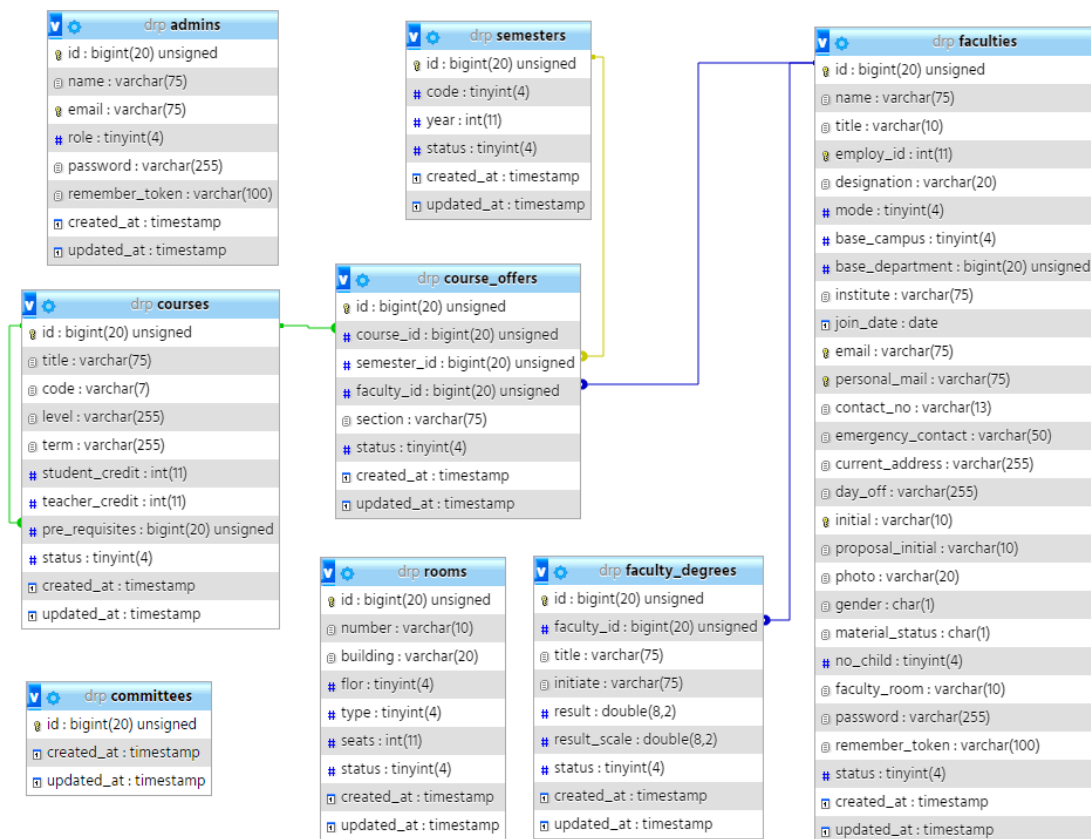


Figure 3.5: Logical Data Model

3.7 Design Requirements

Design is an important part of the graphical user interface (GUI). For taking the input from the users and actors and maintain their activity across a system it is most important for a user-friendly layout. To develop our application, we have used Laravel backend with the bootstrap based template. To design out system front-end, we've used HTML5, CSS3 and also JavaScript with the Bootstrap framework.

From the beginning, our main focus was on the User Interface. We try to make our web application so simple but organized and smooth so that it can give the best performance also. Users can use it easily and benefit from this web application. In this chapter, we also explain the Back-end of this web application that has been developed and the process behind the design and development of the system. We think a well-organized back-end can give the user a smooth experience.

CHAPTER 4

DESIGN SPECIFICATION

4.1 Front-end Design

The front-end is one of the main parts of the web application. It helps to attract the user to use web applications. Dr. S M Aminul Haque, Assistant Professor & Associate Head, helps us to design a beautiful User Interface. Only Back-end can't provide a good user experience. We used Hypertext Markup Language (HTML5), for Style Sheet we use (CSS3), Bootstrap4, jQuery to design the User Interface. We use Some useful JavaScript plug in to implement display data visually.

We completed our design using the markup language. During design, we've to keep in mind for user interaction to easy graphical user interface and also understandability. Our used languages are given below,

- HTML
- CSS3
- Bootstrap
- JavaScript
- jQuery

4.2 Back-end Development

Back-end means the system core functionality that responsible for inserted data, deleted, edited and manipulated into the database. The back-end is another important part of our application. It runs in the server because it is run by dynamic programming languages to works with is server-side data. It's run on the server so the user can't see it. The user can only take the experience from front-end but mainly back-end works to maintain the system. Without back-end, a web application can't work dynamically.

For the latest updates and ensuring security, we've used the most popular web programming language PHP 7.2.3 for maintaining the server-side.

Actually, we used Laravel to develop this platform. Laravel is a PHP based open-source web framework with an expressive, elegant syntax and great features. It helps to development by easing common tasks of web projects, sessions, routing, and caching. We use PHP Framework to improve the development, but if we can do the same thing in pure PHP. Laravel is the best PHP framework because it supports MVC Architecture, ensuring clarity between logic and presentation. MVC helps to improve the performance, allows to make better documentation, and it has multiple built-in functionalities that help to build our project easy. Also, it is pretty secure. However, no framework is 100% secure. There are always many ways to improve the security of the Laravel application. Another important thing is Laravel has a large community that fixes bugs, improves the system and brings a lot of features.

For this reason, we chose Laravel for developing Departmental Resource Planning. For storing and proving data to the web application we've used more popular open-source database MySQL in our system. Some technologies are,

- PHP 7.2.3
- Laravel 6.5.2
- MySQL

4.3 Development Requirement

To develop this application, we need several types of software like a browser, text editor and local server. We used Google Chrome as the main browser, Visual Studio Code to write and edit the code and also need to install local PHP executing server (XAMPP). Besides, we need to install Git in our system to maintain the source code and maintain version as well as release software for users.

Table: 4.3.1: Development Requirement

Text Editor	Visual Studio Code
Browser	Google Chrome
Local Server	XAMPP
Source Control	Git (GitHub)

CHAPTER 5

IMPLEMENTATION AND TESTING

5.1 Implementation of Database

The database management system is a data storing and processing system that is used for saving, delivering data to the user page according to the request. To handle and store more data we used the MySQL database [5].

- Installing the DBMS and Configure as the requirement
- Running in a local server
- Create the necessary database and table and attribute
- Integrate with the main application

5.2 Entity Relationship Diagram

An entity-relationship diagram (ERD) shows the relationships of entity sets stored in a database.

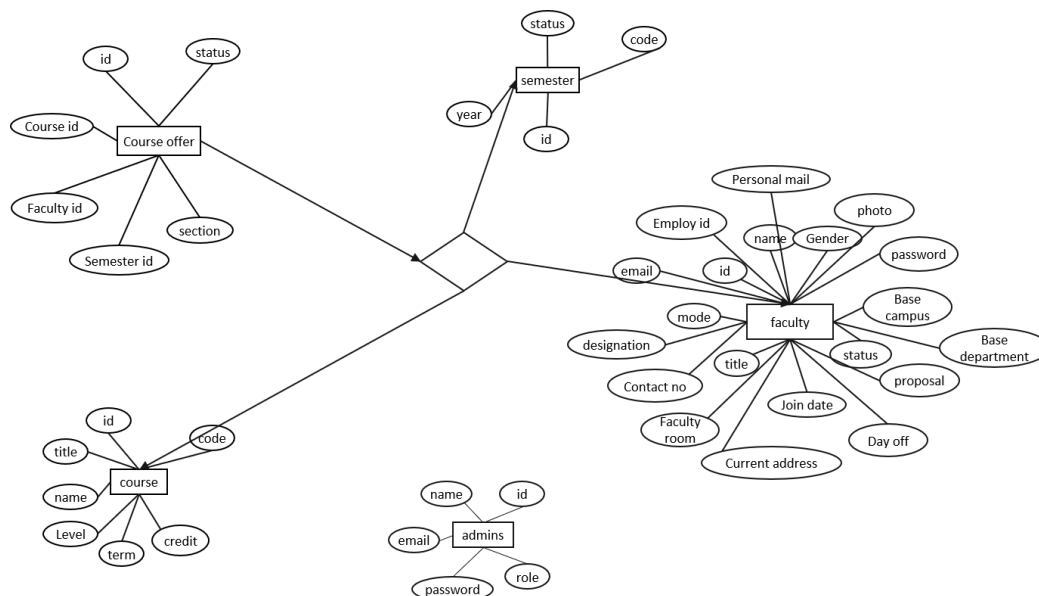
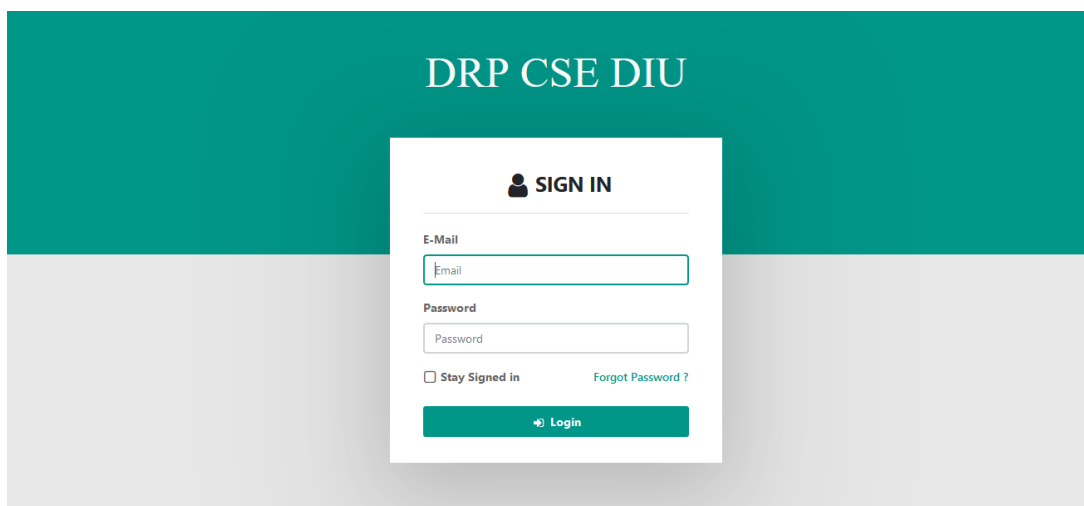


Figure 5.2.1 ER-Diagram

5.3 Implementation of front-end Design

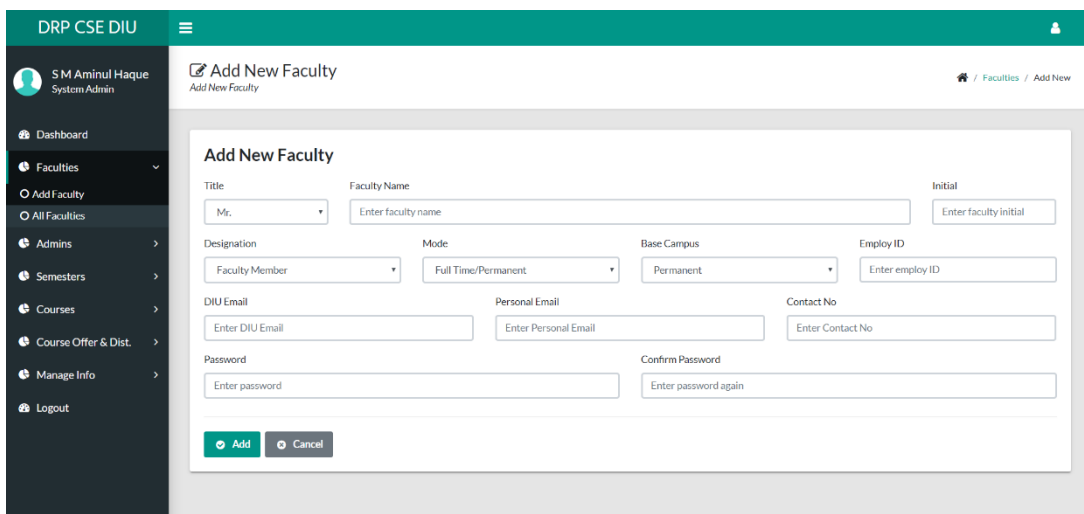
For getting data from user input and interacting with our application we have an amazing front-end dashboard. On the main dashboard, we have some menu and cards to represent the important data. On the right navigation menu, we have some links for navigating the full application. Users can go to several sections of the application by using the links. We also have some popups and notification for a successful transition and have error notification for errors.

Some Snapshot is attached bellow.



The image shows a login form titled "DRP CSE DIU" with a "SIGN IN" header. The form includes fields for "E-Mail" and "Password". Below the password field, there is a checkbox for "Stay Signed in" and a link for "Forgot Password?". A green "Login" button is at the bottom.

Figure 5.3.1: Admin Login



The image shows a dashboard for "DRP CSE DIU" with a sidebar menu. The main content area is titled "Add New Faculty". The form includes fields for "Title", "Faculty Name", "Initial", "Designation", "Mode", "Base Campus", "Employ ID", "DIU Email", "Personal Email", "Contact No", "Password", and "Confirm Password". There are "Add" and "Cancel" buttons at the bottom.

Figure 5.3.2: Add New Faculty

DRP CSE DIU

SM Aminul Haque
System Admin

- Dashboard
- Faculties
- Admins
- Semesters
- Courses
- Course Offer & Dist.
- Manage Info
- Logout

Edit Faculty

Title

Mr.

Faculty Name

Al Amin Firdows

Initial

AA

Designation

Faculty Member

Mode

Adhoc

Base Campus

Permanent

Employ ID

9764363

DIU Email

alaminfirdows@diu.edu.bd

Personal Email

alaminfirdows@gmail.com

Contact No

01740450457

Password

Enter password

Confirm Password

Enter password again

You don't want to reset password, ignore this field

Save

Cancel

Figure 5.3.3: Edit Faculty

DRP CSE DIU

SM Aminul Haque
System Admin

- Dashboard
- Faculties
- Add Faculty
- All Faculties
- Admins
- Semesters
- Courses
- Course Offer & Dist.
- Manage Info
- Logout

All Faculties

Show 10 entries

Search:

Name	Email	Action
[AA] Al Amin Firdows	alaminfirdows@diu.edu.bd	Edit Delete
[MH] Mahmudul	mahmudul@gmail.com	Edit Delete

Showing 1 to 2 of 2 entries

Previous

1

Next

Figure 5.3.4: All Faculty

DRP CSE DIU

S M Aminul Haque
System Admin

Dashboard

Faculties

Admins

Add Admin

All Admins

Semesters

Courses

Course Offer & Dist.

Manage Info

Logout

Add New Admin

Add New Admin

Home / Admins / Add New

Add New Admin

Name

Enter name

Email

Enter Email

Role

Admin/Head/Associate Head

Password

Enter password

Confirm Password

Enter password again

Add Cancel

Figure 5.3.5: Add New Admin

DRP CSE DIU

S M Aminul Haque
System Admin

Dashboard

Faculties

Admins

Semesters

Courses

Course Offer & Dist.

Manage Info

Logout

Edit Admin

Name

S M Aminul Haque

Email

aminul.cse@diu.edu.bd

Role

Admin/Head/Associate Head

Password

Enter password

Confirm Password

Enter password again

You don't want to reset password, ignore this field

Save Cancel

Figure 5.3.6: Edit Admin

DRP CSE DIU

S M Aminul Haque

System Admin

Dashboard

Faculties

Admins

Semesters

Courses

Course Offer & Dist.

Manage Info

Logout

Edit Semester

Name

Spring

Name

2019

Status

Active

Update

Cancel

Figure 5.3.7: Edit Semester

DRP CSE DIU

S M Aminul Haque

System Admin

Dashboard

Faculties

Admins

Semesters

Add New Semester

All Semesters

Courses

Course Offer & Dist.

Manage Info

Logout

All Semesters

+ Add Semester

Show 10 entries

Search:

Name	Status	Action
Spring - 2019	Active	Edit Delete
Summer - 2019	Active	Edit Delete
Fall - 2019	Active	Edit Delete
Spring - 2020	Active	Edit Delete

Showing 1 to 4 of 4 entries

Previous

1

Next

Figure 5.3.8: All Semester

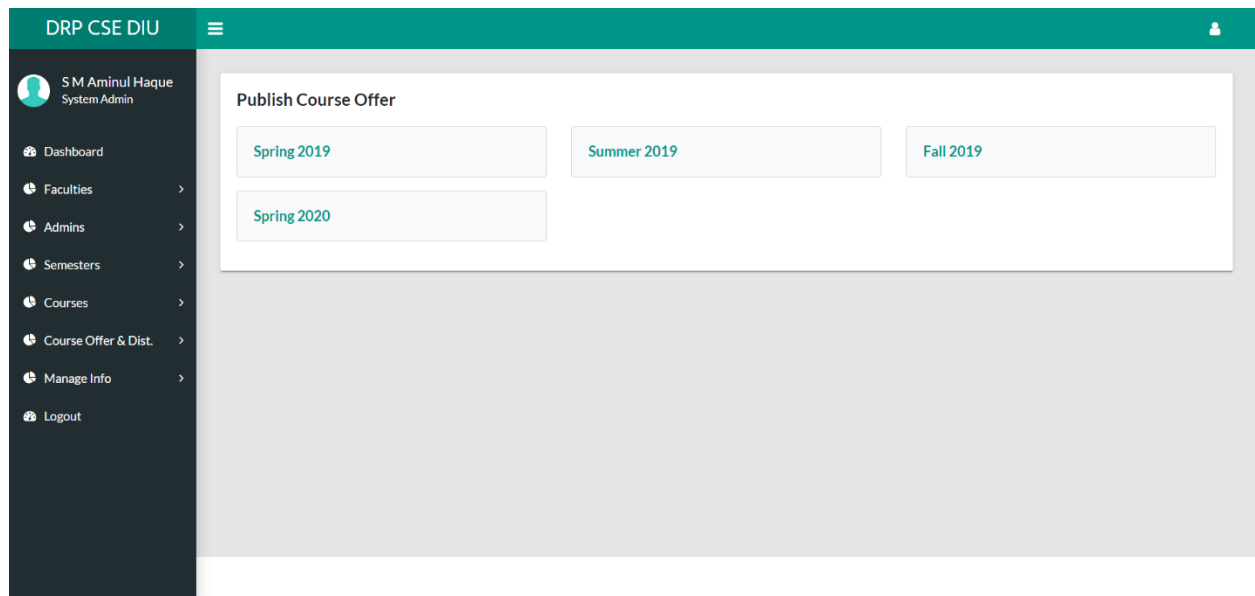


Figure 5.3.9: Publish Course Offer

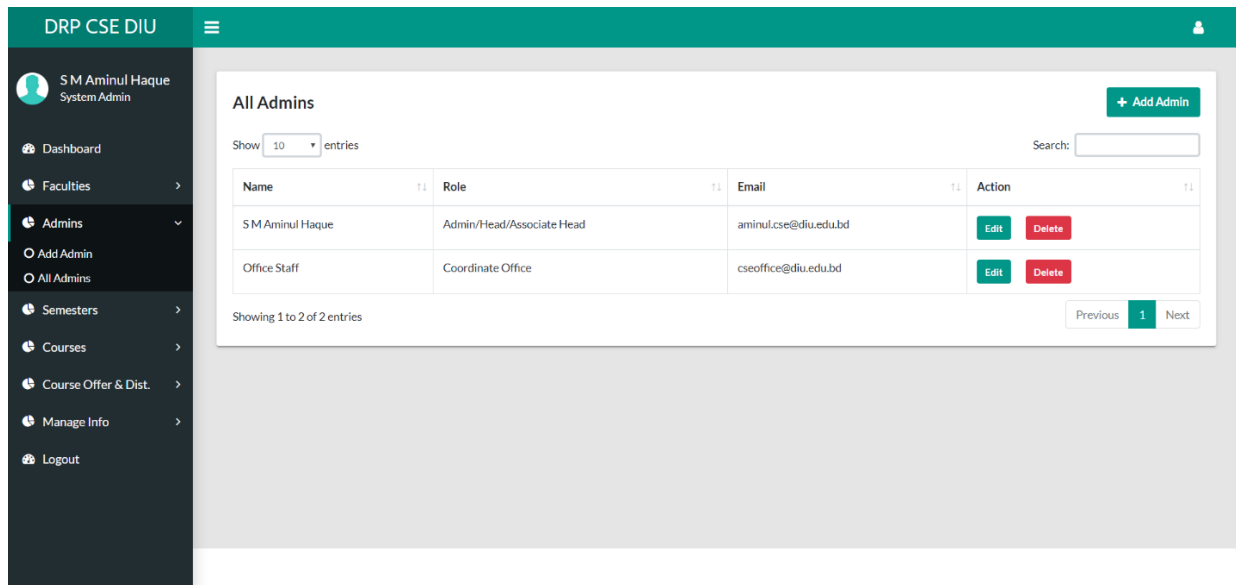


Figure 5.3.10: All Admins

DRP CSE DIU

 S M Aminul Haque
System Admin

Dashboard

Faculties

Admins

Semesters

Add New Semester

All Semesters

Courses

Course Offer & Dist.

Manage Info

Logout

Add New Semester

Name

Spring

Name

2019

Status

Active

Add

Cancel

Figure 5.3.11: Add New Semester

Daffodil International University

29

5.4 Testing implementation

Testing is the most important process of the testing system and checks the result. We have used system testing, usability testing and database testing to ensure the outcome and make it reliable for our project.

5.5 Unit Testing

Unit testing is also an important part of web applications. We tested every single module separately. It verifies all modules and necessary components and works individually to successfully complete the process. The main target of the unit test is to verify each part of the program is correct. It helps to the fixed bugs using unit tests in our development.

5.6 System Testing

System Testing means testing a complete and fully developed software product. The main purpose of this test is to evaluate the systems on specified requirements. The system test is performed on a completely developed system to evaluate the system completely.

5.7 Database Testing

Database testing is the best way to test a system and ensure data consistency and integrity. Accessing our database is only a possible backend. But we can derive and store data by the frontend. To remove this type of storing incorrect data mapping and Schema testing is used.

5.8 Acceptance Testing

Acceptance Testing is testing the system where the system is tested for acceptability. It is a test conducted that determines the requirements of a specification or the contract is met or not.

- All the test cases are executed
- Get the expected, actual and exact results
- Give the actual results

CHAPTER 6

CONCLUSION AND FUTURE SCOPE

6.1 Discussion and Conclusion

Departmental Resource Planning (DRP) is the management for the computer science and engineering department of the permanent campus of Daffodil International University. This application gives the privilege to all the faculty members to offer courses and relative distribution for each new semester. It has a central database to store the faculty members' information and that involved with the department, course registration and advisor details for each individual semester. Also, the class routine for each semester, all the activities of examination, activities of the final year project for the whole semester. It maintains the Information and stored in the central database. By using this information, all the respective faculty members can save their valuable time and easily solve their above problems of the department. This web application helps all the Head/Associate Head, Faculty Members, and Coordination Officers can find their important data so easily and fast because of its store data by categorized in a way so they can get the required data smoothly and fast.

6.2 Scope for Future Developments

We've developed this application and, in the future, we want to add more features to it. We have a plan to launch an android application that will work with our system so that all the users get instant notification from their smartphone within a second. After successful implantation for a single university, we will plan to launch this web application on both campuses. Also, we will add some more features to control all the works related to the Department.

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