Training And Placement System

SUBJECT: SYSTEM DESIGN PRACTICE

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CERTIFICATE

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1. ABSTRACT

Goals

- The ultimate goal of 'Training and Placement System ' is to fully computerize the training and placement system of university such as student details, notice, upcoming seminar and company details etc. Student also register and place in appropriate company.

Scopes

- The Training and Placement Portal is equipped with some unique facilities like student current profile and student placement details which will be quite useful for students as well as teachers. Plus, on the administration side, facilities like Student upload via Excel file, Export Details into Excel file etc.

2. INTRODUCTION

- Now a day, In Digital world all the things are helpful when it fully speedy and efficient.
- Training and Placement System is a portal in which students are login as per his/her credentials and see current update of their profile as well as current update of University.
- As well as, any new information like a notice, circular, Announcement speedily uploaded and read by students.
- Upcoming companies, Interviews, Student ability all the aspects are covered in this portal. So, its useful for student as well as teachers too.
- This system is purely implemented in .NET framework (with c# language support) with Entity Framework. And developed in visual studio (Microsoft,2017).

3. SOFTWARE REQUIREMENT SPECIFICATION

For

Online Training and Placement Portal

Version 1.0 approved

3.1 Introduction

3.1.1 Purpose

- This Software Requirements Specification provides a description of all the functions and constraints of the Placement Management System, developed for various colleges' placement cell. The Placement Management System is for the students and companies which maintains the database for the students where all the students' records are entered including their academic details and their personal details. It will also manage the data of the Company which would comprise of the profile of the Company, eligibility criteria and the facilities or the package it provides etc. The System would provide the facility of viewing both the personal and academic information of the student and company; it would also search for eligible students and Company and deal with the insertion and deletion of records.

3.1.2 Document Conventions

- We have followed IEEE standard to prepare this document. This document is formatted in natural language sentence.

3.1.3 Intended Audience and Reading Suggestions

- This document can be referred by software developers, documentation writers, project manager and the users.

3.1.4 Product Scope

- The System would store all the academic as well as personal details of the students who wish to be placed and the Companies who offer jobs to the students.
- The details of the Companies may be updated or modified or deleted to k eep the information up to date. And information of students also can be updated but academic details of students only can be changed after verifying by collage.
- Also notifications would be sent to the students about the Companies i.e. details like the Company profile, eligibility criteria for the job profile etc.
- Also the information regarding the Placement activities or procedure for a particular Company i.e. the selection rounds or procedure. And Experience, reviews, suggestion and interview tips by placed students and collage faculties also will be provided for particular companies.

- Here Requirement for Database for various Companies and All Students of different fields And with Whole Required Details will be large. And For Overhead safety Database only can be able handle at maximum 5000 Users.

3.1.5 References

- IEEE format to write Software Requirement Specification.

3.2 Overall Description

3.2.1 Product Perspective

- Placements and Training portal is a self-contained web application which provides an easy and reliable placement system to colleges. This product is intended to be a full replacement for the manual placement system. It will be used by the students and placement and training officers.

3.2.2 Product Functions

- Authentication of the users.
- Student registration and management.
- Company registration and management.
- Shortlist students based on company's criteria.
- Notify students about upcoming companies.
- Student registration for an interview.
- Past year placement information.
- Share interview experience.
- Provides interview and aptitude questions company wise and provides information about workshop, seminars and any useful activity.

3.2.3 User Classes and Characteristics

The major User classes in the System would be:

1. Administrator users

- The Admin users are main users of the system. Training and placement officers will become admin users of the system.
- Admin users have all privileges.

2. Student users

- Student users are students that study in college. Student will register themselves for the placement.
- Students can view and update their personal details also they can request for the placement activity.

3.Company

- Company has to be registered first and then it can interact with placement officer of collage and can see details of every students including personal information.
- Company also can short list students as per it's criteria.
- And provide information or suggestion to students.

3.2.4 Operating Environment

- This is a web-based system and hence will require a graphical operating environment.
- Minimum RAM 1GB
- 10GB storage Space
- Browser with HTML and Java Script Support

3.2.5 Design and Implementation Constraints

- Sufficient Fault Tolerance should be there for avoiding crashing or power failure.

3.2.6 User Documentation

- A well-documented user manual will be provided after the completion of the project for all the features of administration and other users account.
- Feedback or Report can also be accepted as suggestion for Bug Report or any malicious behaviour.

3.3 External Interface Requirements

3.3.1 User Interfaces

- The website should work and be tested for Firefox, Google Chrome. The website will be fully compatible with any modern web browsers those support JavaScript.

3.3.2 Hardware Interfaces

- The device should be enabled with the Internet.

3.3.3 Software Interfaces

Server Side:

- Operating system: Any operating system which has a graphical user interface
- Web Server: IIS Express
- Database: ADO.net
- Technology: ASP.net and C#

Client Side:

- The user's browser should support HTML5 and JavaScript and cookies must be enabled for a satisfactory user experience.

3.3.4 Communications Interfaces

The system will require the HTTP + SSL protocol to provide a secure communication interface over the internet.

3.4 System Features

3.4.1 System will authenticate/register users.

Description: System takes username and password from user to validate user as per their role, Student can also register themselves.

3.4.1.1 System will provide facility to create student profile.

Input: Student registration details.

Output: Profile created message and auto-generated user-id.

Description: System will store student information and generate user-id and provide it to student.

3.4.1.2 System will provide facility to authenticate user.

Input: User Credentials.

Output: Home Page as per user or error message.

Description: There are three types of users

1. Admin
2. Students
3. Company

Based on user's role in the system, system will validate the user and show homepage or an error message.

3.4.2 System will provide facility to manage students' profile.

Input: Student Details.

Output: Success or Error message.

Description: Student can update their profile and they can deactivate their profile.

Functional Requirements

3.4.2.1 System will provide facility to update students' profile.

Input: Student details and password.

Output: A confirmation message

Description: System will take new information and password from student and update it into their profile.

3.4.2.2 System will provide the facility to deactivate students' profile.

Input: Username and Password.

Output: Conformation message.

Description: System will ask user-id and password for security and delete corresponding account.

3.4.3 System will provide facility to manage Company profile.

Input: Company Information.

Output: Success or Error message.

Description: Admin can add particular company and its information and also update the company profile.

Functional Requirements

3.4.3.1 System will provide the facility to register a company.

Input: Company details.

Output: Company-id and success message.

Description: System will store the details of company provided by admin and generate company-id.

3.4.3.2 System will provide the facility to update company's information.

Input: Company id and details.

Output: Conformation details.

Description: Company requirements may change every year

3.4.3.3 The system will provide to the facility to students to register them for an interview.

Input: registration request

Output: A confirmation message

Description: System will verify student eligibility for the company and in company's full details from the database.

3.4.4 System provides facility to generate notice.

Input: Upcoming company details.

Output: Generate notice on student's homepage.

Description: Admin can inform student via mail and small notice on homepage. Notice will provide two buttons for each student to accept or decline for particular company.

Functional Requirements

3.4.4.1 System will provide facility to view upcoming company.

Input: Company id

Output: Company details.

Description: System will show all upcoming list. Based on selected company list system will show details.

3.4.4.2 System will provide facility to register student in upcoming company.

Input: Student Response.

Output: Conformation message.

Description: After registration of the student, if the student is eligible for the company criteria, a confirmation will be shown.

3.4.5 System will provide facility to show past year placement information.

Input: Type of View

Output: Graph or tables.

Description: System can show past year information via graph or tables characterized by company or department.

3.4.5.1 System will provide facility to show information in form of graph or tables year wise.

3.4.5.1.1 System can show details by department in form of graph and tables.

Input: Department name.

Output: Past year details by department.

3.4.5.1.2 System can show details by company in form of graph and tables.

Input: Company name.

Output: Past year details by company.

3.4.6 System will provide facility to student to share past interview experience to all students.

Input: Company name and description.

Output: Generated post on homepage.

Description: Based on entered description by student system generate post after few verifications.

3.5 Other Non-functional Requirements

3.5.1 Performance Requirements

- The website should be hosted on a server that can provide adequate response time. College students tend to have short attentions spans, so a slow server would not be satisfactory for this application. The website must serve at least 50 simultaneous users under normal operating conditions.

3.5.2 Safety Requirements

- Information transmission should be securely transmitted to the server without any changes in information.

3.5.3 Security Requirements

- The software, i.e. the website should be strong enough to avoid hacking through XSS or SQL vulnerability.
- Nobody should be allowed to tamper with data. It should be made sure that only users who are given specific rights can access data.

3.5.4 Software Quality Attributes

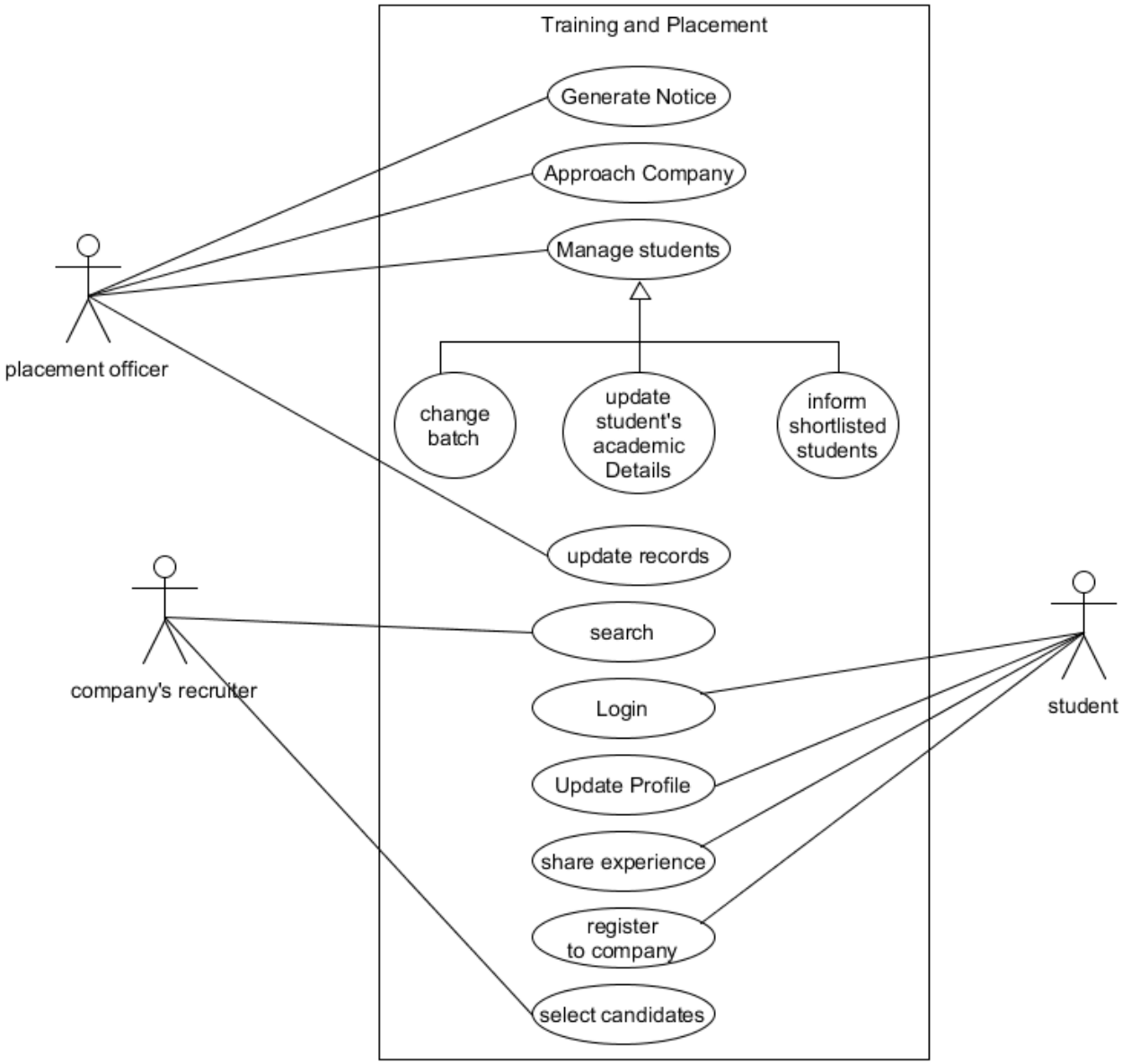
- **Availability:** If the internet service gets disrupted while sending information to the server, the information can be sent again.

- **Scalability**: If the number of users of the system increases, it must not affect system performance.

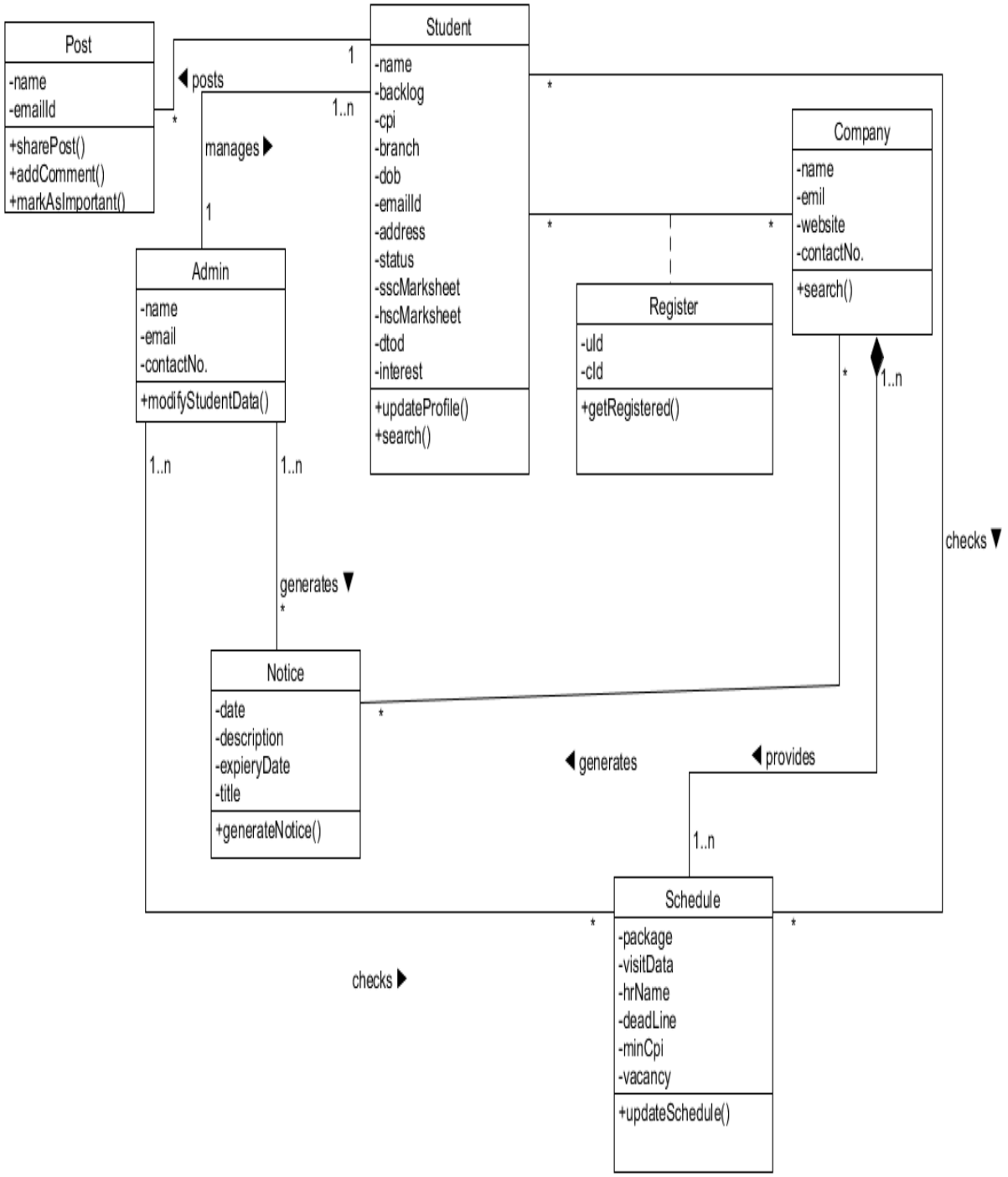
- **Reliability:** As the system deals with confidential and important information of college and students, it must be made sure that the system is reliable in its operations and for securing the sensitive details.

4. DESIGN

4.1 USE CASE DIAGRAM

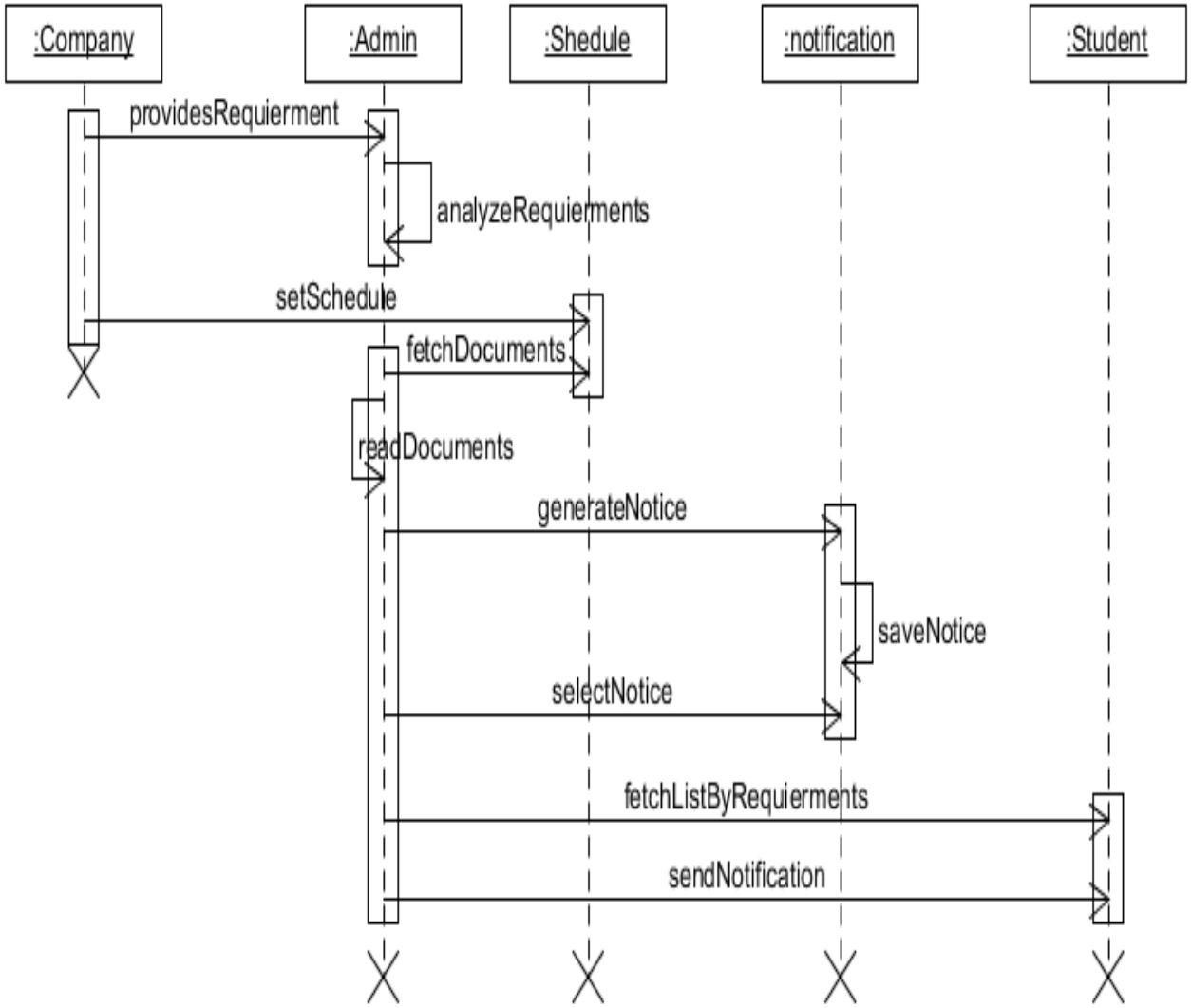


4.2 CLASS DIAGRAM

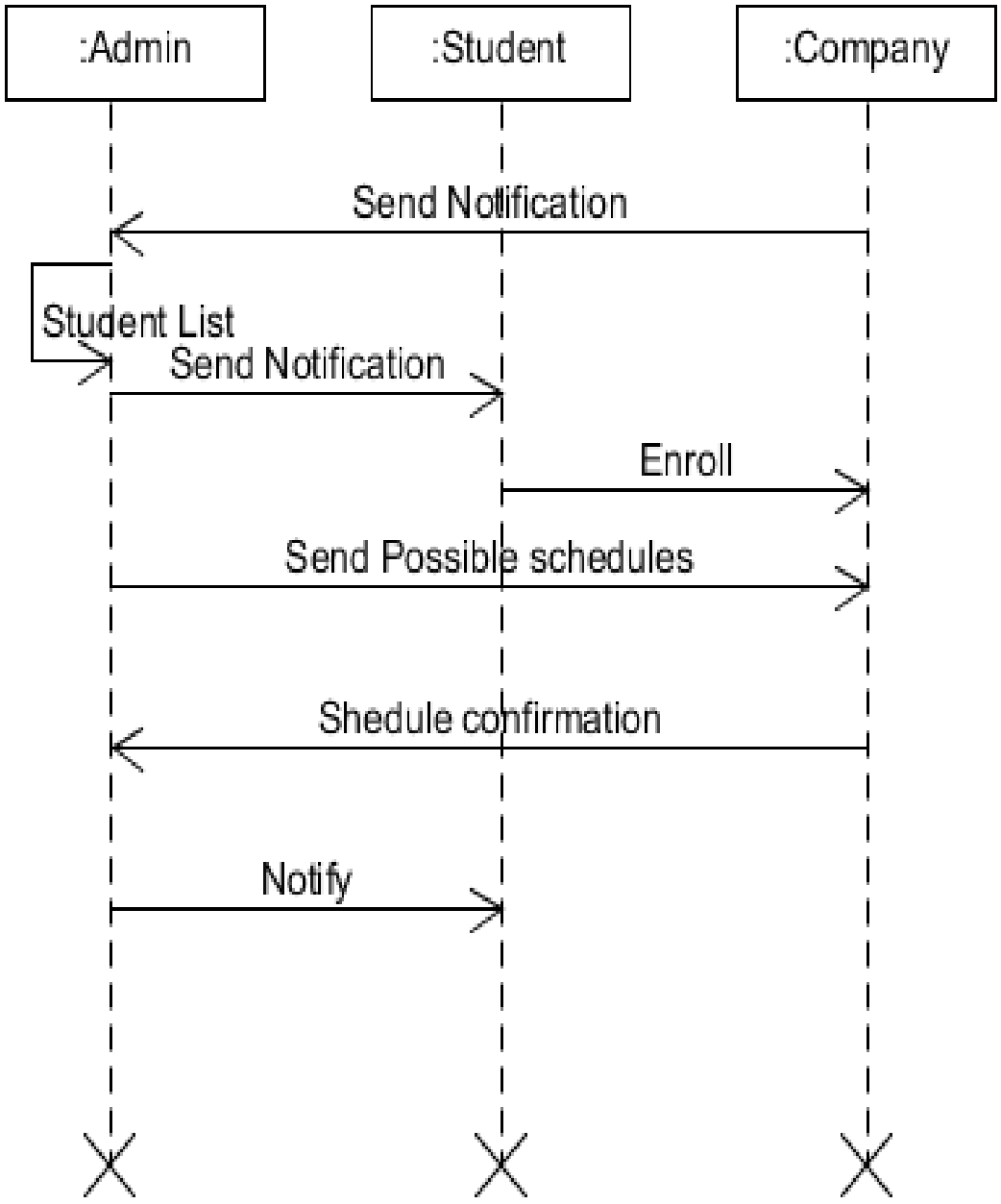


4.3 SEQUENCE DIAGRAM

4.3.1 SEQUENCE DIAGRAM FOR NOTICE

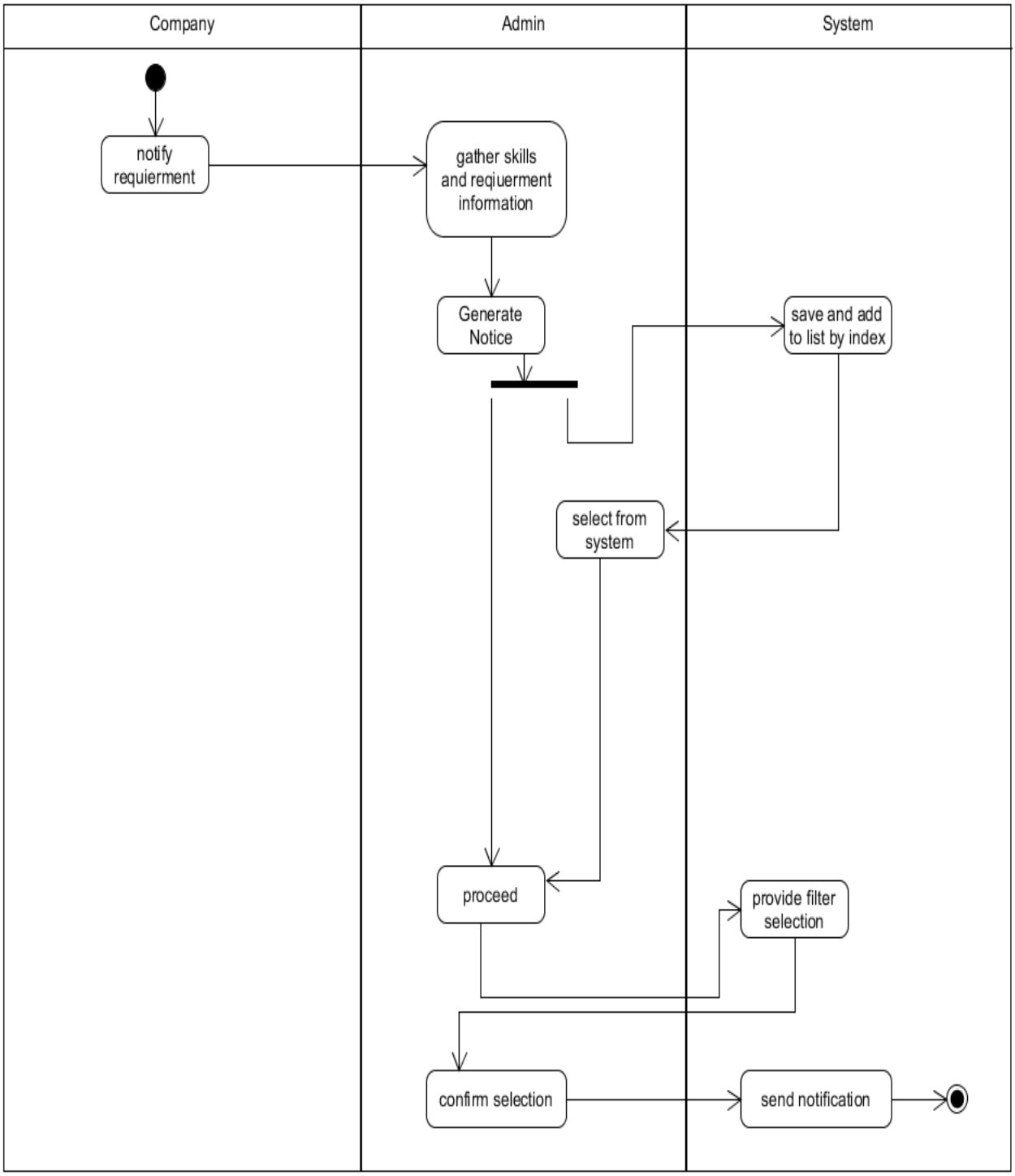


4.3.2 SEQUENCE DIAGRAM FOR NOTIFICATION

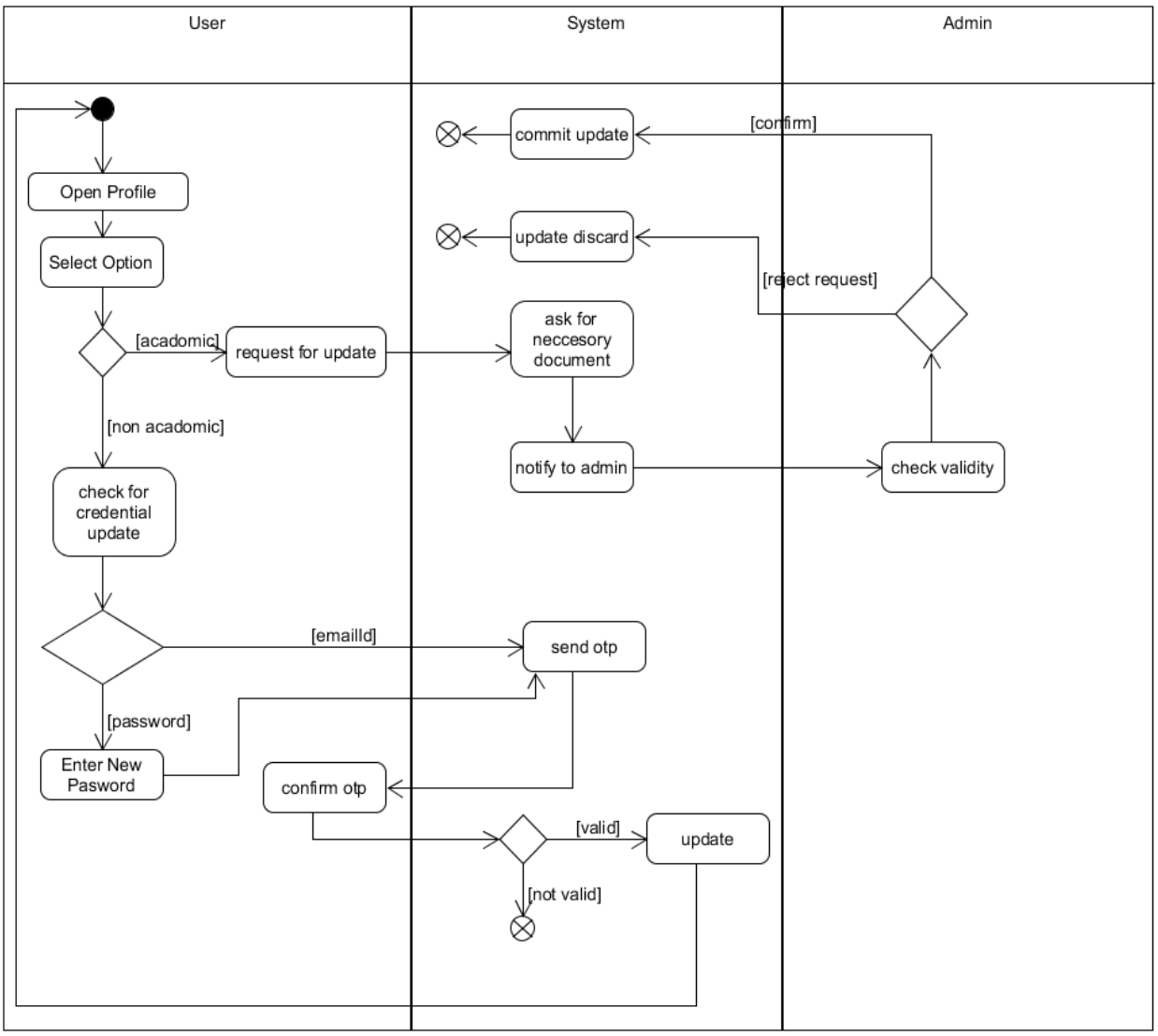


4.4 ACTIVITY DIAGRAMS

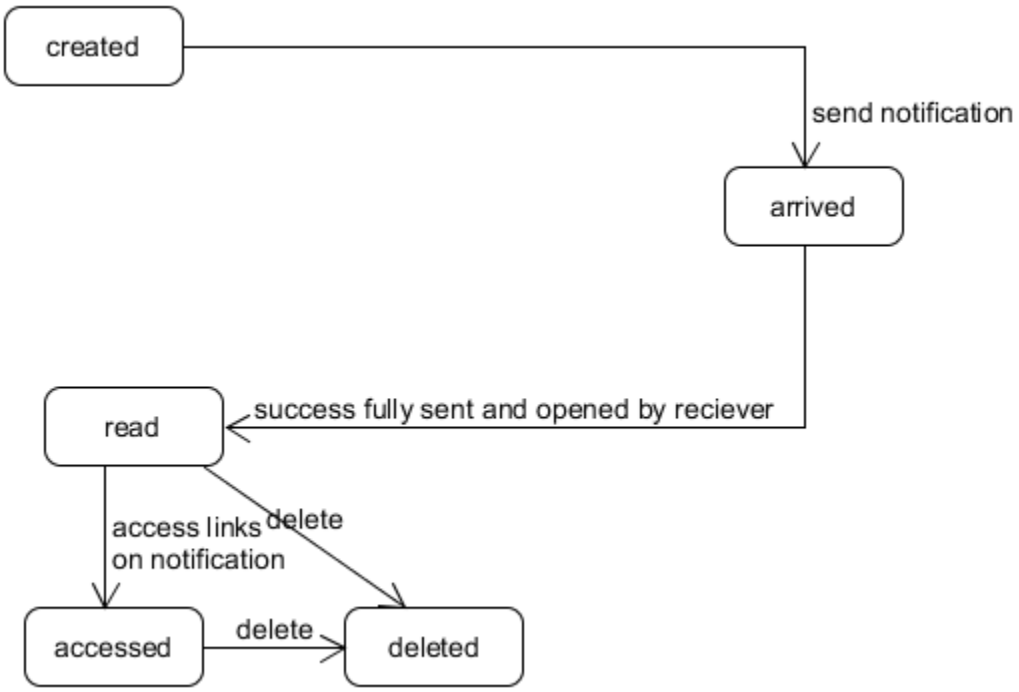
4.4.1 ACTIVITY DIAGRAM FOR NOTICE



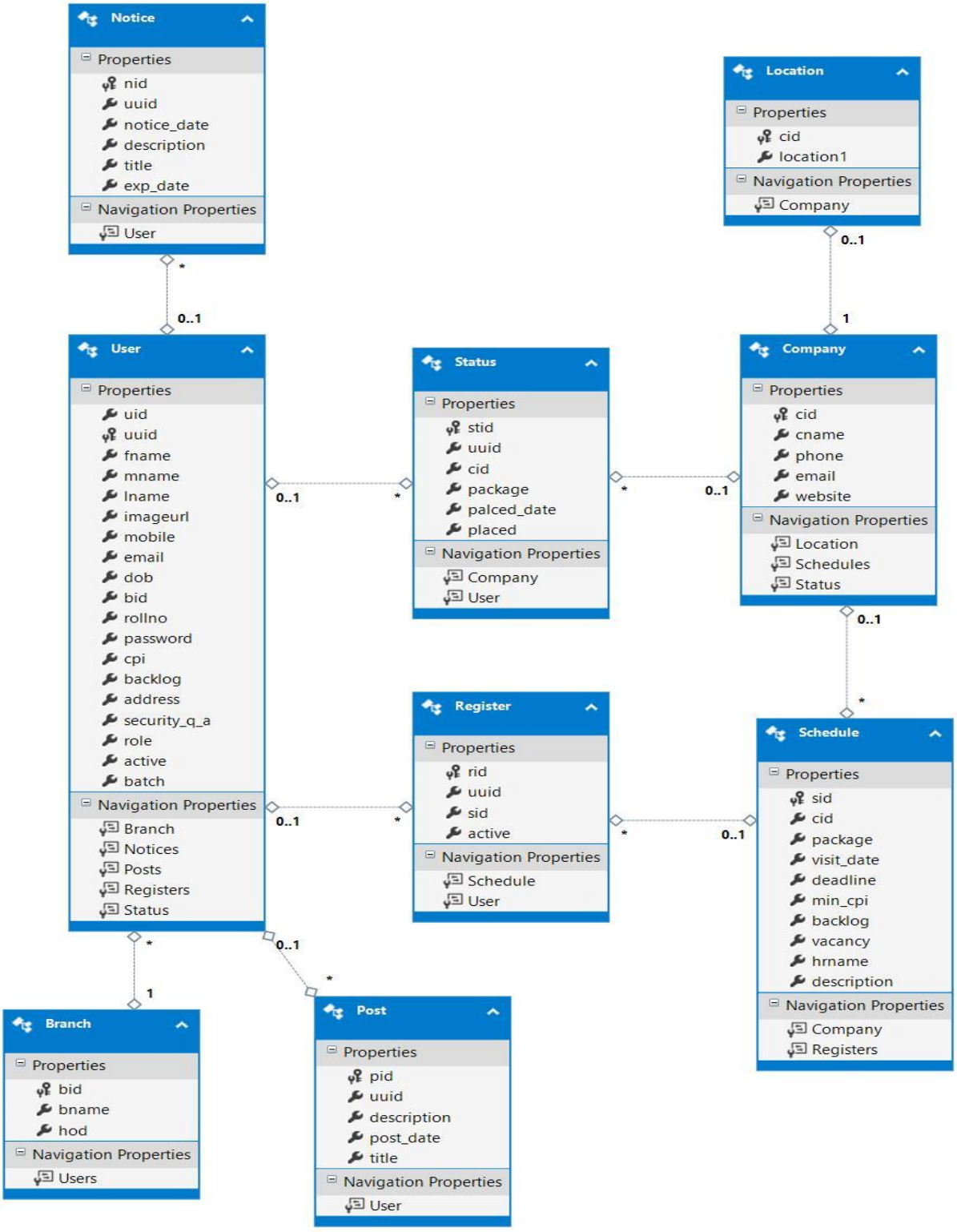
4.4.2 ACTIVITY DIAGRAM FOR PROFILE UPDATE



4.5 STATE DIAGRAM FOR NOTICE



4.6 ER DIAGRAM



4.7 DATA DICTIONARY

USER				
Sr.No	Field Name	Data Type	Size	Constraint
1.	Uid	int		IDENTITY (1, 1) NOT NULL
2.	Uuid	varchar	50	NOT NULL,CONSTRAINT [PK_Users] PRIMARY KEY CLUSTERED ([uuid]
3.	Fname	varchar	50	
4.	Mname	varchar	50	
5.	Lname	varchar	50	
6.	Imageurl	varchar	MAX	
7.	Mob_name	varchar	50	
8.	Email	varchar	50	
9.	Dob	datetime		
10.	Bid	int		NOT NUL, CONSTRAINT [FK_User_Branch] FOREIGN KEY ([bid]) REFERENCES [dbo].[Branch] ([bid])
11.	Rollno	varchar	50	
12.	Password	Varchar	50	
13.	Cpi	Float		
14.	Backlog	Varchar	50	
15.	Brach	Varchar	MAX	
16.	Notices	Varchar	20	
17.	Posts	Varchar	50	
18.	Registers	Varchar	50	
19.	Status	Varchar	50	

```
GO
CREATE NONCLUSTERED INDEX [IX_FK_User_Branch]
  ON [dbo].[User]([bid] ASC);
```

STATUS

Sr.No	Field Name	Data Type	Size	Constraint
1.	uuid	Varchar	50	
2.	cid	int		CONSTRAINT [FK_Status_Company] FOREIGN KEY ([cid]) REFERENCES [dbo].[Company] ([cid])
3.	package	float	53	
4.	palced_date	datetime		
5.	placed	varchar	50	
6.	stid	int		IDENTITY (1, 1) NOT NULL, CONSTRAINT [PK_Status] PRIMARY KEY CLUSTERED ([stid] ASC)

GO
CREATE NONCLUSTERED INDEX [IX_FK_Status_Company]

SHEDULE

Sr.No	Field Name	Data Type	Size	Constraint
1.	sid	int		IDENTITY (1, 1) NOT NULL, CONSTRAINT [PK_Schedules] PRIMARY KEY CLUSTERED ([sid] ASC)
2.	cid	int		CONSTRAINT [FK_Schedule_Comapany] FOREIGN KEY ([cid]) REFERENCES [dbo].[Company] ([cid])
3.	package	float		
4.	visit_date	datetime		
5.	deadline	datetime		
6.	min_cpi	float		
7.	backlog	varchar	50	
8.	vacancy	int		
9.	hrname	varchar	50	
10.	description	varchar	MAX	

```
GO
CREATE NONCLUSTERED INDEX [IX_FK_Schedule_Comapany]
   ON [dbo].[Schedule]([cid] ASC);
```

REGISTER				
Sr.No	Field Name	Data Type	Size	Constraint
1.	rid	int		IDENTITY (1, 1) NOT NULL, CONSTRAINT [PK_Registers] PRIMARY KEY CLUSTERED ([rid] ASC)
2.	uuid	varchar(50)	50	CONSTRAINT [FK_Registers_User] FOREIGN KEY ([uuid]) REFERENCES [dbo].[User] ([uuid])
3.	sid	int		CONSTRAINT [FK_Registers_Schedule] FOREIGN KEY ([sid]) REFERENCES [dbo].[Schedule] ([sid])
4.	active	varchar(50)	50	

```
GO
CREATE NONCLUSTERED INDEX [IX_FK_Registers_Schedule]
   ON [dbo].[Register]([sid] ASC);
```

```
GO
CREATE NONCLUSTERED INDEX [IX_FK_Registers_User]
   ON [dbo].[Register]([uuid] ASC);
```

POST VIEWS				
Sr.No	Field Name	Data Type	Size	Constraint
1.	fname	varchar(50)	50	NOT NULL ,CONSTRAINT [PK_PostViews] PRIMARY
2.	lname	varchar(50)	50	
3.	pid	int		
4.	uuid	varchar(50)	50	
5.	description	varchar(MAX)	MAX	
6.	post_date	datetime		
7.	title	varchar(50)	50	

POST				
Sr.No	Field Name	Data Type	Size	Constraint
1.	pid	int		IDENTITY (1, 1) NOT NULL, CONSTRAINT [PK_Posts] PRIMARY KEY CLUSTERED ([pid] ASC)
2.	uuid	Varchar	50	CONSTRAINT [FK_Post_User] FOREIGN KEY ([uuid]) REFERENCES [dbo].[User] ([uuid])
3.	description	Varchar	MAX	
4.	post_date	datetime		
5.	title	varchar	50	

```
GO
CREATE NONCLUSTERED INDEX [IX_FK_Post_User]
   ON [dbo].[Post]([uuid] ASC);
```

NOTICE				
Sr.No	Field Name	Data Type	Size	Constraint
	nid	int		IDENTITY (1, 1) NOT NULL, CONSTRAINT [PK_Notices] PRIMARY KEY CLUSTERED ([nid] ASC)
	uuid	varchar(50)		CONSTRAINT [FK_Notice_User] FOREIGN KEY ([uuid]) REFERENCES [dbo].[User] ([uuid])
	notice_date	datetime		
	description	varchar(MAX)	MAX	
	title	Varchar	50	
	exp_date	datetime		

```
GO
CREATE NONCLUSTERED INDEX [IX_FK_Notice_User]
   ON [dbo].[Notice]([uuid] ASC);
```

MY VIEWS				
Sr.No	Field Name	Data Type	Size	Constraint
1.	uuid	Varchar	50	NOT NULL, CONSTRAINT [PK_MyViews] PRIMARY KEY CLUSTERED ([uuid] ASC)
2.	fname	Varchar	50	
3.	mname	Varchar	50	
4.	lname	Varchar	50	
5.	rollno	Varchar	50	
6.	imageurl	Varchar	MAX	
7.	active	varchar	50	
8.	sid	int		

LOCATION				
Sr.No	Field Name	Data Type	Size	Constraint
1.	lid	int	50	IDENTITY (1, 1) NOT NULL, CONSTRAINT [PK_Locations] PRIMARY KEY CLUSTERED ([lid] ASC)
2.	location1	varchar	MAX	
3.	cid	int	50	CONSTRAINT [FK_Location_Company] FOREIGN KEY ([cid]) REFERENCES [dbo].[Company] ([cid])

COMPANY				
Sr.No	Field Name	Data Type	Size	Constraint
1.	cid	int		NOT NULL, CONSTRAINT [PK_MyViews] PRIMARY KEY CLUSTERED ([uuid] ASC)
2.	cname	varchar	50	
3.	phone	varchar	50	
4.	email	varchar	50	
5.	website	varchar	50	

BRANCH WISE BY YEAR VIEWS				
Sr.No	Field Name	Data Type	Size	Constraint
1.	bname	varchar(50)	50	
2.	bid	int		NOT NULL, CONSTRAINT [PK_BranchwiseByYearViews] PRIMARY KEY CLUSTERED ([bid] ASC)
3.	batch	int		
4.	total	int		

BRANCH				
Sr.No	Field Name	Data Type	Size	Constraint
1.	bid	int	False	IDENTITY (1, 1) NOT NULL, CONSTRAINT [PK_Branches] PRIMARY KEY CLUSTERED ([bid] ASC)
2.	bname	Varchar	50	
3.	hod	varchar	20	

5. IMPLEMENTATION

5.1 MODULES:
(Pages and its module)

Using .NET Entity Framework all the modules and functionalities are implemented.

5.1.1 home

- In home.aspx page admin generates notices, edit or remove existing notices.
  And students view that notices.

5.1.2 Posts

- In post.aspx page students who are already placed they can share their experience with other students.

5.1.3 Upcoming Companies and Schedule

- In add_schedule.aspx admin add schedule of company with require credentials, based on that eligible students can register him/her self via upcoming_companies.aspx page.

5.1.4 Add Students

- In add_user.aspx page admin upload Excel file (.xls format) which contains appropriate students and their credentials list. Admin just upload a file and data uploaded into the database automatically.

5.1.5 Export Student List

- In update_status.aspx page admin downloads Excel file (.xls format) which contains list of students registered in appropriate company.

5.1.6 Profile Management

- In profile.aspx page student can edit his/her details and also change profile picture.

5.2 FUNCTION PROTOTYPES:

5.2.1 Student upload via Excel file

- In, this module admin can upload valid Excel file(.xls) which can contain list of student details and credential.
- Admin browse file and easily upload data into a database.

5.2.2 Student list export via Excel file

- In, this module admin can export data of grid view (list of students with appropriate details).
- For ex, if 150 students register for Amazon company that all student required details we can export this details in Excel file (.xls format)

5.2.3 Email Notification

- In, this module whenever student placed into the company or whenever admin wish to notify students for important notice, direct mail will be send to students which already registered.

5.2.4 Change password

- In, this module student can change his/her password.

6. TESTING

TESTING METHOD: Black Box Testing First Implementation done and deployment.

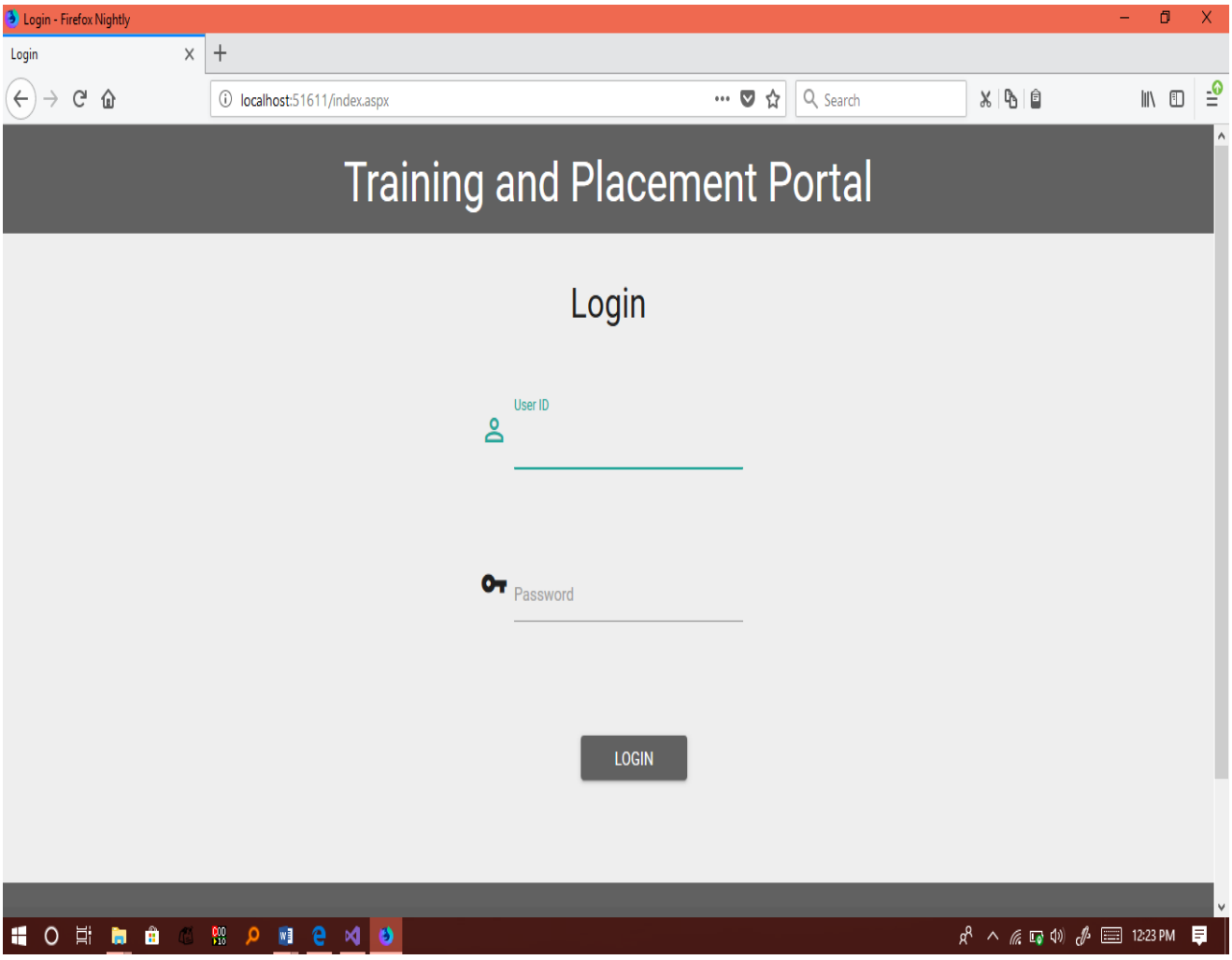
TEST CASES:

Entity	Test case	Expected output	Actual output	Result
Home.aspx	Notice generation	Success fully created and visible	Success fully Creation	PASS
Post.aspx	Message generation	Successfully Creation and visible to recipients	Successfully Creation and visible to recipients	PASS
Add_user.aspx	Upload student via excel file(.xls)	Uploaded in database	Uploaded in database	PASS
Add_company.aspx	Company name and details register	Company added	Company added	PASS
Add_schedule.aspx	To schedule upcoming company	Upcoming company added	Added upcoming company	PASS
Update_status.aspx	List of registered students	Accessible list available	Accessible list Available to update	PASS
Update_status.aspx	Export details	Export list file of registered students	List completely exported	PASS
Profile.aspx	Profile can be edited and changes can be commited	Profile modified successfully	Successfully modified profile	PASS
Global.asax	Session management	Any page can be accessible only after authentication from login wizard	Login first error message if try to access any page before login	PASS
Past.aspx	Past reports	Past year data analysis graphically and statically	Past analysis can be seen after login	PASS

7. SCREENSHOTS

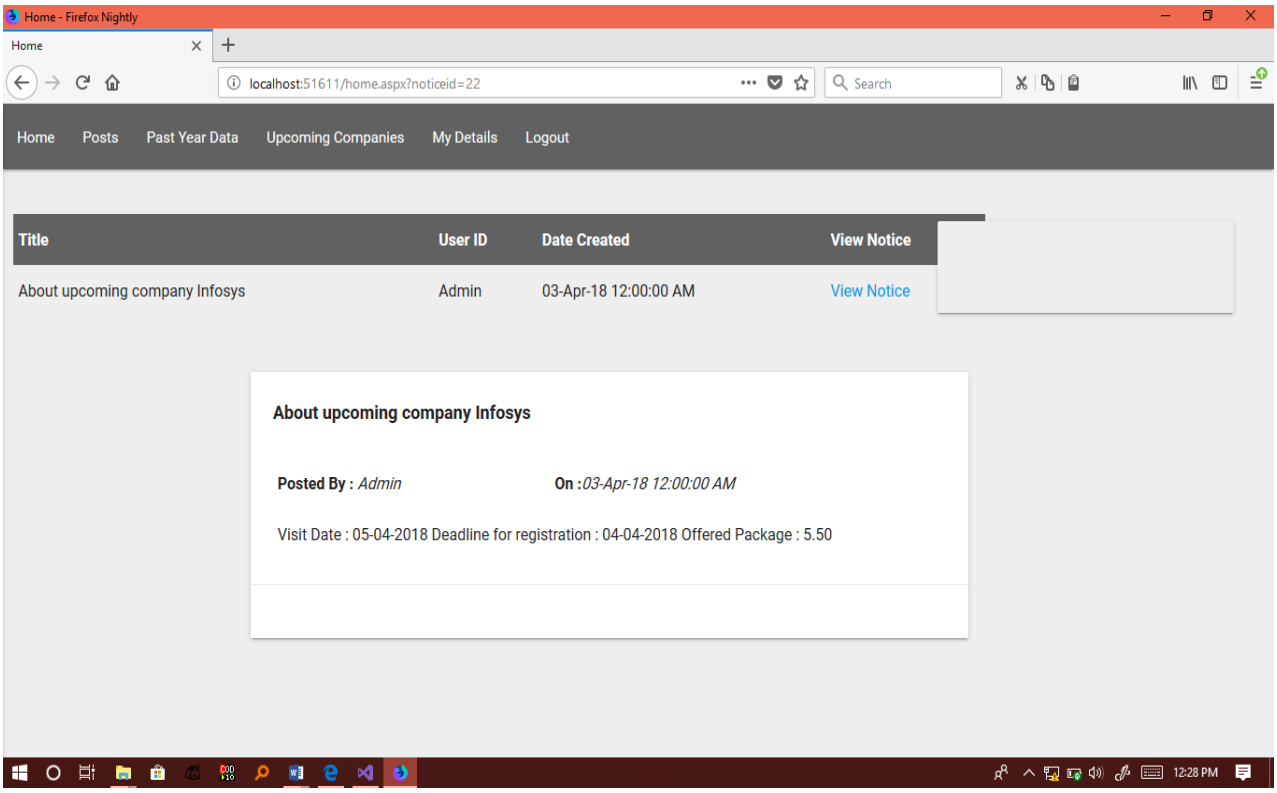
7.1 Login Page

In login page student or admin login via their proper credentials.
If credential not valid then error message shown, otherwise successfully login login into appropriate page.



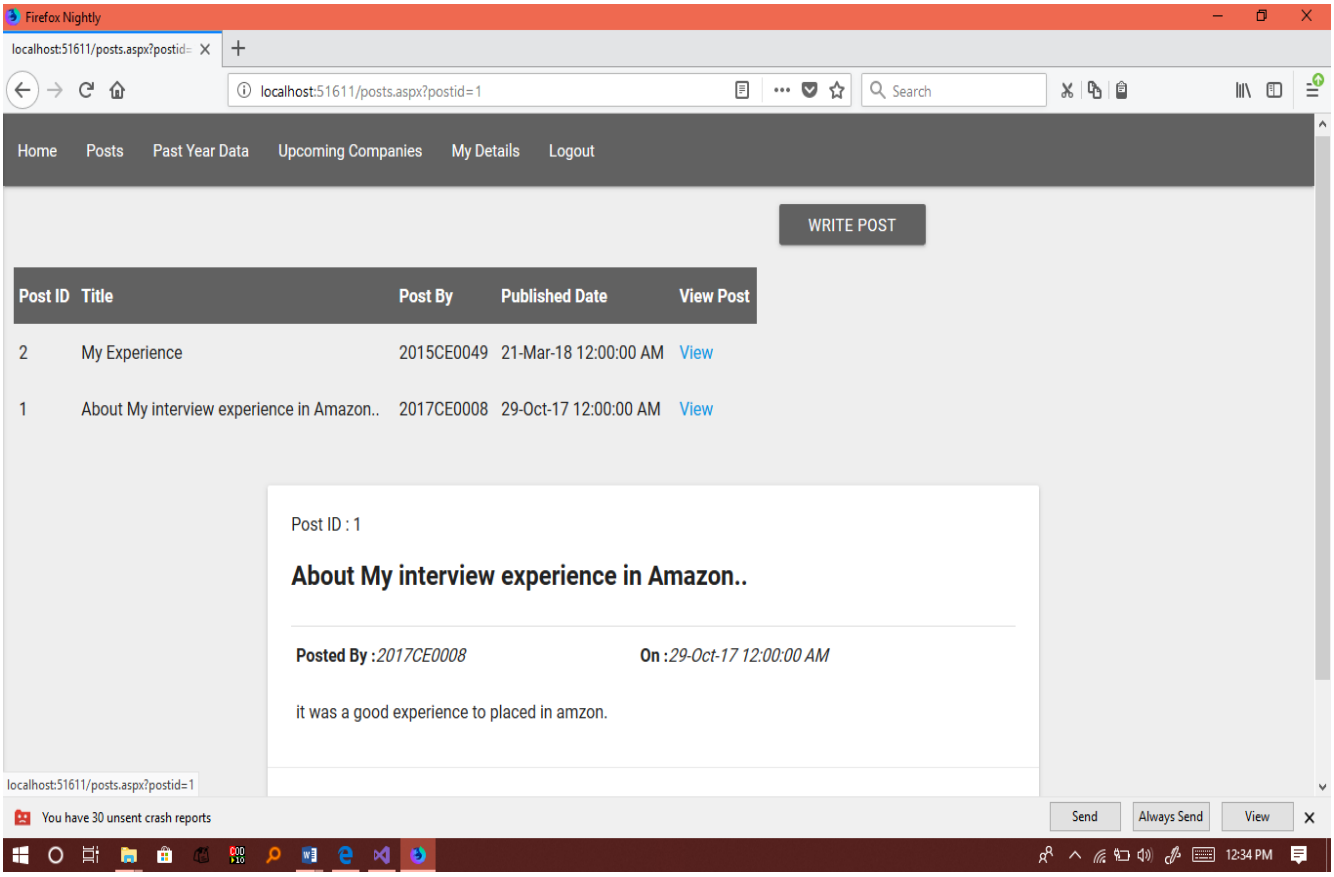
7.2 Login Page

In home page students can view notices uploaded by admin



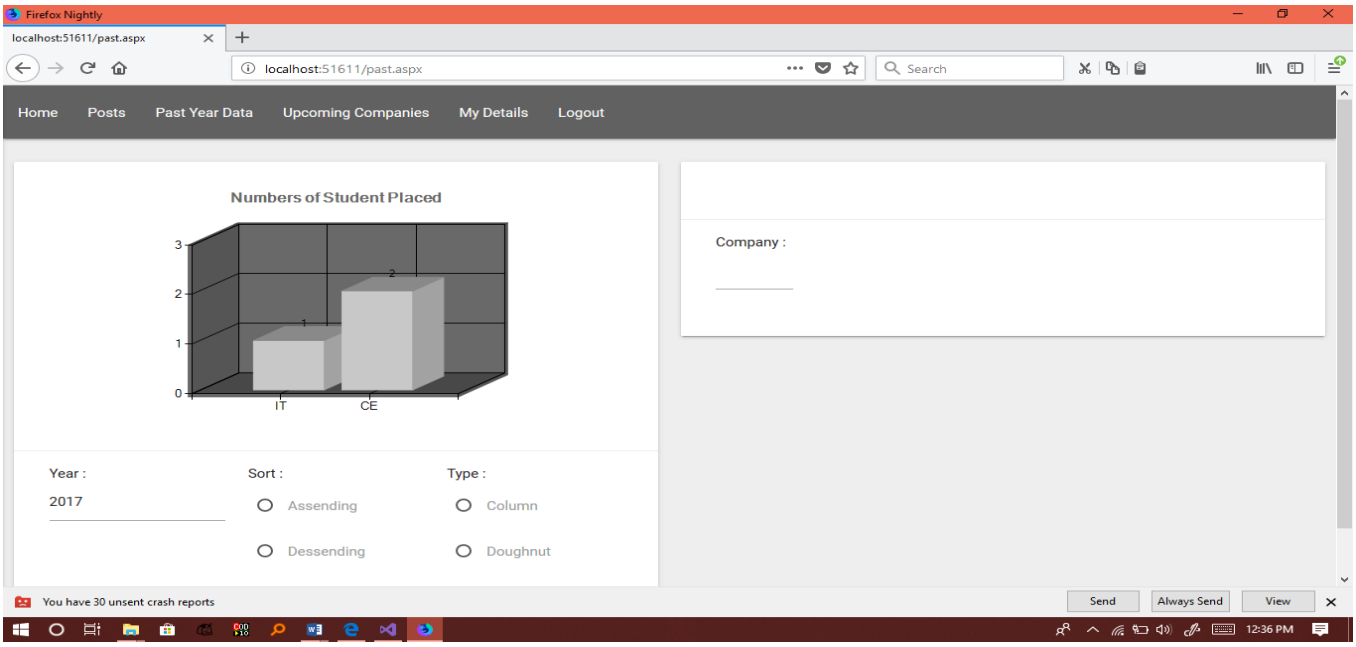
7.3 Post page

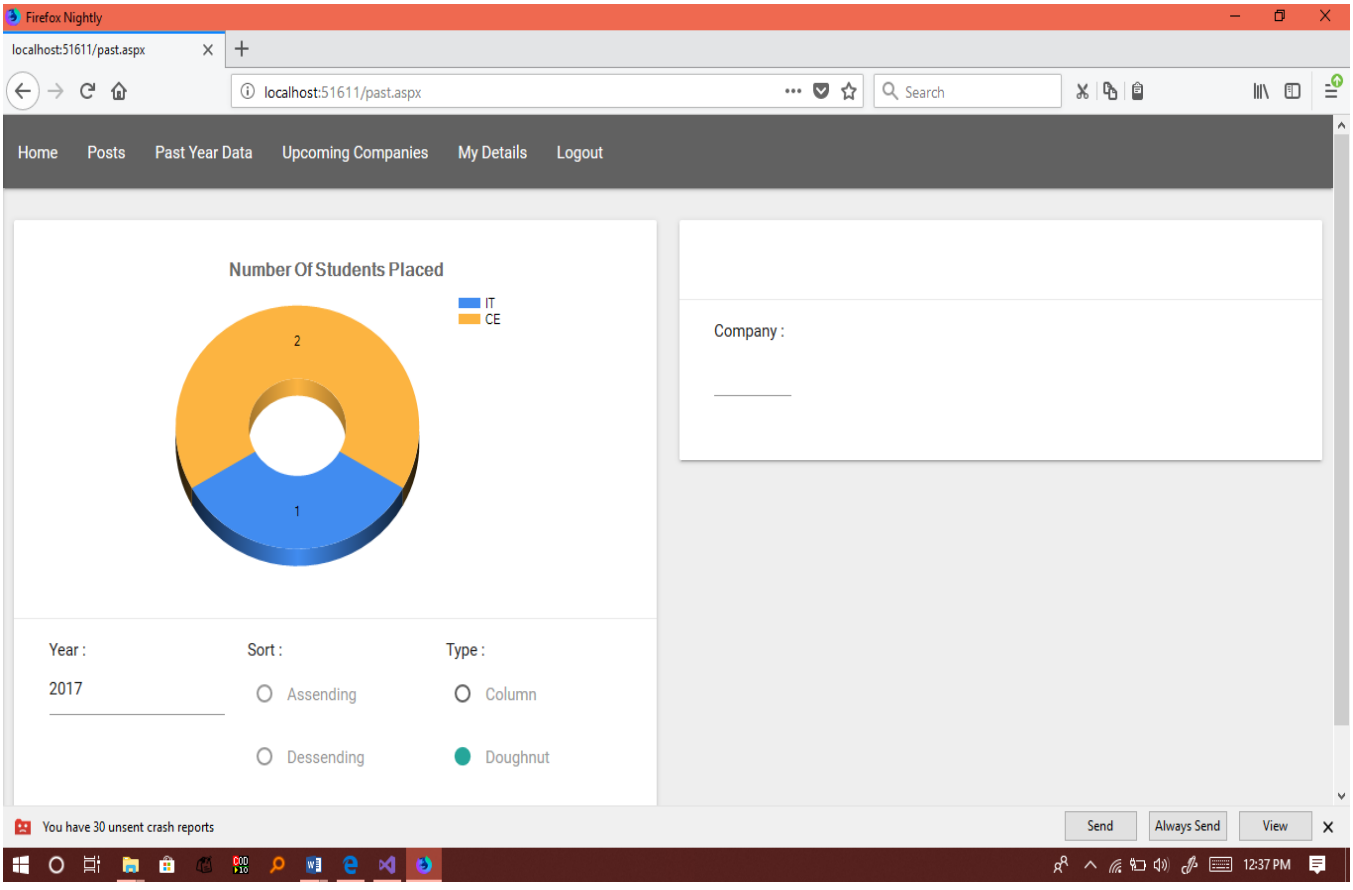
In Post page, students can see posts written by placed students.



7.4 Past page

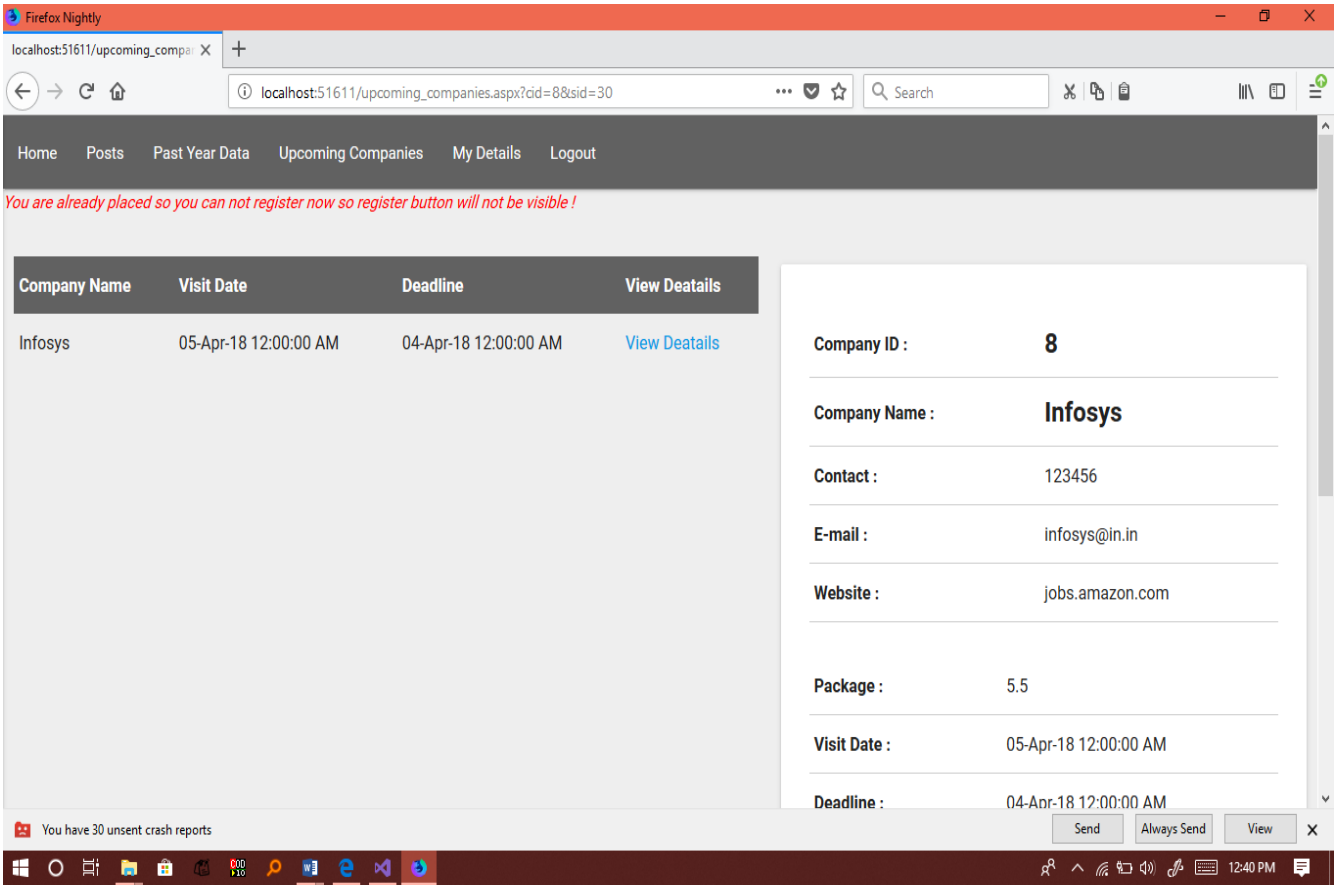
In Past page, students can see previous placement details





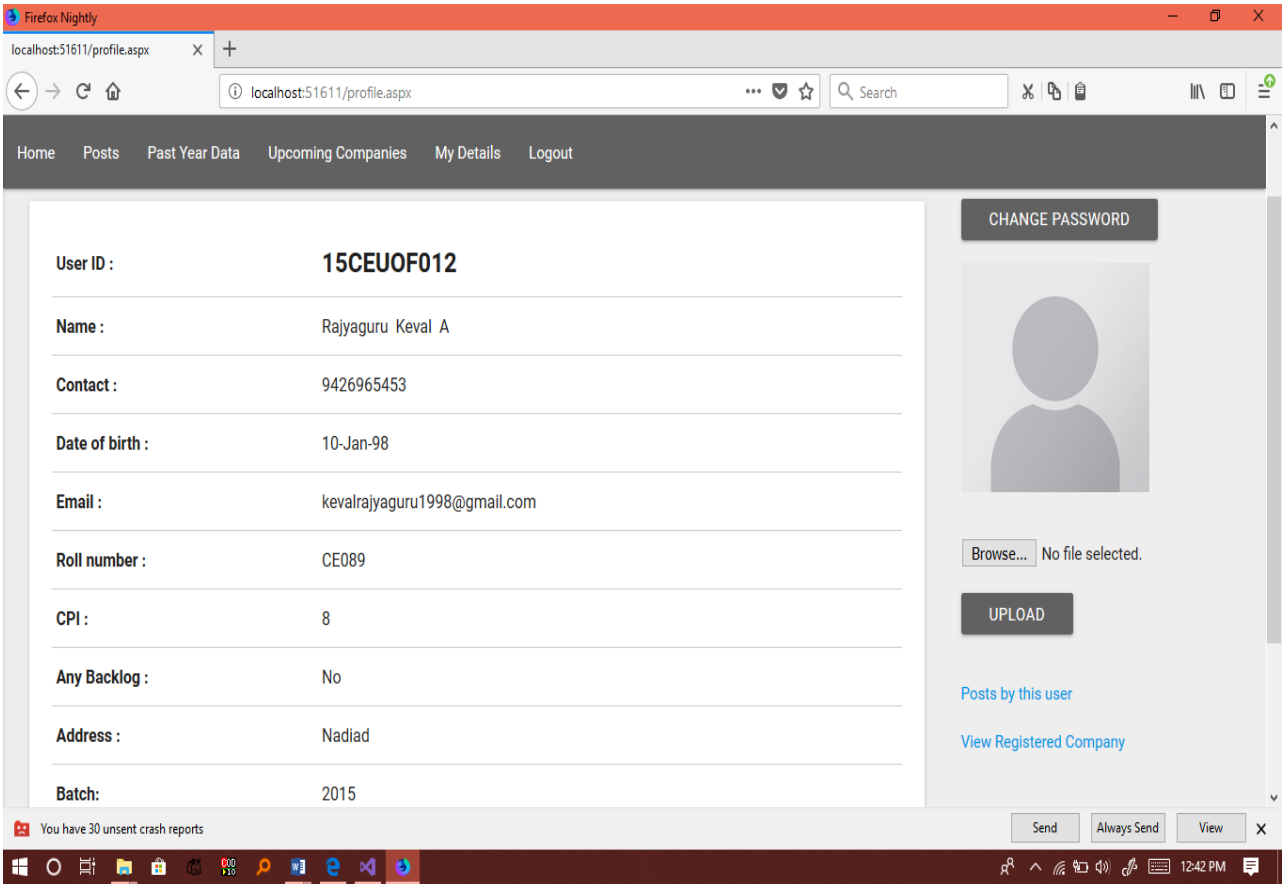
7.6 Page for register in company

Student register in company in which he/she is eligible.



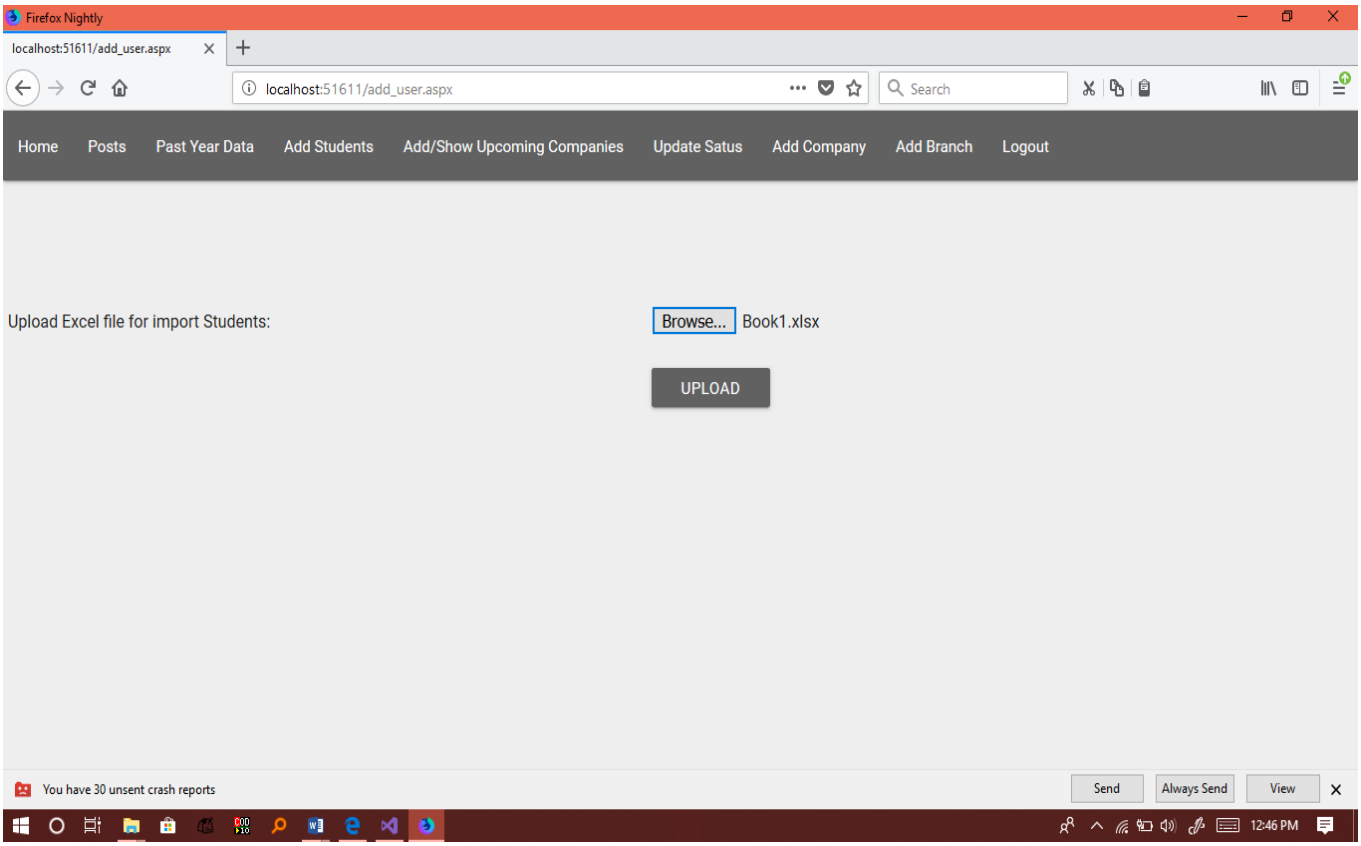
7.7 Profile page

Students can view and edit own profile.



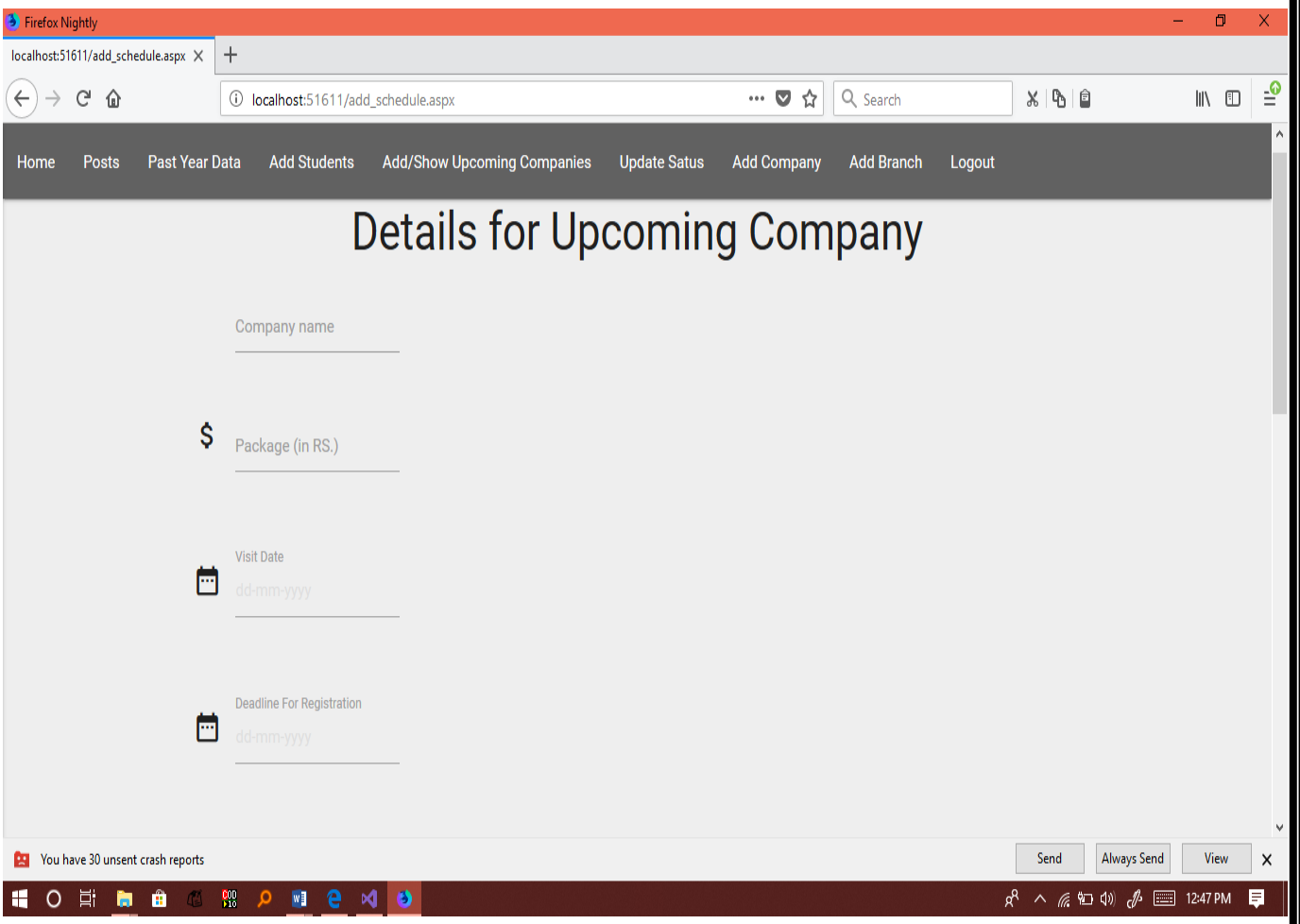
7.8 Add user page

Admin can upload details of users to database from Excel file.



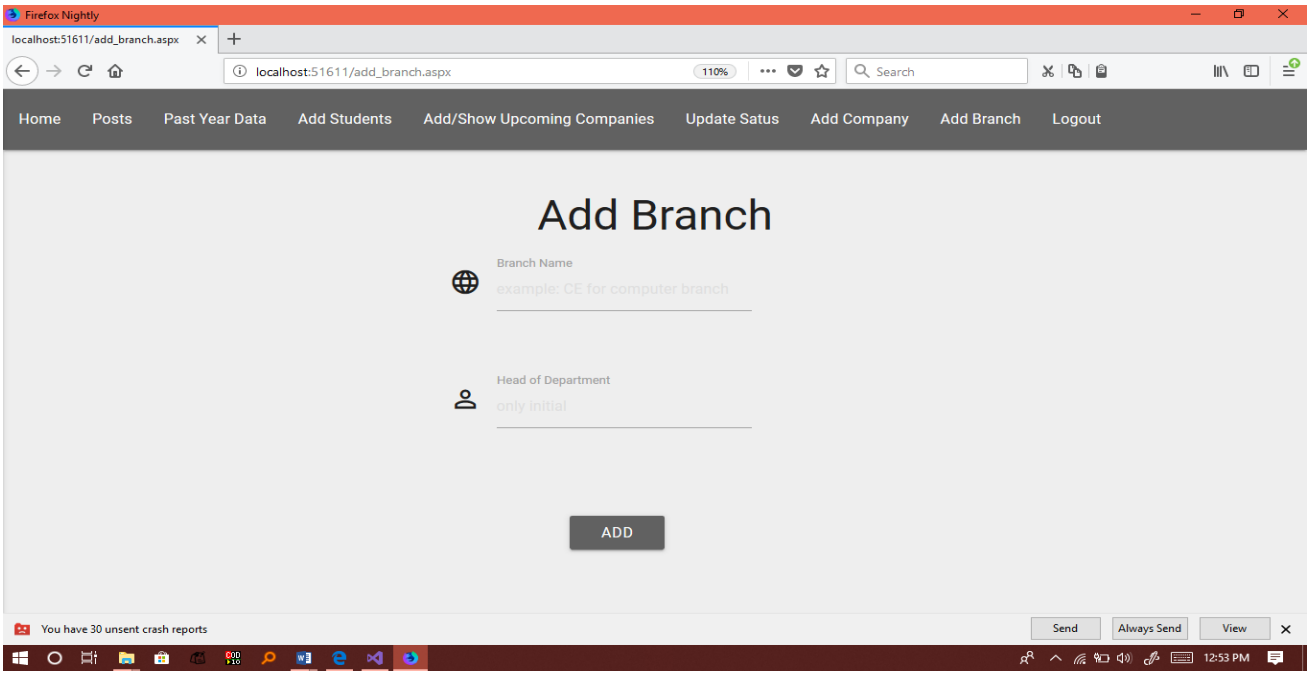
7.9 add schedule page

Admin add schedule for upcoming company that will visible to all the students.



7.10 Add branch page

Admin add Branch for university.



8. CONCLUSION

- This project Training and placement System is for making communication and some analysis little bit easy and feasible to placement and training management. System can send notice of upcoming companies for recruitment and awareness seminars and courses of trainings; and all these notices are controlled by admin of system who has special role. That includes notice generation, uploading company details, register students and companies and send mail to appropriate recipient. List of all registered students can be available for admin.

9. LIMITATIONS & FUTURE EXTENSION

Limitations

Admin cannot search students who are already placed.

Future Extension

Admin can search based on all criteria.

Companies are also allowed to register and provide notification and events to appropriate role.

10. BIBLIOGRAPHY

REFERENCES

Microsoft .Net Development site
Microsoft visual studio 2015/2017 Documentation
NuGet Package Manager for some dll files
-ExelfileReader.dll
-AjaxControlToolkit.dl
Online Standard Resources / Websites

11. MISCELLAEOUS

SOFTWARE(s)

Microsoft Visual Studio
[Community Version,
2017
With required resources]

TECHNOLOGIES

ASP.NET Support
.NET framework
C# Language Support
Entity Framework 6.0