E-STUDY POINT

A PROJECT REPORT

Submitted by

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190560107009

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Computer Engineering

Grow More Faculty of Engineering

Himatnagar





Gujarat Technological University, Ahmedabad

May,2023





Grow More Faculty of Engineering

Himatnagar

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **E STUDY POINT** has been carried out by **Rathod Raviraj Pravinsinh** (190560107009) under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Computer Engineering, 8th Semester of Gujarat Technological University, Ahmadabad during the academic year 2022-23.

Prof. Deep Joshi

Prof. Meghal Prajapati

Internal Guide

Head of the Department



Date: 14/04/2023

INTERNSHIP COMPLETION CERTIFICATE

This is to certify that **Mr. Rathod Raviraj Pravinsinh** has successfully completed Internship of Asp.Net Development in our Organization The One Web Technology during the period of 23/01/2023 to 14/04/2023. We acknowledge his efforts.

During his practical training work period, **Mr. Rathod Raviraj Pravinsinh** remained involved in his work dedicatedly. We found him to be a very hardworking, knowledgeable, effective and sincere. We found him pretty active in whatever task we have provided him. He is a confident person. He is professionally sound, hardworking and devoted person.

We wish him very best of luck and success in his future in endeavors.

For, The One Web Technology

Authoriz





Grow More Faculty of Engineering Himatnagar

DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **E STUDY POINT** submitted in partial fulfillment for the degree of Bachelor of Engineering in Computer Engineering to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me / us at Calibre Matrix under the supervision of **Mr.Deep Joshi** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student Sign of Student

Rathod Raviraj Pravinsinh

ACKNOWLEDGEMENT

I wish to express our sincere gratitude to my External guide Mr. Kuldeep Virpura for

continuouslyguiding me at the company and answering all my doubts with patience. I would

also like to thank my Internal Guide Prof. Deep Joshi and Professor and Head of Department

Prof. Meghal Prajapati for helping me through my internship by giving me the necessary

suggestions and advices along with their valuable co-ordination in completing this internship.

I would like to express my deep sense of gratitude towards my parents for their sustained

cooperation and wishes, which have been a prime source of inspiration to take this project work

to its end without any hurdles.

Last but not the least, I would like to thank all our colleagues for their co-operation and useful

suggestions and all those who have directly or indirectly helped me in completion of this project

work.

Thank You

Raviraj Rathod (190560107009)

In our website "E-Study Point" student can get the e-books, videos, files, materials and also can upload the Material on website. Student can get the expert advice from the system and ask question to the experts then students could solve their problems by getting the advice. The overall advantage of system is empowering by decreasing the latency that arises while operating through the manual process. Generating the required reports as per the requirements becomes much easier and information availability at the hand. Feasibility study is an important phase in the software development process. It enables the developer to have an assessment of the product being developed. It refers to the feasibility study of the product in the terms of outcomes of the product, operational use and technical supported required for implementing it. The services provided to the students are view and update their problems and content of course, gives feedback to the system.

Our system contains the following features:

- > Student can search particular material.
- > Student can view details of files, subject.
- > Student can download files, e-books, videos, pdf, ppt, doc files, etc.
- > Student can upload files and materials.
- > Student can ask query to expert and solve the problem.

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1. PROJECT PROFILE:

PROJECT TITLE	E-Study Point
Objectives	The purpose of the system is to improve the E-study level and to provide the materials n content to the Students.
Front End	ASP.NET (Visual Studio) with C#
Back End	SQL Server 2010
Documentation Tools	Microsoft Office, Star UML
Developed By	Raviraj Rathod
External Guide	Mr. Kuldeep Virpura
Internal Guide	Prof. Deep Joshi
Submitted at	THE ONE WEB TECHNOLOGY, Ahmedabad Gujarat
Submitted to	Grow More Faculty of Engineering Himatnagar (383001)

2. COMPANY PROFILE:

Company Name	THE ONE WEB TECHNOLOGY
Introduction	THE ONE WEB TECHNOLOGY has strengthened its role as a facility provider, a technology developer and as a facilitator for transferring technology to the grass root level. It has several areas of expertise such as web application development, android application development, customized application development, dot net development.
Company Address	THE ONE WEB TECHNOLOGY FF/37 Alankar Tower, Sayajigunj, Ahmedabad Phone: +91 7778901754 E-mail: kuldeepvirpura7@gmail.com website: www.theonewebtechnology.com
Service Offering	Android Application ,Web Application ,Customized Application, Dot net developer .

3. SOFTWARE REQUIREMENT SPECIFICATION:

3.1 Current System:

Currently there is no generalized system which can be used as a all study material and expert advice. So, everyone has to keep different system for each and every component. So I am going to develop a system which can be used as generalized system which can be used in each and every area of the Study e-point.

3.2 Drawbacks of Current System:

- ➤ Hard to find up to date data regarding dispensary.
- Register student only download material from websites.
- ➤ Sometime student cannot get the true information.
- ➤ All the information is not reliable.
- > Data of retrieving is not faster.
- ➤ All data are not accurate as per the current situation of the system

3.3 Proposed System:

The overall advantage of system is empowering by decreasing the latency that arises while operating through the manual process. Generating the required reports as per the requirements becomes much easier and information availability at the hand. Feasibility study is an important phase in the software development process. It enables the developer to have an assessment of the product being developed. It refers to the feasibility study of the product in the terms of outcomes of the product, operational use and technical supported required for implementing it.

> Features includes in new system:

- Every subject related details provide to the student.
- All updated detail
- Different new items information
- Visualize items.
- FAO

FUNCTIONAL REQUIREMENT:

➤ Its internet based application.

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- > Application can be run with internet access.
- Admin must have to login before accessing the application.
- > Authorize person change or update or delete data
- Unauthorized person only view the data
- ➤ Regular update in application about study e-point facility and availability.

NON-FUNCTIONAL REQUIREMENT:

- ➤ **Usability**: The user interface is designed such that any native user will be able to operate and use the features of the website.
- **Performance**: Depends on:
 - Internet Speed.
 - Computer configuration.
 - Operating System where application will deploy
- Platform Compatibility: Here targeted all the internet users. I am developing this application in .net, so it can be run on any OS and multiple users can use this website.
- ➤ **Accessibility**: The application can be run with internet access. The application will be available free of cost.
- ➤ **Reliability:** The main reliability requirement is the validation used. Without validation the system does not allow entering that value into the database. **E.g.** in the admin detail email id is proper field in login form.
- ➤ Safety and security: Security is assigned to the admin who has all the rights and controls on application.

3.3.1 Goals:

In this website, student can get the e-books, videos, files, materials from our website and also can upload the files on website. Student can get the expert advice from the system and ask question to the experts then students could solve their problems by getting the advice.

This system provides user friendly interface and easy navigation.

3.3.2 Objectives:

In this Study e-point, student can download their own choice study material from the website and can get the solution of their problems.

3.3.3 Scope of the Project:

- ➤ It is created in HTML5, CSS3, J-query and flash.
- ➤ In our system ADMIN handles over all system like, update material, view data, share data.
- > System can handles large number of students.

Students can directly download data and give him/her feedback to experts and solve their problem easily to put up on our site. Also they are able to talk with our experts and take basic tips related study and at all.

3.4. Hardware & Software Specification:

➤ <u>Hardware Requirement (Minimum)</u>:

Server:

Processor : Intel core i3 CPU or equivalent

• Hard Disk : 16 GB or equivalent

• System Memory : 2 GB

Client:

Processor : Intel core i3 CPU or equivalent

• Hard Disk : 2 GB or equivalent

• System Memory : 512 MB

➤ Software Requirement (minimum):

Server:

• Platform : .NET framework 4.0

• Operating system : Window Server or equivalent

• Web server : SQL server 2010

Client:

• Operating system : Window 7 Ultimate or equivalent

• Browser : Internet Explorer, opera...

4. SYSTEM ANALYSIS AND FEASIBILITY STUDY:

4.1 Feasibility Study:

The feasibility study is the important step in any software development process. This is because it makes analysis of different aspects like cost required for developing and executing the system, the time required for each phase of the system and so on.

This phase is the base of software Development process since further steps taken in software development life cycle would be Based on the analysis made on this phase and so careful analysis has to be made in this phase.

Technical Feasibility

- Technical feasibility of a project determines whether a project can be developed using the technology on hand. The system is technically feasible as the front-end and the back-end required for it is available and already installed.
- > System is developed by using ASP.NET as the front end and SQL server as back end.

Specification:

- ➤ The hardware specifications are feasible with the minimum requirement mentioned on the requirement analysis section.
- ➤ For software technology specification there are mainly two key areas. One is the front-end tool which is ASP.NET. Microsoft SQL Server is the main Back-end support for SQL server.

Economic Feasibility

- This system takes a less effort for data access; provide the right information in right time. This is the online system so user can use this website from any place on the earth.
- > This website is updated by the admin so the user can trust on the detail available on the website so popularity of the organization will be increased.

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- ➤ No training is needed to use this website so can be used by the any kind of person. There is no or less maintenance after implementation. So, this system is economically feasible to develop, implement and maintain.
- The project is economically feasible for the developer as well as the client.

Specification:

Technologies used are more feasible as

- ✓ Software cost wise.
- ✓ Development cost wise.
- ✓ Maintenance cost wise.

Operation Feasibility

- ➤ In the system operational feasibility, checks are made whether the user who is going to use the system is able to work with the system.
- ➤ If the user does not understand the functionality of the system or is not able to work on the system further development is of waste.
- Modular approach can be adapted in this type of system wherein as and when one module is done that can be published on the website for user access.

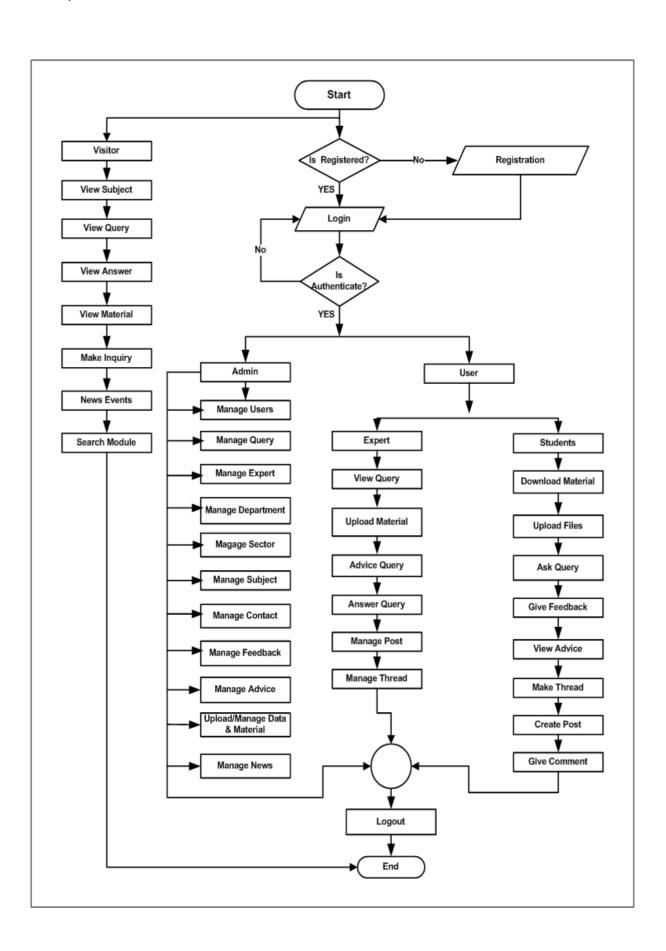
Specification:

✓ User involvement in the development process is taken into consideration.

Schedule Feasibility

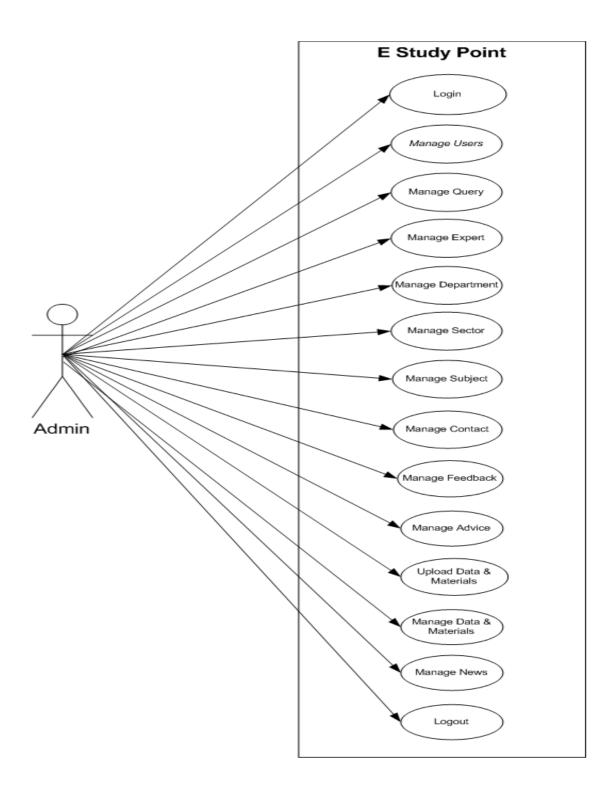
- A project will fail if it takes too long to be completed before it is useful.
- > Typically this means estimating how long the system will take to develop, and if it can be completed in a given time period using some methods like payback period.

4.2 System Flow Chart:

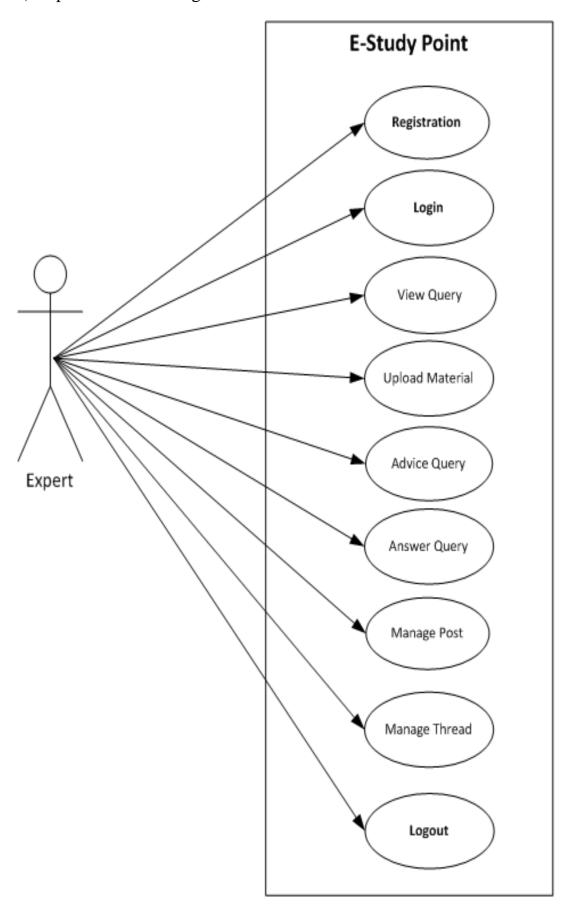


5. SYSTEM DIAGRAMS:

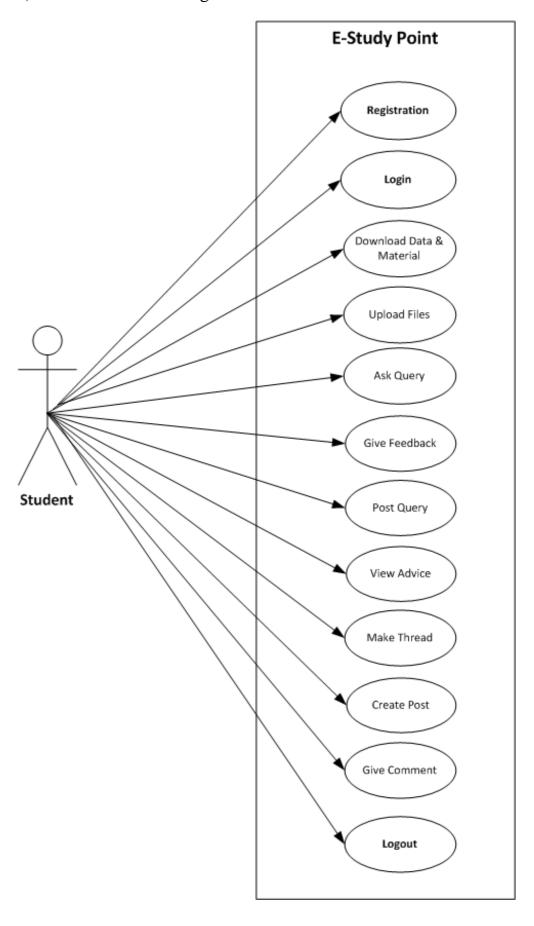
- 5.1 UML Diagrams:
 - 5.1.1 Use Case Diagrams:
 - 1) Admin Use Case Diagram:



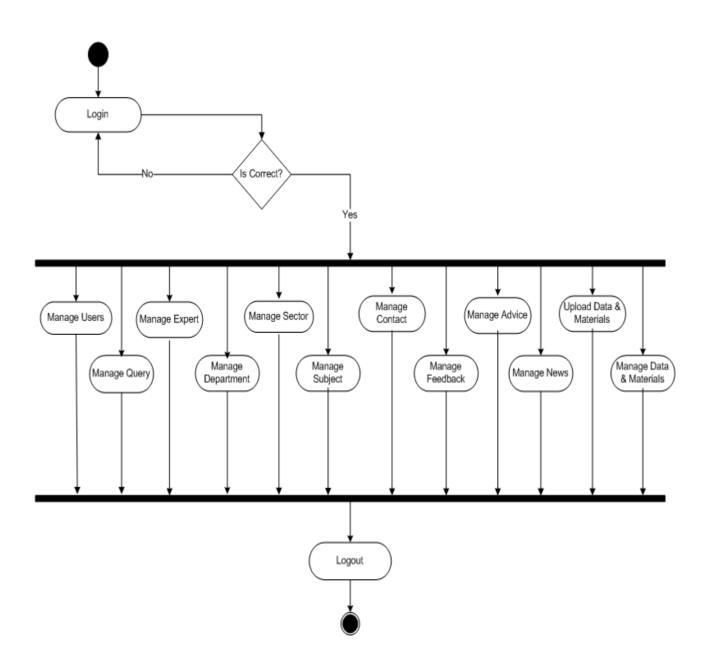
2) Expert Use Case Diagram:



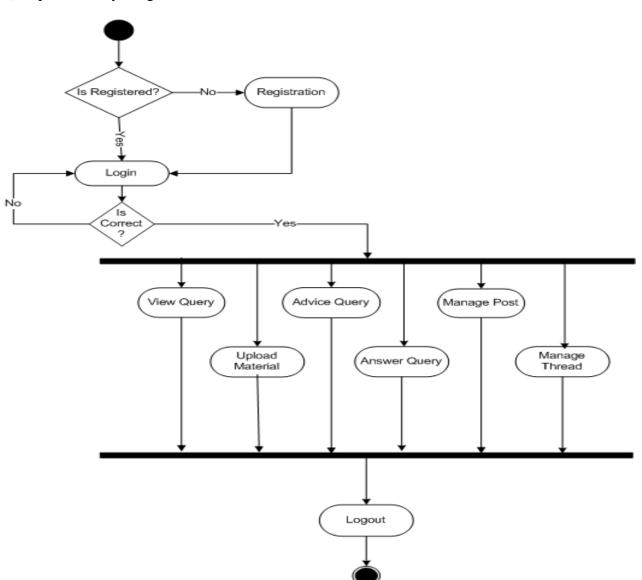
3) Student Use Case Diagram:



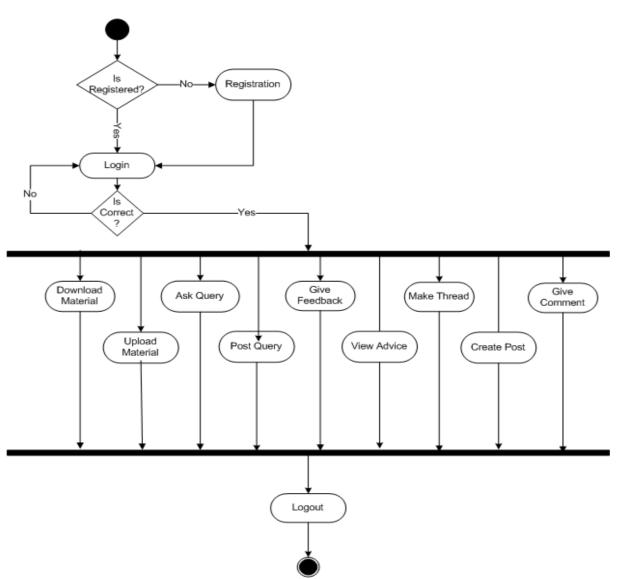
- 5.1.2 Activity Diagrams:
- 1) Admin Activity Diagram:



2) Expert Activity Diagram:

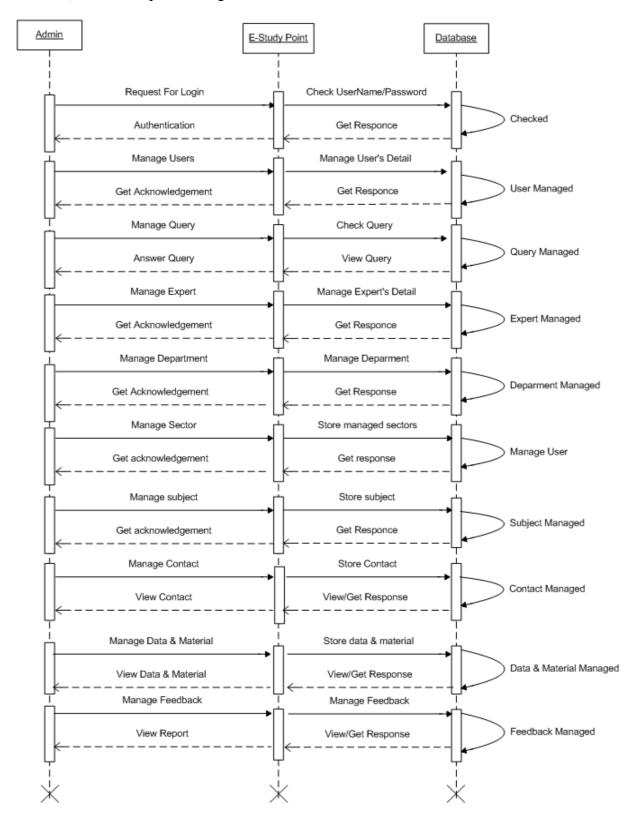


3) Student Activity Diagram:

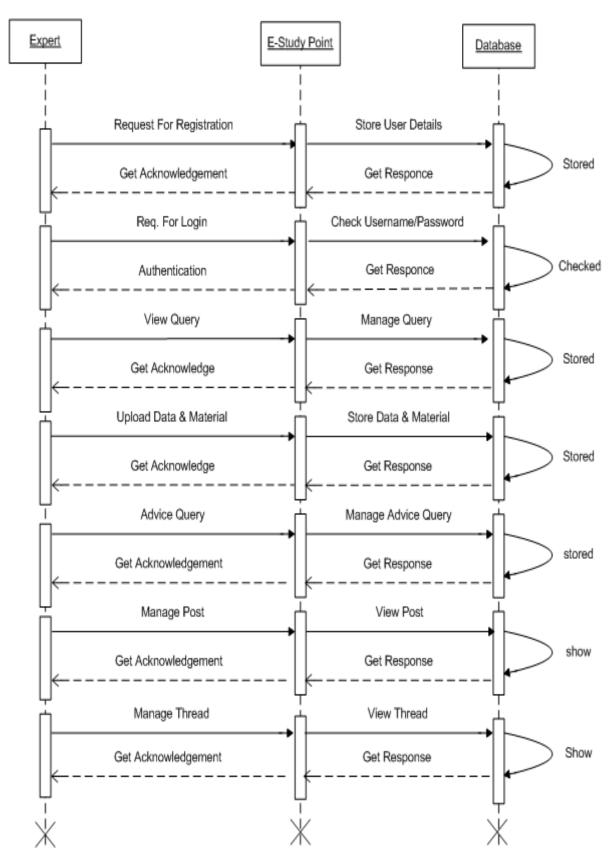


5.1.3 Sequence Diagram:

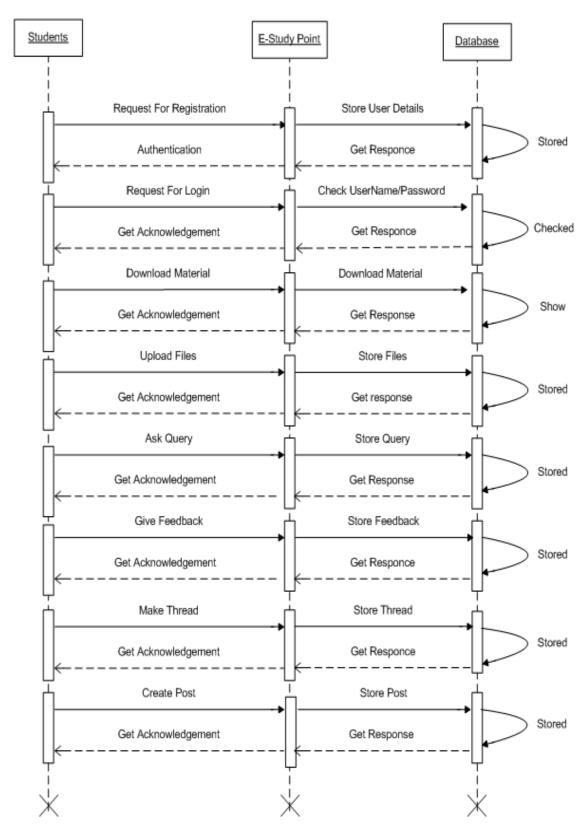
1) Admin Sequence Diagram:



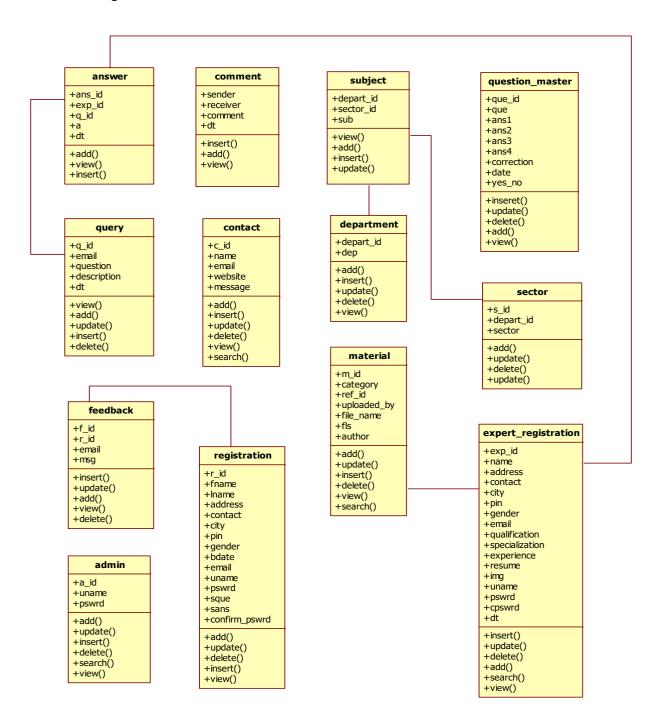
2) Expert Sequence Diagram:



3) Student Sequence Diagram:



5.1.4 Class Diagram:



6. SYSTEM DESIGN:

6.1 Data Dictionary:

***** Features of Data Dictionary:

The volume of data inmost information systems application is substantial more than a single analyst can easily keep track of when teams of analyst work on a system the task of co-coordinating data definition become more complex. Individuals depend on the definition others establish and assumptions hey make about data specification. Yet, unless they meet almost daily, it is virtually impossible to have accepted table data co-ordination.

Data dictionaries are integral component of structured analysis. Since data flow diagrams by themselves do not fully describes addition information about the system.

***** What Is Data Dictionary?

A data dictionary is a catalog repository of the elements center around data the way they are structures to meet user requirements and organization needs. In a data dictionary you will find a list of all the elements composing the data flowing through a system.

The major elements are data flows, data stores, and processes. The data dictionary stores details and description of these elements. If analyst wants to know how many characters are in a data item, by what others name it is referenced in the system, or where it is used in the system, they should be able to find answers I a property development data.

❖ Data Dictionary:-

The Data-dictionary is developed during data flow analysis and assists the analysis involved in determining system requirements. However, its contents are used during system design as well.

***** Why Is Data Dictionary Important?

Analysis use data dictionary for 6 important reasons.

- To manage the detail in large system.
- To communicate a common meaning for all system elements.
- To document the feature of the system
- To facilitate analysis of the details in order to evaluate.
- Characteristics and determine where system change should be made.
- To locate errors and omissions in the system.

*Database Table Name:

- 1. Admin
- 2. Answer
- 3. Comment
- 4. Contact
- 5. Department
- 6. Expert_registration
- 7. Feedback
- 8. Material
- 9. Query
- 10. Question_master
- 11. Registration
- 12. Sector
- 13. Subject
- 14. Post
- 15. Thread

1) Admin:-

Table Name: AdminPrimary Key: a_id

• Description: This table is used for login information of administrator.

No	Field name	Data type	Size	Constrain	Description
1	A_id	Numeric	-	Primary key	Unique id for table
2	Department_id	Numeric	-	Foreign key	Department id of admin
3	Sector_id	Numeric	-	Foreign key	Admin sector
4	Sem_id	Numeric	-	Foreign key	Semester id
5	Subject_id	Numeric	-	Foreign key	Subject id

2) Answer:

Table Name : AnswerPrimary Key : ans_id

• **Description:** This table is used to gives the answers of the query.

No	Field name	Data type	Size	Constrain	Description
1	Ans_id	Numeric	-	Primary key	Unique id for table
2	Exp_id	Numeric	-	Foreign key	Expert id of Expert
3	Q_id	Numeric	-	Foreign key	Query id
4	A	varchar	50	Not null	Answer
5	Dt	datetime	-	-	Date and time

3) Comment:-

• Table Name: Comment

• Primary Key: id

• **Description:** This table is used to gives the comments of the query and answer by users.

No	Field name	Data type	Size	Constrain	Description
1	Id	Numeric	-	Primary key	Unique id for table
2	Sender	varchar	50	Not null	Admin and users
3	Receiver	varchar	50	Not null	Admin and users
4	Comment	varchar	50	Not null	comment
5	Dt	datetime	-	-	Date and time

4) Contact:-

Table Name : ContactPrimary Key : c_id

• **Description:** This table is used to gives the contacts of users.

No	Field name	Data type	Size	Constrain	Description
1	C_Id	Numeric	-	Primary key	Unique id for table
2	Name	Varchar	50	Not null	Admin and users
3	Email	Varchar	50	Not null	Admin and users
4	Website	Varchar	50	Not null	Website
5	Message	Varchar	50	Not null	message

5) Department:-

Table Name : DepartmentPrimary Key : depart_id

• **Description:** This table is used to describe the information about the department.

No	Field name	Data type	Size	Constrain	Description
1	Depart_id	Numeric	-	Primary key	Unique id for table
2	Dep	Varchar	50	Not null	Admin and users

6) Expert_Regisrtation:-

• Table Name: Expert_Regisrtation

Primary Key : exp_id

• **Description:** This table is used to describe the registration information about the Expert and gives their detail.

No	Field name	Data type	Size	Constrain	Description
1	Exp_id	Numeric	16	Primary key	Unique id for table
2	Name	Varchar	20	Not null	Expert name
3	address	Varchar	50	Not null	Address of expert
4	contact no	Numeric	10	Not null	Expert Contact number
5	city	Varchar	15	Not null	City of expert
6	Pin_code	Numeric	6	Not null	Pin code of city
7	Gender	Varchar	6	Not null	Gender of expert
8	Email	Varchar	30	Not null	Expert Email id
9	Qualification	Varchar	50	Not null	Expert qualification
10	Specialization	Varchar	50	Not null	Expert specialization
11	Experience	Numeric	5	Not null	Expert experience
12	Resume	VarcharMax	200	Not null	Expert resume
13	Image	Varchar	50	Not null	Image of expert

322205 14	Date	date/time	8	Not null	Expert register
	Bute		Ů	T (ot num	Expert register date

7) Feedback:-

Table Name: FeedbackPrimary Key: user_id

• **Description:** This table is used to describe the feedback which is given by the users.

No	Field name	Data type	Size	Constrain	Description
1	User_id	Numeric	-	Primary key	Unique id for table
2	R_id	Numeric	-	Foreign key	User name
3	Email	Varchar	50	Not null	Email id
4	message	varcharMAX	200	Not null	message of feedback

8) Material:-

Table Name: Material Primary Key: m_id

• **Description:** This table is used to describe the material detail which is uploaded by users and also can be used to download.

No	Field name	Data type	Size	Constrain	Description
1	M_id	numeric	-	Primary key	Uniq id for table
2	R_id	Numeric	-	Foreign key	User id
3	Category	Varchar	50	Notnull	Downloaded data from
4	Uploaded by	Varchar	50	Not null	Name of the uploaded by
5	File name	Varchar	50	Not null	File name
6	Fls	Image	-	Not null	Files
7	Author	varchar	50	Not null	Name of the author

9) **Query:-**

Table Name: QueryPrimary Key: q_id

• **Description:** This table is used to describe the query that can be asked by the users.

No	Field name	Data type	Size	Constrain	Description
1	Q_id	Numeric	-	Primary key	Uniq id for table
2	email	Varchar	50	Not null	Email id
3	Query	VarcharMax	200	Not null	Query
4	Description	VarcharMax	200	Not null	Description about the query
5	Dt	Datetime	-	Not null	Date and time

10) Question_master:-

• Table Name: Question_master

• Primary Key : que_id

• **Description:** This table is used to describe the questions that can be asked by the users to the expert.

No	Field name	Data type	Size	Constrain	Description
1	Que_id	Numeric	-	Primary key	Unique id for table
2	Que	VarcharMAX	200	Not null	Questions
3	Ans1	VarcharMAX	200	Not null	Answer 1
4	Ans2	VarcharMAX	200	Not null	Answer 2
5	Ans3	VarcharMAX	200	Not null	Answer 3
6	Ans4	VarcharMAX	200	Not null	Answer 4
7	Correction	VarcharMAX	200	Not null	Correction about the question and other answers
8	Dt	Datetime	-	Not null	Date and time
9	Yes_no	Varchar	50	Not null	Answer in "YES" or "NO"

11) Registration:-

• Table Name: Registration

• Primary Key: r_id

• **Description:** This table is used to Store the Details of registered users including username and password.

No	Field name	Data type	Size	Constrain	Description
1	r_id	Numeric	-	Primary key	Unique id for table
2	Fname	Varchar	50	Not null	Users first name
3	Lname	Varchar	50	Not null	Users last name
4	Address	varcharMAX	200	Not null	Address of the user
5	Contact	Numeric	-	Not null	Contact of user
6	City	Varchar	50	Not null	City of user
7	Pin	Numeric	-	Not null	Pin code of the city
8	Gender	Varchar	50	Not null	Gender of the user
9	Bdate	Datetime	-	Not null	Birth date of the user
10	Email	Varchar	50	Not null	Email id of user
11	Uname	Varchar	50	Not null	Username of user
12	Pswrd	Varchar	50	Not null	Password of user
13	sque	Varchar	50	Not null	Question for registration
14	Sans	Varchar	50	Not null	Answer of the question
15	Dt	Datetime	-	Not null	Date and time

12) Sector:-

Table Name: Sector
Primary Key: s_id

• **Description:** This table is used to describe the sectors of the website and provide the way to find out particular sector.

No	Field name	Data type	Size	Constrain	Description
1	S_id	Numeric	-	Primary key	Unique id for table
2	Depart_id	Varchar	50	Foreign key	Admin and users
3	Sector	Varchar	50	Not null	sectors

13) Subject:-

Table Name: Subject Primary Key: sub_id

• **Description**: This table is used to describe the subjects of the different stream and provide the way to find out particular subject.

No	Field name	Data type	Size	Constrain	Description
1	Sub_id	Numeric	-	Primary key	Unique id for table
2	Depart_id	Numeric	-	Foreign key	Admin and users
3	S_id	Numeric	-	Foreign key	Admin and users
4	Sub	Varchar	50	Not null	subjects

14) Post:-

Table Name: Subject Primary Key: p_id

• **Description**: This table is used to describe the Post that can be done by the users with particular subjects and files or attachments.

No	Field name	Data type	Size	Constrain	Description
1	p_id	Numeric	-	Primary key	Unique id for table
2	U_id	Numeric	-	Foreign key	Users id
3	t_id	Numeric	-	Foreign key	Thread id
4	P_title	Varchar	50	Not null	Post title
5	P_attachment	Varchar	50	Not null	Post attachments
6	P_description	varcharMAX	200	Not null	Description of the post
7	Dt	Datetime	-	Not null	Date and time

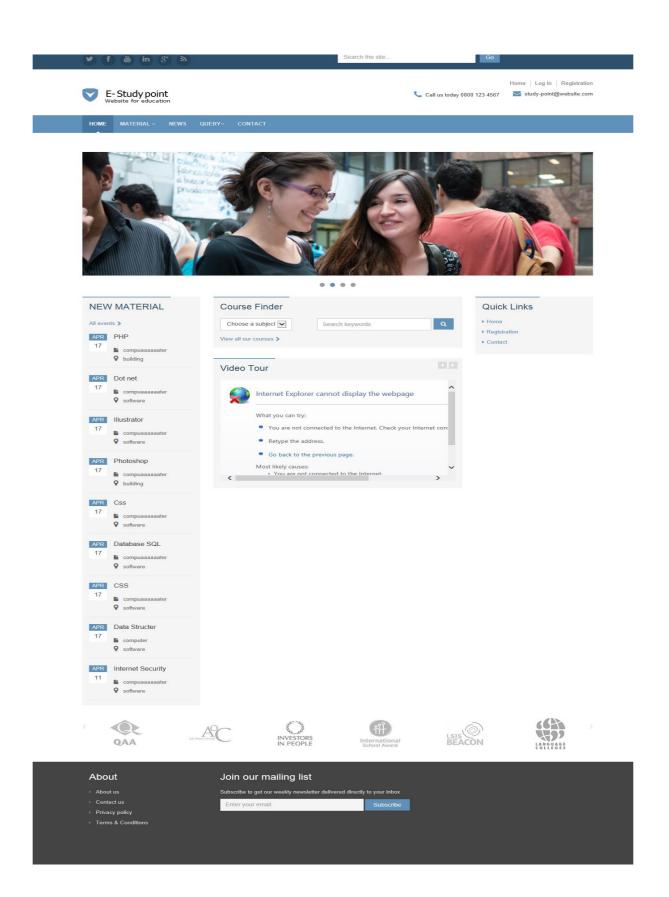
15) Thread:-

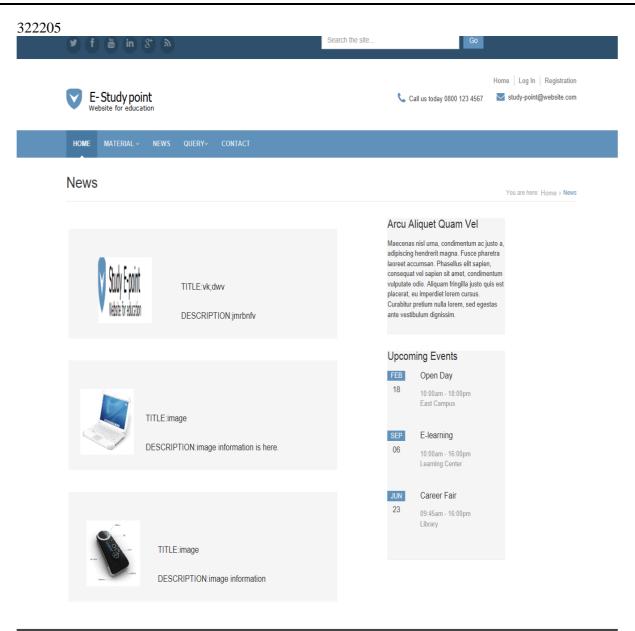
Table Name: Thread Primary Key: t_id

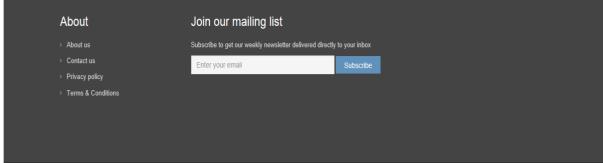
• **Description:** This table is used to describe the Post that can be done by the users with particular subjects and files or attachments.

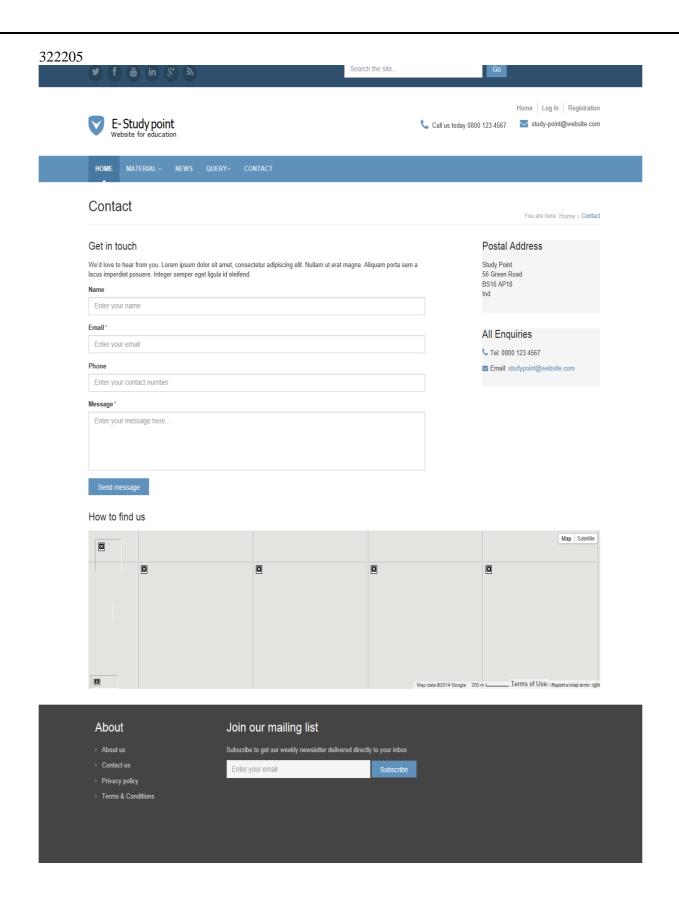
No	Field name	Data type	Size	Constrain	Description
1	t_id	Numeric	-	Primary key	Unique id for table
2	U_id	Numeric	-	Foreign key	Users id
3	t_title	Varchar	50	Not null	Title of the thread
4	Thread	Varchar	50	Not null	Threads
5	t_attachment	Varchar	50	Not null	thread attachment
7	Dt	Datetime	-	Not null	Date and time

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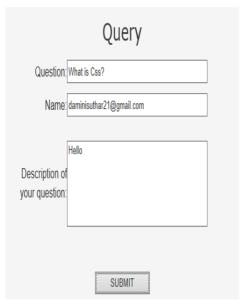


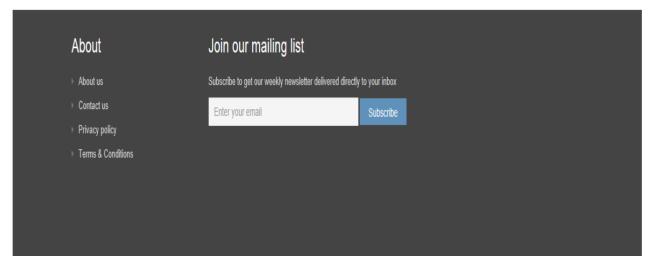


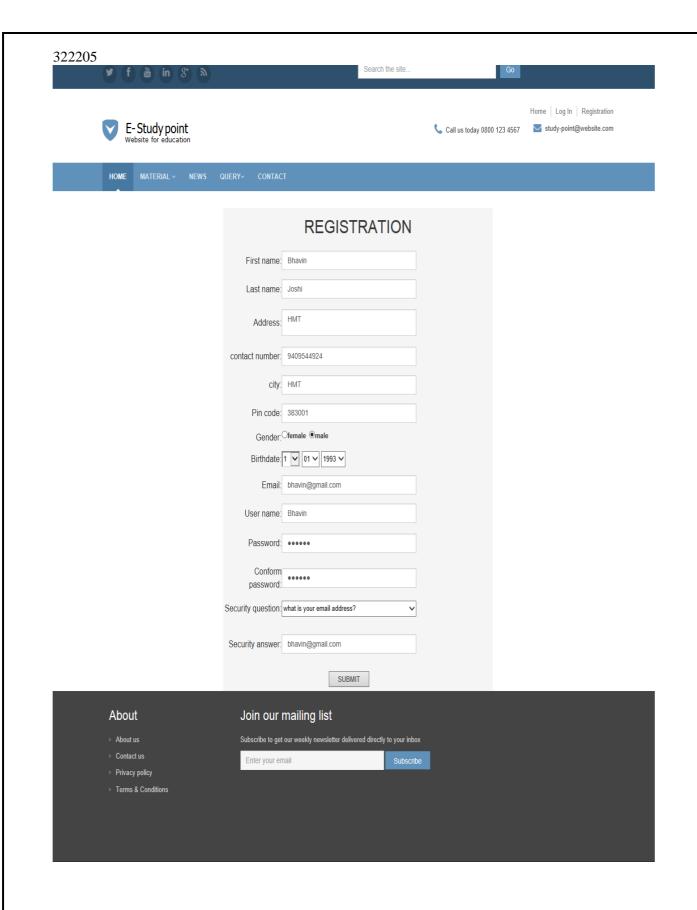


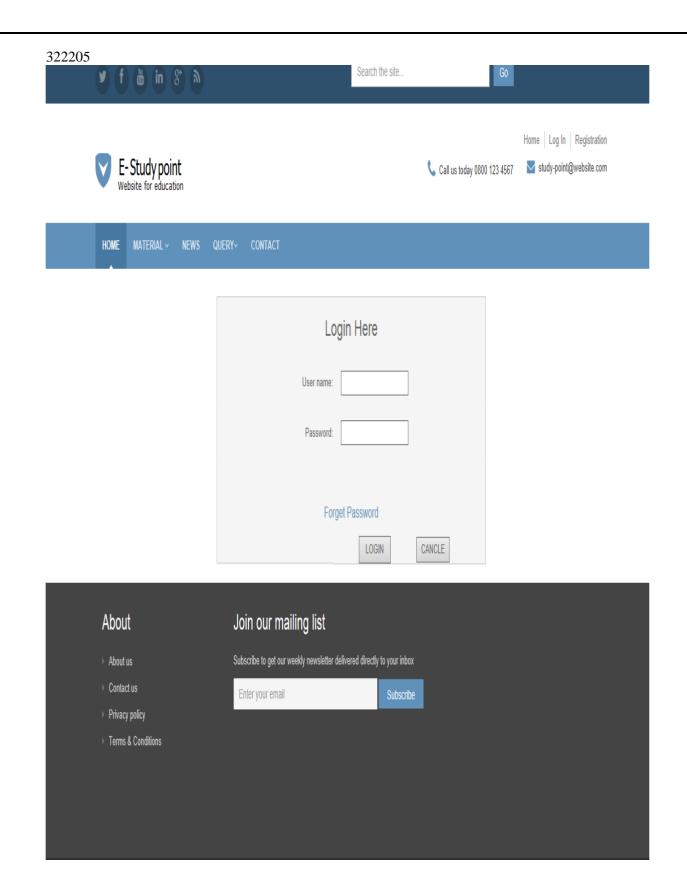


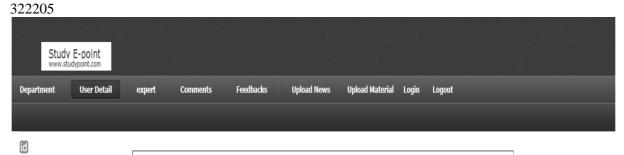


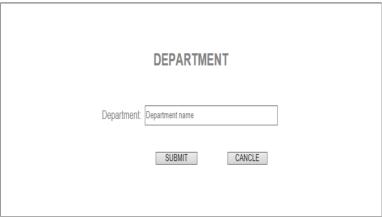


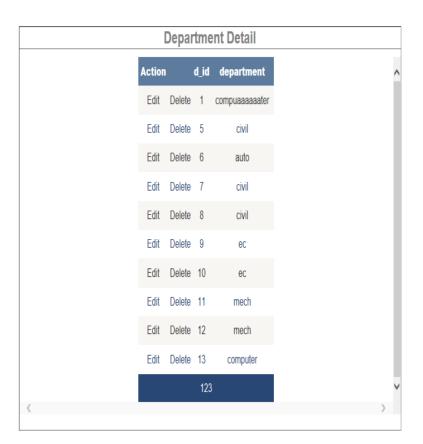


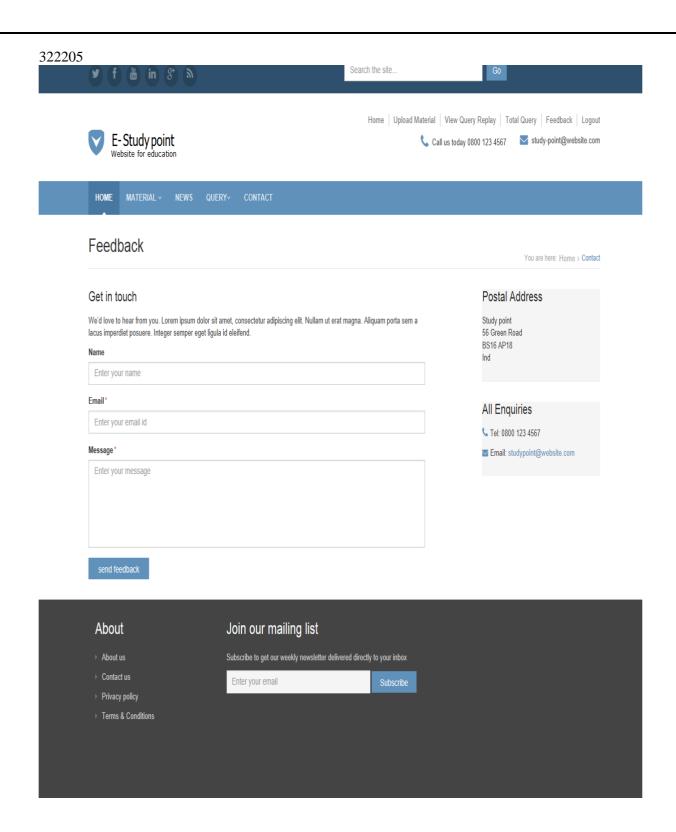


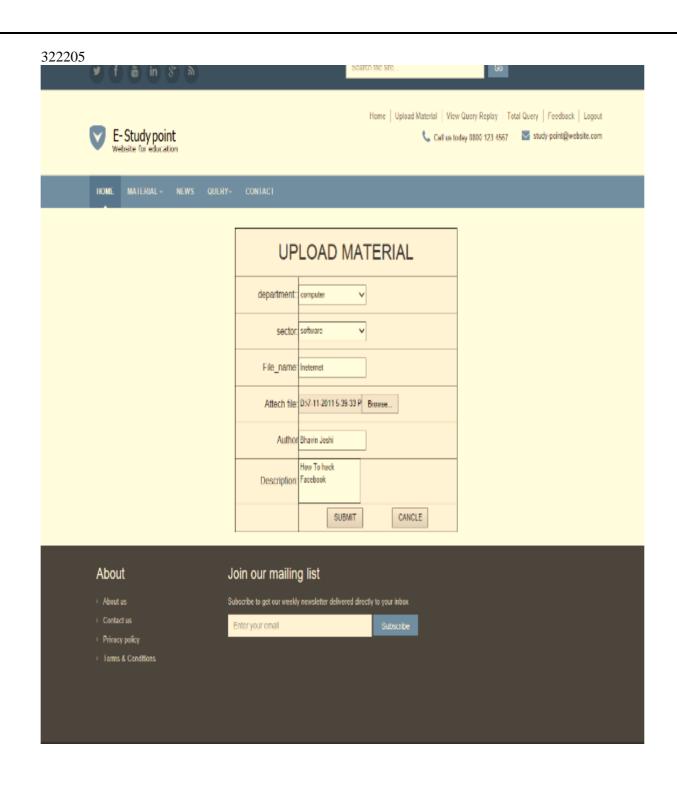


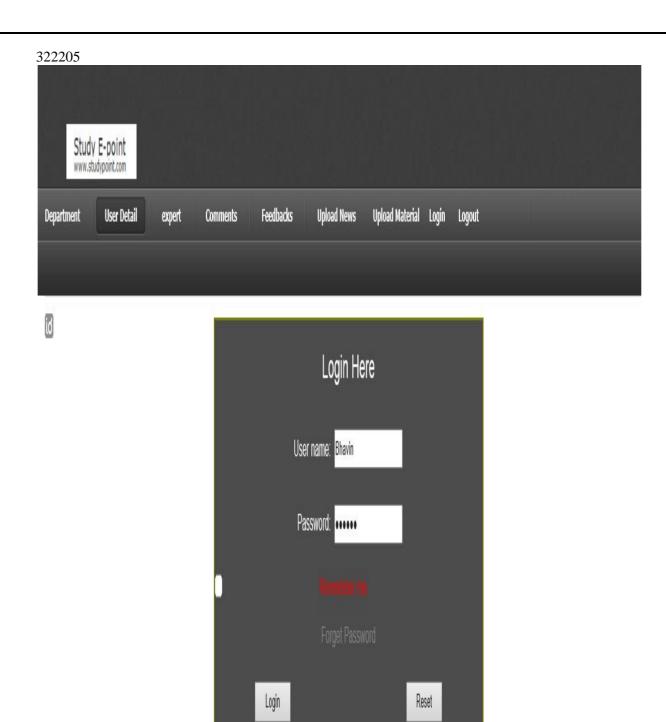


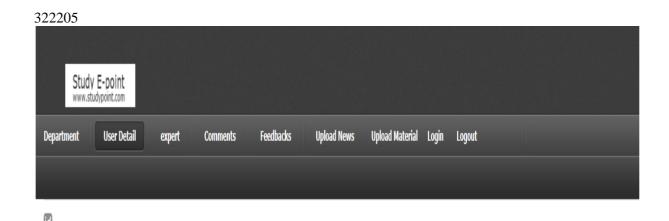




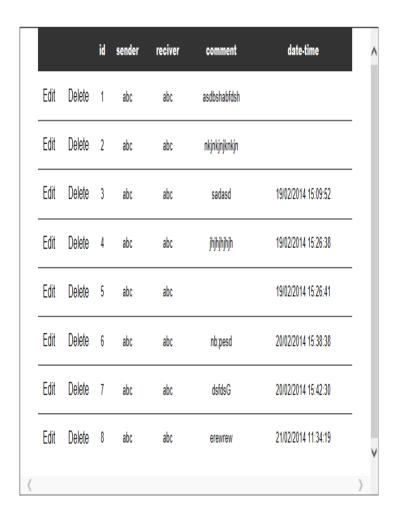


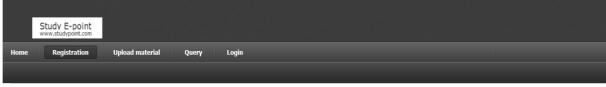




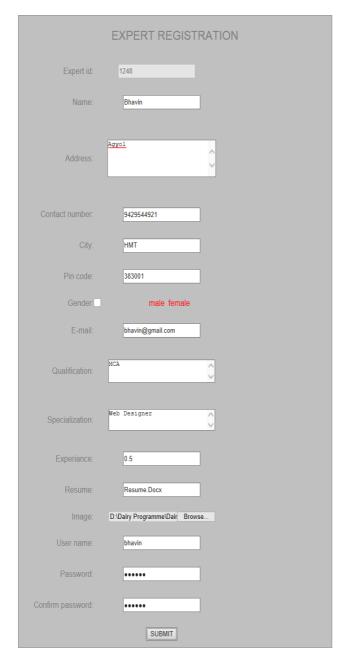


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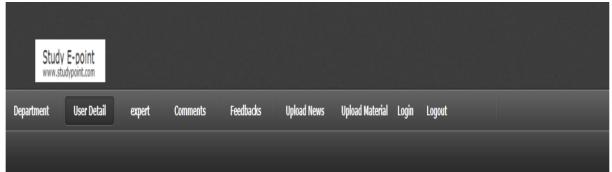




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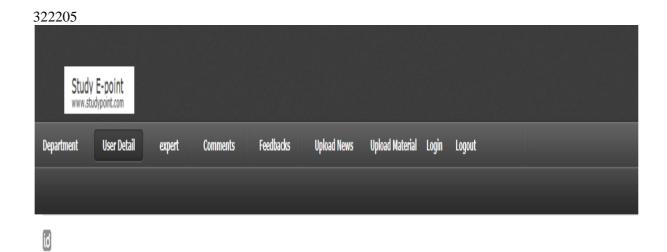




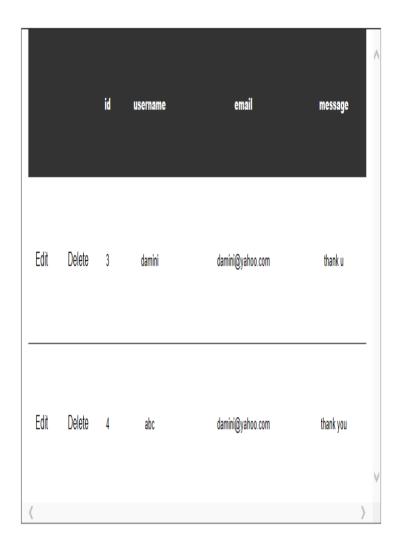
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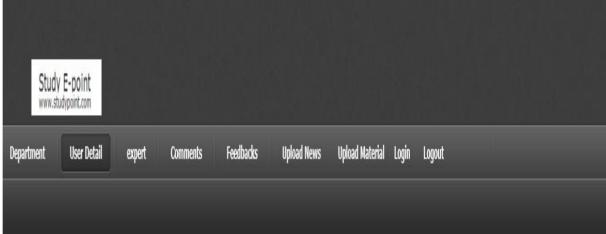




Feedbacks







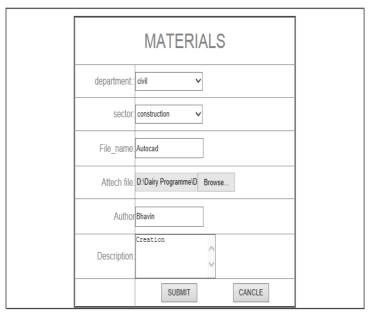








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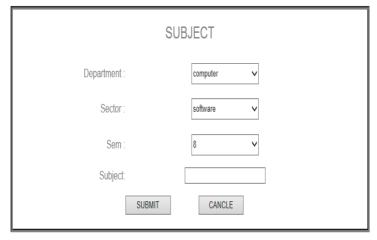


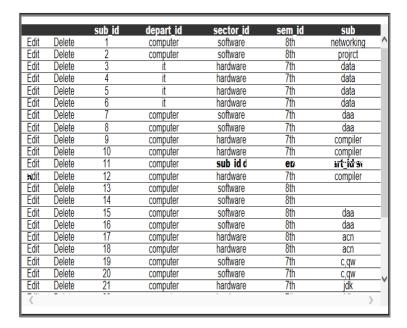






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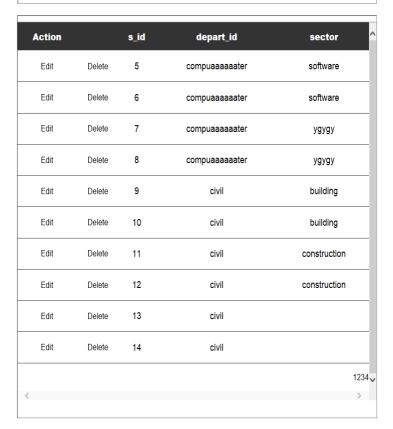




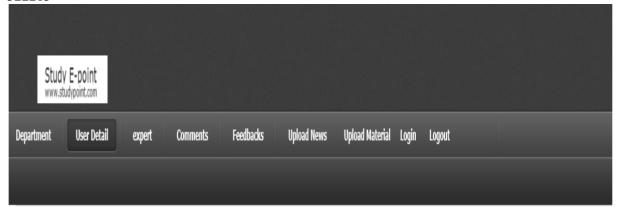












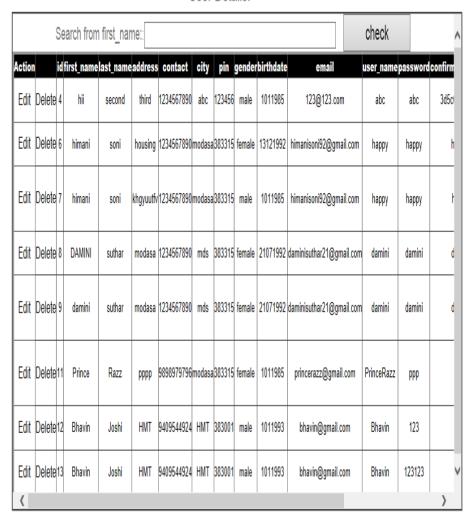






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User Details:



7. Testing:

1.1 Testing Techniques:

There are two techniques of testing:

- [1] Functional Testing
- [2] Structural Testing

In functional testing, the internal logic of the system under testing is not considered and the test cases are decided from the specification or the requirements. It is often called "Black Box Testing". Equivalence class partitioning, boundary analysis, and cause effect graphing are examples of methods for selecting test cases for functional testing. In structural testing, the test cases are decided entirely on the internal logic of the program or module being tested.

As the goal of testing is to detect any errors in the programs different flavor of testing are often used. Unit testing are used to test a module or a small collection of modules and the focus is on detecting coding errors in modules. During integration testing modules are combined into sub-system, which are then tested. The goal here is to test the system design. In system testing and acceptance testing, the entire System is tested. The goal here is to test the requirement themselves. Structural testing can be used for unit testing while at higher level mostly functional testing is used.

In the project Monthly Materialization Report System we used the unit testing and functional testing. System testing is a critical phase in systems implementation. Testing of a system involves hardware device testing and debugging of computer programs and testing information processing procedures. Testing can be done with test data, which attempts to simulate all possible conditions that may arise during processing. The plane for testing are prepared and then implemented.

Independent Unit Test (IUT):

IUT focuses first on the modules, independently of one another, to locate errors. This enables the tester to detect errors in coding and logic that are contained within that module alone. Those resulting from the interaction between modules are initially avoided.

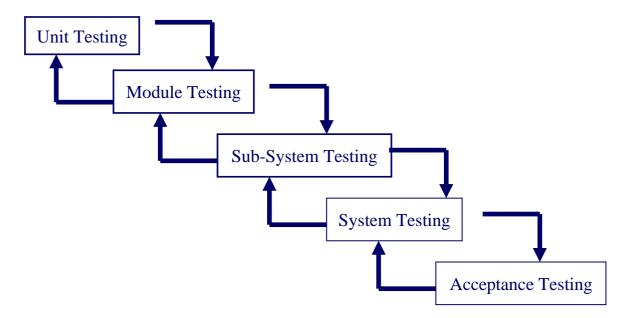
IUT is generally white box oriented which is predicted on the close examination of procedural detail. It exercises all the logical decisions on their true and false side, executes all loops at their boundaries and within their operational bounds and checks whether the required validations have been met. White box testing exercises internal data structure to assure their validity.

Here the system testing involved is the most widely used testing process consists of five stages as shown in the figure. In general, the sequence of testing activities is component testing, integration testing then user testing. However, as defects are discovered at any one stage, they required program modifications to correct them and this may required other stages in the testing process to be repeated.

1.2 Testing Strategy

Testing is the process of detecting errors. Testing performs a very critical role for quality assurance and for ensuring the reliability of the software. The results of testing are used later on during maintenance

also.



Testing is vital to the success of the system. System testing makes a logical assumption that if the parts of the system are correct, the goal will be successfully achieved. In adequate testing or non-testing leads to errors that may not appear until months or even years later (Remember the New York three day power failures due to a misplaced 'Break' statement).

This creates two problems:

- 1. The time lag between the cause and the appearance of the problem.
- 2. The time interval effect of the system errors on files and the records on the system.

A small error can conceivably explode into a much larger problem. Effective testing early in the process translates directly into long term cost savings from a reduced number of errors.

Another reason for system testing is its utility as a user oriented vehicle before implementation. The best program is worthless if it does not meet the user requirements. Unfortunately, the user's demands are often compromised by efforts to facilitate program or design efficiency in terms of processing time or design efficiency.

Thus in this phase we went to test the code we wrote. We needed to know if the code compiled with the design or not? Whether the code gave the desired outputs on given inputs? Whether it was ready to be installed on the user's computer or some more modifications were needed?

Through the web applications are characteristically different from there software counterparts but the basic approach for testing these web applications is quite similar. These basic steps of testing have been picked from software engineering practices. The following are the steps, we undertook:

The content of the Intranet site is reviewed to uncover Content errors. Content Errors covers the typographical errors, grammatical errors, errors in content consistency, graphical representation and cross referencing errors.

The design model of the web application is reviewed to uncover the navigation errors. Use cases, derived as a part of the analysis activity allows a web designer to exercise each usage scenario against the architectural and navigational design. In essence these non-executable tests help to uncover the errors in navigation.

When web applications are considered the concept of unit changes. Each web page encapsulates content navigation links, content and processing elements (Forms, Scripts, JSP's as in our case). It is not always possible to test each of these individually. Thus is the base of the web applications the unit to be considered is the web page. Unlike the testing of the algorithmic details of a module the data that flows across the module interface, page level testing for web applications is driven by content, processing and links encapsulating the web page.

The Assembled web application is tested for overall functionality and content delivery. The various user cases are used that test the system for errors and mistakes. The Web application is tested for a variety of environmental settings and is tested for various configurations and upon various platforms.

Thread based testing is done to monitor the regression tests so that the site does not become very slow is a lot of users are simultaneously logged on . A controlled and monitored population of end users tests Intranet application, this all comprises of the User Acceptance Testing.

Because web application evolves continuously, the testing process is an ongoing activity, conducted by web support staff in our case the Organization's IS people who will finally update and manage the application.

Psychology of Testing:

The aim of testing is often to demonstrate that a program works by showing that it has no errors. The basic purpose of testing phase is to detect the errors that may be present in the program. Hence one should not start testing with the intent of showing that a program works, but the intent should be to show that a program doesn't work. Testing is the process of executing a program with the intent of finding errors.

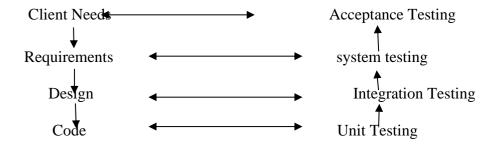
Testing Objectives:

The main objective of testing is to uncover a host of errors, systematically and with minimum effort and time. Stating formally, we can say,

- ✓ Testing is a process of executing a program with the intent of finding an error.
- ✓ A successful test is one that uncovers an as yet undiscovered error.
- ✓ A good test case is one that has a high probability of finding error, if it exists.
- ✓ The tests are inadequate to detect possibly present errors.
- ✓ The software more or less confirms to the quality and reliable standards.

1.3 Levels Of Testing

In order to uncover the errors present in different phases, we have the concept of levels of testing. The basic levels of testing are



Unit testing:

Unit testing focuses verification effort on the smallest unit of software i.e. the module. Using the detailed design and the process specifications, testing is done to uncover errors within the boundary of the module. All modules must be successful in the unit test before the start of the integration testing begins.

In this project each service can be thought of a module. There are so many modules like Login, HR Department, Interviewer Section, etc. Each module has been tested by giving different sets of inputs. When developing the module as well as finishing the development, the module works without any error. The inputs are validated when accepting them from the user.

Integration Testing:

After unit testing, we have to perform integration testing. The goal here is to see if modules can be integrated properly, the emphasis being on testing interfaces between modules. This testing activity can be considered as testing the design and hence the emphasis on testing module interactions.

In this project the main system is formed by integrating all the modules. When integrating all the modules I have checked whether the integration effects working of any of the services by giving different combinations of inputs with which the two services run perfectly before Integration.

System Testing:

Here the entire software system is tested. The reference document for this process is the requirements document, and the goal is to see if software meets its requirements.

Here entire 'HRRP' has been tested against requirements of project and it is checked whether all requirements of project have been satisfied or not.

Acceptance Testing:

Acceptance Testing is performed with realistic data of the client to demonstrate that the software is working satisfactorily. Testing here is focused on external behavior of the system; the internal logic of program is not emphasized.

Test cases should be selected so that the largest number of attributes of an equivalence class is exercised at once. The testing phase is an important part of software development. It is the process of finding errors and missing operations and also a complete verification to determine whether the objectives are met and the user requirements are satisfied.

White Box Testing:

This is a unit testing method, where a unit will be taken at a time and tested thoroughly at a statement level to find the maximum possible errors.

I tested step wise every piece of code, taking care that every statement in the code is executed at least once. The white box testing is also called Glass Box Testing.

I have generated a list of test cases, sample data, which is used to check all possible combinations of execution paths through the code at every module level.

White-box test focuses on the program control structure. Test cases are derived to ensure that all statement in the program control structure. Test cases are derived to ensure that all statement in the

program control structure. Test cases are derived to ensure that all statement in the program has been executed at least once during testing and that all logical conditions have been exercised. Basis path testing, a white box technique, makes use of program graphs (or graph matrices) to derive the set of linearly independent test that will ensure coverage. Condition and data flow testing further exercising degrees of complexity

Black Box Testing:

This testing method considers a module as a single unit and checks the unit at interface and communication with other modules rather getting into details at statement level. Here the module will be treated as a block that will take some input and generate output. Output for a given set of input combinations are forwarded to other modules.

Black-box test are designed to uncover errors functional requirement without regard to the internal workings of a program. Black-box testing techniques focus on the information domain of the software, deriving test cases by partitioning the input and output domain of a program in manner that provides through test coverage. The black-box test is used to demonstrate that software functions are operational, that input is properly produced, and that the integrity of external information are maintained. A black-box test examines some fundamental aspect of a system with little or no regard for the integral logical structure of the software.

Graph based testing methods explore the relationship between and behavior of program objects. Equivalence partitioning divides the input classes of data are likely to exercise specific software function. Boundary values analysis probes the program's ability to handle data at the limits of acceptability.

Test Information Flow:

A strategy for software testing may also be viewed in the context of the spiral. Unit testing begins at the vortex of the spiral and, concentrates on each unit, component of the software as implemented in source code.

Testing progresses moving outward along the spiral to integration testing, where the focus is on designed the construction of the software architecture. Taking another turn outward on spiral, we encounter validation testing, where requirements established as part of software requirements analysis are validated against the software that has been constructed.

Finally, we arrive at system testing, where the software and other system elements are tested as a whole. To test computer software, we spiral out along stream lines that broaden the scope of testing with each turn.

Considering the process from a procedural point of view, testing within the context of software engineering is actually a series of four steps that are implemented sequentially. The steps are shown in Figure. Initially, tests focus on each component individually, ensuring that it functions properly as unit. Hence, the name unit testing. Unit testing makes heavy use of white-box testing techniques, exercising specific paths in module's control structure to ensure complete coverage and maximum error detection.

8.Conclusions:

The project has been designed and developed to understand the various database access methods provided by ASP.NET C#, and the various abilities of the programming language. It also makes efficient use of the SQL SERVER 2005 database Management System as the Back End. Effort has been made to keep the project up to data and satisfy the user requirements.

It has been a humble effort on our part to bring to you this project. I shall welcome all comments, criticisms and suggestion to improve upon the existing project.

Concluding, I would like to say that the project had been of great help in more ways than one. It helped us gain valuable insight into the programming techniques of ASP.NET C# & SQL SERVER 2010.

Moreover, the huge level of attention is intensified for incorporating best available practices in current web technologies and RDBMS, which enables to provide greater efficiency, quicker & easier user access, and independency up to greater level of modifications.

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