MYCAMPUS

Project report submitted in fulfillment of the
requirement for the degree of
Bachelor of Technology

In
Computer Science and Engineering
By

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Under the supervision of
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To

Department of Computer Science and Engineering and Information Technology
**Jaypee University of Information Technology, Waknaghat,
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CERTIFICATE

Candidate's Declaration

This is to specify that the work which is being presented as the report entitled "MyCampus" in partial fulfillment for the requirements for the award of the degree of **Bachelor of Technology** in Computer Science and Engineering/Information Technology submitted in the department of **Computer Science Engineering and Information Technology,** Jaypee University Of Information Technology, Waknaghat is an authentic record of our own work carried out in the period of 12th April,2018 to 21st May,2018 under the supervision of Mr. Krishna Pamula (Member in the department of Education, Training and Assessment at Mysuru Development Centre, Infosys Technologies Ltd, Karnataka).

The matter enclosed in the report has not been submitted for the award of any other degree or diploma.

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This is to certify that the above statement made by the candidate is true to the best of my knowledge.

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ACKNOWLEDGEMENT

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ABSTRACT

Now-a-days, social networking is one of the fastest growing industries in the world. With increase in demand of social networking, it is beneficial if employees within an organization share a common platform. We are developing a website where employees can share their view, queries, pictures etc. Through this website, employees would also be able to view what is going on in their campus, for example the food menu of their food courts, travel facilities etc. In this fast growing era, nobody has enough time to go and look out for something therefore this website would make their life easier and faster.

We are using HTML, CSS, Bootstrap, Java Script, C#, Asp.net and Model-View-Controller architecture for building our website. Visual Basic 2015 is the platform used for development and testing. The functionalities of the website can be updated as per the user specifications

1. INTRODUCTION

1.1 Introduction

MyCampus is a web application which can be helpful for employees of my campus to know more about their campus. Employees can post their experiences of inside and outside the campus during their employment or training period. They can also share images and videos of their choice.

Food court and café vendors can post share their menu for the day so that employees can directly go and have food of their choice instead of going and checking the menu first.

Posts of each employee will be available on timeline of every other employee and they may be able to express their views regarding the same with help of like and comment functionalities implemented.

MyCampus application makes it easier for employees to browse through the food menu and for vendors to display their menu. Any new employee who may want to access this application will be able to do so through a simple registration process.

Similarly, any new vendor who wants to display their menu can do so by registering themselves easily on the application.

Employees also have access to know about the travel facilities which includes buses or taxies which maybe plying with their respective source, destination and timings.

1.2 Problem Statement

To build a web application which can be used by the employees of any organization to share their experience and day to day activities with other employees.

Also, food court, travel desk and other third party vendors may be able to share their updates with the employees.

1.3 Objectives

MyCampus is a web application for which end users are the employees and vendors of any organization.

Employees can post their experiences of inside and outside the campus of the organization during their employment period. They can also share images and videos of their choice.

Food court and café vendors can post share their menu for the day so that employees can directly go and have food of their choice instead of going and checking the menu first.

Other third party vendors can post their views as well.

1.4 Methodology

The main use of project methodology is to permit the developer to manage the complete management method issue by taking selections so finding solutions to the matter effectively, whereas making certain the right execution of some particular activities, methods, ways and latest technologies. Basically, a strategy gives a structure in order to explain each thing fully, in a way that a PM can apprehend what should be tried and done so as to give and execute the task in keeping with the timeline, resource available and client requirements.

According to some definition that is mentioned above, a fittingly taken project management method makes it easy for the user to have the subsequent success:

- Wants of stakeholders outlined
- Some kind of one language is used and understood within the team, in order to apprehend their expectations
- Most conflicts are measure noticed and resolved early
- Each task is completed employing a method way
- Expected deliverables created and handed to user
- Problems and mistakes are learned and the ways to solve them are quickly enforced
- Cost estimates measure complete, correct and credible

Here is a simple example of how we can present a project methodology in the hierarchical structure of management:
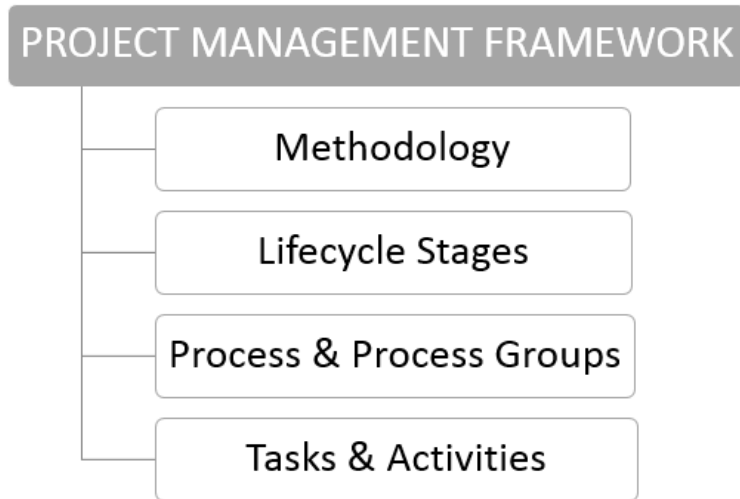
Fig.1.1 Hierarchical Structure of project Methodology

Project methodology of all types can be divided into **Traditional** and **Modern** approaches.

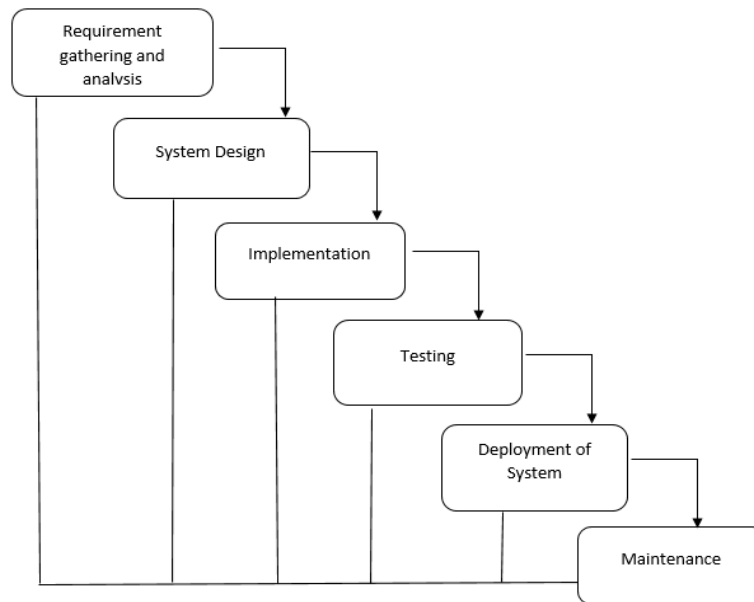Waterfall Model is a part of the traditional approach of project methodology.

Fig.1.2 Waterfall Model

The waterfall Model was initial method Model to be introduced. It's furthermore fetched up as a linear sequential life cycle model. It's terribly easy to know and use. In waterfall model, before beginning a new part, it should be ensured that previous is completed. This kind of model is largely used for the project that is little and there aren't any unsure necessities.

Merits of waterfall model:

- Waterfall model works well for smaller projects where necessities are understood very clearly
- This model can be easily learned and used
- In this model segments are processed and finished one at a time. Phases don't intersect.

Demerits of waterfall model:

- Not suitable for the projects where requirements are at a moderate to high risk of unpredictable.
- Once an application is within the testing stage, it is terribly troublesome to travel back and alter one thing that was not going out well in the concept stage.
- Not suitable if project is long or is in development stage.
- Great quantities of risk and ambiguity.

We can use the waterfall model when:

- The project is brief.
- This model is used only if the requirements are satisfactory best known, perfect and not to be altered later.
- Stability is maintained in product definition.
- Plenty assets with needed understanding are presented freely.
- Technology is well-known.

Very minimal client enter action is concerned during the process of the product. Once the product is ready then exclusively it may be deemed to the consumers/clients. Once the product

is established and if any failure occurs then the worth of fixing such complications are terribly high, as a result of we want to update everyplace from document until the logic.

The model used for the project is **Agile** which is a part of the modern approach.
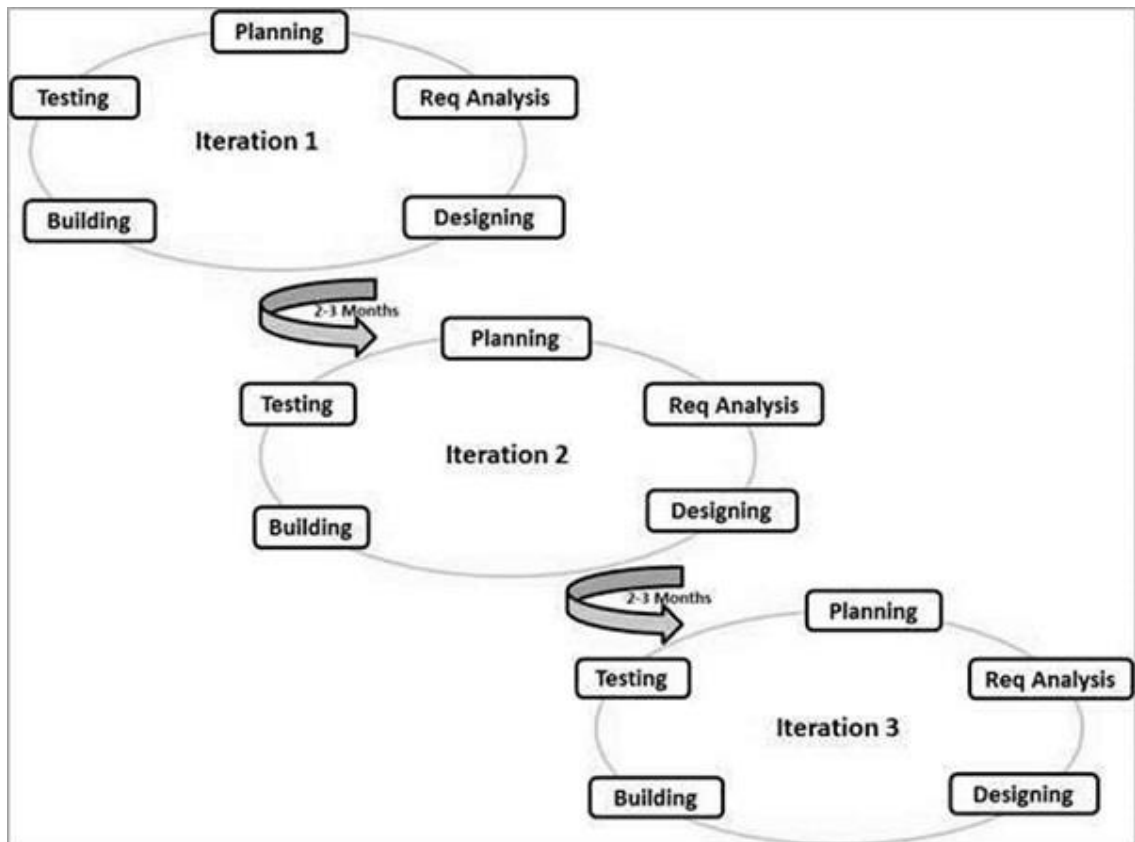
Fig 1.3 Development lifecycle Model

Agile development model is a type of incremental model. Software is developed in incremental, quick cycles. This results in minor incremental releases with each release constructing on former functionality. Each release is carefully tested to ensure software value is sustained. It is used for time critical applications. Extreme Programming (XP) is currently one of the most renowned agile development life cycle model.

Advantages of Agile model:

- Customer contentment by quick, uninterrupted supply of beneficial software.
- People and interactions are highlighted rather than process and tools. Customers, developers and testers regularly interact with each other.
- Working software is delivered repeatedly (weeks rather than months).
- Face-to-face discussion is the greatest form of communication.
- Close, daily team work between business individuals and developers.
- Constant attention to technical quality and decent design.
- Regular adaptation to varying circumstances.

Even late changes in requirements are welcomed

When to use Agile model:

- When fresh alterations are desired to be implemented, the liberty agile gives to alteration is very significant. New alterations can be applied at very little cost because of the frequency of new increments that are produced.
- The developers, require to miss only the work of a few days, or even only hours, to roll back and implement any new feature.
- Contrasting the waterfall model, in agile model very narrow planning is essential to get started with the project. Agile assumes that the consumer's requirements are ever fluctuating in a dynamic business and IT world. Variations can be debated over and features can be applied or removed based on feedback. This effectively gives the customer the finished system they want or need.
- Both system developers and stakeholders alike, discover they also get more liberty of time and choices than if the software was developed in a firmer progressive way. Having choices gives them the ability to leave significant decisions up until additional or improved data or even whole hosting programs are available; meaning the project can continue to advance devoid of dread of reaching a sudden standstill.

Agile methodology comes in different flavors, most widely used flavor is **Scrum**. SCRUM framework has been used in this project as well.

Scrum

SCRUM is an agile development method which emphases precisely on how to manage responsibilities within a team-based development atmosphere. Scrum trusts in enabling the development team and advocates working in small teams (say- 7 to 9 members). It involves three roles, and their responsibilities are described as follows:

- Scrum Master
o Master is in charge of setting up the team, sprint meeting and eliminate problems to progress
- Product owner
o The Product Owner creates product backlog, highlights the backlog and is liable for the dispersal of the functionality at each iteration
- Scrum Team
o Team accomplishes its own work and categorizes the work to complete the sprint or cycle

Product Backlog

The Product backlog comprises of a list of requirements that a scrum team maintains for a product. It consists of features, bug fixes, functional, non-functional requirements, change requests, enhancements etc.

Sprint Backlog

The sprint backlog is the list of tasks the development team must address during the upcoming sprint.

Sprint

The sprint (or iteration) is the basic unit of development in scrum. The sprint is a time-boxed effort; that is, it is restricted to a specific duration.

1.5 Organization

Chapter 1 introduces the website and provides a brief summary by determining the objective of the project. In this chapter, we also discuss about the methodology used in building up the project and techniques employed at various stages of development.

The topics studied and covered in order to build and develop the application is presented in **Chapter 2**.

Chapter 3 covers the system and hardware requirements along with the functional and non-functional requirements.

Performance Analysis depicted via test tables is given in **Chapter 4**. The simultaneous results through screenshots are presented in this chapter. The key focus remains on the flow of control in accordance with the options which the user selects on various views of the website.

Chapter 5 entails the future scope and conclusion to this project's implementation to guide through future improvements in the application

2. LITERATURE SURVEY

Our Project depends on the language C#.

2.1 C#

C# is an object oriented programming language developed by Microsoft which is part of .NET framework.
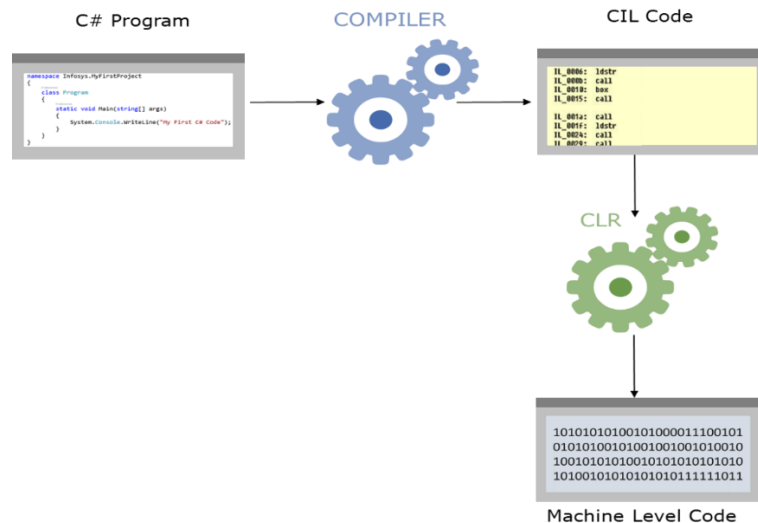
Fig 2.1 Compilation of C# code

- .NET Framework provides a runtime engine called as **C**ommon **L**anguage **R**untime (CLR).

- CLR converts CIL code to machine level code.

- JIT (Just-in-time) compiler in CLR is responsible for the code compilation at run-time.

2.2 HTML

HTML stands for Hyper Text Markup Language. Browsers use HTML Tags to render the content of the page. The data is stored in a file which has .html extension. The interaction of front end with backend is done through various controllers. HTML does not deal with any kind of validation or logic. There exist various versions of HTML like HTML 3.2, HTML 4.0, HTML 5 and HTML 4.01.

HTML is one of the technologies used under client side within presentation layer. Different features with the different versions are linked making HTML user friendly and automation of tasks. It includes various features like table, lists (unordered and ordered), handling images, videos etc.

Under the HTML course we learned the basic tags (or elements) and their respective attributes, which are required to create a webpage.

HTML version HTML5, released in 2014 has been used in our project.

2.3 CSS

CSS or Cascading Style Sheets is a language/technology that is used for defining the presentation of an HTML Page. It was introduced primarily to separate the page content from presentation. This provides greater flexibility and control over the styling. It helps in separating the style information and the HTML content.

Under CSS, we learned about various selectors, properties and values required to style a web page. CSS can be added in three ways to HTML-

Inline CSS – CSS can be added to any of the HTML tags using the style attribute. The styling here is applied only to the data present inside that particular tag.

Embedded CSS – In Embedded CSS, CSS is separated from HTML content. The styling data is present in the style element which is written in the head section of the page. The styling here is applied only to the data present on the same page.

External CSS – In external CSS, the styling data is written in a separate file with a .css extension. The major advantage of using external CSS is that the styling can be applied to any number of pages.

2.4 JavaScript

Scripts are nothing but programs that do not need any pre-processing like compilation before executing i.e. they are interpreted by at run-time by browser.

JavaScript is used basically to program the behavior of web pages. JavaScript supports event driven, functional and imperative (including object-oriented and prototype-based) styles.

In order to have a JavaScript in a HTML page, we need to inform the browser that the page contains JavaScript content by placing them in a <script> element.

Learning JavaScript, we studied about the basic tokens of JavaScript and its object-orineted features.

2.5 Bootstrap

CSS Framework is a package made up of files and folders of standardized CSS code that makes it easier and faster for creating web designs which are compliant with certain standards (like browser compliance etc.). The major advantage of Bootstrap over CSS is that in CSS the degree of compatibility varies with various browsers. Bootstrap is one complete CSS framework offereing Grid system and configurations, Typography classes, UI components like forms, tables and more.

Bootstrap helps in designing responsive webpages and has classes required for adding styles to text and UI componnets.

Microsoft .NET Framework helps to develop applications quickly and easily by eliminating the need for learning multiple languages. It has provided us with a data access technology ADO .NET which helps in providing communication between relational and non-relational systems through a common set of components.

Object Relational Mapper

- **Object** part refers to the objects used in C#.
- **Relational** part refers to the tables in the database.
- **Mapping** part is used to bridge relationship between objects and tables.

ORM helps to perform

- CRUD (Create Read Update Delete) operations without writing SQL queries.
- Takes care of creating database connections and executing commands.
- Automatically converts query results as business objects.

Entity Framework

Entity Framework is an **o**bject **r**elational **m**apper framework provided by Microsoft to store and access the data. It helps to develop the data access tier of an application more easily and quickly.

One of the major advantages of entity framework is that common mistakes like wrong column name, table name can be detected during compile time itself.

Under Entity Framework, developer does not write ADO .NET methods and classes for performing data operations but this model is actually written on top of ADO .NET.
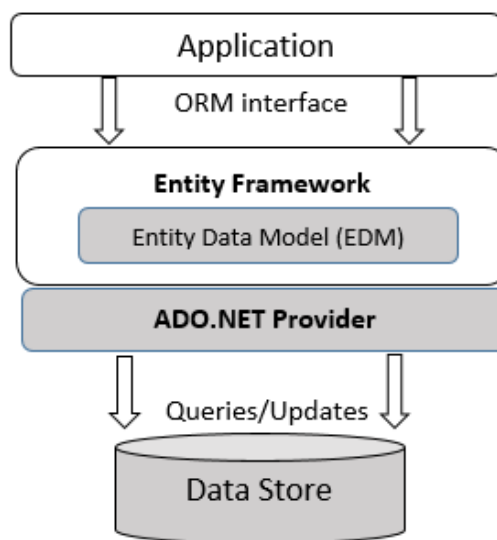

Fig 2.2 Architecture of Entity Framework

Entity Data Model

The **E**ntity **D**ata **M**odel is a set of concepts that describe the structure of data, regardless of how it is stored. It decouples application from the underlying data store.

EDM mainly has three layers:

- The **logical** layer contains the entire database schema.
- The **conceptual** layer defines the entitties and relationships among them.
- The entities and the relationships at conceptual layer are ampped with the real tables defined at logical layer in the mapping layer

The organization of data in terms of entities and relationships that are liberated of any storage schema, are described in the EDM, creating the stored form of data immaterial to application design and development.

CSDL, SSDL and MSL

The conceptual model, the storage model, and the mappings are expressed in XML-based schemas under the Entity Data Model Tools, and defined in files that have equivalent name extensions.

- **C**onceptual **S**chema **D**efinition **L**anguage defines the conceptual model, which is a specific representation of the structure of data as entities and relationships, and is generally defined in a domain-specific language(DSL). Entity Data Model implemented by Entity Framework is CSDL. The file extension is .csdl.
- Storage model, also known as logical model, is defined by **S**tore **S**chema **D**efinition **L**anguage. The file extension is .ssdl.
- Storage and conceptual mappings are defined by **M**apping **S**pecification **L**anguage. The file extension is .msl.

DBContext Class

It is responsible for interacting with data as an object, and acts a bridge between entity classes and database. DB Context class maps database tables into entity types and functions and stored procedures into methods.
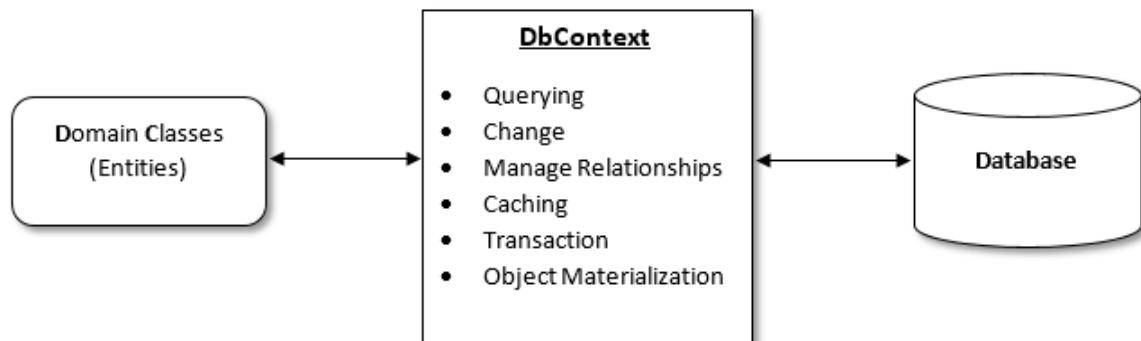

Fig 2.3 Responsibilities of DB Context class

Entity Client Data Provider

Main responsibility of **Entity Client Data Provider** is to convert LINQ to SQL query which can be understood by the underlying database. It is a data provider used by Entity Framework applications to access data described in conceptual data. Entity Client Data Provider and ADO.Net data provider communicate to send or retrieve data from the database.

Language-Integrated Query(LINQ) defines a set of general purpose standard query operators that allow traversal, filter, and projection operations to be expressed in a direct yet declarative way in any .NET-based programming language.

Model View Controller

It is commonly used for developing software that divides an application into three interconnected parts. This is done to separate internal representations of information from the ways information is presented to and accepted from the user. It is an architectural design pattern for enterprise application development. It separates different aspects of the application (input logic, business logic, and UI logic), while providing a loose coupling between these elements.
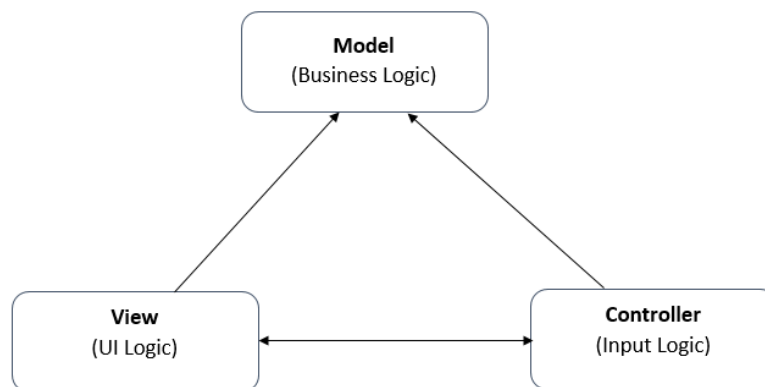

Fig 2.4 Model View Controller Pattern

This separation provides easier change management and high testability of the application.

Advantages

- **Simultaneous development**- Model, controller and views can be worked upon simultaneously by multiple developers.
- **Low coupling** –There is low coupling among models, views or controllers
- **Ease of modification** – Upcoming development or modification is easier due to distribution of responsibilities.
- **Multiple views for a model** – Models can have multiple views
- **High cohesion** – MVC enables logical grouping of related actions on a controller together. The views for a specific model are also grouped together.

Disadvantages

- **Code navigability** – Because framework presents new layers of abstraction it can be difficult and may require users to adjust to the decomposition criteria of MVC.
- **Multi-artifact consistency** – Scattering is instigated due to disintegrating a feature into three artifacts, needing developers to maintain the stability of multiple representations at once.
- **Pronounced learning curve** – Knowledge on multiple technologies becomes the norm. Developers using MVC need to be skilled in multiple technologies.

Components of an MVC Application include:
- **Models**: Contains plain C# classes(models) which represent the application core.

- **Views**: Contains views, which are razor (CSHTML - a combination of C# and HTML code) or web form(ASPX) pages, to display the data.

Role of Views in MVC**:**

a. responsible for display of user interface

b. can have strongly-typed or dynamic models

c. can exist without model

d. processed by a separate component called **View Engine**

View Engines are responsible for rendering the HTML from your views to the browser.

View in this application is rendered by **Razor View Engine**.

a. It processes the cshtml file

b. It separates it into C# code and HTML tags

c. It executes C# code and generates the HTML output to be sent to the client.

These cshtml files are present inside the Views folder.

- **Controllers**: Contains C# classes(controllers) which are responsible to handle user interactions. They receive the request, create objects of models, tie them with views and generate output.

  a. All the controller classes are derived from the **Controller** class, which provides methods that respond to HTTP request.

  b. Controller is a class present in **System.Web.Mvc** namespace.

  c. The Controller class is in turn derived from the **ControllerBase** class.

  d. A controller dictates the action on the server and what to display in the next view.

  e. It receives a request, delegates action to be performed based on the request and delegates the next view to be shown.

- **App_Start**: Before ASP.NET MVC application becomes active, it needs to initialize few objects. The classes related to these activities are kept in this folder.

- **App_Data**: Used to store any file based data storage if required.

3. SYSTEM DEVELOPMENT

The primary priorities of this design are, in order of importance:

1) Functionality

2) Reliability

3) Maintainability

4) Security and Privacy

5) Scalability

6) Interfaces

3.1 Functional Requirements

- The database should be centralized and maintained by the MyCampus admin.
- Employee/users should be able to create account using employee id. Employee can login into the application using their employee id and password to use various features available.
- Third party vendors registered should also be able to use this application by providing valid credentials.
- **Employee as a user:**
  - User profile options such as sign up and edit profile option (to change profile image).
  - Should be able to post (share views), upload images and videos.
  - Should be able to post own queries and answer queries posted by others.
  - Should be able to view bus schedules which runs from campus to various places and vice versa by clicking on Travel Facilities.
  - Should be able to see what all offers are being provided by different stores which exists in mycampus by clicking on Store Offers.
  - Should be able to see what all food items are provided by the various food vendors which exists in mycampus.
- **Food vendor as user:**
  - Should be able share food menu so that user can see what all food items are provided by the various food vendors which exists.

- User will first select the food court, the food vendor and will get a table of food items provided by that store. Food menu displayed will depend upon the time at which the user logins.
- Food items will contain the item name, price and the serving time for the food item.
- If the user is an Admin of the food department and the food store which he has selected, person would be able to add, update and delete any new food item to the table.

- **Travel vendor as user:**
  - Should be able to share bus schedules which runs from campus to various places and vice versa.
  - User will first select travel facilities, time of the day (morning or evening) and will get all the buses which run at that time of the day respectively.
    Bus table will contain the source, destination and departure time of the bus.

  - If the user is an Admin of the travel department, person would be able to add, update and delete bus to the schedule.

- **Store vendor as a user:**
  - Should be able to share all different offers related to different stores respectively.
  - User will select the store name and will get a table of coupons provided by that store. Table will contain the item name, coupon code, description and expiry date of the coupon.
  - If the user is an Admin if the store and the store which the person has selected, person would be able to add, update and delete coupons on the table.

- **Features of the application:**
  - Home page will be displayed when the user logs in.
  - Home page will have posts of logged in users and others users as well.
  - User can like and comment on the posts.
  - Posts can be simple text, images and videos.

- o Home page will have options which includes various options like to view the updates from food courts, updates from travel desk and updates of various offers from stores.
- o Home page will also have an option Contact Us by which user would be able to give any feedback regarding the content of the application.
- o Home page will have an option, Log Out for the user to log out.

3.2 Non-Functional Requirements

- System should have sufficient security measures in place to restrict unauthorized user access.
- Appropriate user message should be displayed in case of any failure.
- Application should be fast and error free.
- Application should be compatible with various browsers.

3.3 Software Requirements

- Windows 7, Windows 8 or later
- Microsoft Visual Studio Enterprise 2015
- .NET Framework 4.5

3.4 Hardware requirement

- 1.6 GHz or faster processor
- 3 GB of RAM (for x86) or 4 GB of RAM (for x64)
- 80 GB of available hard disk space

4. PERFORMANCE ANALYSIS
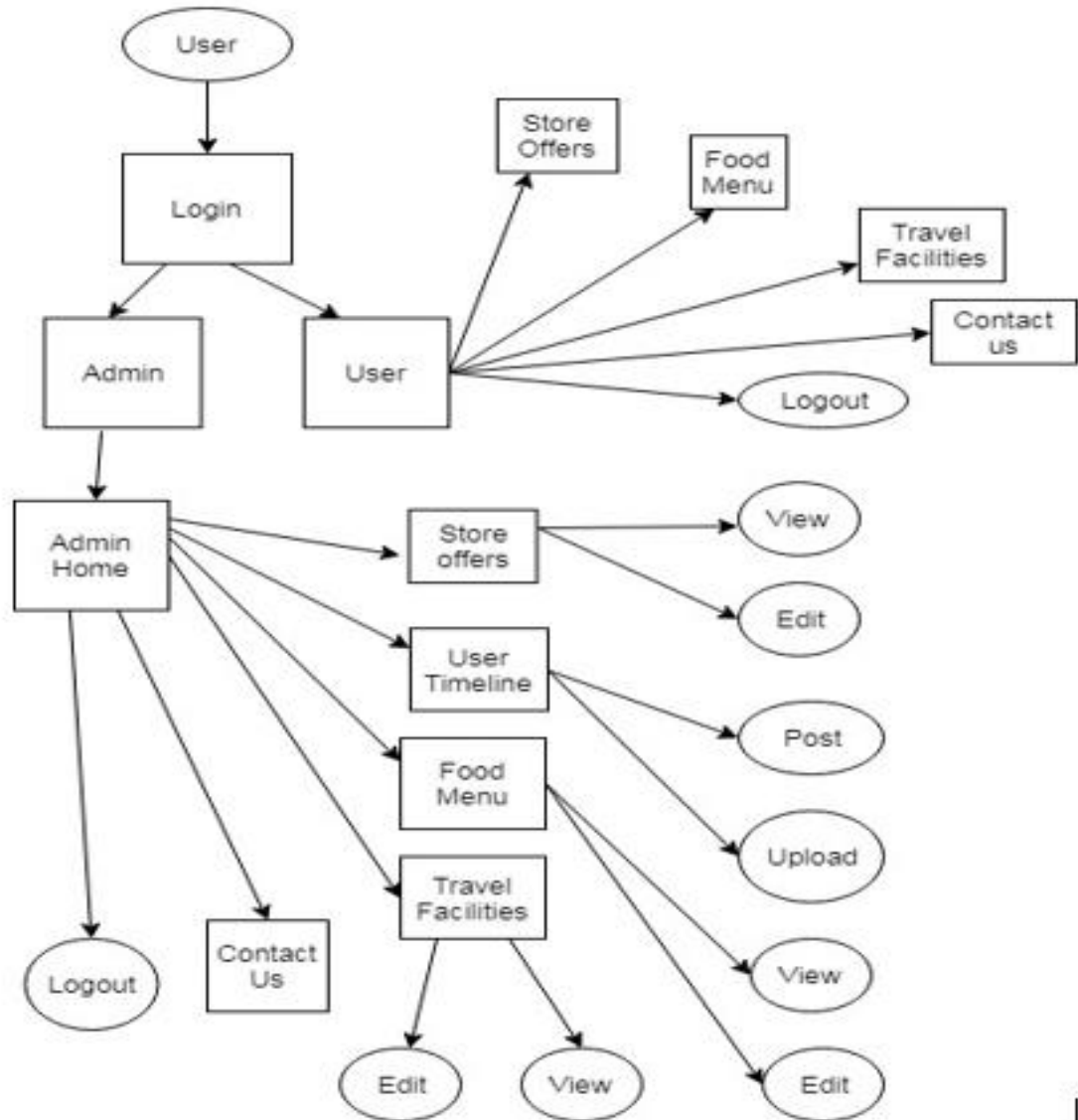
4.1 Project Development

4.1.1 Data Flow Diagram

Fig 4.1 Data Flow Diagram

4.1.2 Controllers, Views and Models

The controllers used in the project are:

- Admin Controller
- Customer Controller
- Home Controller
- Item Controller
- Offer Controller
- Travel Controller
- User Controller

The models used in the project are:

- Admin
- Comments
- Posts
- Item
- Offers
- Product View Model
- Profilepic
- Travel
- User

The Views used in the project are:

- Admin:
  - RegisterAdmin
- Customer:
  - CustomerHome
  - CustomerLogout
- Home:
  - Login
- Item:
  - AddItem
  - DeleteItem
  - UpdateItem

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- ○ ViewItems
- ▪ Offer:
  - ○ AddOffer
  - ○ DeleteOffer
  - ○ GetOfferForStore
  - ○ GetStoreNames
  - ○ UpdateOffer
- ▪ Travel
  - ○ AddBus
  - ○ DeleteBus
  - ○ UpdateBus
  - ○ ViewBuses
- ▪ User
  - ○ ForgetPassword
  - ○ RegisterUser
- ▪ Shared
  - ○ LayoutCustomer
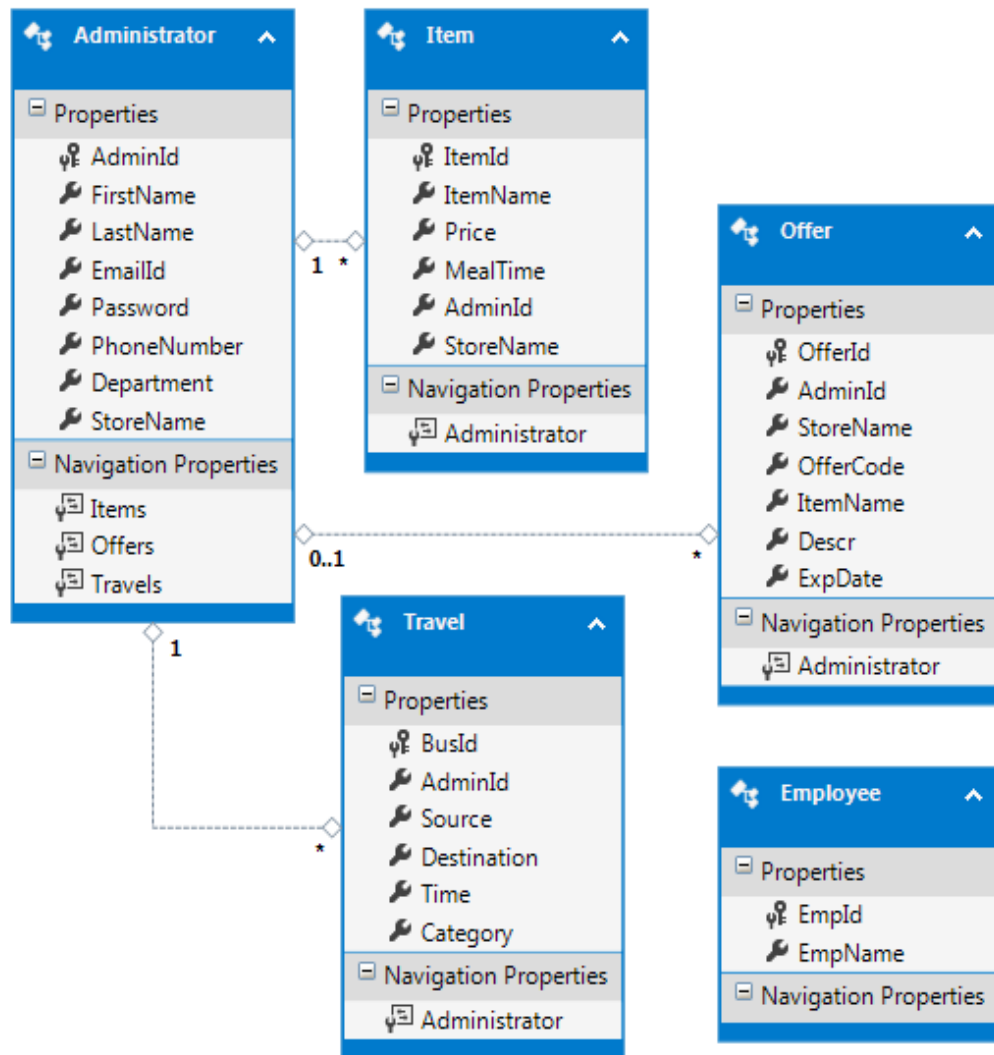 - ○ Contact
  - ○ Error
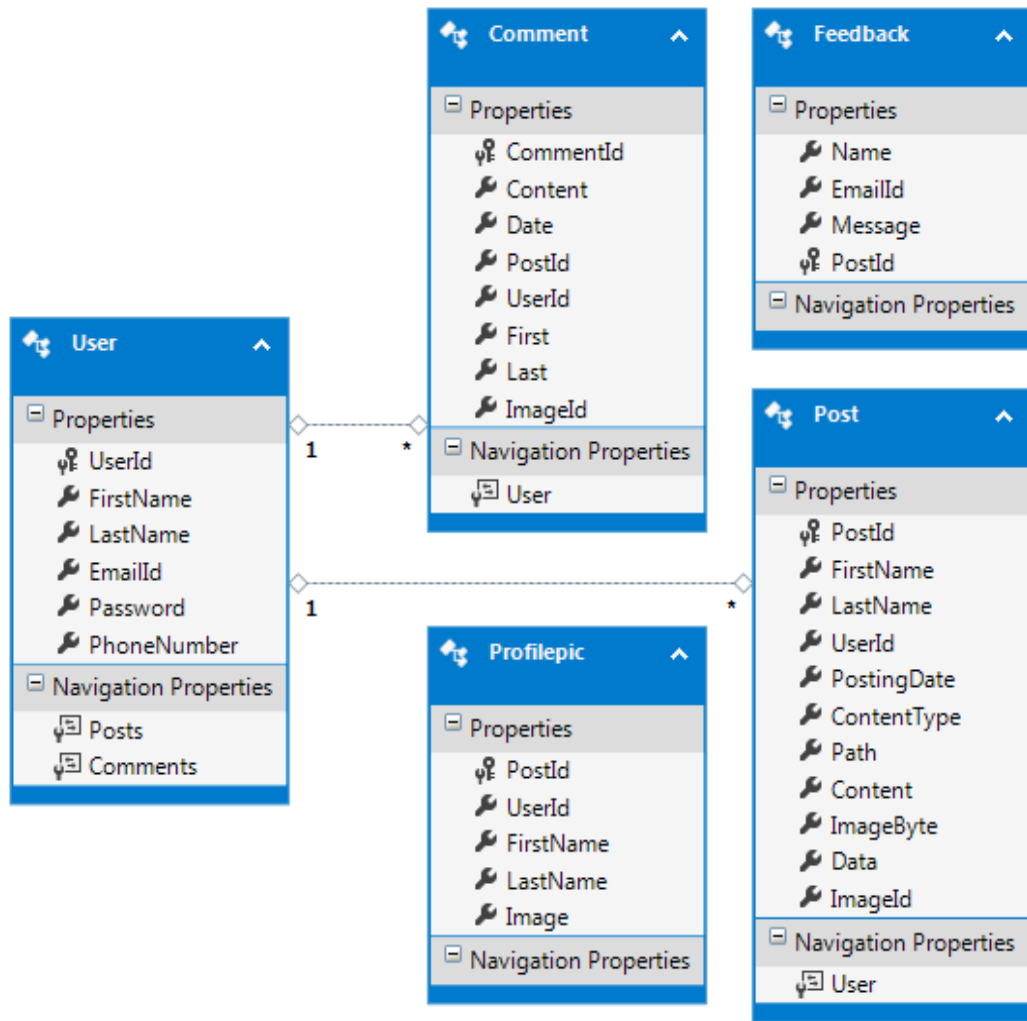
4.1.3 EDMX Diagrams

Fig 4.2 EDMX Diagram 1

Fig 4.3 EDMX Diagram 2

4.2 Functionalities

4.2.1. Register Administrator

- In this module, a form containing admin id, first name, last name, email, password, phone number, department and store name is taken as input from the administrator. After filling these details, when the administrator clicks on submit button, these details will be sent to the controller.

- After the details are added to the database, the administrator will be redirected to the login page.

- Admin details along with its data type is given in the below table:

No.	Field Name	Description	Size	Type	Optional/ Mandatory?
1	AdminId	Id of Administrator	6	numeric	Primary key
2	First Name	Name of admin	20	Varchar	Not null
3	LastName	Last name of admin	20	Varchar	Not null
4	EmailId	Email Id od admin	50	Varchar	Unique, Not null
5	Password	Password of admin	10	Varchar	Not null
6	PhoneNumbe r	Mobile no. of admin	10	Numeric	Not null
7	Department	Food/travel/store	20	Varchar	Not null
8	StoreName	Name of store	20	Varchar	Not null

Table 4.1 Admin Details

4.2.2. Register User

- In this module, a form containing user id, first name, last name, email, password and phone number is taken as input from the user. After filling these details, when the user clicks on submit button, these details will be sent to the controller.
- After the details are added to the database, the user will be redirected to the login page.
- User details along with its data type is given in the below table:

No.	Field Name	Description	Size	Type	Optional/ Mandatory?
1	UserId	Id of user		INT	Primary Key
2	FirstName	First name of the user	20	Varchar	Not Null
3	LastName	Last Name of the user	20	Varchar	Not Null
4	EmailId	Email Id of the user	50	Varchar	Unique, Not Null
5	Password	Passwor d of the user	15	Varchar	Not Null
6	PhoneNumber	Phone number of the user	10	Numeric	Null

Table 4.2 User Details

4.2.3. Common Login for User and Administrator

- In this module, a form containing user id and password is taken as input from the user (user/admin). After filling these details, when user clicks on submit button, these details will be sent to the controller.
- Controller will first validate the credentials and recognizes the user that whether the user is an admin or not. Controller will then provide the functionalities according to user and administrator by redirecting the user to the home page of mycampus.

4.2.4. Home Page

Home page has the following functionalities –

View Posts
- Whoever has registered on the website would be able to see the content posted by other users.
- The content may contain text, images and videos.

Comment
- Users can comment on any post, image or video posted by any other user.

Like
- Users can like any post, image or video posted by any other user.

View Profile
- Users can view their own profile at the home page which will display their name, profile picture and department, store name in case of administrator.
- Profile section also has an option through which user can change his profile picture by uploading a new one.

News Feed
- Users would be displayed any news feed of campus uploaded by the admin.

Quote of the Day
- On the home page, a quote will be displayed every day to the users.

4.2.5. Other Functionalities covered in Navigation Bar

Navigation bar will have the following functionalities –

Travel Facilities
- On clicking this link, user can select between buses which runs from campus to various places and vice versa.
- By clicking on morning and evening link users will get all the buses which run at that time of the day respectively.

    Bus table will contain the source, destination and departure time of the bus.
- If the user is an Admin of the travel department, he would be able to add any new bus to the schedule.

- Update-By clicking on this link Admin would also be able to update any existing bus detail.

- Delete-By clicking on this link Admin would also be able to delete any existing bus detail.

- Bus details along with its data type is given in the below table:

No.	Field Name	Description	Size	Type	Optional/ Mandatory?
1	BusId	Id of the Bus		INT	Primary key
2	AdminId	Id of the Admin of the travel vendor	6	Numeric	Foreign key
3	Source	Source station of the bus	30	Varchar	Not Null
4	Destination	Destination of the bus	30	Varchar	Not Null
5	Time	Time of the departure		Time	Not Null
6	Category	Type of the bus	10	Varchar	Not Null

Table 4.3 Bus Details

Store Offers

- On clicking this link, user would be able to see what all offers are being provided by different stores which exists in mycampus.

- User will select the store name and will get a table of coupons provided by that store. Table will contain the item name, coupon code, description and expiry date of the coupon.

- If the user is an Admin of the store department and the store which he has selected, he would be able to add any new coupon to the table.

- Update-By clicking on this link Admin would also be able to update any existing coupon.

- Delete-By clicking on this link Admin would also be able to delete any existing coupon.

- Coupon details along with its data type is given in the below table:

No.	Field Name	Description	Size	Type	Optional/ Mandatory?
1	OfferId	Id of the offer		INT	Primary key
2	AdminId	Id of the store admin	6	Numeric	Foreign key
3	StoreName	Name of the store	20	varchar	Not Null
4	OfferCode	Code of the particular offer	10	Varchar	Not Null
5	ItemName	Name of the item	30	Varchar	Not Null
6	Descr	Description of the item	100	Varchar	Not Null
7	ExpDate	Expiry of the item		DATE	Null

Table 4.4 Coupon Details

Food Menu

- On clicking this link, user would be able to see what all food items are provided by the various food courts which exists in mycampus.
- User will first select the food court, the food vendor and will get a table of food items provided by that store. Food Menu displayed will depend upon the time at which the user logins.
- Food Items table will contain the item name, price and the serving time for the food item.
- If the user is an Admin of the food department and the food store which he has selected, he would be able to add any new food item to the table.
- Update-By clicking on this link Admin would also be able to update any food item.
- Delete-By clicking on this link Admin would also be able to delete any food item.

- Food item details along with its data type is given in the below table:

No.	Field Name	Description	Size	Type	Optional/ Mandatory?
1	ItemId	Id of the food item		INT	Primary key
2	ItemName	Name of the item	20	Varchar	Not Null
3	Price	Price of the item		INT	Not Null
4	MealTime	Time of the particular meal	20	Varchar	Not Null
5	AdminId	Id of the Admin of the food court	6	Numeric	Foreign, Not Null
6	StoreName	Name of the store	20	Varchar	Not Null

Table 4.5 Food Item Details

Contact Us

- On clicking this link, user would be able to give any feedback regarding the content of the application.
- User will enter the feedback text in the text box provided and will then click on the submit button to post the feedback.
- Feedback details along with its data type is given in the below table:

No.	Field Name	Description	Size	Type	Optional/ Mandatory?
1	Name	Name of the post	20	varchar	Not Null
2	EmailId	Email Id of the user	50	varchar	Not Null
3	Message	Message from the user	200	Varchar	Not Null
4	PostId	Id of the post		INT	Primary key

Table 4.6 Feedback Details

4.2.5 Logout

- On clicking this link, user's or admin's session will be logged out.

4.3 Testing Analysis

Testing is the stage of implementation that is aimed at ensuring that the system works accurately and efficiently before the live operation commences. Testing is vital to the success of the system. System testing makes the logical assumption that if all the parts of the system are correct, then the goal will be successfully achieved. A series of testing are done for the proposed system before the system is ready for the user acceptance testing.

For Login Page:

1. To check whether "User Id" and "Password" are mandatory fields to provide for logging.
2. To check whether home page gets open on logging as user or admin.
3. To check whether error message "Invalid Username or Password" is displayed while logging in with wrong credentials.

For Sign Up User:

1. To check whether all the fields are mandatory fields to sign up as user.
2. To check whether "First Name" & "Last Name" fields are not accepting numbers. Error message "Only Alphabets" is shown on entering numbers.
3. To check whether "User Id" field is only accepting six-digit numeric value which is a valid id of an employee of the Campus. Error message "Invalid User id" is shown on entering user id of less than six-digit value.
4. To check whether "Email Address" field is only accepting a valid email id. Error message "Please include an @ in the email address" is shown on entering invalid email id.
5. To check whether "Set A Password" field is only accepting a password of minimum length of six characters and which contains at least one upper case letter, one lower case letter, one special character. Error messages like "Minimum 6 characters", "At least 1 upper case letter", "At least 1 lower case letter" and "At least 1 special character" are shown on entering undesired password format.

6. To check whether "Confirm Password" field's value is matching with the "Set A Password" field's value. Error message "Password must be matching" is shown on entering different passwords.

7. To check whether "Phone Number" field is only accepting numeric value which is of fix length of ten numbers, starting with either 7 or 8 or 9. Error message "Invalid phone number" is shown on entering invalid data.

For Sign Up Admin:

1. To check all the fields are mandatory fields to sign up as admin.

2. To check whether "First Name" & "Last Name" fields are not accepting numbers. Error message "Only Alphabets" is shown on entering numbers.

3. To check whether "User Id" field is only accepting six-digit numeric value which is a valid id of an employee of the Campus. Error message "Invalid User id" is shown on entering user id of less than six-digit value.

4. To check whether "Email Address" field is only accepting a valid email id. Error message "Please include an @ in the email address" is shown on entering invalid email id.

5. To check whether "Set A Password" field is only accepting a password of minimum length of six characters and which contains at least one upper case letter, one lower case letter, one special character. Error messages like "Minimum 6 characters", "At least 1 upper case letter", "At least 1 lower case letter" and "At least 1 special character" are shown on entering undesired password format.

6. To check whether "Confirm Password" field's value is matching with the "Set A Password" field's value. Error message "Password must be matching" is shown on entering different passwords.

7. To check whether "Phone Number" field is only accepting numeric value which is of fix length of ten numbers, starting with either 7 or 8 or 9. Error message "Invalid phone number" is shown on entering invalid data.

8. To check that only valid store name is entered by selecting it from a dropdown.

For User/Admin Home Page:
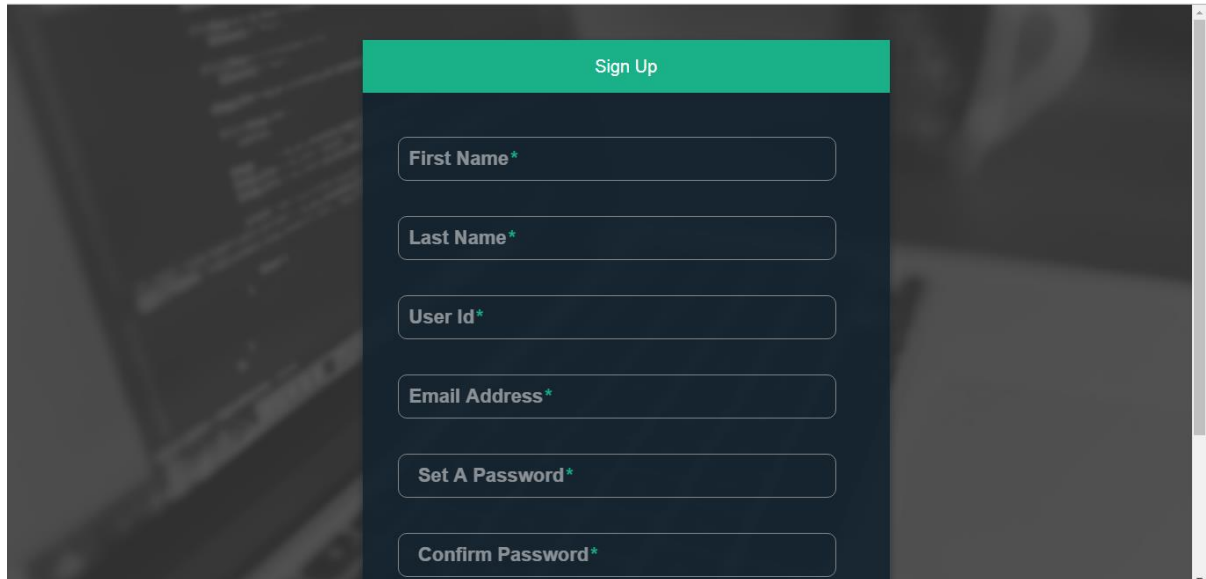
1. To check whether navigation bar is fixed at a position on scrolling down the page.
2. To check whether it is scrolling down smoothly on clicking of any of the links present on the navigation bar.
3. To check whether on clicking "Bus Facilities" option in navigation bar, dropdown containing "Morning" and "Evening" gets open. On clicking "Morning" or "Evening" options, the appropriate page gets open containing the bus details for the morning and evening timings respectively.
4. To check whether on clicking "Store Offers" option in navigation bar, appropriate page gets open containing the store offers details.
5. To check whether on clicking "Food Menu" option in navigation bar, dropdown of food courts gets open.
6. To check whether on clicking "Contact Us" option in navigation bar, appropriate page gets open which is containing the feedback page.
7. To check whether on clicking "Logout" option in navigation bar, a modal containing two options of "Yes" & "No" pops for logging out.
8. To check whether user is able to post either a combination of text and image or a combination of text and video.
9. To check whether user is able to like and comment a post on his timeline.
10. To check whether user is able to see his profile mini card.
11. To check whether user is able to update his profile image.

For Navigation Bar Views:

1. To check whether an administrator is able to update, insert and delete the items of his store only.
2. To check whether the user gets the food menu according to the time of the day he is logging in.
3. To check if correct message is displayed if the food is not available at the food court.
4. To check if correct message is displayed if no offer for the particular store is found.
5. To check if the admin is asked again for the confirmation before deleting any food item, store offer or the bus details.

5. RESULT

5.1 Register User

5.2 Register Admin

5.3 Login for User and Admin

5.4 Home Page

5.5 Posting and Comments on timeline

5.6 Store offers for admin

5.7 Food Items for users during lunch time

My Campus

Home Bus Facilities ▾ Store Offers Food Menu ▾ Contact Us Logout

FC1 ▾   Shubham
FC2 ▾   Metro Cool
FC3 ▾

Food Items

Item Name	Price	Serving Time
Rajma Rice	40	Lunch
Dum Aloo	40	Lunch
Veg Biryani	50	Lunch
Dal Rice	40	Lunch

5.8 Bus facilities for users (evening)

My Campus

Home Bus Facilities ▾ Store Offers Food Menu ▾ Contact Us Logout

Bus Schedule

Source	Destination	Time	Category
Campus	City Bus Stand	18:30:00	Evening
Campus	Bakery Circle	19:00:00	Evening
Campus	Staion	16:00:00	Evening

5.9 Feedback

5.10   Logout

6.CONCLUSION

6.1 Conclusion

It is concluded that the application works well and satisfies the users. The application is tested very well and errors are properly debugged. The application can be simultaneously accessed from more than one system. The application works according to the restrictions provided in their respective system. Further enhancements can be made to the application so that the application functions appear attractive and in a more useful manner than the present one.

6.2 Future Scope

Every application has its own demerits. The project has covered almost all the requirements. Further requirements and improvements can easily be done since the coding is mainly structured and modular in nature. Changing the existing modules or adding new modules can append improvements. Further enhancements that can be made to the application are –

1. Better UI (User Interface) can be given to the program.

2. Allows the user/admin to change his password in case he/she forgets the same.

3. Chat Bot can be constructed and functionality for users to interact amongst themselves can be implemented.

4. Functionality such that any breach in security maybe reported to the admin, can be implemented.