

**PROJECT REPORT ON**  
**ERP Product for AIT as SaaS and Backend**  
**Design**

**User Defined Project**

*Submitted by*

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*Guided by*

**Prof. Dr. Satyadev Vyas**

*In fulfillment for the award of the degree*

*Of*

**BACHELOR OF ENGINEERING**

*In*

**COMPUTER ENGINEERING**

**2016-17**



**AHMEDABAD INSTITUTE OF TECHNOLOGY**  
NR. VASANTNAGAR TOWNSHIP, GOTA - OGNAJ ROAD

**Gujarat Technological University, Ahmedabad**

## AHMEDABAD INSTITUTE OF TECHNOLOGY

### CE - IT DEPARTMENT



### **CERTIFICATE**

Date:

This is to certify that the project entitled "**ERP Product for AIT as SaaS And Backend Design**" has been carried out by **Darshit Jasani** (130020107026), **Miloni Patel** (130020107065) and **Harshrajsinh Rathod** (130020107086) under my guidance in fulfilment of the degree of Bachelor of Engineering in COMPUTER ENGINEERING (8<sup>th</sup> Semester) of Gujarat Technological University, Ahmedabad during the academic year 2016-17.

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## **ACKNOWLEDGEMENT**

“No duty is more urgent than that of returning thanks”.

As they say, man's quest for knowledge never ends and in that quest, we have experienced that the theoretical and practical knowledge are essential and complimentary to each other. This type of project most certainly cannot be a one-man show. While we are feeling a great degree of satisfaction at the completion of Phase 1 of the project, this satisfaction would be ephemeral if we fail to thank and acknowledge the people who have been involved, directly or indirectly, with the project.

At this moment of our substantial growth, we cannot find enough words to express our gratitude towards those who were constantly involved with us during the project. We talk about numerous people without whose help this project would be stuck in its nascent stages.

We give the whole credit of our project to our HOD, mentor and guide, Prof. Dr. Satyadev Vyas, for his guidance whenever we met any difficulty while performing the task. His heartily interest in reviews, corrections and belief in us is one of the major reasons why we have been able to complete the first phase of the project without any difficulty.

We, the trio, would also like to thank the staff members of our department. Those subtle advices they had for us eased our way considerably going into the project. We also want to express our thanks to all the colleagues and classmates for their inputs at different times. The three of us are thankful to all of our family members who were a source of inspiration to us. Lastly, but not the least, we would like to thank Ahmedabad Institute of Technology for allowing us to design, create and pursue this project.

**Darshit Jasani**

**Miloni Patel**

**Harshrajsinh Rathod**



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Final Project Report	Completed

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Unique	<a href="#">The purpose was to offer info to the users anyplace</a>	-
Unique	<a href="#">We are working towards developing a product that runs on the PHP platform.</a>	-
Unique	<a href="#">Primary goal of the project is to develop a reliable Website that provides</a>	-
Unique	<a href="#">information to the user instead of taking the user all the way to where</a>	-
Unique	<a href="#">With the advancements in the developing tools and the likelihood of connecting more users</a>	-
Unique	<a href="#">on the PHP platform that will act as a single channel of communication between</a>	-
Unique	<a href="#">in order to stay up to date with their child's progress sometimes the</a>	-

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You don't need to wait till the website buffers. The website provides of applicable info that users need. We are working towards developing a product that runs on the PHP platform, and combines multiple entities into one. Hence making the search and surf process simpler. Primary goal of the project is to develop a reliable Website that provides an easy, uncluttered and fast access to any information you need. Talking from a user perspective, it is much better to bring the necessary information to the user instead of taking the user all the way to where the information resides. That is the central idea of our Website Need for New System With the advancements in the developing tools and the likelihood of connecting more users every day, the universities started creating their own websites. The purpose was to offer info to the users anywhere. One such example

is an implementation of ERP (Enterprise Resource Planning) tool on the PHP platform that will act as a single channel of communication between the students, teachers, administrative staff and even parents/guardians with minimal amount of interaction. Objective of the New System eliminating the need of tedious handwritten record keeping process data availability for the administrative personal right on their phone straightforward and breezy access to information for students about admissions, syllabus, news, and lot of other stuff keeping the parents / guardians posted about the progress of their children in a simpler, unfussy way completion of monetary transactions with the least

amount of hassle Identification and solution of user wishes, concerns, problems, and values smooth and intuitive use experience students have to face difficulties while searching for information online parents of the students who reside in other cities have to personally visit the college in order to stay up to date with their child's progress sometimes the students are reluctant in asking about their doubts t

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### UNDERTAKING ABOUT ORIGINALITY OF WORK

We hereby certify that we are the sole authors of this UDP project report and that neither any part of this UDP project report nor the whole of the UDP Project report has been submitted for a degree by other student(s) to any other University or Institution.

We certify that, to the best of our knowledge, the current UDP Project report does not infringe upon anyone's copyright nor violate any proprietary rights and that any ideas, techniques, quotations or any other material from the work of other people included in our UDP Project report, published or otherwise, are fully acknowledged in accordance with the standard referencing practices. Furthermore, to the extent that we have included copyrighted material that surpasses the boundary of fair dealing within the meaning of the Indian Copyright (Amendment) Act 2012, we certify that we have obtained a written permission from the copyright owner(s) to include such material(s) in the current UDP Project report and have included copies of such copyright clearances to our appendix.

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# **CHAPTER 1**

## **INTRODUCTION**

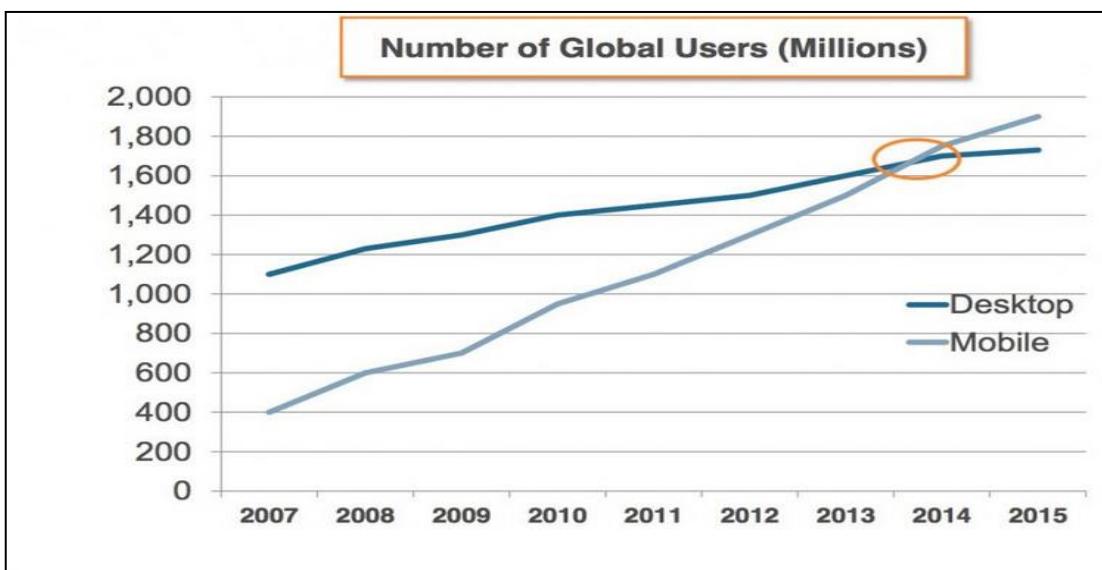
## **1. Introduction**

### **1.1 Problem Summary**

- Sometimes attendance taken in paper might be misplaced.
- Sometimes the assignments given by the faculties were unable to reach all the students or some urgent E-Books at exam time were time consuming to send it via Emails for faculties and for students to view as well.
- Parents from distant areas cannot monitor their child's academic progress as it is difficult to keep watch all the time personally.
- To view mid - sem result and overall attendance student have to visit notice board.

### **1.2. Introduction**

- The basic idea is to create a Website as SaaS which provides all the latest features which are unavailable in the existing one and easy access to the Students, Guardians, Admins and Faculties, so they can easily interact with Eachother.
- The SaaS concept is aimed for various browsers which will break the limit of platform on which we are using this website and will be useful medium between faculty, HODs, administrative staff, Guardians and the students as well.
- Let's face it, we live in a not-so-patient society. We know what we want and we want it now. Most of us can't count the times when we have sat waiting for our computers to take over one minute to boot up and have found our patience tested. Websites have taken the among consumers.



→ It's the year 2017. You don't need to wait till the website buffers. The website provides of relevant information that users need.

→ We are working towards developing product that runs on the PHP platform, and combines multiple entities into one. Hence making the search and surf process simpler. Primary goal of the project is to develop a reliable Website that provides an easy, uncluttered and fast access to any information you need. Talking from a user perspective, it is much better to bring the necessary information to the user instead of taking the user all the way to where the information resides. That is the central idea of our Website which not only delivers the info to the users, but does so without any annoying ads, popup or other hindrances.

### **1.3Aim & Objectives**

→ eliminating the need of tedious handwritten record keeping process

→ data availability for the administrative personal right on their phone

→ straightforward and breezy access to information for students about admissions, syllabus, news, and lot of other stuff

→ keeping the parents / guardians posted about the progress of their children in a simpler, uncomplicated way

→ completion of monetary transactions with the least amount of hassle

→ Identification and solution of user wishes, concerns, problems, and values

→ smooth and intuitive use experience.

→ compatibility across browsers.

→ Better co-ordination between all the four modules.

→ Minimum Core information available with reduced numbers of clicks.

→ Cal Paper work

## **1.4 Problem Specification**

- students have to face difficulties while searching for information online
- parents of the students who reside in other cities have to personally visit the college in order to stay up to date with their child's progress
- sometimes the students are reluctant in asking about their doubts to the teachers / respective faculties
- parents, in rural areas, who are not literate enough to complete the fee payment procedures themselves have to depend on third parties to do the job for them
- in emergency situations, when some vital messages are to be passed to the students in very less time, admin staff has to end up calling every student
- the students are not aware of their lack of attendance in particular subjects
- the managerial staff have to search through a pile of paper when some specific information about some particular student is needed
- failing students, who are unable to come to college, are neither able to know about the latest happening of the college nor about the upcoming exam schedules.

### **1.4.1 Input Specification**

- A mobile application will be designed that will act as a medium among the students, faculties, administrative staff and the parents.
- The amount of input that a user has to put in is minimal

### **1.4.2 Output Specification**

- Even with minimal inputs from the user, the app is supposed to function smoothly and is also supposed to bring the required information to the user quickly
- Along with providing the necessary information to the user, the application will refrain from displaying any annoying popups and advertisements.

### **1.5 Literature Review & Prior Art Search**

- HTML and CSS: Design and build Websites
- Learning Web Design: A Beginner's Guide
- Designing with Web Standards
- Don't Make Me Think: A Common Sense Approach to Web Usability
- CSS Mastery: Advanced Web Standards Solutions
- Web Design for Dummies, 2nd Edition
- Learning Web Design: A Beginners Guide
- Head First HTML with CSS & XHTML
- Creating a Web Site: The Missing Manual
- Build Your Own Website the Right Way
- Beginning Web Programming with HTML, XHTML, and CSS
- Absolute Beginner's Guide to Creating Web Pages
- Professional Web Site Design from Start to Finish
- Apart from that we referred many websites and application to gain more knowledge and to learn various things.

→ Google played an important role in this. Whenever we wanted to know something or learn something we were directly taking help of google so that we can overcome such obstacles during our project and it also helped in solving errors.

→ Although a variety of examples and other information was used to explain aspects within the scope of the appended claims, no limitation of the claims should be implied based on particular features or arrangements in such examples, as one of ordinary skill would be able to use these examples to derive a wide variety of implementations. Further, and although some subject matter may have been described in language specific to examples of structural features and/or method steps, it is to be understood that the subject matter defined in the appended claims is not necessarily limited to these described features or acts. For example, such functionality can be distributed differently or performed in components other than those identified herein. Rather, the described features and steps are disclosed as examples of components of systems and methods within the scope of the appended claims

## **1.6 Plan Of Work**

### **1.6.1 Project Plan**

→ The key to a successful project is in the planning. Creating a project plan is the first thing you should do when undertaking any kind of project.

→ Often project planning is ignored in favors of getting on with the work. However, many people fail to realize the value of a project plan in saving time, money and many problems.

→ This article looks at a simple, practical approach to project planning. On completion of this guide, you should have a sound project planning approach that you can use for future projects.

→ At the start of the project, we spent some time in calculating the amount of effort that has to be put in, the number of work hours that we need in order to complete the project within a certain interval of time. The number of people working on the project are three. So, if the work is done as three hours/day for four days/week...

$$\begin{aligned}
 &= \text{No. of people} * \text{Total weeks} * \text{Total working hours} * \text{Total working days} \\
 &= 3 * 36 * 3 * 4 \\
 &= 1296 \text{ person - hours (Total Effort)}
 \end{aligned}$$

Hence, the monthly estimation would become,

$$\begin{aligned}
 &= \text{no. of people} * \text{total weeks in a month} * \text{total working days in a week} * \\
 &\quad \text{total working hours} \\
 &= 3 * 4 * 4 * 3 \\
 &= 144 \text{ person - hours (Per Month)}
 \end{aligned}$$

This means that the project should finish within the specified time period.

## **1.6.2 Milestones & Deliverable**

### ➤ **Milestone**

→ A milestone is a significant event in the course of a project that is used to give visibility of progress in terms of achievement of predefined milestone goals.

Failure to meet a milestone indicates that a project is not proceeding to plan and usually triggers corrective action by management.

→ Milestones have no duration; they represent instantaneous events that occur throughout the project. Typical project events that are marked with milestones are:

- The completion of project phase
- The approval of a deliverable
- The completion of a scheduled review
- The completion of any activity
- The commencement of an activity

➤ **Deliverables**

→ A project management term for the quantifiable goods or services that will be provided upon the completion of a project. Deliverables can be tangible or intangible parts of the development process, and are often specified functions or characteristics.

- Project plan
- User manual
- Executable code module
- Executable code module
- Design document
- Code listing

In a project environment it is recognized good practice for all tasks to have deliverables. The assertion is that tasks with no physical outcome .

### **1.6.3 Roles & Responsibilities**

→ There are many groups of people involved in both the project and project management life cycles.

→ The project Team is the group responsible for planning and executing the project. It consists of a project Manager and a variable number of Project Team members, who are brought in to deliver their tasks according to the project schedule.

→ The executive sponsor is a manager with demonstrable interest in the outcome of the project who is ultimately responsible for securing spending

## 1.7 Material & Tools

→Wamp

→GIT

→GIMP

→Adobe Illustrator

→Microsoft Visio

### Sublime Text 3:

→Sublime text 3 is an amazing piece of software. To start, it is a clean, functional, and fast code editor. Not only does it have incredible built in features (multi-edit and vim mode), but it has support for plugins, snippets, and many other things.

### Sublime Text 3:

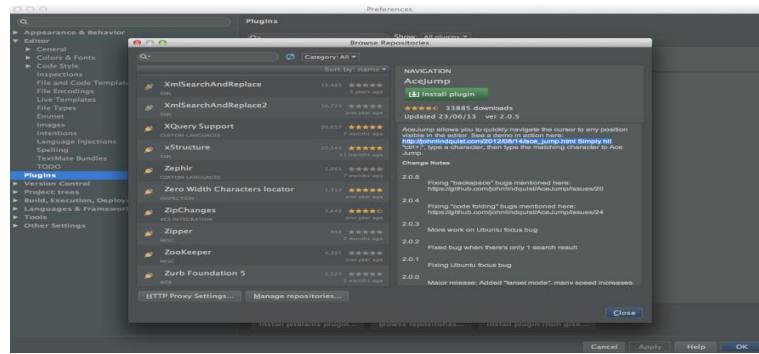


Fig:1.1

### JavaScript:

→JavaScript is a cross-platform, object-oriented scripting language. It is a small and lightweight language. Inside a host environment (for example, a web browser), JavaScript can be connected to the objects of its environment to provide programmatic control over them.

**MySQL:**

→ MySQL is an open-source relational database management system (RDBMS). The MySQL development project has made its source code available under the terms of the GNU General Public License, as well as under a variety of proprietary agreements. For proprietary use, several paid editions are available, and offer additional functionality. MySQL is a very powerful program in its own right. It handles a large subset of the functionality of the most expensive and powerful database packages. MySQL is very friendly to PHP, the most appreciated language for web development.

**PHP:**

→ PHP is a server-side scripting language designed primarily for web development but is also used as a general-purpose programming language. PHP code may be embedded into HTML code, or it can be used in combination with various web template systems, web content management systems and web frameworks. PHP code is usually processed by a PHP interpreter implemented as a module in the web server or as a Common Gateway Interface (CGI) executable. The web server combines the results of the interpreted and executed PHP code, which may be any type of data, including images, with the generated web page.

**BootStrap:**

→ Bootstrap is the most popular HTML,CSS and JS framework for developing responsive, mobile first projects on web.

**GIT:**

→ Git is a version control system that is used for software development and other version control tasks. As a distributed revision control system it is aimed at speed, data integrity, and support for distributed, non-linear workflows. As with most other distributed version control systems, and unlike most client–server systems, every Git directory on every computer is a full-fledged repository with complete history and full version-tracking capabilities, independent of network access or a central server. Like the Linux kernel, Git is free software.

**GIMP:**

→GIMP (GNU Image Manipulation Program) is a free and open-source raster graphics editor used for image retouching and editing, free-form drawing, resizing, cropping, photo-montages, converting between different image formats, and more specialized tasks. Because it is distributed freely, it is widely used as a stand-in alternative for Adobe Photoshop.

**WampServer:**

→WampServer refers to a software stack for the Microsoft Windows operating system, created by Romain Bourdon and consisting of the Apache web server, OpenSSL for SSL support, MySQL database and PHP programming language.

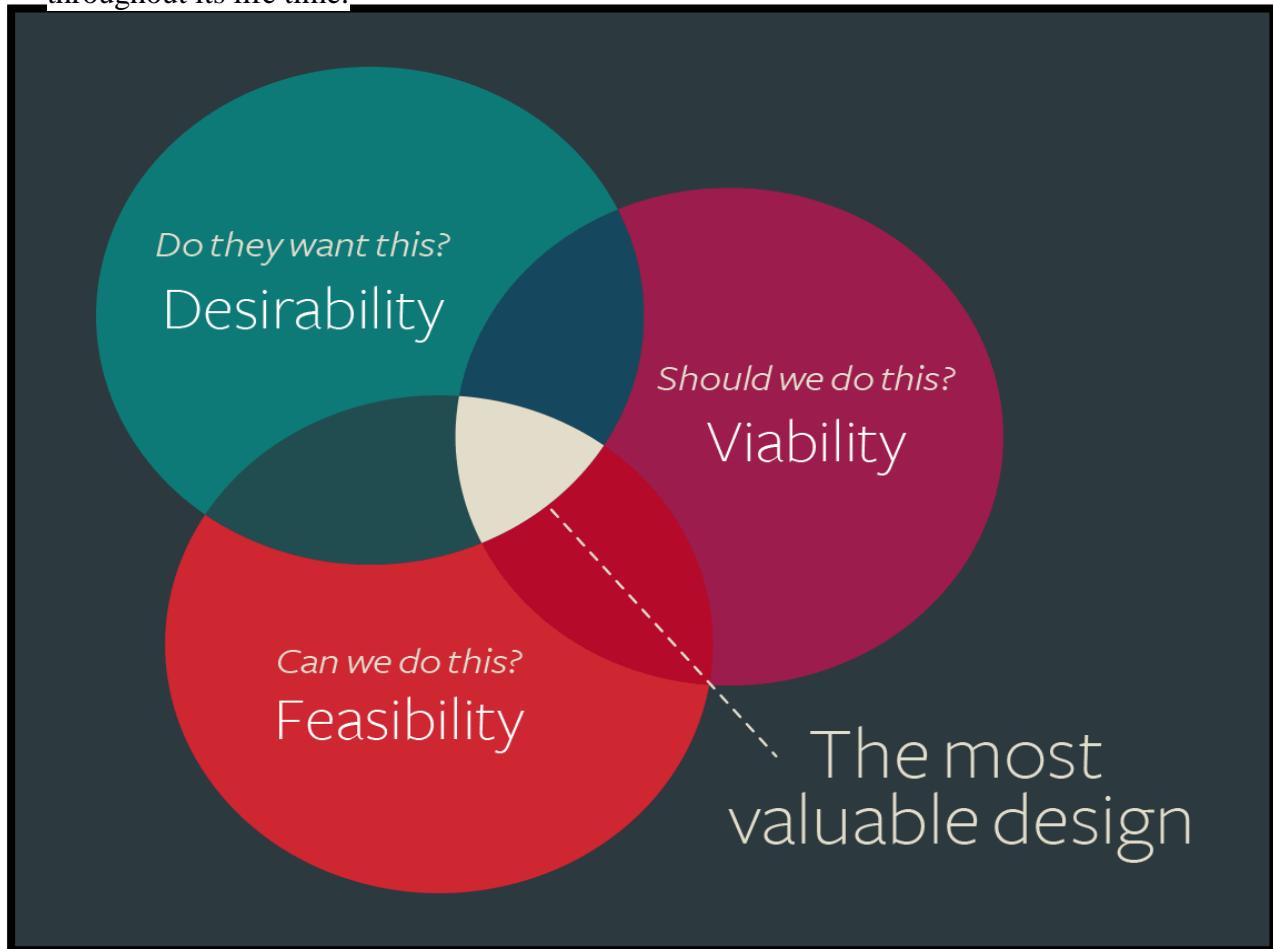
# **CHAPTER 2**

**Design: Analysis, Design Methodology  
and Implementation Strategy**

## **2. Design : Analysis, Design Methodology and Implementation Strategy**

### **2.1 Design Analysis**

- Our method for analysis and design of ERP consists of the following activities: E-R analysis, scenario analysis, architecture design, and attribute definition (Figure). First, the problem domain, where a Website is expected to operate, is analyzed by E-R analysis.
- Next, scenario analysis determines how potential users interact with the Website to accomplish their business goals. Based on the results from these analysis, the architecture of the ERP is designed. Then attributes of the Web resources that consist of the Website are defined for maintenance.
- The ERP is constructed based on the design. Finally, the ERP is tested using the scenarios and introduced into the work place. It continues to be maintained and revised after the introduction throughout its life time.



## **2.2 Implementation Strategy**

### **2.2.1 Establish Goals**

One of the first things we need to do before starting work on a Web design project is to be clear about your client or organization's goals. What are we trying to achieve with the new website or redesign? What is the website's main purpose? We asked the intended users what those are. If they or us don't know yet, then they should be discussed and agreed upon. A clear direction is essential if you want your design to have a purpose. Remember that a website isn't a piece of art; it's an interface that serves a function. That function may be to sell products, to deliver informational content, to entertain, to inform or to provide access to a service. Whatever that function is, our design must focus on fulfilling it. Goals are also important, especially if we're doing a redesign.

### **2.2.2 Identify Audience**

Who our audience is will play a big role in how your website should look and function. There are many demographics here that can influence our design, ones like age, gender, profession and technical competency. A computer game website for a younger audience needs a different style than that of a serious business journal. Usability should play a bigger role for older and less technically savvy audiences. Who our audience is will not only influence the general aesthetic of the website but will also determine a lot of smaller details, like font sizes, so make sure we're clear about who will be using our website.

### **2.2.3 Determine Logos**

A lot of designers tend to get a little too inspired by the latest trends and then implement them without thinking first about what sort of image they really should be conveying. Glossy buttons, gradients and reflective floors may work for some websites, but they may not be right for our brand. Think about colour. Think about the feel we want to achieve and emotions we wish to elicit. Our design should embody the personality and character of our brand. Everything has a brand; even if we don't sell a product or service - for example, if we run a blog - our website still

has a certain feel that makes an impression on our visitors. Decide what that impression should be.

### **2.2.4 Goal Driven Design Direction**

We've established the purpose of our website, set some goals you want to achieve, identified our audience and determined our brand image. We can now proceed to implement it. So how do we make design decisions sync with our strategy? Let us illustrate this with a likely example. Suppose our main objective is to increase the number of subscribers to our Web service. How can our design help accomplish this goal? We can see at least three things here that will make a difference:

- Make the “About” snippet on our landing page as clear and concise as possible. Our visitors must not have any confusion about the function of Our website.
- Use colour and contrast to make the registration button or link stand out. If people can't find it, then we won't get many sign-ups.
- Streamline the registration process by removing unnecessary and optional elements; people can fill those out later. If the form looks long, people may be put off of filling it in.

These are just three ways we can lead your design towards accomplishing the goal of increasing the number of sign-ups to our service. Our goals may vary, but the strategy is the same: shape and focus all the design elements towards meeting those goals. The same strategy applies to our brand and audience: design the aesthetic that best suits it. If our website's focus is entertainment, then create an “experience.” We are free to use a lot of colour and imagery to shape that experience. On the other hand, if we're designing a website that is focused on information consumption, for example, a blog or a magazine, then focus on usability and readability. Create an interface that fades away and doesn't distract the user from accessing the content.

### **2.2.5 See Results**

Once we've designed and deployed our website, it's time to measure our success. This is just as important as the first two steps because until we test how well your design performs, we won't know whether or not it is effective in fulfilling our goals. If our goal is to increase the number of sign-ups to our service, measure it and see if our changes are making a positive impact. If we want to increase the number of subscribers to our blog, check your RSS stats. If we want to increase user involvement, see if we get more comments or more forum posts or whatever else is relevant in our context.

### **2.2.6 Other Ways**

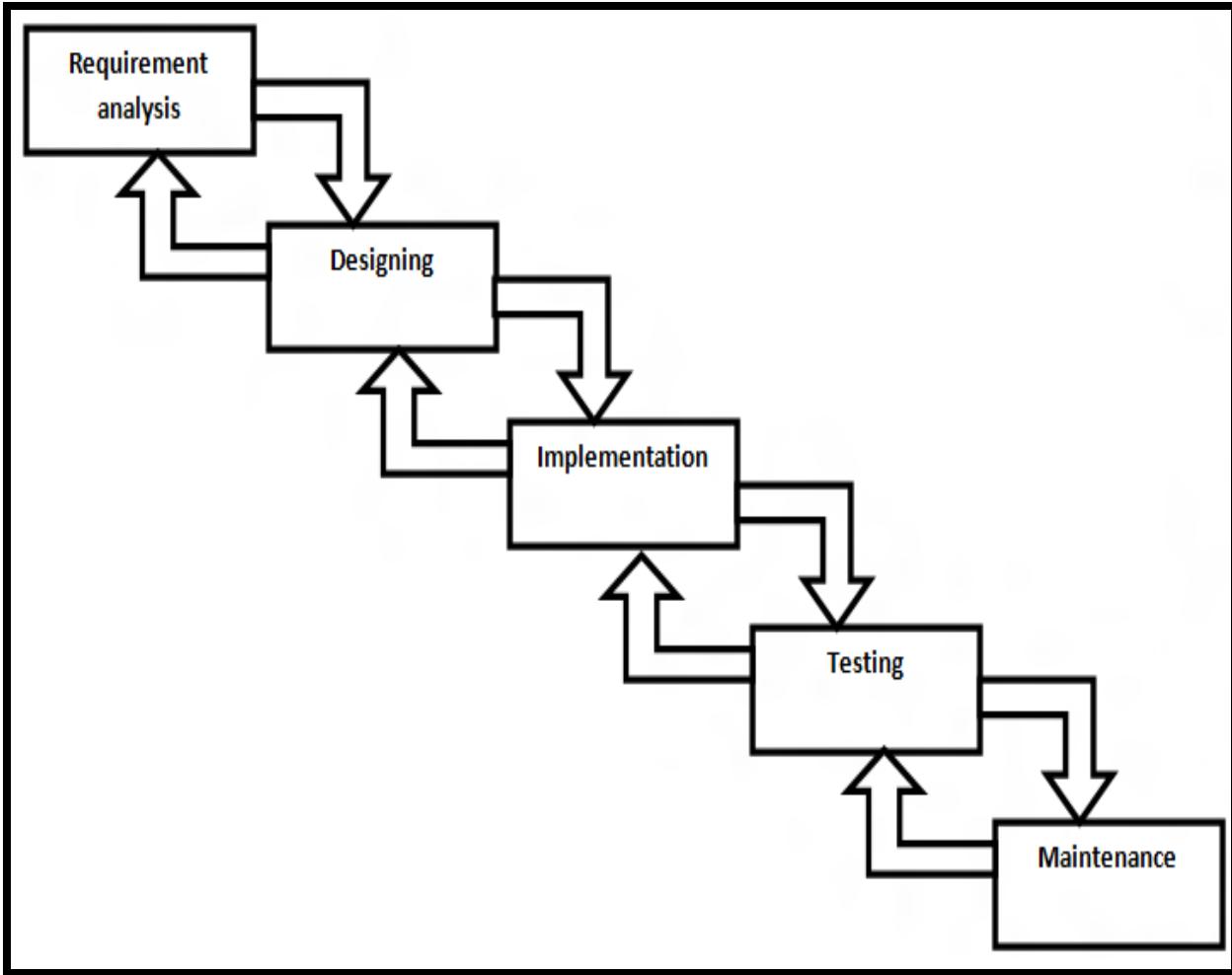
The good design should implement all the requirements that are explicitly mentioned in the analysis model. It should accommodate all the implicit requirements demanded by the customer. The design should be simple enough so that the code developer, code tester as well as those who are supporting the software will find it readable and understandable. The design should be comprehensive. That means it should provide a complete picture of software, addressing the data, functional and behavioral domains from an implementation perspective.

#### **→ Iterative Waterfall Model**

→ Iterative waterfall model describe a development method that is linear but not sequential.

→ Iterative waterfall model is consisting of five stages.

- Requirement analyses.
- Designing
- Implementation
- Testing
- Maintenance



[Figure 2.1 Interactive Model]

- Iterative waterfall model is an extensive form of classical waterfall model.
- In classical waterfall model when one phase is completely finished then after only another stage can be started and in the same way the life cycle of system goes on.
- But it has a disadvantage that, if any error occurs in the previous stage and you want to jump to that stage then that is not possible with classical waterfall model.
- To solve this problem iterative waterfall model is used. In iterative waterfall model you can jump to any stage at any time and the error can be solved.

## **2.3 AEIOU Framework**

➤ 2.3.1 Activity:

- Exams
- Events
- Admissions
- Arranging Industrial visits
- Issue Forms
- Declaring Syllabus for Mid
- Seminar
- Receiving Forms
- Organizing Events and Exams
- Workshops

➤ 2.3.2 Environment :

- Buildings
- Atmosphere
- Canteen
- Ground
- Parking Space
- Seating Arrangements
- Class Room
- Wifi Connections
- Campus
- Staff Members

➤ 2.3.3 Interaction:

- Group Discussion
- Industrial Visits
- Student-Faculty
- Between Students
- College Faculty

- Cultural Festival
- Admission Information
- Canteen, Library, Parking
- Laptops, Mobile Phones
- Feedback, Notice Boards

➤ 2.3.4 Object:

- Administration Activity
- People Using Mobiles
- Release Notice
- Reading Text Books
- Laptop
- Notice Board
- Notebooks, Textbooks
- Internet
- Storage Devices
- Router modem
- Watches and Smartphones
- Surfing Internet

➤ 2.3.5 User:

- Students Seeking Information
- Faculty Passing Information
- Parents: Student's Study Problems
- Management: Management Decisions

## **2.4 Empathy Mapping Canvas**

➤ User:

- Student
- Institute Staff
- Guardian
- Faculty

➤ Stakeholders:

- Prospective Students
- Guardians
- Faculty Staff
- Current Student
- Event Organizers
- Institute
- University

➤ Activities:

- Exam Paper
- Admission Information
- Timetables
- Results
- Placement Information
- Curriculum
- Seminars
- News
- Discussion Forums
- Forms
- Events
- College Information

- Fee Payment
  - Fee Report
  - Circulars
- Story Boarding:
- **HAPPY-1:** Amit is a BCA student. He check the website for his university regularly. That is how he stays updates about all the events of the university. This is how he found about his result that was declared. The result was pretty good according to him and he was able to find it easily. Amit was happy.
  - **HAPPY-2:** Joey is a foreign exchange student. A year ago when he wanted to come here he had no information regarding the university. That is when he visited the university website. He found all the info that he was looking for after some exploration. He found the contact information and helped himself. Joey is now happy.
  - **SAD-1:** Keyur was enrolled in a distant learning course. He did not have the facility of internet connection at his house. He had no idea about the examination dates. He was informed after the first paper that the exams had already started. Keyur was disappointed and wished that there was a way he could be informed about this on his phone. Alas! There was not. He was sad.
  - **SAD-2:** Jwalant's father got his transfer orders for a different city. So Jwalant had to change his college too. He knew that he had to submit a migration certificate for the procedure. But he had no idea about where to obtain it from. He couldn't find accurate information anywhere. He wished that there was a way to find this information from his phone. Alas! There was not. He was sad.

## 2.5 Ideation Canvas

- People:
- Students
  - Education Department
  - College Administration
  - Curricular

- Developer
- Faculty

➤ Activities:

- Course Details
- Event Update
- News Update
- Contact Information
- Check Results
- Result
- Fee Payments
- Circular
- Event Photos
- Miscellaneous Information

➤ Situation/Context/Location:

- Result Notification
- Seeking Information
- Staying Update
- Events
- Automation

➤ Props/Possible Solution:

- Applications For Mobile Platforms
- Extra Notice Boards
- Websites
- Applications
- Write Letters To all students

## **2.6 Product Development Canvas**

➤ Purpose:

- Fee Payment
- Record Receipt
- Access Study Material
- Easy And Skilful Management
- Interaction With Students
- Regular Study Updates

➤ People:

- Students
- Faculty
- Parents
- Administration

➤ Product Experience:

➤ Product Functions:

- Fee Payment
- Pop-up Notification
- Curriculum Information
- Individual User Fields

➤ Product Features:

- Easy Navigation
- Light Weight
- Emerging Searching Outlets
- Simple Handling

➤ Components:

- Internet

- Network System
  - Servers
  - Browser
  - Storage Devices
- Customer Revalidation
- Reject/Redesign/Retain

## **2.7 Business Model Canvas**

→The **Business Model Canvas** is a strategic management and lean startup template for developing new or documenting existing business models. It is a visual chart with elements describing a firm's or product's value proposition, infrastructure, customers, and finances. It assists firms in aligning their activities by illustrating potential trade-offs.

# CHAPTER 3

## Implementation

### **3.1 Implementation Environment**

→ PHP (recursive acronym for *PHP: Hypertext Preprocessor*) is a widely-used open source general-purpose scripting language that is especially suited for web development and can be embedded into HTML. PHP is an open source server side scripting language that mainly used for developing web applications and web services. The PHP is very simple for a beginner, but offers many advanced features for a professional script writer.

**Three main areas where PHP scripts are used:**

1. Server-side scripting
2. Command line scripting
3. Writing desktop applications

→ Open source: It is developed and maintained by a large group of PHP developers, this will helps in creating a support community, abundant extension library.

- Speed: It is relative fast since it uses much system resource.
- Easy to use: It uses C like syntax, so for those who are familiar with C, it's very easy for them to pick up and it is very easy to create website scripts.
- Stable: Since it is maintained by many developers, so when bugs are found, it can be quickly fixed.
- Powerful library support: You can easily find functional modules you need such as PDF, Graph etc.
- Built-in database connection modules: You can connect to database easily using PHP, since many websites are data/content driven, so we will use database frequently, this will largely reduce the development time of web apps.
- Can be run on many platforms, including Windows, Linux and Mac, it's easy for users to find hosting service providers.
- Security : Since it is open sourced, so all people can see the source code, if there are bugs in the source code, it can be used by people to explore the weakness of PHP
- Not suitable for large applications: Hard to maintain since it is not very modular.

### **3.1.1 Process Model**

- Process models are processes of the same nature that are classified together into a model. Thus, a process model is a description of a process at the type level. Since the process model is at the type level, a process is an instantiation of it. The same process model is used repeatedly for the development of many applications and thus, has many instantiations. One possible use of a process model is to prescribe how things must/should/could be done in contrast to the process itself which is really what happens. A process model is roughly an anticipation of what the process will look like. What the process shall be will be determined during actual system development. The goals of a process model are to be:

➤ **Descriptive**

- Track what actually happens during a process
- Take the point of view of an external observer who looks at the way a process has been performed and determines the improvements that must be made to make it perform more effectively or efficiently.

- Prescriptive

- Define the desired processes and how they should/could/might be performed.
- Establish rules, guidelines, and behavior patterns which, if followed, would lead to the desired process performance. They can range from strict enforcement to flexible guidance.

➤ **Explanatory**

- Provide explanations about the rationale of processes.
- Explore and evaluate the several possible courses of action based on rational arguments.
- Establish an explicit link between processes and the requirements that the model needs to fulfil.
- Pre-defines points at which data can be extracted for reporting purposes.

### **3.1.2 Purpose**

- From a theoretical point of view, the meta-process modelling explains the key concepts needed to describe what happens in the development process, on what, when it happens, and why. From an operational point of view, the meta-process modelling is aimed at providing guidance for method engineers and application developers. The activity of modelling a business process usually predicates a need to change processes or identify issues to be corrected. This transformation may or may not require IT involvement, although that is a common driver for the need to model a business process. Change management programs are desired to put the processes into practice. With advances in technology from larger platform vendors, the vision of business process models (BPM) becoming fully executable (and capable of round-trip engineering) is coming closer to reality every day.

### **3.1.3 Classification of Process Models**

- By Coverage
- There are five types of coverage where the term process model has been defined differently:
  - Activity-oriented: related set of activities conducted for the specific purpose of product definition; a set of partially ordered steps intended to reach a goal.
  - Product-oriented: series of activities that cause sensitive product transformations to reach the desired product.
  - Decision-oriented: set of related decisions conducted for the specific purpose of product definition
  - Context-oriented: sequence of contexts causing successive product transformations under the influence of a decision taken in a context.
  - Strategy-oriented: allow building models representing multi-approach processes and plan different possible ways to elaborate the product based on the notion of intention and strategy.
- By Alignment
  - Processes can be of different kinds. These definitions “correspond to the various ways in which a process can be modelled”.

- Strategic processes
- investigate alternative ways of doing a thing and eventually produce a plan for doing it
- are often creative and require human co-operation; thus, alternative generation and selection from an alternative are very critical activities
- Tactical processes
- help in the achievement of a plan
- are more concerned with the tactics to be adopted for actual plan achievement than with the development of a plan of achievement
- Implementation processes
- are the lowest level processes
- are directly concerned with the details of the what and how of plan implementation

➤ **By Granularity**

- Granularity refers to the level of detail of a process model and affects the kind of guidance, explanation and trace that can be provided. Coarse granularity restricts these to a rather limited level of detail whereas fine granularity provides more detailed capability. The nature of granularity needed is dependent on the situation at hand.
- Project manager, customer representatives, the general, top-level, or middle management require rather coarse-grained process description as they want to gain an overview of time, budget, and resource planning for their decisions. In contrast, software engineers, users, testers, analysts, or software system architects will prefer a fine-grained process model where the details of the model can provide them with instructions and important execution dependencies such as the dependencies between people.
- While notations for fine-grained models exist, most traditional process models are coarse-grained descriptions. Process models should, ideally, provide a wide range of granularity (e.g. Process Weaver).

➤ **By flexibility**

- It was found that while process models were prescriptive, in actual practice departures from the prescription can occur. Thus, frameworks for adopting methods evolved so that systems development methods match specific organizational situations and thereby improve their usefulness. The development of such frameworks is also called Situational

Method Engineering. Method construction approaches can be organized in a flexibility spectrum which generally possesses the ranging from 'low' to 'high' in the flexibility spectrum.

### **3.1.4 Project Planning**

- Project planning is perhaps one of the most important work sin developing any project. Before the project can begin estimate regarding work to be done, what resources will be required and how much time will elapse from start to the finish of a project. Planning helped us to prepare a framework that enabled to make us a reasonable estimate of all such things. Project planning is concerned with identifying and measuring activities, milestones and estimating some basic attributes of the project
- Cost: how much will it cost to develop the project?
- Duration: How long will it take to complete the development?
- Efforts: How much efforts would be required?
- The effectiveness of the subsequent planning activities is based on the accuracy of this estimation. Scheduling man power and other resources
- Staff organization and staffing plan
- Miscellaneous plans such as quality assurance plan, configuration management Plan, etc.
- Project management involves planning, monitoring and control of people, process and the events that occurs as software evolves from a preliminary concept to an operational implementation. Cost estimation is a related activity that is concerned with estimating the resources to accomplish the project plan. Software project management is an umbrella activity within software engineering. It begins any technical activity is initiated and continues throughout the definition, development and support of computer software. Project must be organized into effective teams, motivated to do high quality software work and coordinated to achieve effective communication. The product requirement must be communicated from customer to develop, partitioned into their constituted parts and position for work by the software team. The process framework is selected and appropriate software engineering paradigm is applied and set of work, task is chosen to get the work done. The project must be organized in a manner that enables the software

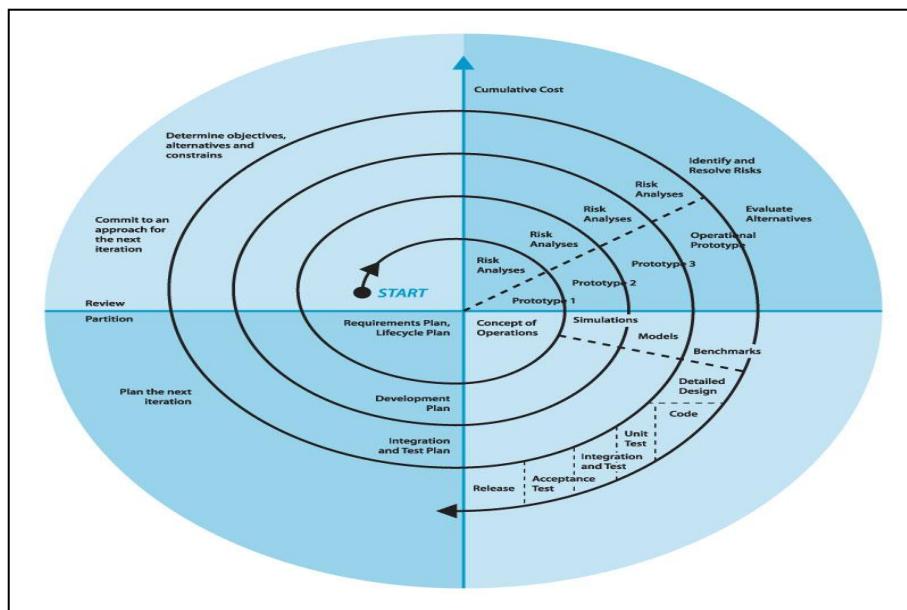
team to succeed. A project management activity encompasses measurement and matrix, estimation, risk analysis, schedules, tracking, and control.

### **3.1.5 Project Development Approach and Justification**

- Our project is developed using specific software development lifecycle. Software development approach is best suited for the project depends on the requirement and other factors. A process model is a development strategy that is used to achieve a goal that satisfies the requirements abiding by the constraints. There are many types of Software Process Model like:
- Spiral Model
- Linear Sequential Model
- RAD Model
- Incremental Model
- We have used the Spiral Model for our project.

#### **➤ Spiral Model**

- The spiral model is a software development process combining elements of both design and prototyping-in-stages, in an effort to combine advantages of top-down and bottom-up concepts. Each phase starts with a design goal and ends with the client (who may be internal) reviewing the progress thus far. Analysis and engineering efforts are applied at each phase of the project, with an eye toward the end goal of the project.



### Why we chose this Model?

- Estimates (i.e. budget, schedule, etc.) got more realistic as work progressed, because of important issues were discovered earlier.
- It was more able to cope with the (nearly inevitable) changes that our software.
- Development process was mostly expected.
- Risk involved was of high priority.
- Project might have benefited us from a mix of other development methodologies.
- Delivery date takes precedence over functionality, which can be added in later enhancements.

#### **3.1.5.1 Requirement Gathering**

- Here first the initial requirements for developing the system were gathered from various sources available externally and internally as per the proposed system.
- The process four sub activities are:
- Requirements discovery
- This is the process in which in which we are interacting with the project guide to collect the requirement for the system. We find their aspects and find what they want to do. We also collect the requirement from the user of system.
- Requirement classification and organization
- This is the process in which the requirements which we are collect from different sources are classified and organize it in specific manner.
- Requirement Prioritization and negotiation
- This is the process in which we are given the priority to each requirement. Some requirements are conflict with other requirement so on the basis of their priority we drop the requirement which has less priority.
- Requirement documentation
- This is the process in which we are doing the documentation of all the requirements.
- After finalizing the priorities of requirements we have done the documentation of the same.

### **3.1.5.2 Design**

- As per the requirements gathered from the above phase we designed the basic structure of Online Quiz System. User interface has been made more powerful and mode friendly for the user.

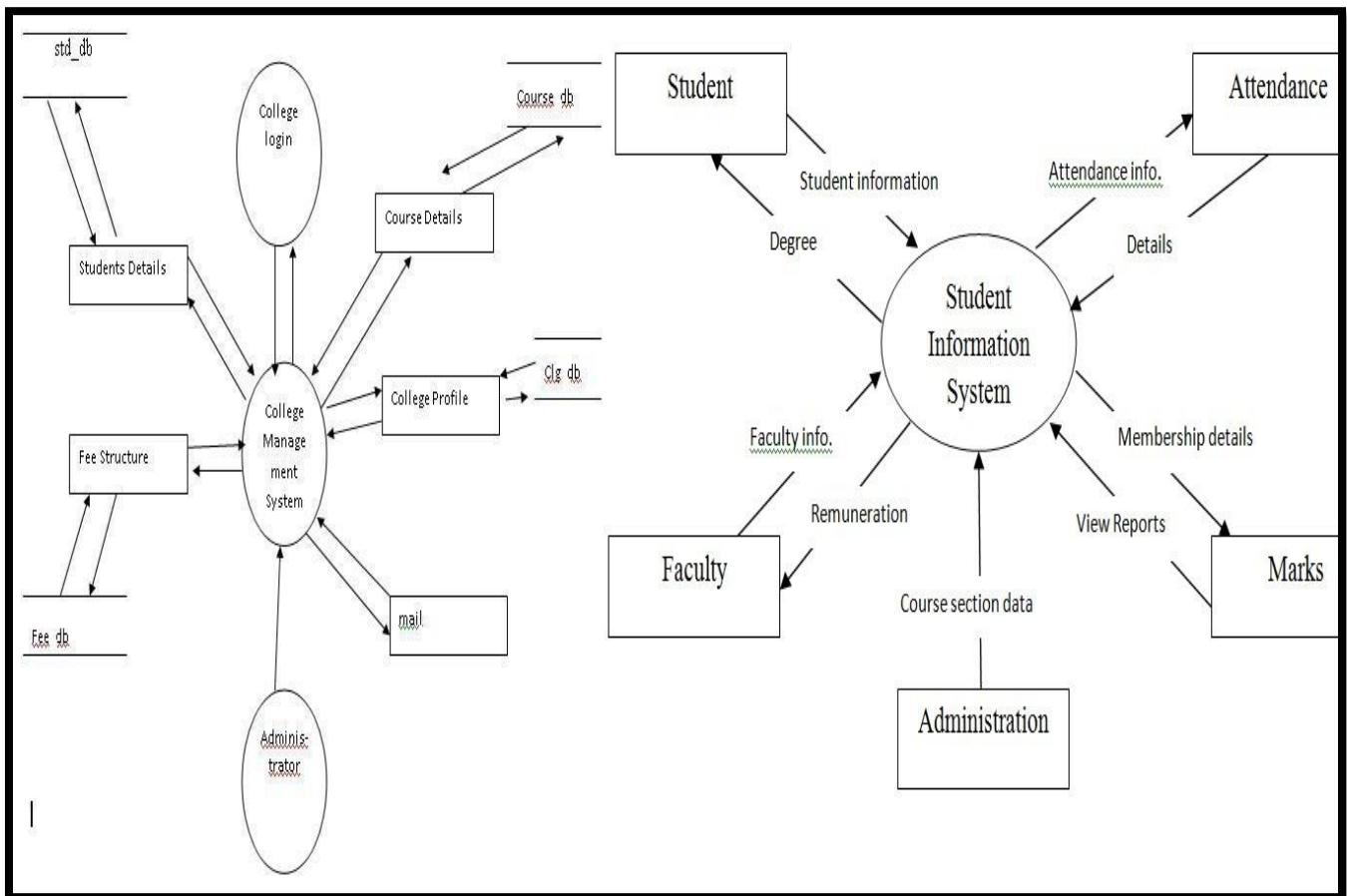
### **3.1.5.3 Development**

- This process deals with implementation of the design decided in the above phase. Using the latest development tool in designing the user interface is designed. And after developing an initial prototype of a part of the system it was handed over for evaluation awaiting corrections if any.

### **3.1.5.4 Evaluation**

- The partial prototype obtained from the above phase is now tested to check whether it fulfills the initial requirements specified in the first stage and within the boundaries as mentioned in the proposed system. If the partial prototype fails to meet the initial requirements, then it is dumped and whole process starts again from the first stage for that part of the system.

## 3.2 System Flow Diagrams



***Fig-3.1 System Flow Diagram***

### **3.3 Data Dictionary**

Database college2

Table:3.1

Table Name:Academic\_Calender

Description:Academic details

**Table structure for table academic\_calender**

Column	Type	Null	Default
academic_id	smallint(5)	No	
start_date	date	No	
end_date	date	No	
discipline_id	tinyint(2)	No	
sem_id	tinyint(2)	No	
year	varchar(10)	No	

Table:3.2

Table Name:Addr\_city\_table

Description:Address and city dropdowns

**Table structure for table addr\_city\_table**

Column	Type	Null	Default
city_id	smallint(4)	No	
state_id	tinyint(2)	No	
city_name	varchar(50)	No	

Table:3.3

Table Name:Addr\_state\_table

Description:Address state dropdowns

### **Table structure for table addr\_state\_table**

Column	Type	Null	Default
state_id	tinyint(2)	No	
state_name	varchar(50)	No	

Table:3.4

Table Name:Assignment\_Master

Description:Assignment details

### **Table structure for table assignment\_master**

Column	Type	Null	Default
assgn_id	int(4)	No	
discipline_id	tinyint(2)	No	
branch_id	tinyint(3)	No	
sem_id	tinyint(2)	No	
division_id	smallint(3)	No	
sub_id	smallint(4)	No	
ass_no	tinyint(2)	No	
link	varchar(255)	No	
assign_date	date	No	
submission_date	date	No	

Table:3.5

Table Name:Assignment\_table

Description: Uploaded Assignment's details

### **Table structure for table assignment\_table**

Column	Type	Null	Default
ass_id	int(4)	No	
discipline_id	tinyint(2)	No	
branch_id	tinyint(3)	No	
sem_id	tinyint(2)	No	
div_id	smallint(3)	No	
alloc_id	smallint(4)	No	
ass_no	char(2)	No	
link	varchar(255)	No	
assign_date	date	No	
submission_date	date	No	

Table:3.6

Table Name:Attendance\_Computer

Description:Attendance details

### **Table structure for table attendance\_computer**

Column	Type	Null	Default
timetable_id	smallint(4)	No	
student_id	varchar(12)	No	
attendance	tinyint(1)	No	

Table:3.7

Table Name:Attendance\_master

Description:Attendance details

**Table structure for table attendance\_master**

Column	Type	Null	Default
attd_master_id	int(10)	No	
teaches_id	smallint(5)	No	
batchno	varchar(3)	No	
division_id	tinyint(3)	No	
acd_cal_id	mediumint(8)	No	

Table:3.8

Table Name:Authentication\_master

Description: Authentication of four modules

**Table structure for table authentication\_master**

Column	Type	Null	Default
sr_no	mediumint(7)	No	
enr_no	varchar(12)	No	
otp	varchar(10)	No	
authentication	tinyint(1)	No	0
aes	varchar(150)	No	
device_name	varchar(35)	No	
device_id	varchar(20)	No	

Table:3.9

Table Name: batch\_master

Description:batch details

### **Table structure for table batch\_master**

Column	Type	Null	Default
batch_id	smallint(3)	No	
batch	varchar(5)	No	

Table:3.10

Table Name: branch\_master

Description:branch details

### **Table structure for table branch\_master**

Column	Type	Null	Default
branch_id	tinyint(3)	No	
discipline_id	tinyint(2)	No	
branch_code	varchar(2)	No	
branch_name	varchar(100)	No	

Table:3.11

Table Name: Circular\_info

Description:circular details

### **Table structure for table circular\_info**

Column	Type	Null	Default
circular_id	tinyint(3)	No	
topic	varchar(100)	No	

<b>link</b>	varchar(255)	No	
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Table:3.12

Table Name: discipline\_master

Description:discipline details

**Table structure for table discipline\_master**

Column	Type	Null	Default
<i>discipline_id</i>	tinyint(2)	No	
<b>discipline_code</b>	varchar(2)	No	01
<b>discipline_name</b>	varchar(40)	No	Bachelor of Engineering
<b>discipline_sname</b>	varchar(6)	No	B.E.
<b>num_of_sem</b>	tinyint(2)	No	8

Table:3.13

Table Name: division\_master

Description:division details

**Table structure for table division\_master**

Column	Type	Null	Default
<i>div_id</i>	smallint(3)	No	
<b>discipline_id</b>	tinyint(2)	No	
<b>branch_id</b>	tinyint(3)	No	
<b>sem_id</b>	tinyint(2)	No	
<b>division</b>	varchar(1)	No	

Table:3.14

Table Name: exam\_schedule\_master

Description:exam schedule details

### **Table structure for table exam\_schedule\_master**

Column	Type	Null	Default
<i>ex_sched_id</i>	smallint(4)	No	
<b>discipline_id</b>	tinyint(2)	No	
<b>branch_id</b>	tinyint(3)	No	
<b>sem_id</b>	tinyint(2)	No	
<b>division_id</b>	smallint(3)	No	
<b>exam_type_id</b>	tinyint(1)	No	
<b>sub_id</b>	smallint(4)	No	
<b>date</b>	date	No	
<b>time</b>	time	No	

Table:3.15

Table Name: exam\_type\_master

Description:exam type details

### **Table structure for table exam\_type\_master**

Column	Type	Null	Default
<i>exam_type_id</i>	tinyint(1)	No	
<b>exam_type</b>	varchar(15)	No	

Table:3.16

Table Name: faculty\_acad\_details

Description:academic details of faculties

### **Table structure for table faculty\_acad\_details**

Column	Type	Null	Default
<b>faculty_id</b>	varchar(12)	No	
<b>h_degree</b>	varchar(15)	No	
<b>degree_field</b>	varchar(15)	No	
<b>experience</b>	varchar(9)	No	

Table:3.17

Table Name: faculty\_current\_details

Description:current details of faculties

### **Table structure for table faculty\_current\_detail**

Column	Type	Null	Default
<b>fc_id</b>	int(4)	No	
<b>faculty_id</b>	varchar(12)	No	
<b>discipline_id</b>	tinyint(2)	No	
<b>branch_id</b>	tinyint(3)	No	
<b>designation</b>	varchar(30)	No	

Table:3.18

Table Name: faculty\_master

Description:faculty's details

### **Table structure for table faculty\_master**

Column	Type	Null	Default
<b>faculty_id</b>	varchar(12)	No	
<b>first_name</b>	varchar(20)	No	
<b>middle_name</b>	varchar(20)	No	
<b>last_name</b>	varchar(20)	No	
<b>gender</b>	char(1)	No	
<b>mobile_1</b>	varchar(10)	No	
<b>mobile_2</b>	varchar(10)	No	
<b>landline</b>	varchar(15)	No	
<b>email</b>	varchar(50)	No	
<b>dob</b>	date	No	
<b>local_street_add</b>	varchar(100)	No	
<b>local_area</b>	varchar(20)	No	
<b>local_city</b>	smallint(4)	No	
<b>local_state</b>	tinyint(2)	No	
<b>local_pincode</b>	int(6)	No	
<b>perm_street_add</b>	varchar(100)	No	
<b>perm_area</b>	varchar(20)	No	
<b>perm_city</b>	smallint(4)	No	
<b>perm_state</b>	tinyint(2)	No	
<b>perm_pincode</b>	int(6)	No	
<b>blood_grp</b>	varchar(3)	No	
<b>marital_status</b>	varchar(10)	No	
<b>join_date</b>	date	No	
<b>left_date</b>	date	Yes	NULL
<b>photograph</b>	varchar(255)	No	
<b>cv_link</b>	varchar(255)	No	

<b>faculty_status</b>	tinyint(1)	No	
-----------------------	------------	----	--

Table:3.19

Table Name: feedback\_criteria

Description:feedback details

**Table structure for table feedback\_criteria**

Column	Type	Null	Default
<i>f_crit_id</i>	tinyint(1)	No	
<b>criteria</b>	varchar(50)	No	

Table:3.20

Table Name: feedback\_details

Description:feedback details

**Table structure for table feedback\_details**

Column	Type	Null	Default
<b>f_det_id</b>	int(7)	No	
<b>enr_no</b>	varchar(12)	No	
<b>alloc_id</b>	smallint(4)	No	
<b>f_crit_id</b>	tinyint(1)	No	
<b>f_rating_id</b>	tinyint(1)	No	

Table:3.21

Table Name:feedback\_percent

Description:percentage details of feedback

**Table structure for table feedback\_percent**

Column	Type	Null	Default
--------	------	------	---------

<i>f_perc_id</i>	smallint(4)	No	
<i>alloc_id</i>	smallint(4)	No	
<b>f_crit_id</b>	tinyint(1)	No	
<b>total</b>	smallint(3)	No	
<b>total_perc</b>	double	No	

Table:3.22

Table Name: feedback\_rating

Description: feedback via rating system

**Table structure for table feedback\_rating**

Column	Type	Null	Default
<i>f_rating_id</i>	tinyint(1)	No	
<b>rating_value</b>	varchar(15)	No	

Table:3.23

Table Name: institute\_master

Description:institute details

**Table structure for table institute\_master**

Column	Type	Null	Default
<i>institute_id</i>	tinyint(3)	No	
<b>institute_code</b>	varchar(3)	No	002
<b>institute_name</b>	varchar(50)	No	AHMEDABAD INSTITUTE OF TECHNOLOGY
<b>est_year</b>	smallint(4)	No	2004

Table:3.24

Table Name: lecture\_type\_master

Description:lecture type details

### **Table structure for table lecture\_type\_master**

Column	Type	Null	Default
<i>lec_type_id</i>	tinyint(1)	No	
<b>lecture_type</b>	varchar(10)	No	

Table:3.25

Table Name: media\_details

Description:media details

### **Table structure for table media\_details**

Column	Type	Null	Default
<i>media_id</i>	int(6)	No	
<b>event_title</b>	varchar(50)	No	
<b>event_desc</b>	text	No	
<b>folder_link</b>	varchar(255)	No	

Table:3.26

Table Name: mid\_result

Description:midsem results details

### Table structure for table mid\_result

Column	Type	Null	Default
result_id	smallint(5)	No	
enr_no	varchar(12)	No	
sub_id	smallint(4)	No	
sub_marks	tinyint(2)	No	
exam_type_id	tinyint(1)	No	
total_marks	tinyint(2)	No	

Table:3.25

Table Name: parent\_detail\_master

Description:parent details

### Table structure for table parent\_detail\_master

Column	Type	Null	Default
enr_no	varchar(12)	No	
f_first_name	varchar(30)	No	
f_middle_name	varchar(30)	No	
f_last_name	varchar(30)	No	
f_contact	varchar(10)	No	
f_email	varchar(50)	No	
f_ed_qual	varchar(50)	No	
f_occupation	varchar(50)	No	
f_ann_income	mediumint(8)	No	
f_dob	date	No	
m_first_name	varchar(30)	No	
m_middle_name	varchar(30)	No	

<b>m_last_name</b>	varchar(30)	No	
<b>m_contact</b>	varchar(10)	No	
<b>m_email</b>	varchar(50)	No	
<b>m_ed_qual</b>	varchar(50)	No	
<b>m_occupation</b>	varchar(50)	No	
<b>m_ann_income</b>	mediumint(8)	No	
<b>m_dob</b>	date	No	
<b>g_first_name</b>	varchar(50)	No	
<b>g_middle_name</b>	varchar(50)	No	
<b>g_last_name</b>	varchar(50)	No	
<b>g_contact</b>	varchar(10)	No	
<b>g_email</b>	varchar(50)	No	

Table:3.27

Table Name: semester\_master

Description:semester details

**Table structure for table semester\_master**

Column	Type	Null	Default
<i>sem_id</i>	tinyint(2)	No	
<b>discipline_id</b>	tinyint(2)	No	
<b>sem_no</b>	char(2)	No	

Table:3.28

Table Name: staff\_department\_master

Description:staff department details

**Table structure for table staff\_department\_master**

Column	Type	Null	Default
dept_id	tinyint(2)	No	
dept_name	varchar(30)	No	

Table:3.29

Table Name: staff\_details

Description:staff details

**Table structure for table staff\_details**

Column	Type	Null	Default
staff_id	varchar(12)	No	
first_name	varchar(30)	No	
middle_name	varchar(30)	No	
last_name	varchar(30)	No	
mobile_1	varchar(10)	No	
mobile_2	varchar(10)	No	
landline	varchar(15)	No	
local_street_addr	varchar(100)	No	
local_area	varchar(50)	No	
local_city	smallint(4)	No	
local_state	tinyint(2)	No	
local_pincode	int(6)	No	
perm_street_addr	varchar(100)	No	

<b>perm_area</b>	varchar(50)	No	
<b>perm_city</b>	smallint(4)	No	
<b>perm_state</b>	tinyint(2)	No	
<b>perm_pincode</b>	int(6)	No	
<b>gender</b>	char(1)	No	
<b>email</b>	varchar(50)	No	
<b>marital_status</b>	varchar(10)	No	
<b>dob</b>	date	No	
<b>blood_grp</b>	varchar(3)	No	
<b>dept_id</b>	tinyint(2)	No	
<b>designation</b>	varchar(50)	No	
<b>edu_quali</b>	varchar(50)	No	
<b>photograph</b>	varchar(255)	No	
<b>cv_link</b>	varchar(255)	No	
<b>join_date</b>	date	No	
<b>left_date</b>	date	Yes	NULL
<b>staff_status</b>	tinyint(1)	No	

Table:3.30

Table Name: student\_current\_acad\_details

Description:current academic details of student

**Table structure for table student\_current\_acad\_details**

Column	Type	Null	Default
<i>current_acad_id</i>	int(5)	No	
<b>enr_no</b>	varchar(12)	No	

<b>discipline_id</b>	tinyint(2)	No	
<b>branch_id</b>	tinyint(3)	No	
<b>sem_id</b>	tinyint(2)	No	
<b>div_id</b>	smallint(3)	No	
<b>batch_id</b>	smallint(3)	No	
<b>elec_id</b>	smallint(4)	No	

Table:3.31

Table Name: student\_master

Description:student's personal details

**Table structure for table student\_master**

Column	Type	Null	Default
<i>enr_no</i>	varchar(12)	No	
<b>first_name</b>	varchar(30)	No	
<b>middle_name</b>	varchar(30)	No	
<b>last_name</b>	varchar(30)	No	
<b>local_street_add</b>	varchar(50)	No	
<b>local_area</b>	varchar(30)	No	
<b>local_city</b>	smallint(4)	No	
<b>local_state</b>	tinyint(2)	No	
<b>local_pincode</b>	varchar(6)	No	
<b>perm_street_add</b>	varchar(50)	No	
<b>perm_area</b>	varchar(30)	No	
<b>perm_city</b>	smallint(4)	No	
<b>perm_state</b>	tinyint(2)	No	
<b>perm_pincode</b>	varchar(6)	No	
<b>gender</b>	char(1)	No	

<b>DOB</b>	date	No	
<b>blood_grp</b>	varchar(3)	No	
<b>mobile_student</b>	varchar(10)	No	
<b>mobile_parent</b>	varchar(10)	No	
<b>landline_no</b>	varchar(15)	No	
<b>email</b>	varchar(50)	No	
<b>admit_date</b>	date	No	
<b>category</b>	varchar(10)	No	
<b>student_type</b>	varchar(10)	No	
<b>admit_type</b>	varchar(10)	No	
<b>photograph</b>	varchar(255)	No	
<b>student_status</b>	tinyint(1)	No	

Table:3.32

Table Name:student\_prev\_acad\_details

Description:previous academic details of students

**Table structure for table student\_prev\_acad\_details**

Column	Type	Null	Default
<b>enr_no</b>	varchar(12)	No	
<b>ssc_board</b>	varchar(100)	No	
<b>ssc_medium</b>	varchar(15)	No	
<b>ssc_school</b>	varchar(60)	No	
<b>ssc_result</b>	double	No	
<b>ssc_pass_year</b>	year(4)	No	
<b>h_ed_type</b>	varchar(8)	No	
<b>h_ed_board</b>	varchar(100)	No	
<b>h_ed_medium</b>	varchar(15)	No	

<b>h_ed_inst</b>	varchar(100)	No	
<b>h_ed_result</b>	double	No	
<b>h_ed_pass_year</b>	year(4)	No	

Table:3.33

Table Name: subject\_master

Description:subject details

**Table structure for table subject\_master**

Column	Type	Null	Default
<b>sub_id</b>	smallint(4)	No	
<b>sub_code</b>	mediumint(8)	No	
<b>sub_name</b>	varchar(100)	No	
<b>sub_acr</b>	varchar(6)	No	
<b>sub_credit</b>	tinyint(2)	No	
<b>sub_type</b>	enum('Primary', 'Elective')	No	
<b>sub_link</b>	varchar(255)	No	
<b>sub_status</b>	tinyint(1)	No	
<b>sem_id</b>	tinyint(2)	No	
<b>discipline_id</b>	tinyint(2)	No	
<b>branch_id</b>	tinyint(3)	No	

Table:3.34

Table Name: sub\_alloc\_master

Description:subject allocation details

### **Table structure for table sub\_alloc\_master**

Column	Type	Null	Default
alloc_id	smallint(4)	No	
discipline_id	tinyint(2)	No	
branch_id	tinyint(3)	No	
faculty_id	varchar(12)	No	
sub_id	smallint(4)	No	

Table:3.35

Table Name: timeline\_master

Description:timeline details

### **Table structure for table timeline\_master**

Column	Type	Null	Default
timeline_id	mediumint(6)	No	
timetable_id	smallint(4)	No	
topic	text	No	
link	text	No	
date	date	No	
faculty_id	varchar(12)	No	

Table:3.36

Table Name: user\_master

Description:user details

### **Table structure for table user\_master**

Column	Type	Null	Default
<i>user_id</i>	tinyint(1)	No	
<b>user_type</b>	varchar(10)	No	

### 3.4 Class Diagram/ER Diagram

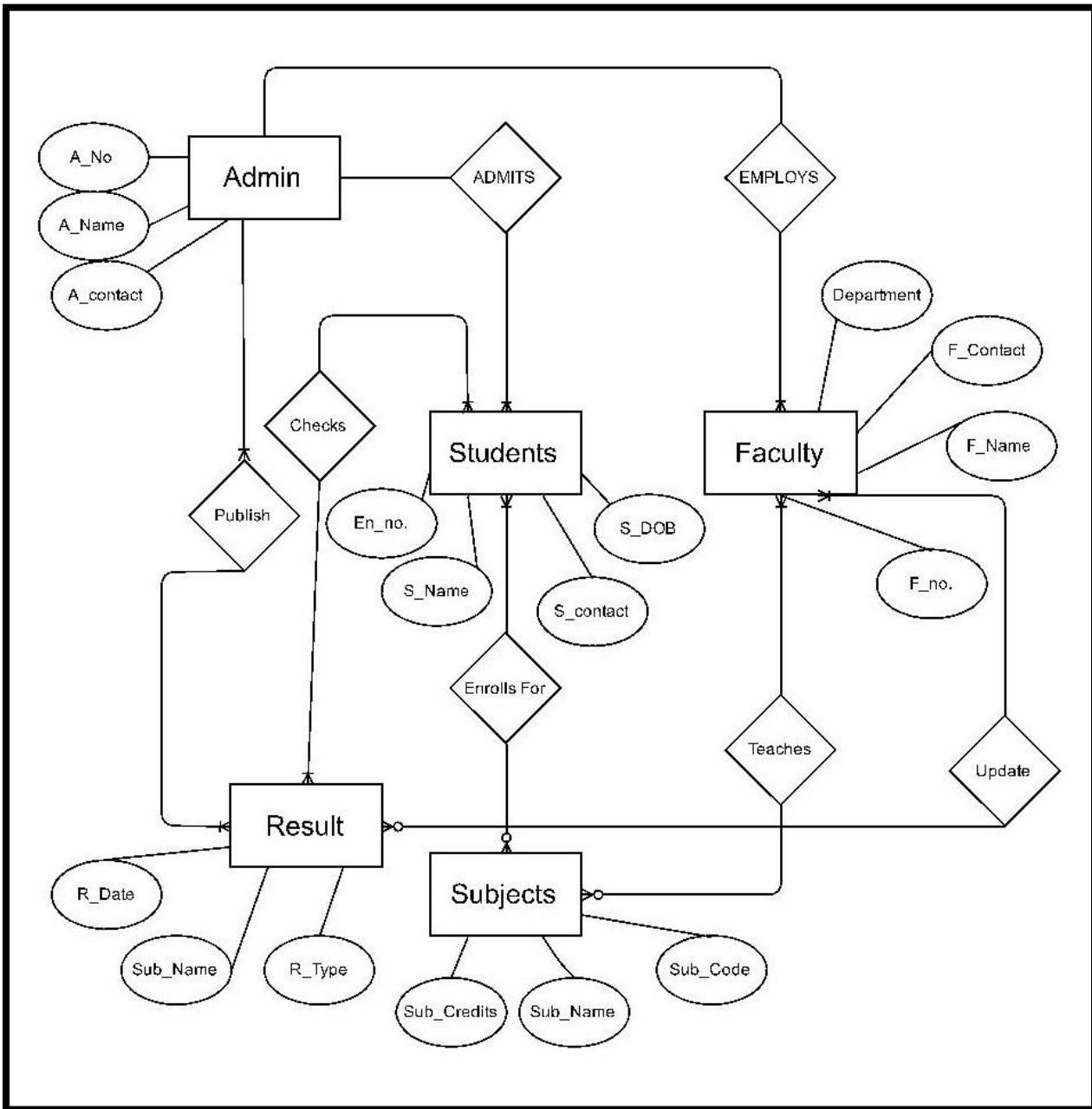
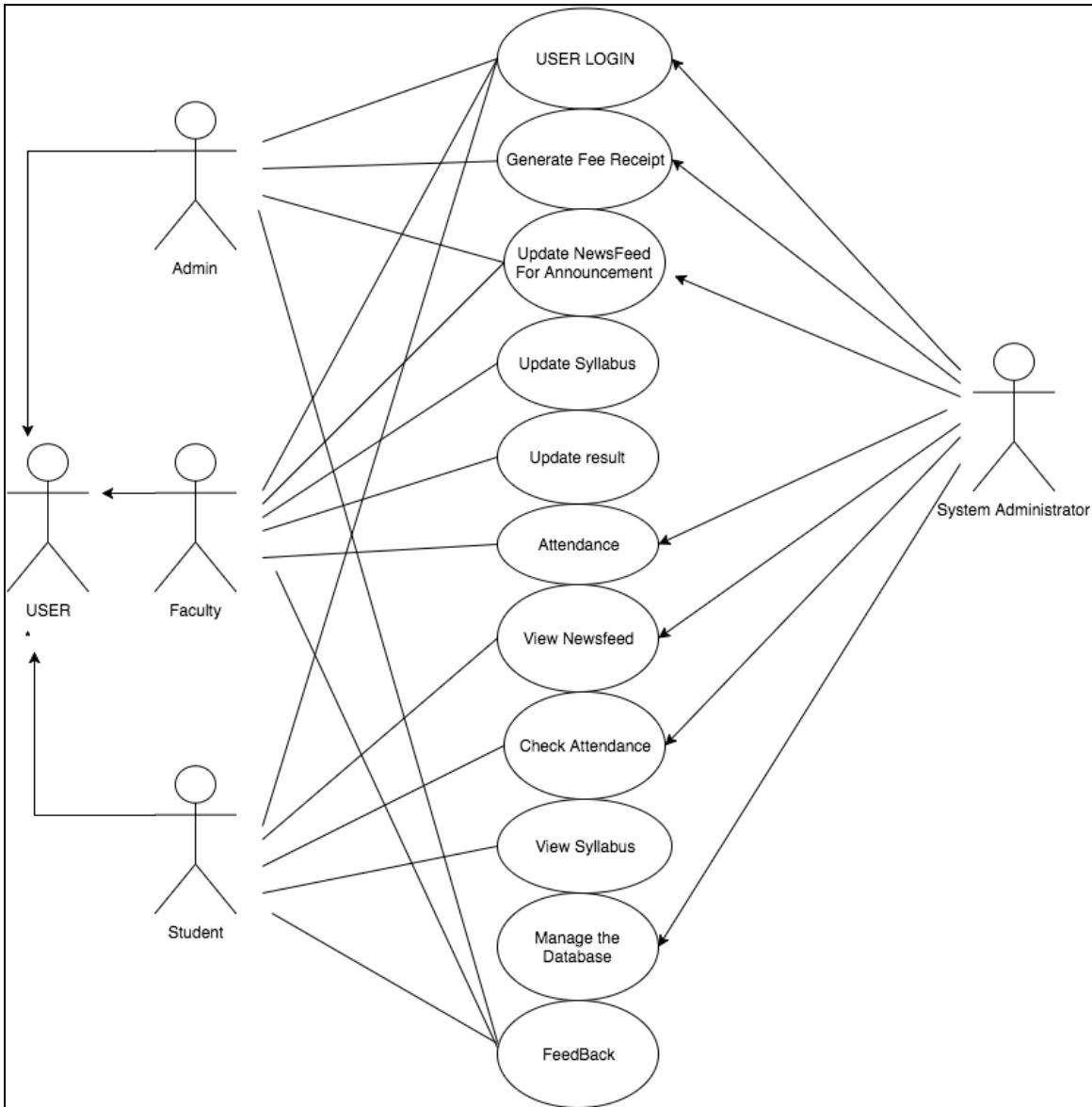


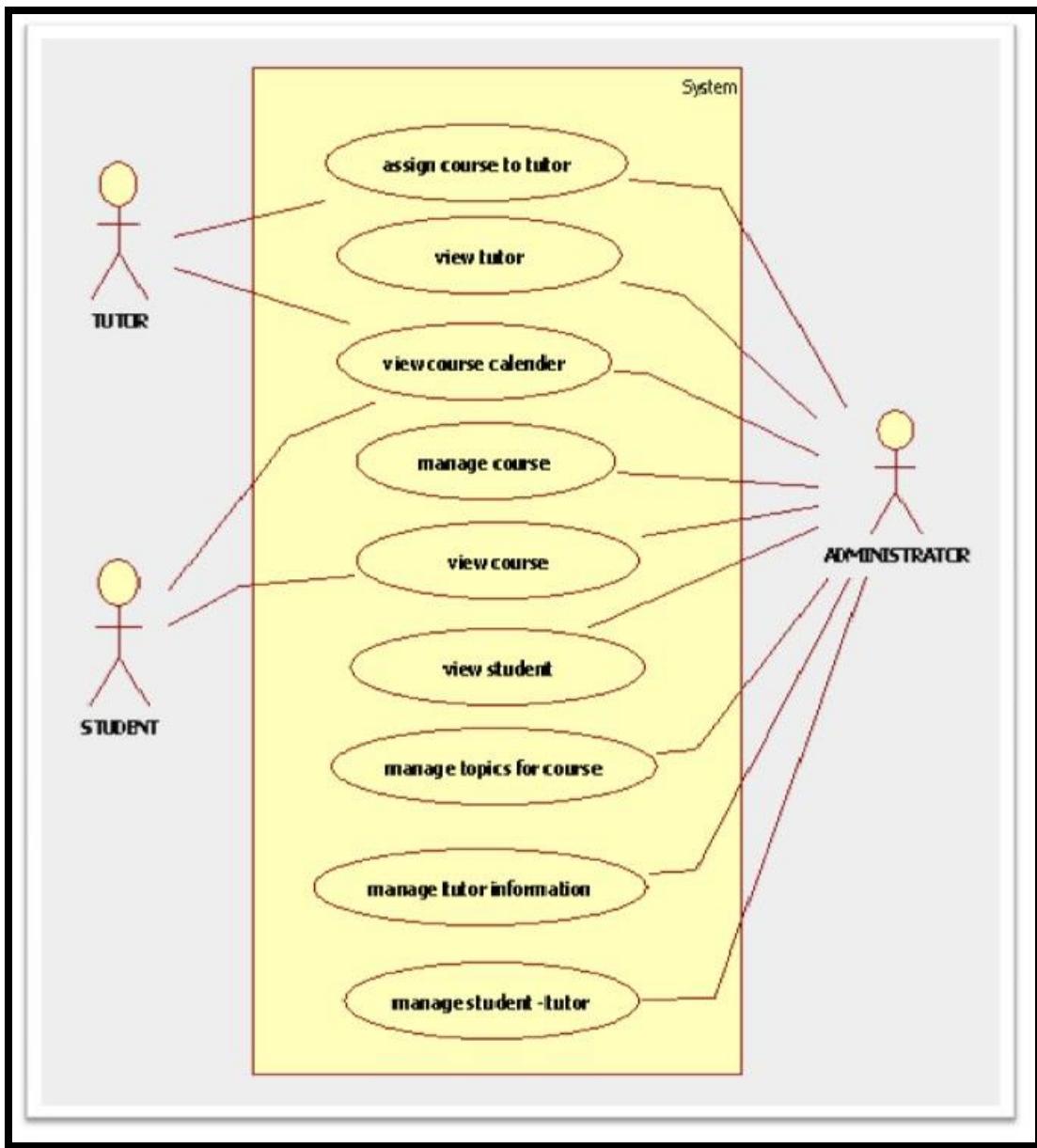
Fig-3.2 ER Diagram

### 3.5 UML Diagrams



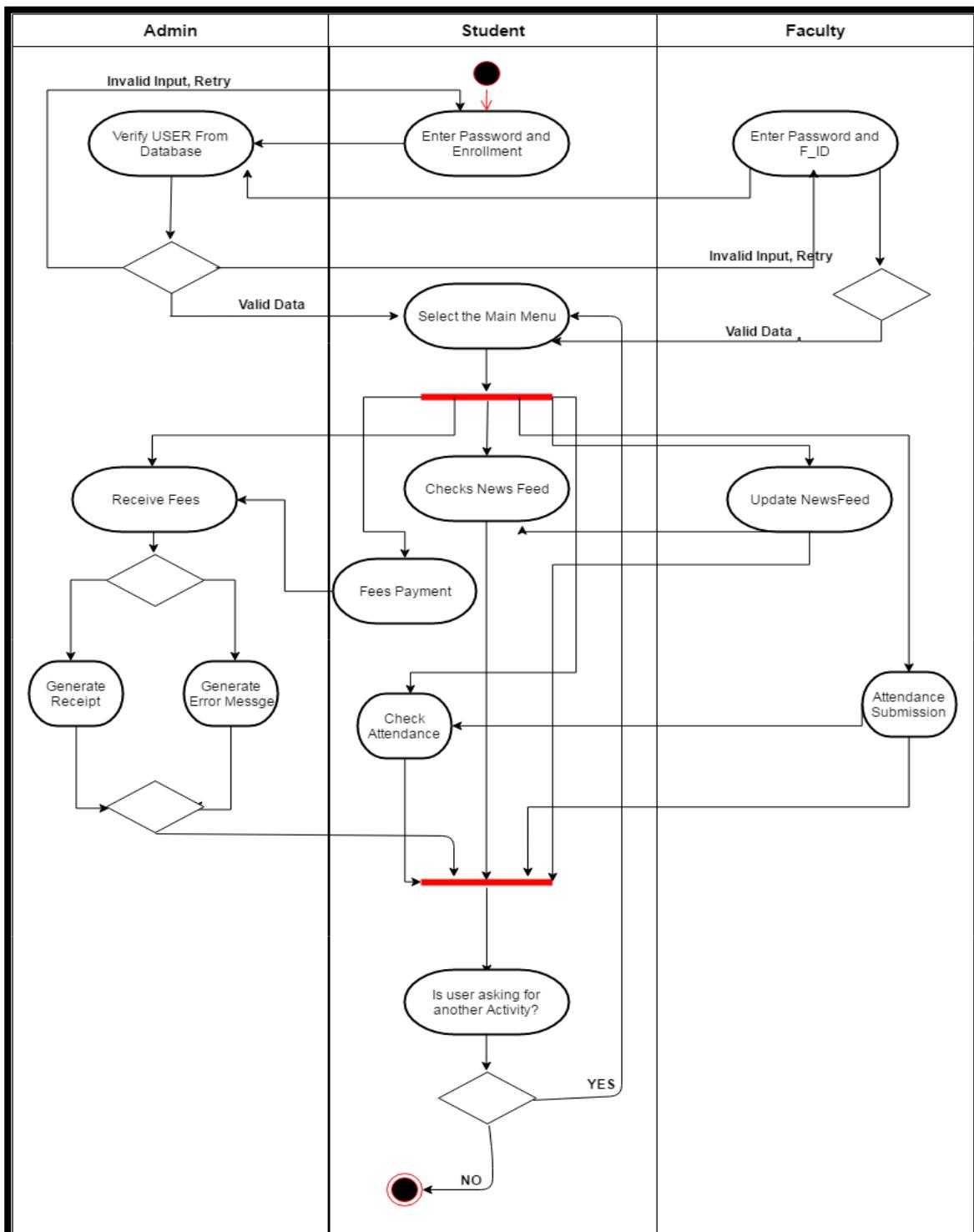
*Fig-3.3 UML Diagram*

### 3.5.1 Use Case Diagram



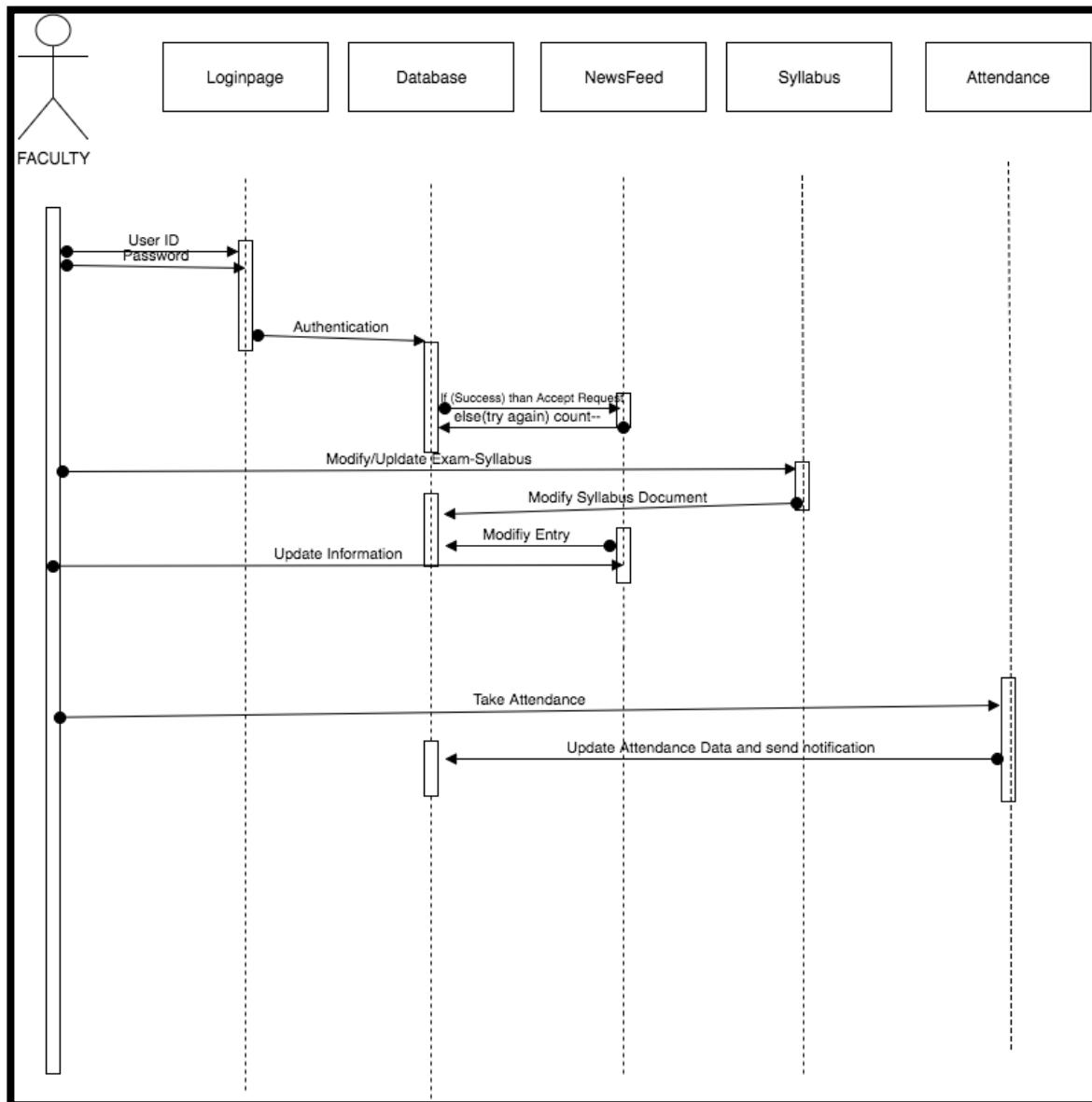
*Fig-3.4 Use Case Diagram*

### 3.5.2 Activity Diagram



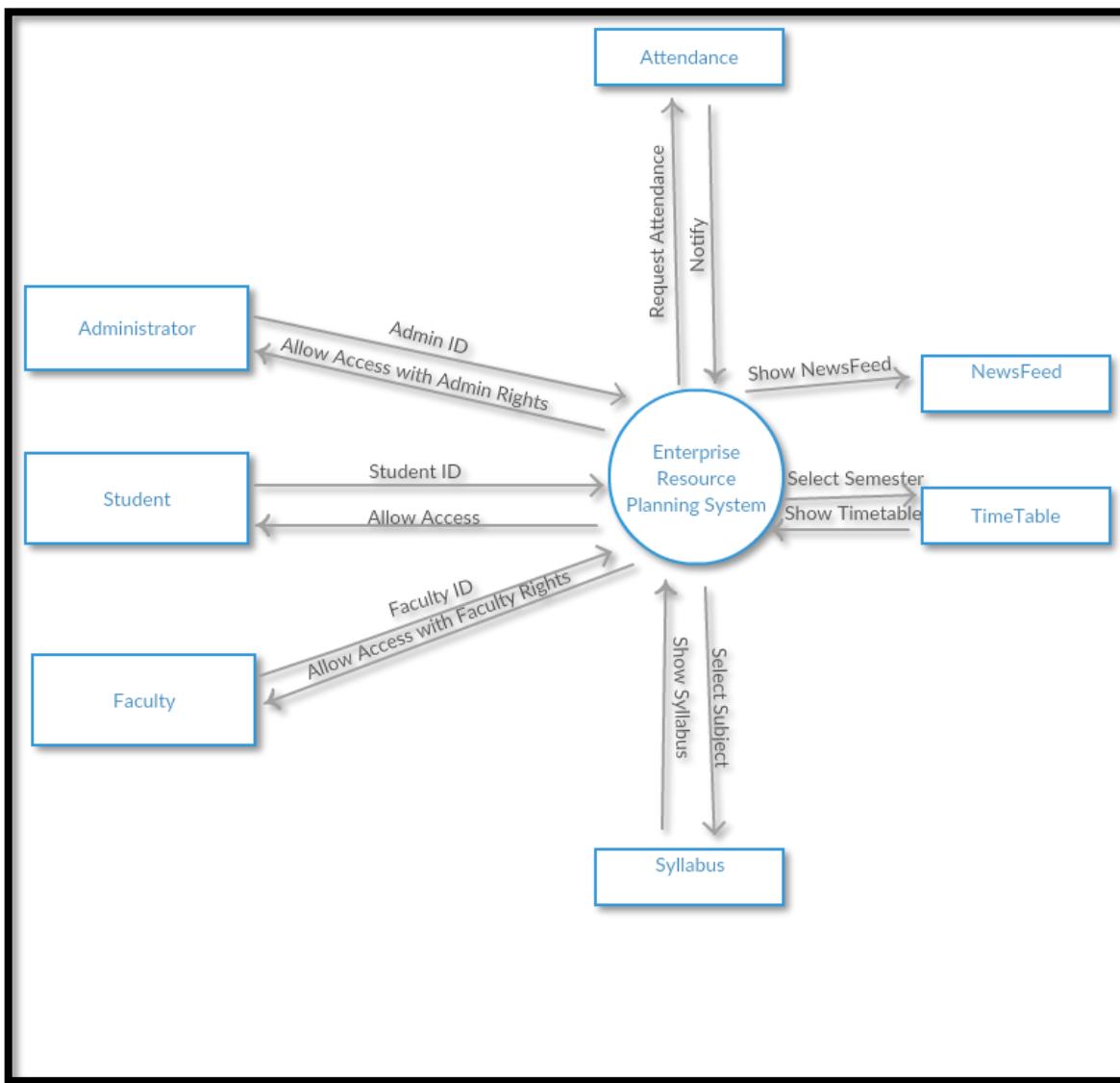
*Fig-3.5 Activity Diagram*

### 3.5.3 Sequence Diagram



*Fig-3.6 Sequence Diagram*

### 3.5.4 Context Diagram



*Fig-3.7 Context Diagram*

### 3.5.5 Collaboration Diagram

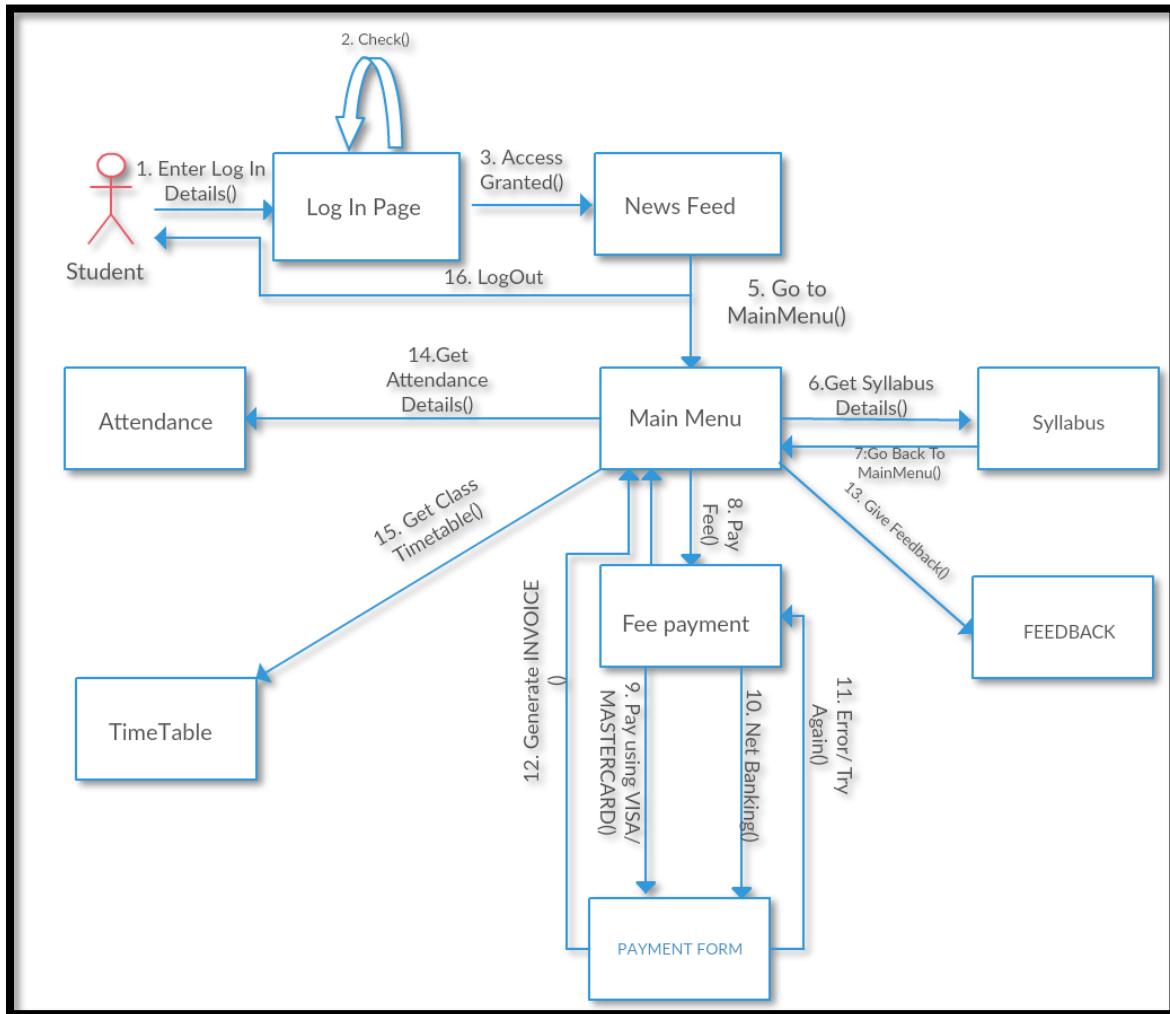
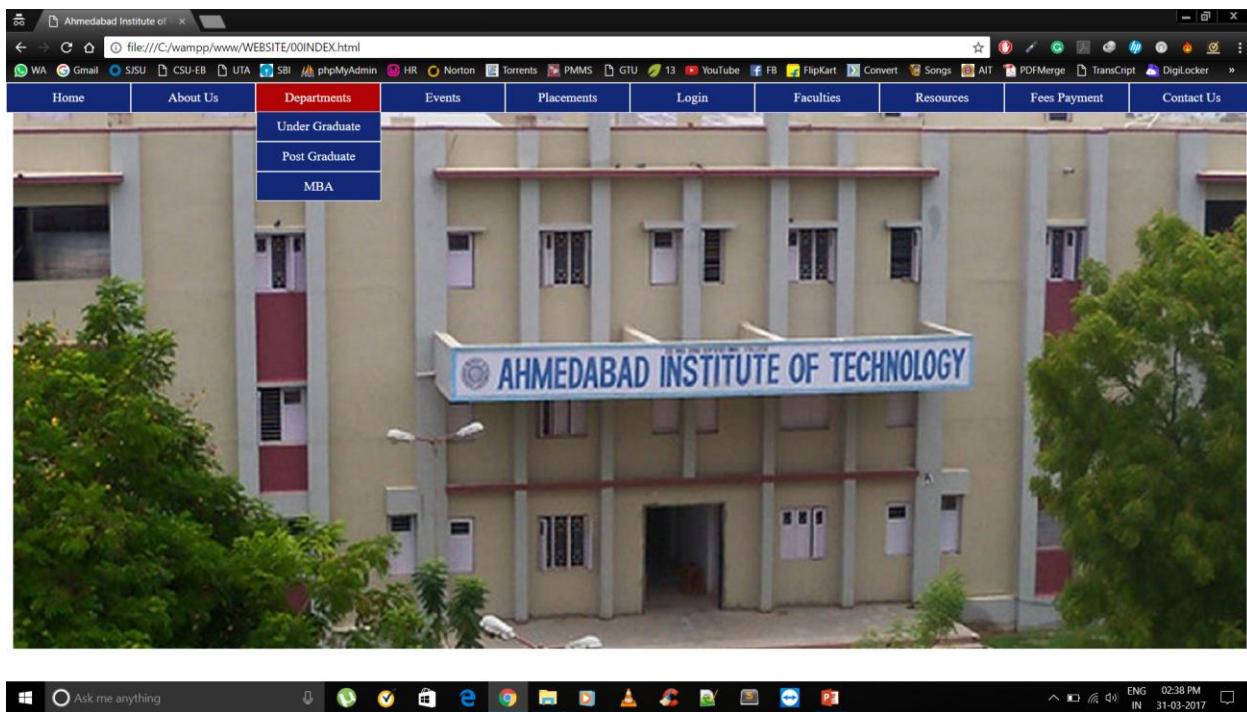
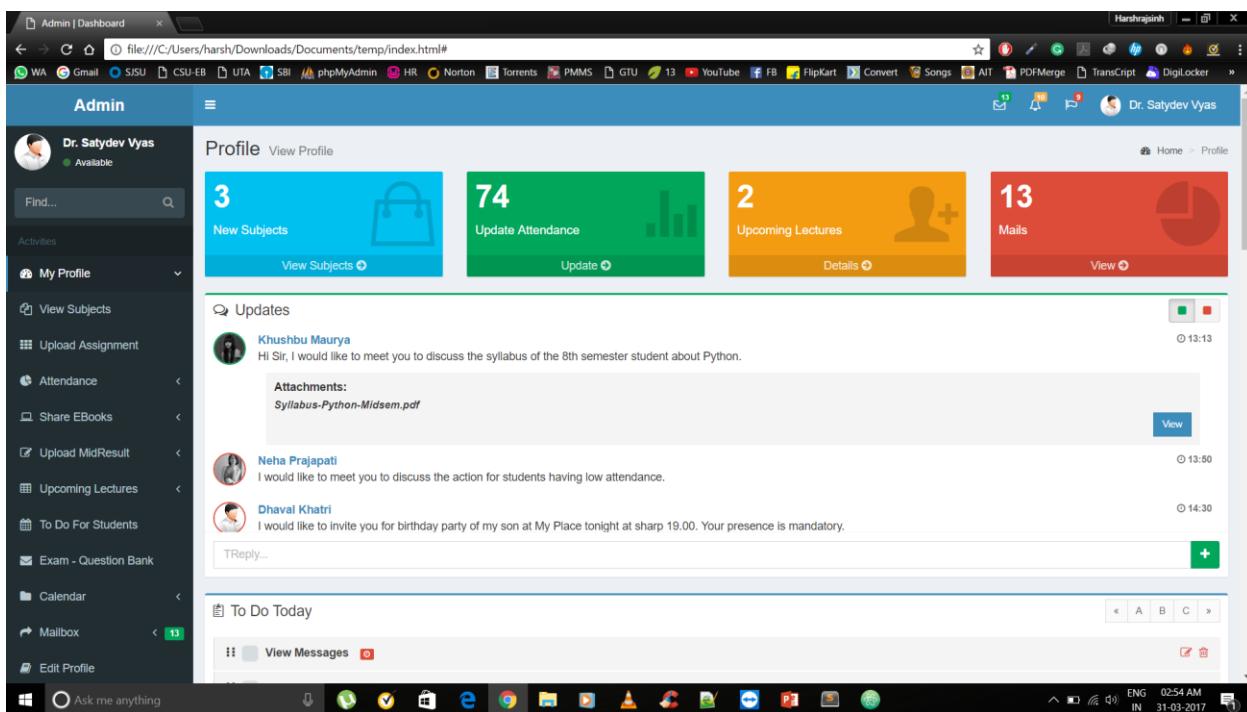


Fig-3.8 Collaboration Diagram

### 3.6 Snapshots



*Fig-3.9 snapshot*



*Fig-3.10 snapshot*

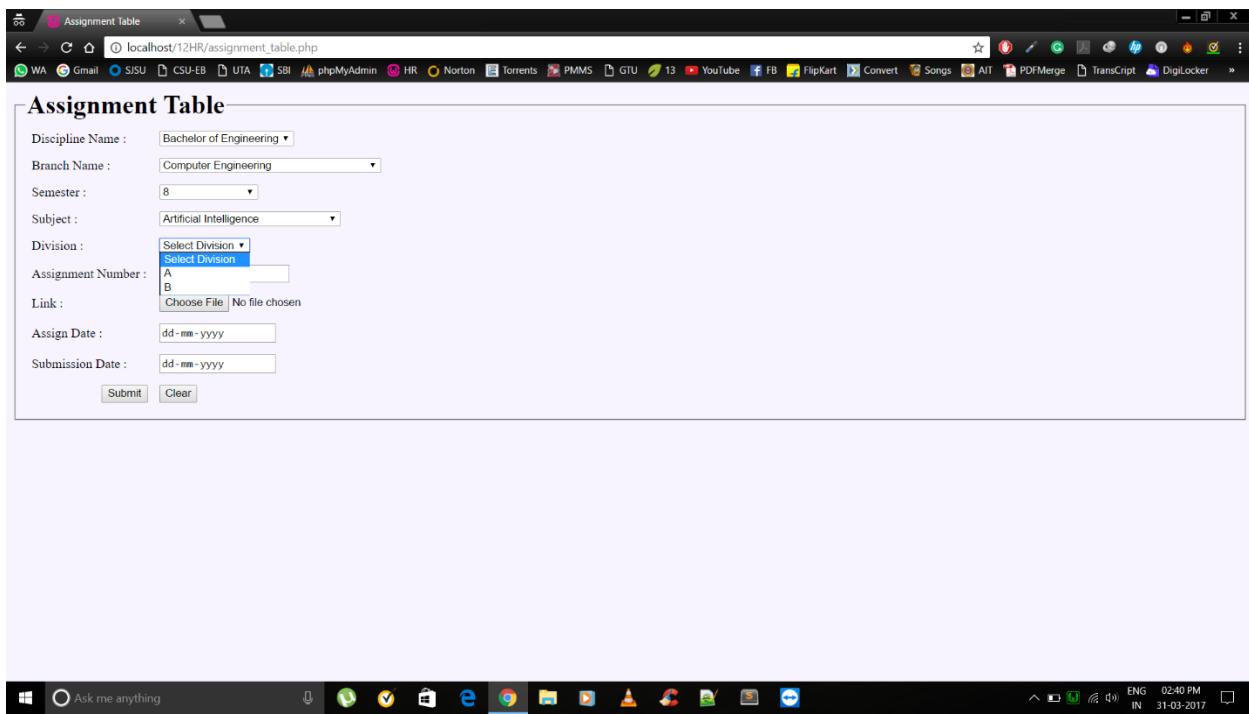


Fig-3.11 snapshot

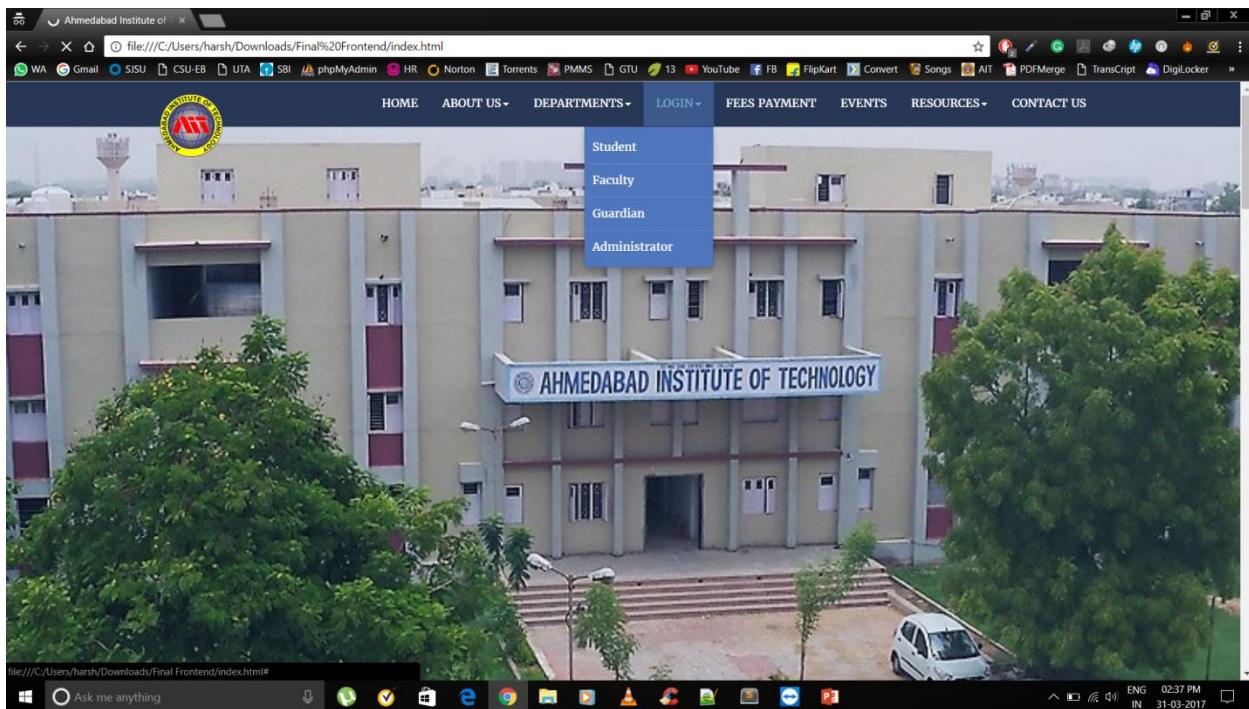


Fig-3.12 snapshot

## **3.7 Testing**

### **3.7.1 Testing Plan**

→The main objective of doing testing is to identify all defects existing in software. Basically the testing of web application consists of providing the program with a set of test inputs (test case) and observing that whether the application behaves as expected.

→Testing is the process of executing a program with the explicit intention of finding errors, which makes the program fail. The tester is actually trying to make the program fail. A successful test is the one that finds errors.

→Regardless of which strategies the analysts follow, there are preferred practices to ensure that the testing is useful. The levels of tests and types of test data, combined with testing libraries are important aspects of the actual test process. Among the various testing practices or strategies that are followed by analysts, the two important ones are unit testing and system testing.

### **3.7.2 Testing Method**

- Unit Testing - Module Testing**

In this testing individual components and modules are tested to ensure that they operate correctly. We had tested each and every module such as login details, user details, like participants, visitors. For this we have checked the database for particular entry for validation and the verification.

- Integration Testing**

This testing is a systematic technique for constructing the program structure while at the same time conducting tests to uncover errors associated with interfacing. All the modules testing in the unit testing are integrated and are tested for their interdependency. This system mainly works on the integration

of all the departments. So we have checked when participant logs into the system participant details is fetched or not.

When visitor rate it is checked that the values are showed in Operator or not

- **Validation Testing - Alpha Testing**

Alpha Testing is conducted for various validations. The participant enters his test the system by entering live data. If any error occurs in the system they directly contact us. During this testing they have uncovered error such as if he is the participant of any event but in system it is not getting and showing no event in participant than this validation is used.

- **Security Testing**

This testing is done to confirm that the software allow only authorized users to access and use the system. There are two types of users in this system one is participants and other is visitor so without signing in no one can upload photo. We have tested entering the user name and password for all the security levels to show them the information pertaining to their work only.

- **Acceptance Testing**

This type of testing is done when the system is being deployed. The testing data are supplied by the system procurer. The acceptance testing was carried out in the company main office. If they think it capable and only after a series of thorough testing the system will be ready to use by the company

### **3.7.3 Testing Strategies**

- **Black-Box Testing**

Test cases are designed using only functional specification of the software without any knowledge of the internal structure of it. For this reason, black-box testing is also known as functional testing.

There are essentially two main approaches to design black box test cases:

Equivalence class partitioning

Boundary value analysis

- **White-Box Testing**

Designing white-box test cases requires knowledge about the internal structure of software. Hence, white-box testing is also called structural testing.

There exist several popular white-box testing methodologies:

Statement coverage

Branch coverage

Path coverage

Condition coverage

Mutation testing

Data flow-based testing

### **3.7.2 Testing Cases**

→ A test case is a document, which has a set of test data, preconditions, expected results and postconditions, developed for a particular test scenario in order to verify compliance against a specific requirement.

→ Test Case acts as the starting point for the test execution, and after applying a set of input values, the application has a definitive outcome and leaves the system at some end point or also known as execution postcondition.

# **CHAPTER 4**

## **Summary**

## **4.1 Conclusion/Summary of Result**

- Core information available with reduced numbers of clicks.
- Compatibility across browsers.
- Better co-ordination between all the four modules.
- Minimal Paper work

## **4.2 Advantages**

- Explore possibilities of effective and positive relationship between connected modules.
- Easy to take Attendance of students.
- Helpful for Management and faculty and admin team.
- Any authenticated user can get desired data.

## **4.3 Comparisons with Existing Solutions**

- Students are not able to find any assignment that provided in Website. We are providing Assignment feature in current website
- Current website is not responsible. Our website is responsible.
- Students can't find every upcoming events easily in current website. We are working on it.

## **4.4 Project Benchmark /Uniqueness/Innovation**

- Timeline
- User friendly
- Easy Upload/Download materials related to college.
- Uncluttered GUI.
- Well arrange database

## **4.5 Future Enhancement**

- Available Library and stationary Books Record
- Pay Canteen Bill Through Online Wallet
- Forums
- Student Placement activity
- Alumni records and job details
- Meetup activity

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# **Appendix 1**

## **Periodic Progress Report**

<b>Enrollment No :</b>	130020107026	<b>College :</b>	Ahmedabad Institute Of Technology, Gota, Ahmedabad
<b>Student Name :</b>	Jasani Darshit Shirishbhai	<b>Department :</b>	Computer Engineering
<b>Mobile No :</b>	9409605990	<b>Discipline :</b>	BE
<b>Email :</b>	darshitjasani@gmail.com	<b>Semester :</b>	Semester 8

## PPR Details

**Time Interval :** -

**Periodic Progress Report :** First PPR

**Project** ERP Product For AIT As Saas And Backend Design

:

**Status :** Reviewed (Freeze)

### 1. What Progress you have made in the Project ?

In our project we had done so much work as the project report was available from 7th semester so from that we have done basic work on backend side like created data dictionary of our ERP system and working more on it

### 2. What challenge you have faced ?

while creating database the task was to set the size and type of each column in the table because if the inner details were correct for the one table they were being conflicted to other tables while merging tables

### 3. What support you need ?

Whenever we met with error we searched on google and asked our respective faculties and they always help us and we need basic support of students for what they want in our ERP system so we can make it better

### 4. Which literature you have referred ?

Now in coding part we referred our old gtu and reference books online tutorials and the main thing is google that we can easily solve our doubts

## Comments

**Comment by Internal Guide :**

None

**Comment by External Guide :**

None

**Comment by HOD :**

None

**Comment by Principal :**

None

**Comment by University Admin :**

None

<b>Enrollment No :</b>	130020107026	<b>College :</b>	Ahmedabad Institute Of Technology, Gota, Ahmedabad
<b>Student Name :</b>	Jasani Darshit Shirishbhai	<b>Department :</b>	Computer Engineering
<b>Mobile No :</b>	9409605990	<b>Discipline :</b>	BE
<b>Email :</b>	darshitjasani@gmail.com	<b>Semester :</b>	Semester 8

## PPR Details

**Time Interval :** 12 days, 1 hours

**Periodic Progress Report :** Second PPR

**Project** ERP Product For AIT As Saas And Backend Design

:

**Status :** Reviewed (Freeze)

### 1. What Progress you have made in the Project ?

The backend created last time is upgraded to a great extent right now and now most of all the tables and particular columns are created and working properly .and start working on front end

### 2. What challenge you have faced ?

In this time, the problem was assigning types to the columns of the database as the views of our group were conflicting but as the errors were generated we met the one and suited types which resulted in proper database.

### 3. What support you need ?

The support of our team was awesome because one's doubt was easily solved by other so at the end all of the errors were solved personally and if any major issue were created we approached to our Mentor for the help so the support was best ever.

### 4. Which literature you have referred ?

As now we are strengthening our data dictionary the help from Google was must and best so we approached Quora and stack overflow for the help along with backend designing videos of MySQL.

## Comments

**Comment by Internal Guide :**

None

**Comment by External Guide :**

None

**Comment by HOD :**

None

**Comment by Principal :**

None

**Comment by University Admin :**

None

<b>Enrollment No :</b>	130020107026	<b>College :</b>	Ahmedabad Institute Of Technology, Gota, Ahmedabad
<b>Student Name :</b>	Jasani Darshit Shirishbhai	<b>Department :</b>	Computer Engineering
<b>Mobile No :</b>	9409605990	<b>Discipline :</b>	BE
<b>Email :</b>	darshitjasani@gmail.com	<b>Semester :</b>	Semester 8

## PPR Details

**Time Interval :** 20 days, 23 hours

**Periodic Progress Report :** Third PPR

**Project** ERP Product For AIT As Saas And Backend Design

:

**Status :** Reviewed (Freeze)

### 1. What Progress you have made in the Project ?

The backend created last time is upgraded to a great extent right now and now most of all the tables and particular columns are created and working properly .and start working on front end

### 2. What challenge you have faced ?

In this time, the problem was assigning types to the columns of the database as the views of our group were conflicting but as the errors were generated we met the one and suited types which resulted in proper database.

### 3. What support you need ?

The support of our team was awesome because one's doubt was easily solved by other so at the end all of the errors were solved personally and if any major issue were created we approached to our Mentor for the help so the support was best ever.

### 4. Which literature you have referred ?

As now we are strengthening our data dictionary the help from Google was must and best so we approached Quora and stack overflow for the help along with backend designing videos of MySQL.

## Comments

**Comment by Internal Guide :**

None

**Comment by External Guide :**

None

**Comment by HOD :**

None

**Comment by Principal :**

None

**Comment by University Admin :**

None

<b>Enrollment No :</b>	130020107026	<b>College :</b>	Ahmedabad Institute Of Technology, Gota, Ahmedabad
<b>Student Name :</b>	Jasani Darshit Shirishbhai	<b>Department :</b>	Computer Engineering
<b>Mobile No :</b>	9409605990	<b>Discipline :</b>	BE
<b>Email :</b>	darshitjasani@gmail.com	<b>Semester :</b>	Semester 8

## PPR Details

**Time Interval :** 17 days, 4 hours

**Periodic Progress Report :** Forth PPR

**Project** ERP Product For AIT As Saas And Backend Design

:

**Status :** Reviewed (Freeze)

### 1. What Progress you have made in the Project ?

The backend is created for our project. database is working properly .and start working on front end and working on forms designing

### 2. What challenge you have faced ?

In this time, how to design proper front end so it's looks nice and attractive and some issues in javascript

### 3. What support you need ?

The support of our team was awesome because one's doubt was easily solved by other so at the end all of the errors were solved personally and if any major issue were created we approached to our Mentor for the help so the support was best ever.

### 4. Which literature you have referred ?

As now we are strengthening frontend the help from Google was must and best so we approached Quora and stack overflow for the help along with backend designing videos of how to build website

## Comments

**Comment by Internal Guide :**

None

**Comment by External Guide :**

None

**Comment by HOD :**

None

**Comment by Principal :**

None

**Comment by University Admin :**

None

<b>Enrollment No :</b>	130020107065	<b>College :</b>	Ahmedabad Institute Of Technology, Gota, Ahmedabad
<b>Student Name :</b>	Patel Miloni	<b>Department :</b>	Computer Engineering
<b>Mobile No :</b>	9924769331	<b>Discipline :</b>	BE
<b>Email :</b>	patel_miloni@yahoo.in	<b>Semester :</b>	Semester 8

## PPR Details

**Time Interval :** -

**Periodic Progress Report :** First PPR

**Project** ERP Product For AIT As Saas And Backend Design

:

**Status :** Reviewed (Freeze)

### 1. What Progress you have made in the Project ?

we have done research in software as service system and also in security services and we made closely particular strategy based on need of security level and currently running on the connectivity of databases to the corresponding php files.

### 2. What challenge you have faced ?

we faced some challenges in the connection of php document with the MYSQL according to the forms. and we also faced some problems in the feedback fields.

### 3. What support you need ?

we just need a little bit support from our experienced faculties to solve some complicated queries. and support of team members to solve small silly errors.

### 4. Which literature you have referred ?

we have referred the books of language php, html,mysql . as well as we are going through the helpful websites like w3schools , wikipedia and youtube to increase our knowledge and also to overcome the problems which we are facing at present.

## Comments

**Comment by Internal Guide :**

None

**Comment by External Guide :**

None

**Comment by HOD :**

None

**Comment by Principal :**

None

**Comment by University Admin :**

None

<b>Enrollment No :</b>	130020107065	<b>College :</b>	Ahmedabad Institute Of Technology, Gota, Ahmedabad
<b>Student Name :</b>	Patel Miloni	<b>Department :</b>	Computer Engineering
<b>Mobile No :</b>	9924769331	<b>Discipline :</b>	BE
<b>Email :</b>	patel_miloni@yahoo.in	<b>Semester :</b>	Semester 8

## PPR Details

**Time Interval :** 19 days, 5 hours

**Periodic Progress Report :** Second PPR

**Project** ERP Product For AIT As Saas And Backend Design

:

**Status :** Reviewed (Freeze)

### 1. What Progress you have made in the Project ?

the backend which we created last time is upgraded to a good extent right now. we worked a lot on the columns of the database and still we are adding some as per the requirement. so the database is very much on the progress path.

### 2. What challenge you have faced ?

the latest problem which we are facing is about the connection establishment of forms with the database. as well as we were troubled in the columns of the table we made lots of modifications in them as we needed them for the better progress of our project.

### 3. What support you need ?

the support of our team members was fabulous, we all worked together and helped each other where ever it was needed and that lead us to the fast progress of our project. on the other hand we were given nice guidance from our mentor.

### 4. Which literature you have referred ?

as now we are working on our data dictionary we were helped a lot from google and that was very much useful for us. we took help of w3schools and other websites to learn the things and youtube played an important role in souring our knowledge.

## Comments

**Comment by Internal Guide :**

None

**Comment by External Guide :**

None

**Comment by HOD :**

None

**Comment by Principal :**

None

**Comment by University Admin :**

None

<b>Enrollment No :</b>	130020107065	<b>College :</b>	Ahmedabad Institute Of Technology, Gota, Ahmedabad
<b>Student Name :</b>	Patel Miloni	<b>Department :</b>	Computer Engineering
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<b>Email :</b>	patel_miloni@yahoo.in	<b>Semester :</b>	Semester 8

## PPR Details

**Time Interval :** 3 days, 20 hours

**Periodic Progress Report :** Third PPR

**Project** ERP Product For AIT As Saas And Backend Design

:

**Status :** Reviewed (Freeze)

### 1. What Progress you have made in the Project ?

as far as we know we just completed the whole database of our website with data dictionary and started the initial work for the frontend side and the demo pages of all the navigations are formed and working to do it better and better. this is our main purpose of project rightnow.

### 2. What challenge you have faced ?

while designing the final phase of data dictionary the difficult task was uploading the resumes and images using the links, the part of our website because difficulties created with the same file and same name and the upload directories which consumed a lot time.so this was the main problem which we faced.

### 3. What support you need ?

after the whole backend, we consulted to our project mentor, Dr. vyas sir for the final check and he spent a whole day with us to check it and guide us with the avid interest and tirelessly which resulted in a successful data dictionary and yeah we also need some support from our team mates for solving some errors.

### 4. Which literature you have referred ?

the errors formed here were runtime so the practical help was more effective than books. so the literature part was fulfilled by google, youtube and project guide and some other responsive websites.

## Comments

**Comment by Internal Guide :**

None

**Comment by External Guide :**

None

**Comment by HOD :**

None

**Comment by Principal :**

None

**Comment by University Admin :**

None

<b>Enrollment No :</b>	130020107065	<b>College :</b>	Ahmedabad Institute Of Technology, Gota, Ahmedabad
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<b>Mobile No :</b>	9924769331	<b>Discipline :</b>	BE
<b>Email :</b>	patel_miloni@yahoo.in	<b>Semester :</b>	Semester 8

## PPR Details

**Time Interval :** 24 days, 23 hours

**Periodic Progress Report :** Forth PPR

**Project** ERP Product For AIT As Saas And Backend Design

:

**Status :** Reviewed (Freeze)

### 1. What Progress you have made in the Project ?

now in the recent time we have mostly finished our backend and now we are working on the frontend of our website. basically we succeeded in creating the whole backend of our project and still the work is in process.

### 2. What challenge you have faced ?

the major challenge that we faced is creating the backend using javascript. we also used php and html but we were stuck in some of the errors related to javascript and establishing connection between the database and forms.

### 3. What support you need ?

we need some support in the field of javascript because we are facing difficulties because of the small errors and we can not move further without solving those errors . so we need some support of expertise for finishing our backend.

### 4. Which literature you have referred ?

we took maximum advantage of google because whenever we were stuck in any of the problems or errors we took help of our teammates and our mentor too. apart from that youtube,stackoverflow,w3schools played an important role in souring our knowledge in the field of learning languages.

## Comments

**Comment by Internal Guide :**

None

**Comment by External Guide :**

None

**Comment by HOD :**

None

**Comment by Principal :**

None

**Comment by University Admin :**

None

<b>Enrollment No :</b>	130020107086	<b>College :</b>	Ahmedabad Institute Of Technology, Gota, Ahmedabad
<b>Student Name :</b>	Rathod Harshrajsinh Vijaysinh	<b>Department :</b>	Computer Engineering
<b>Mobile No :</b>	9662127111	<b>Discipline :</b>	BE
<b>Email :</b>	harshrajsinh96@gmail.com	<b>Semester :</b>	Semester 8

## PPR Details

**Time Interval :** -

**Periodic Progress Report :** First PPR

**Project** ERP Product For AIT As Saas And Backend Design

:

**Status :** Reviewed (Freeze)

### 1. What Progress you have made in the Project ?

In our project, we had done so much work as the Project Report was available from 7th Semester. So according to that, we had done the basic level backend like created the data dictionary of our ERP system and continuing to make it better.

### 2. What challenge you have faced ?

While creating data dictionary, the crucial task was to set the size and type of each column in the particular table because if the raw details were correct for the one table, they were being conflicted to other tables while merging tables.

### 3. What support you need ?

Whenever we met with the above-listed difficulties we searched on google a lot of time and what we get the results were checked by our respected mentor Dr.Vyas Sir and his avid support always helped us.

### 4. Which literature you have referred ?

Now in coding part, the base was our old GTU and reference books but the main thing which helped us was GOOGLE in which we met to solve all of our doubts.

## Comments

**Comment by Internal Guide :**

None

**Comment by External Guide :**

None

**Comment by HOD :**

None

**Comment by Principal :**

None

**Comment by University Admin :**

None

<b>Enrollment No :</b>	130020107086	<b>College :</b>	Ahmedabad Institute Of Technology, Gota, Ahmedabad
<b>Student Name :</b>	Rathod Harshrajsinh Vijaysinh	<b>Department :</b>	Computer Engineering
<b>Mobile No :</b>	9662127111	<b>Discipline :</b>	BE
<b>Email :</b>	harshrajsinh96@gmail.com	<b>Semester :</b>	Semester 8

## PPR Details

**Time Interval :** 10 days, 4 hours

**Periodic Progress Report :** Second PPR

**Project** ERP Product For AIT As Saas And Backend Design

:

**Status :** Reviewed (Freeze)

### 1. What Progress you have made in the Project ?

The backend created last time is upgraded to a great extent right now and now most of all the tables and particular columns are created and working for the additional ones which may be needed in the future work.

### 2. What challenge you have faced ?

In this time, the problem was assigning types to the columns of the database as the views of our group were conflicting but as the errors were generated we met the one and suited types which resulted in a proper database.

### 3. What support you need ?

The support of our team was awesome because one's doubt was easily solved by other so at the end all of the errors were solved personally and if any major issue were created we approached to our Mentor for the help so the support was best ever.

### 4. Which literature you have referred ?

As now we are strengthening our data dictionary the help from Google was must and best so we approached Quora and stack overflow for the help along with backend designing videos of MySQL.

## Comments

**Comment by Internal Guide :**

None

**Comment by External Guide :**

None

**Comment by HOD :**

None

**Comment by Principal :**

None

**Comment by University Admin :**

None

<b>Enrollment No :</b>	130020107086	<b>College :</b>	Ahmedabad Institute Of Technology, Gota, Ahmedabad
<b>Student Name :</b>	Rathod Harshrajsinh Vijaysinh	<b>Department :</b>	Computer Engineering
<b>Mobile No :</b>	9662127111	<b>Discipline :</b>	BE
<b>Email :</b>	harshrajsinh96@gmail.com	<b>Semester :</b>	Semester 8

## PPR Details

**Time Interval :** 11 days, 20 hours

**Periodic Progress Report :** Third PPR

**Project** ERP Product For AIT As Saas And Backend Design

:

**Status :** Reviewed (Freeze)

### 1. What Progress you have made in the Project ?

As far as we know we just completed the whole database of our website with data dictionary and started the initial work for the frontend side and the demo pages of all the navigations are formed and working to do it better and better.

### 2. What challenge you have faced ?

While designing the final phase of data dictionary the difficult task was uploading the resumes and images, the part of our website because difficulties created with the same file and same name and the upload directories which consumed a lot of time.

### 3. What support you need ?

After the whole backend, we consulted to our project mentor, Dr. Vyas sir for the final check and he spent a whole day with us to check it and guide us with the avid interest and tirelessly which resulted in a successful data dictionary.

### 4. Which literature you have referred ?

The errors formed here were runtime so the practical help was more effective than books. So the literature part was fulfilled by Google, Youtube and Project guide.

## Comments

**Comment by Internal Guide :**

None

**Comment by External Guide :**

None

**Comment by HOD :**

None

**Comment by Principal :**

None

**Comment by University Admin :**

None

<b>Enrollment No :</b>	130020107086	<b>College :</b>	Ahmedabad Institute Of Technology, Gota, Ahmedabad
<b>Student Name :</b>	Rathod Harshrajsinh Vijaysinh	<b>Department :</b>	Computer Engineering
<b>Mobile No :</b>	9662127111	<b>Discipline :</b>	BE
<b>Email :</b>	harshrajsinh96@gmail.com	<b>Semester :</b>	Semester 8

## PPR Details

**Time Interval :** 16 days, 23 hours

**Periodic Progress Report :** Forth PPR

**Project** ERP Product For AIT As Saas And Backend Design

:

**Status :** Reviewed (Freeze)

### 1. What Progress you have made in the Project ?

In the backend side, it is 90% over with remaining things of final check and update and the frontend is ongoing with the progress of 65% approximately. The designing and dynamic programming is currently in the process.

### 2. What challenge you have faced ?

The challenging task was to create database and it is almost done and for now the crucial one task is to make frontend so impressive and aesthetic so that it can stand in a row of sample or demo of GOOD websites.

### 3. What support you need ?

In the term of support, it was complete guidance of our HOD and project mentor as well because by their assistance we can make further modules and the demands by college which they are expecting in new website and which are lacking in existing one.

### 4. Which literature you have referred ?

The best literature was, is and will be only Google as it provides best solutions because the programmers of worldwide put their views and ideas on it to solve another's errors and to opt out their talent as well.

## Comments

**Comment by Internal Guide :**

None

**Comment by External Guide :**

None

**Comment by HOD :**

None

**Comment by Principal :**

None

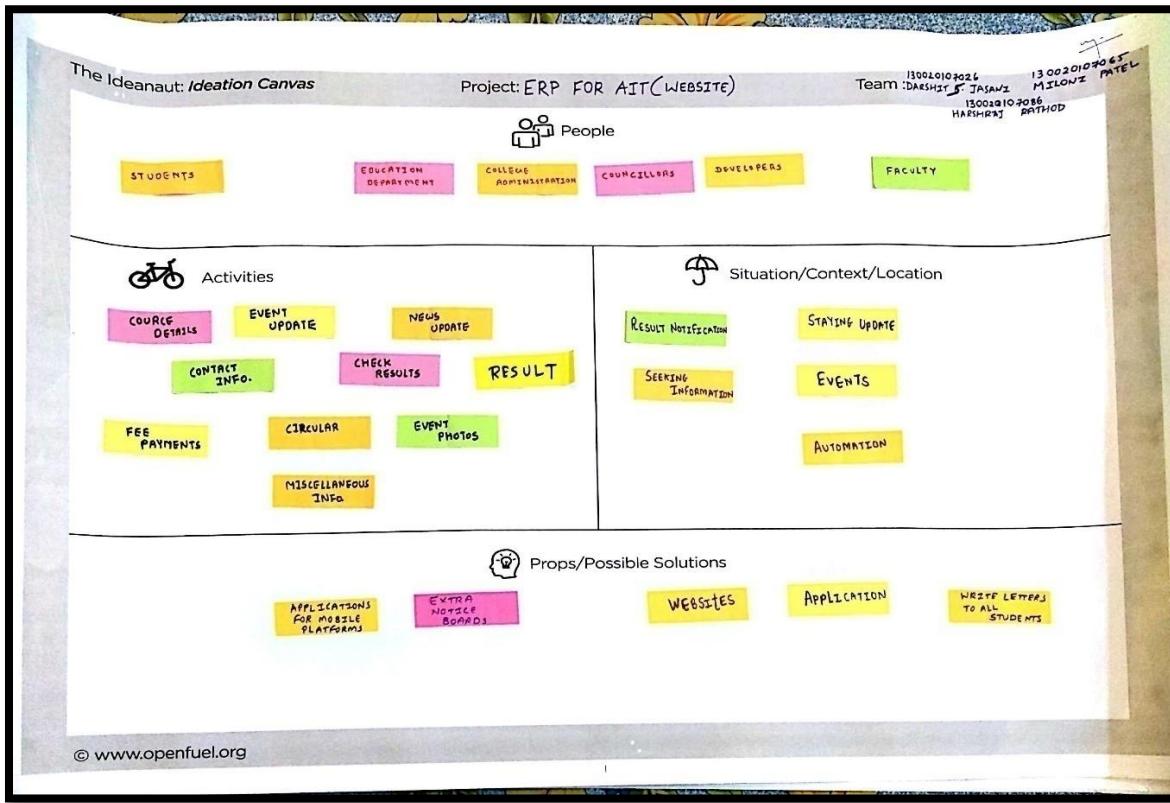
**Comment by University Admin :**

None

# **Appendix 2**

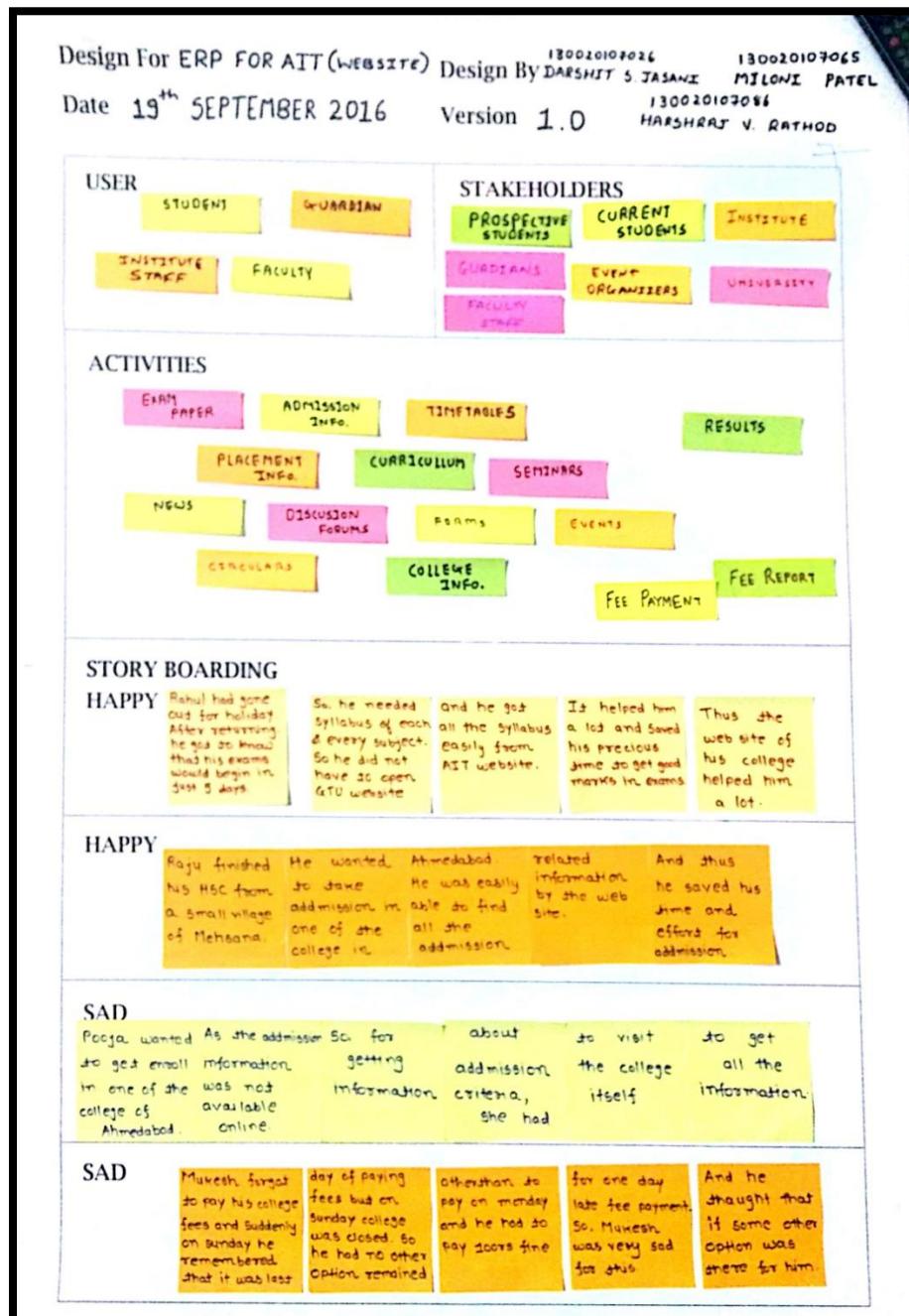
## **Design Engineering Canvases**

## 1.Ideation Canvas :



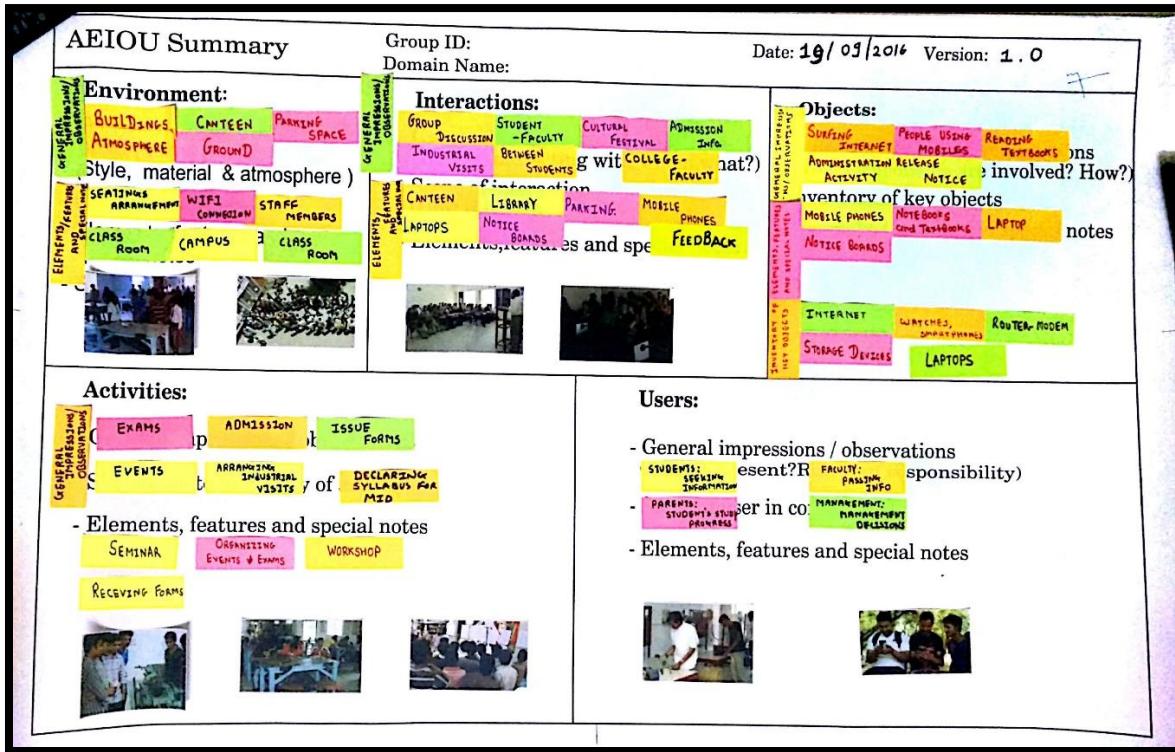
**Fig 1 Ideation Canvas**

## 2.Empathy Summary Canvas:



**Fig 2 Empathy Summary Canvas**

### 3.AEIOU Canvas :



**Fig 3 AEIOU Canvas**

## 4. Product Development Canvas:

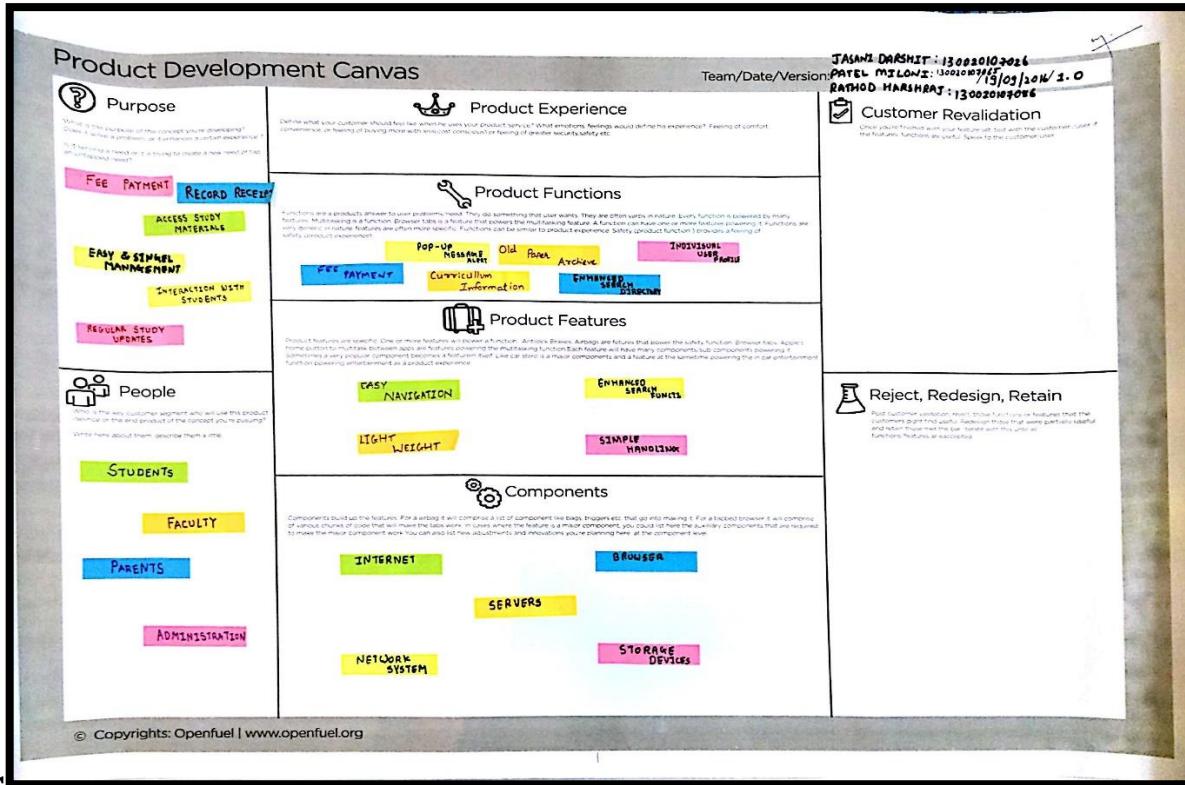
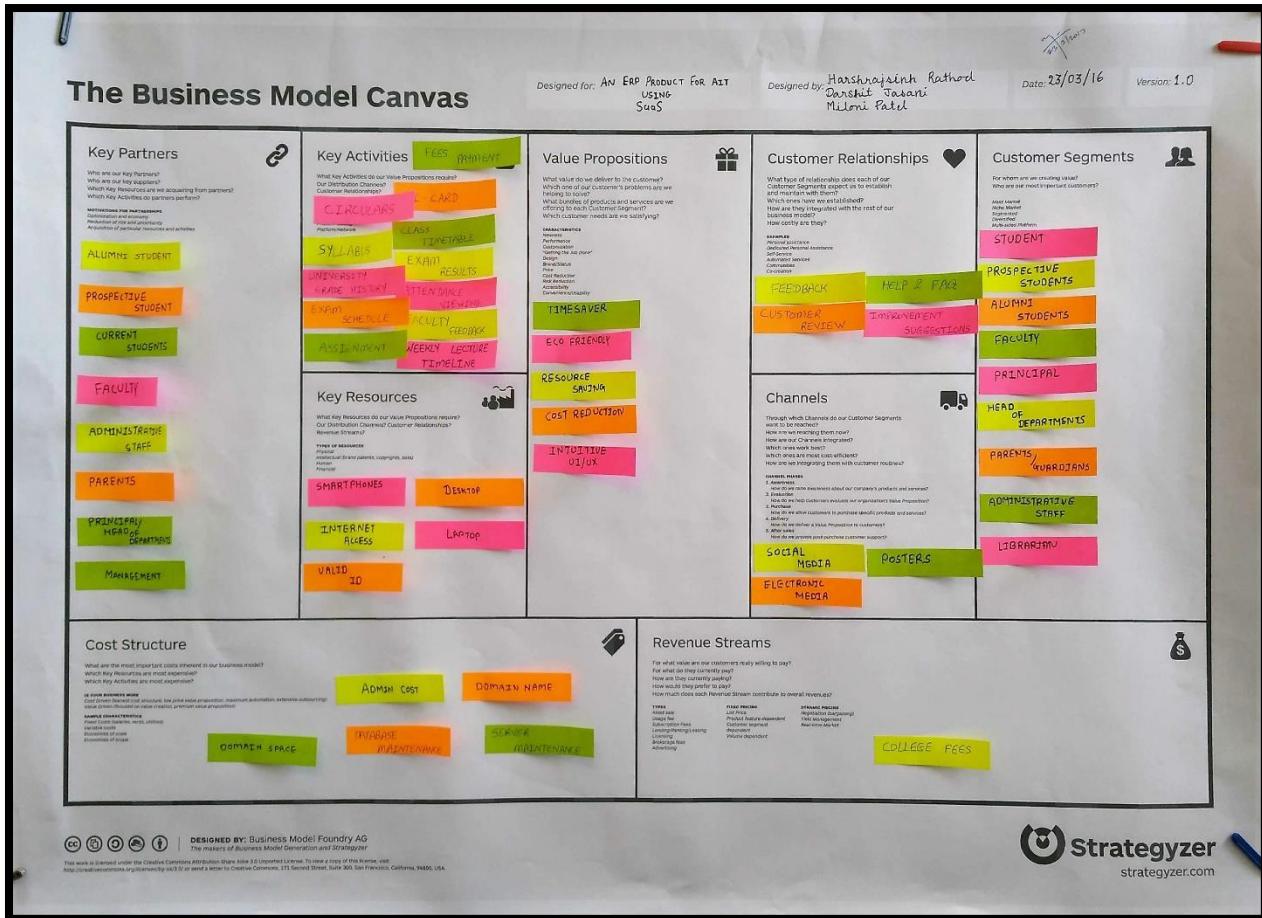


Fig 4 Product Development Canvas

# Appendix 3

## **Business Model Canvas and Report**

## **1. Business Model Canvas:**



## **Fig : BMC Canvas**

## **Report On Business Model Canvas**

- BMC is an abbreviation for Business Model Canvas. This canvas is used in the development of a business model for any project or plans. In other words, it is an overall plan or overview of any project. Because it is in the canvas form, it is quite easy to describe and explain.
- The Business Model Canvas mainly focuses on the development or implementation of any idea as well as its development steps of business polices on any type of projects.
- It also contains the costing of projects. Various development costs to develop a specific project as well as its revenue streams are quite clearly described in the model.
- It develops in stages described as following:
  - 1. Key Partner**
  - 2. Key Activities**
  - 3. Key Resources**
  - 4. Value Propositions**
  - 5. Customer Relationship**
  - 6. Channels**
  - 7. Customer Segments**
  - 8. Cost structures**
  - 9. Revenue Streams**

## **1. Key Partner**

These are a few partners who are important to the development our model.

- **Prospective Student** who would be able to see most of the activities related to college with minimum number of clicks.
- **Current Students** who can see their results, timetable, attendance along with lot of other stuff with this product.
- **Faculty** can use this product for student details, uploading assignments and to share useful material during exams and practical work.
- **Administrative Staff** will use this product to enter all details related to college work, which will result in minimal paperwork.
- **Parents** can see the progress (like academic and attendance information) of their child using this product.
- **Alumni Student** who can see their all their previous records of college work whenever they want.
- **Principal / Head of Department** can monitor their respective faculties with the feature of Feedback Rating in the product.
- **Management** are the important entity of our product as they guide, manage and finance the whole structure of working department.

## **2. Key Activities**

In key activity, we involve a few important features that are going to be implemented in the product.

- The complete **Syllabus** will be available with each subject so that one can get knowledge of that particular subject.
- **Class Timetable** will be available on the device easily and quickly with less number of efforts.
- The complete record of student's previous academic detail will be shown in **University Grade History**.
- **Exam Results** of mid semester exams as well as University exams will be shown here along with the past results.

- **Exam Schedule** of University and college examinations like midsem, submission, Viva, Remedial will be available in this product.
- **Assignments** will be uploaded and downloaded from the phone which will result in paperless work.
- **Attendance Viewing** will be much easier because it will be directly available in the phones instead of notice board.
- **Faculty Feedback** will be provided so that Principal/HOD can track the overall report of respective faculties.
- **Online Fee Payment** will be provided to easily and quickly pay the Fees and reduce the Administrative work.
- **Weekly Lecture Timeline** will be there to see all the work done in lectures in the past week.

### **3. Key Resources**

In this section we list the resources mandatory to use the product.

- **Smartphones** are the main part for this product to run and use its features.
- A good and steady **Internet Access** is required in order to work seamlessly.
- **Valid Authentication ID** will be must to use the core features of this product.

### **4. Value Propositions**

In this section, we cover the outcomes which will be there as a result of the usage of our product.

- All the information will be available on the phone 24/7, which will result in a lot of saved time as the user will not have to search for it in different places.
- It will be Eco Friendly because the paperwork will become lesser as compared to the earlier time.
- As this product will not only be eco-friendly, but also will help college in saving a lot of resources, we can also call it Resource Saving.
- Once programmed, the product will keep functioning on its own without the need of too much manpower or other external resources which will result in Cost Reduction.

- The Intuitive UI/UX of the product will make it easier even for users who are not very much familiar with using mobile applications.

## **5. Customer Relationship**

In this section we focus on the relationship between the customer and us.

- The **Feedback** module will make the users able to share their issues about the app with us.
- The product will contain **User Review** section where the customers can express their views regarding the product.
- **Help & FAQ** will guide the users through the common questions and frequently arising issues.
- **Improvement Suggestions** will be taken from users to create a product which is better suited for them.

## **6. Channels**

In this section we focus on medium that connect this product to the end users.

In simple words, here we will discuss how to advertise this product to the clients.

- The product can be promoted on **Social Media** and its various parts.
- We can also make use of the **Electronic Media** for promotions.
- **Posters** can also be made and distributed for better results.

## **7. Customer Segments**

In this section we focus on the users of the product and how the product will serve them.

- **Prospective Student** who would be able to see their most of the activities related to college with minimum number of clicks.
- **Current Students** who can see their results, timetable, attendance along with lot of other stuff with this product.
- **Faculty** can use this product for student details, upload assignments and to share useful material during exams and practical work.
- **Administrative Staff** will use this product to enter all details related to college work, which will result in minimal paperwork.
- **Parents** can see the progress (like academic and attendance information)

of their child using this product.

- **Principal / Head of Department** can monitor their respective faculties with the feature of Feedback Rating feature in product.
- **Alumni Student** who can see their all their previous records of college work whenever they want.
- **Librarian** can keep record of available books as well as the books issued to the students.

## **8. Cost Structures**

In this section we list out all the cost which accounts for the development of the project.

- To promote this product, the main cost will be used in **Advertisement** to make people aware about the product.
- **Database Maintenance** is the other factor which is costly as the job has to be assigned to a person.
- To run this product in regular life we have to put it on Server and for that **Server Maintenance** will be another costing factor.
- **Domain Name & Space cost.** since we are creating an ERP product, we need our product which will be available online. So for that we need to get a Domain Name & Space.
- **Admin Cost:** admin is the basic management section of our project. They have to see and update the students' profile according to need and the information available.

## **9. Revenue Streams**

It is just as important for a product to generate revenue. We list out the streams from which we expect the product to generate revenue.

- The respective institutions can charge for the app maintenance cost to the users which will be included in the overall **fees** of the institutions.

# Appendix 4

## Patent Drafting Exercise(PDE)

# GTU Innovation Council

## Patent Drafting Exercise (PDE)

**FORM 1**  
**THE PATENTS ACT 1970**  
**(39 OF 1970)**  
**&**  
**THE PATENTS RULES, 2003**  
**APPLICATION FOR GRANT OF PATENT**

**(FOR OFFICE USE ONLY)**

**Application No:**

**Filing Date:**

**Amount of Fee paid:**

**CBR No:** \_\_\_\_\_

### 1. Applicant(s) :

ID	Name	Nationality	Address	Mobile No.	Email
1	Rathod Harshrajsinh Vijaysinh	Indian	Computer Engineering , Ahmedabad Institute Of Technology, Gota, Ahmedabad , Gujarat Technological University.	9662127111	harshrajsinh96@gmail.com
2	Jasani Darshit Shirishbhai	Indian	Computer Engineering , Ahmedabad Institute Of Technology, Gota, Ahmedabad , Gujarat Technological University.	9409605990	darshitjasani@gmail.com
3	Patel Miloni	Indian	Computer Engineering , Ahmedabad Institute Of Technology, Gota, Ahmedabad , Gujarat Technological University.	9924769331	patel_miloni@yahoo.in

### 2. Inventor(s):

ID	Name	Nationality	Address	Mobile No.	Email
1	Rathod Harshrajsinh Vijaysinh	Indian	Computer Engineering , Ahmedabad Institute Of Technology, Gota, Ahmedabad , Gujarat Technological University.	9662127111	harshrajsinh96@gmail.com
2	Jasani Darshit Shirishbhai	Indian	Computer Engineering , Ahmedabad Institute Of Technology, Gota, Ahmedabad , Gujarat Technological University.	9409605990	darshitjasani@gmail.com
3	Patel Miloni	Indian	Computer Engineering , Ahmedabad Institute Of Technology, Gota, Ahmedabad , Gujarat Technological University.	9924769331	patel_miloni@yahoo.in

### 3. Title of Invention/Project:

**Note :** This is just a mock Patent Drafting Exercise (PDE) for semester 8, BE students of GTU.These documents are not to be submitted with any patent office.

Page 1

**4. Address for correspondence of applicant/authorized patent agent in india**

**Name:** Rathod Harshrajsinh Vijaysinh  
**Address:** Computer Engineering , Ahmedabad Institute Of Technology, Gota, Ahmedabad , Gujarat Technological University.  
**Mobile:** 9662127111  
**Email ID:** harshrajsinh96@gmail.com

**5. Priority particulars of the application(S) field in convention country**

Country	Application No.	Filing Date	Name of the Applicant	Title of the Invention
N/A	N/A	N/A	N/A	N/A

**6. Particulars for filing patent co-operation treaty (pct) national phase Application**

International application number	International filing date as allotted by the receiving office
N/A	N/A

**7. Particulars for filing divisional application**

Original(First) Application Number	Date of filing of Original (first) application
N/A	N/A

**8. Particulars for filing patent of addition**

Original(First) Application Number	Date of filing of Original (first) application
N/A	N/A

**9. DECLARATIONS:**

**(i) Declaration by the inventor(s)**

I/We, the above named inventor(s) is/are true & first inventor(s) for this invention and declare that the applicant(s). herein is/are my/our assignee or legal representative.

Date : 12 - April - 2017

Name

Signature & Date

1 Rathod Harshrajsinh Vijaysinh

\_\_\_\_\_

2 Jasani Darshit Shirishbhai

\_\_\_\_\_

3 Patel Miloni

\_\_\_\_\_

**(ii) Declaration by the applicant(s) in the convention country**

I/We, the applicant (s) in the convention country declare that the applicant(s) herein is/are my/our assignee or legal representative.applicant(s)

**(iii) Declaration by the applicant(s)**

I/We, the applicant(s) hereby declare(s) that:-

- I am/We in possession of the above mentioned invention.
- The provisional/complete specification relating to the invention is filed with this application.
- The invention as disclosed in the specification uses the biological material from India and the necessary permission from the competent authority shall be submitted by me/us before the grant of patent to me/us.
- There is no lawful ground of objection to the grant of the patent to me/us.
- I am/we are the assignee or the legal representative of true & first inventors.
- The application or each of the application, particulars of each are given in the para 5 was the first application in the convention country/countries in respect of my/our invention.
- I/we claim the priority from the above mentioned applications(s) filed in the convention country/countries & state that no application for protection in respect of invention had been made in a convention country before that date by me/us or by any person
- My/Our application in India is based on international application under Patent Cooperation Treaty (PCT) as mentioned in para 6
- The application is divided out of my/our application(s) particulars of which are given in para 7 and pray that this application may be treated as deemed to have been filed on \_\_\_\_\_ under section 16 of the Act.
- The said invention is an improvement in or modification of the invention particulars of which are given in para 8.

**10. Following are the attachments with the application:**

- (a) Provisional specification/Complete specification
- (b) Complete specification (In confirmation with the international application) / as amended before the International Preliminary Examination Authority (IPEA), as applicable (2 copies), No. of pages.....No. of claims.....
- (c) Drawings (In confirmation with the international application)/as amended before the International Preliminary Examination Authority (IPEA), as applicable (2 copies), No. of sheets....
- (d) Priority documents
- (e) Translations of priority documents/specification/international search reports
- (f) Statement and undertaking on Form 3
- (g) Power of Authority
- (h) Declaration of inventorship on Form 5
- (i) Sequence listing in electronic Form
- (j) ..... Fees Rs.XXX in Cash /Cheque/Bank Draft bearing No.XXX Date: XXX on XXX Bank.

I/We hereby declare that to the best of my /our knowledge, information and belief the facts and matters stated herein are correct and I/We request that a patent may be granted to me/us for the said invention.

Dated this 12 day of April , 2017

Name

Signature & Date

1 Rathod Harshrajsinh Vijaysinh \_\_\_\_\_

2 Jasani Darshit Shirishbhai \_\_\_\_\_

3 Patel Miloni \_\_\_\_\_



**FORM 2****THE PATENTS ACT, 1970****(39 OF 1970)****&****THE PATENTS RULES, 2003****PROVISIONAL SPECIFICATION****1. Title of the project/invention :**

ERP Product For AIT As Saas And Backend Design

**2. Applicant(s) :**

- 1) (a) NAME : Rathod Harshrajsinh Vijaysinh  
(b) NATIONALITY : Indian  
(c) ADDRESS : Computer Engineering , Ahmedabad Institute Of Technology, Gota, Ahmedabad , Gujarat Technologycal University.
- 2) (a) NAME : Jasani Darshit Shirishbhai  
(b) NATIONALITY : Indian  
(c) ADDRESS : Computer Engineering , Ahmedabad Institute Of Technology, Gota, Ahmedabad , Gujarat Technologycal University.
- 3) (a) NAME : Patel Miloni  
(b) NATIONALITY : Indian  
(c) ADDRESS : Computer Engineering , Ahmedabad Institute Of Technology, Gota, Ahmedabad , Gujarat Technologycal University.

**3. Preamble to the description :**

The following specification describes the invention.

**4. Description :**

**a. Field of Application / Project / Invention :**

ERP for College

**b. Prior Art / Background of the Invention / References :**

Not Responsive  
Not Containing all the latest features  
Moderate GUI

**c. Summary of the Invention/Project :**

The basic idea is to create a Website as SaaS which provides all the latest features which are unavailable in the existing one and easy access to the Students, Guardians, Admins, and Faculties, so they can easily interact with Eachother. The SaaS concept is aimed for various browsers which will break the limit of the platform on which we are using this website and will be a useful medium between faculty, HODs, administrative staff, Guardians and the students as well.

**d. Objects of the Invention/Project :**

Fees Payment  
Attendance  
Assignment Upload  
Login For Different Modules

**e. Drawing(s) :**

**f. Description of the Invention :**

The domain name "ERP Product For AIT As Saas And Backend Design" stands for a website for the institute that extends the features of an Enterprise Resource Planning tool. The website is designed for students and their guardians, faculties, and administrative staff of the institution. The primary focus for the website is on simplicity and faster web content delivery on the website user. As a student, one is able to view results, notices, alerts, announcements, archives of old papers, exam schedules, event information and what not. A parent would be able to stay up-to-date with their child's progress with certain built-in features of website which deliver the message to the guardians regularly. The faculties will be able to communicate with the students better. And the administrative staff of the institute will have information at hand, all the time. The list of features and function will keep increasing and improving as the usage of the website becomes frequent.

**g. Examples :**

**h. Unique Features of the Project :**

No Claims

**5. Date & Signature :**

Date :12 - April - 2017

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Sign and Date  
Rathod Harshrajsinh Vijaysinh

---

Sign and Date  
Jasani Darshit Shirishbhai

---

Sign and Date  
Patel Miloni

#### **6. Abstract of the project / invention :**

The domain name "ERP Product For AIT As Saas And Backend Design" stands for a website for the institute that extends the features of an Enterprise Resource Planning tool. The website is designed for students and their guardians, faculties, and administrative staff of the institution. The primary focus of the website is on simplicity and faster web content delivery on the website user. As a student, one is able to view results, notices, alerts, announcements, archives of old papers, exam schedules, event information and what not. A parent would be able to stay up-to-date with their child's progress with certain built-in features of the website which deliver the message to the guardians regularly. The faculties will be able to communicate with the students better. And the administrative staff of the institute will have information at hand, all the time. The list of features and function will keep increasing and improving as the usage of the website becomes frequent. The basic idea is to create a Website as SaaS which provides all the latest features which are unavailable in the existing one and easy access to the Students, Guardians, Admins, and Faculties, so they can easily interact with Eachother. The SaaS concept is aimed for various browsers which will break the limit of the platform on which we are using this website and will be a useful medium between faculty, HODs, administrative staff, Guardians and the students as well.

#### **Drawing Attachments :**



**FORM 3**  
**THE PATENTS ACT, 1970**  
**(39 OF 1970)**  
**&**  
**THE PATENTS RULES, 2003**  
**STATEMENT AND UNDERTAKING UNDER SECTION 8**

**1. Declaration :**

I/We, Rathod Harshrajsinh Vijaysinh ,  
 Jasani Darshit Shirishbhai ,  
 Patel Miloni

**2. Name, Address and Nationality of the joint Applicant :**

**Rathod Harshrajsinh Vijaysinh ( Indian )**

**Address :Computer Engineering , Ahmedabad Institute Of Technology, Gota, Ahmedabad , Gujarat Technological University.**

**Jasani Darshit Shirishbhai ( Indian )**

**Address :Computer Engineering , Ahmedabad Institute Of Technology, Gota, Ahmedabad , Gujarat Technological University.**

**Patel Miloni ( Indian )**

**Address :Computer Engineering , Ahmedabad Institute Of Technology, Gota, Ahmedabad , Gujarat Technological University.**

Here by declare :

- (i) that I/We have not made any application for the same/substantially the same invention outside India.
- (ii) that the right in the application(s) has/have been assigned to,

Name of the Country	Date of Application	Application Number	Status of the Application	Date of Publication	Date of Grant
N/A	N/A	N/A	N/A	N/A	N/A

(iii) that I/We undertake that up to the date of grant of patent by the Controller , I/We would keep him inform in writing the details regarding corresponding application(s) for patents filed outside India within 3 months from the date of filing of such application.

Dated this 12 day of April , 2017

**3. Signature of Applicants :**

\_\_\_\_\_  
 Sign and Date  
 Rathod Harshrajsinh Vijaysinh

\_\_\_\_\_  
 Sign and Date  
 Jasani Darshit Shirishbhai

\_\_\_\_\_  
 Sign and Date  
 Patel Miloni

To  
The Controller of Patent  
The Patent Office, at **Mumbai**.

