

“SALESFORCE-HUBSPOT INTEGRATION”

A Project Report Submitted

In Partial Fulfilment of the Requirements

For the Degree of

MASTER OF COMPUTER APPLICATION

By

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LUCKNOW

AUGUST 2021

DECLARATION

I hereby declare that the work presented in this report entitled “**Salesforce-Hubspot Integration**”, was carried out by us. I have not submitted the matter embodied in this report for the award of any other degree or diploma of any other University or Institute.

I have given due credit to the original authors/sources for all the words, ideas, diagrams, graphics, computer programs, experiments, results, that are not my original contribution.

I have used quotation marks to identify verbatim sentences and given credit to the original authors/sources.

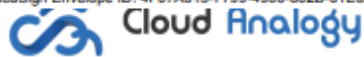
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2 August 2021

To Whomsoever It May Concern

Dear Sir/ Madam,

This is to confirm that **Mr. Deepanshu Gupta** has completed his Training/ Internship Program with **Cloud Analogy Softech Pvt. Ltd.** and now he is working as a **Salesforce Developer** full time employee with us.

Please feel free to contact us if your organization should require any further information.

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CERTIFICATE

Certified that **Deepanshu Gupta (Univ. Roll No.-1900290149040)** has carried out the project work presented in this report entitled “**Salesforce-Hubspot Integration**” for the award of **Master of Computer Application** from Dr. A.P.J. Abdul Kalam Technical University, Lucknow under my supervision. The report embodies result of original work, and studies are carried out by the student himself and the contents of the report do not form the basis for the award of any other degree to the candidate or to anybody else from this or any other University.

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ABSTRACT

“Salesforce-Hubspot Integration” is a Salesforce application Which is based On Cloud Computing. These days We are using databases in which coding is required to enter the data but this time we have an application which can do our work more simpler and easier i.e Salesforce. This application is used to store a huge amount of data properly and consistently.

The Objective of this application is to show that how a normal person who doesn't even know programming can use this application easily, it is flexible like data can be deleted Or updated easily. A Software project means a lot of experience So I learned a lot of things through this project, this project has sharpened our concept of Cloud Computing. This Concept of Cloud computing has not become a great role to play in today's technical world. These technologies will definitely take database systems far away.

So the maintenance and Presidency of this project became very easy.

- Easy accessibility.
- It makes searching records easier and faster.
- User is no longer required to check his register in search of records, as now it can be searched over the software by choosing some options.
- The user need not to type in most of the information.
- On the whole it liberates the user from keeping lengthy manual records.
- Every one wants his/her work to be done by computer automatically and displaying the result for further manipulations.
- So this project is about providing convenience.

ACKNOWLEDGEMENTS

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CHAPTER 1

INTRODUCTION

1.1 PROJECT DESCRIPTION

The objective of this application is to show that how a normal person who doesn't even know programming can use this application easily, it is flexible like data can be deleted enter or updated easily.

"Salesforce-Hubspot Integration" is a Salesforce application which is based on cloud computing. These days we are using databases in which coding is required to enter the data. But this time we have an application which can do our work more simpler and easier i.e. Salesforce. This application is used to store a huge amount of data properly and consistently.

Using Salesforce platform provide different features in it:

1.1.1 Contact Presidency

To view customer contact details, activity history, customer communications, and internal account discussions, etc. In short, it manages all the data pertaining to the contact with a customer.

1.1.2 Opportunity Presidency

It provides the details of the stage a deal is in, the products involved in the deal, the quotation for the deal etc. In short it manages all the data that helps in identifying, progressing and closing a deal.

1.1.3 Salesforce Engage

This feature is focused on making personalized contact with a customer for various campaigns designed by the marketing team. It also provides real-time sales alerts based on the level of engagement with a customer.

1.1.4 Sales Collaboration

This feature helps in quickly finding experts who can help in closing a deal based on customer queries and feedback. In short, it helps in bringing in a collaborative effort to engage an entire team in the deal and make the deal happen.

1.1.5 Sales Performance Presidency

It provides a metric-based goal setting, and also continuous feedback and rewards and recognition for the sales team. This helps in enhancing the performance of the sales team.

1.1.6 Lead Presidency

This feature initiates and tracks the leads that are in progress. It also helps in continually optimizing campaigns across every channel.

1.1.7 Partner Presidency

This feature helps in building a community with partners. It also helps in connecting directly with channel partners to share goals, objectives, and activities.

1.1.8 Salesforce Mobile App

This is the mobile platform to carry out all the above activities on a mobile platform.

1.1.9 Workflow and Approvals

It is a visual design to automate the business processes. The interface provides simple drag and drop options to make this design. It helps in creating a flexible approval process with deal discounts and expense Presidency etc.

1.1.10 Email Integration

Salesforce can integrate to an existing email platform. This helps in providing flexibility to the existing team with no additional learning curve.

1.1.11 Files Sync and Share

This feature provides the sales team the power to easily share various files, discuss them and update them as needed. Also receive alerts when something in the file changes.

1.1.12 Reports and Dashboards

Dashboards offer a real-time picture of the business at a glance. With this, anyone can create detailed reports which can be accessed from anywhere.

1.1.13 Sales Forecasting

This feature helps in getting a real time view of the forecast of a sales team. It provides multi-currency support and an in-line editing mode to manage the sales forecast well.

1.1.14 Territory Presidency

This feature is used to create multiple territory models, preview them before rollout, and continually optimize and balance territories throughout the year.

1.2 PROJECT SCOPE

The following documentation is a project the “Salesforce-Hubspot Integration”. It describe the drawbacks of the old system and how the new proposed system overcomes these shortcomings.

The new system takes into account the various factors while designing a new system. It keeps into the account the Economical bandwidth available for the new system. The foremost thing that is taken care of is the need and requirements of the user.

It is basically for this project with the new trend of managing the stuffs.

- It is time saving as it doesn't involve manual process for facing difficulties due to heavy rush and safe from infectious place
- It is very user friendly.
- User across India come to the portal and register themselves for blood donation by giving some details regarding them
- It is eco-friendly as well, as it does not involve usage of papers.
- Errors are almost impossible as it requires less human interaction.
- Accuracy in work.
- Easy & fast retrieval of information.
- Decrease the load of the person involve in existing manual system.
- Access to any information individually.
- Work becomes very speedy.
- Easy to update information
- Easy availability.

1.3 IDENTIFICATION OF NEED

User need identification and analysis are concerned with what user needs rather than what he/she wants. Not until the problem has been identified, defined, and evaluated should the analyst think about solutions and whether the problem is worth working. This step intended to help the user and analyst understand the real problem rather than its symptoms. The user or the analyst may identify the need for a candidate system or for enhancement in the existing system.

An analyst is responsible for performing following tasks:

- Studied strength and weakness of the current system.
- Determined “what” must be done to solve the problem.
- Prepared a functional specifications document.

These modules are developed with the aim of reducing time, reducing manpower so that everything can be easily maintained and. The volume of work and complexity are increasing year by year. This system reduces complexity and time. Also provide availability 24*7.

1.4 PROBLEM STATEMENT

In the existing system all the work is done manually. This is chance of committing errors and it will take more time to perform or checkout any information. There are so many limitations in the existing system. So the existing system should be automatized. If the system is carried over manually, for everything it take more time. So it is difficult to take immediate decisions.

- In the traditional system, if you wish to analyze any record you have to turn pages many time.
- Existing systems are time consuming as it requires too much planning and so much human involvement.
- As it involves much human involvement, the cost of the system automatically gets increased.
- Existing systems require paper use, which isn't good for the environment.
- With too much human involvement, there are high chances of risk as well.
- There is too much of paper work too, which makes the tasks in the existing system, very tedious.

1.5 HARDWARE / SOFTWARE USED IN PROJECT

1.5.1 HARDWARE REQUIREMENT

Hardware	Configuration
Processor	Intel(R)core(TM)i3-7200UCPU @2.50GHz
Ram	4GB
Monitor	Normal

1.5.2 SOFTWARE REQUIREMENT

Software	Configuration
Operating System	Window7 or above
Language	Apex

1.5.3 SOME REQUIREMENTS

Performance Requirements:

To achieve good performance the following requirements must be satisfied--

- Scalability: The ease with which a system or component can be modified to fit the problem area.
- Portability: The ease with which a system or component can be transferred from one hardware or software environment to another.
- Security: It is the ideal state where all information can be communicated across the internet / company secure from unauthorized persons being able to read it and/or manipulate it..
- Maintainability: The ease with which a software system or component can be modified to correct faults, improve performance, or other attributes, or adapt to a changed environment.
- Reliability: The ability of a system or component to perform its required functions under stated conditions for a specified period of time.
- Reusability: The degree to which a software module or other work product can be used in more than one computing program or software system.

Safety Requirements:

In case scenarios where data integrity can be compromised, measures should be taken to ensure that all changes are made before system is shutdown. The user must have a registered account to use all facility of the web application.

1.5.4 OTHER REQUIREMENTS

1.5.4.1 SALESFORCE

Salesforce is an on-demand customer relationship management (CRM) suite offering applications for small, midsize and enterprise organizations, with a focus on sales and support.

Salesforce started as a cloud based solution for CRM. CRM stands for Customer Relationship management . It involves managing all aspects of relationship between an organization and its customers.

Salesforce.com, Inc. is an American cloud-based software company headquartered in San Francisco, California. It provides customer relationship management (CRM) service and also provides a complementary suite of enterprise applications focused on customer service, marketing automation, analytics, and application development.

BENEFITS OF SALESFORCE.COM

A. Cloud Based- The Salesforce.com is a cloud based technology. It can be possible to access the salesforce.com from anywhere anytime. The important thing is that you have an internet connection in your device from which you want to access. This will make possible for you to run you organization from anywhere.

B. On Demand Salesforce.com is providing on demand service. Developer can demand for any type of support anytime. If a user stuck with the storage space problem, than user has to create one case for the same reason and send to the salesforce.com team. They will allocate appropriate space user's account on demand .

C. Inbuilt Facilities Salesforce.com is providing numbers of inbuilt Facilities. It is not necessary that a salesforce.com user have to write code for everything. Salesforce.com is providing Drag and drop facilities. In which developer has to drag and drop the required object from the given list. But, Developer only can drag and drop the object if he or she knows the exact logic behind the object .

D. Availabilities The salesforce.com is highly available if user has the internet connection in mobile device. As discussed before, It is totally based on internet so, if user have the internet connection than user can work on it every time .

E. Cost As the salesforce.com is providing pay as you go facility, the annual cost of organization will be less. Any hardware setup is not required, so it will save the setup cost and maintenance cost too.

F. Speed The salesforce.com is providing drag and drop facility. The user does not have to write code for everything. Such logics will be added by just drag and drop at the exact logical fields to right place. So, it is obvious that the coding time will be saved and development process will be fast .

G. Security The salesforce.com is providing system level and application level security. At the system level security, developer can set the permissions. Developer can generate the access levels as per the role of employees. So, as per role base access, only authorised users can get access to their own developer org. Violation of security access will be reduced.

H. GUI The salesforce.com has a simple GUI. New user can easily understand the flow of application. For new users, salesforce.com is providing a beginner module in trail heads. From that user can easily work on the GUI related queries. User can learn from trailheads about the GUI.

1.5.4.2 APEX

Apex is strongly typed object-oriented, on-demand programming language. It is compiled, stored, and run entirely on the Force.com platform (multi-tenant environment and is very controlled in its invocations and limits).

Apex syntax looks mostly like Java and acts like stored procedures.

Apex allows developers to attach business logic to the record save process

Apex has built-in support for unit test creation and execution.

As a language apex is Integrated, Easy to use, Data focused, Rigorous, Hosted, Multi-tenant aware, automatically up-gradable, easy to test and versioned.

Apex has certain features like listed below.

- Integrated
- Easy to use
- Data Focused
- Hosted
- Multitenant aware
- Easy to test
- Versioned
- Object-Oriented

1.6 PROJECT SCHEDULE

The objective of software project planning is to provide a framework that enables the manager to make reasonable estimates of resources, costs and schedule. These estimates are made within a limited time frame at the beginning of a software project and should be updated regularly as the project progresses. In addition, estimates should attempt to define “best case” and “worst case” scenarios so that project outcomes can be bounded.

The first activity in software project planning is the determination of software scope. Function and performance allocated to software during system engineering should be assessed to establish a project scope that is ambiguous and understandable at Presidency and technical levels. Software scope describes function, performance, constraints, interfaces and reliability.

During early stages of project planning, a microscopic schedule is developed. This type of schedule identifies all major software engineering activities and the product functions to which they are applied. As the project gets under way, each entry on the macroscopic schedule is refined into detailed schedule. Here specific software tasks are identified and scheduled.

Scheduling has following principles:

1. Compartmentalization: the project must be compartmentalized into a number of manageable activities and tasks.
2. Interdependency: the interdependencies of each compartmentalized activity or tasks must be determined.
3. Time allocation: each task to be scheduled must be allocated some number of work units.
4. Effort validation: every project has a defined number of staff members.
5. Defined responsibilities: every task that is scheduled should be assigned to a specific team member.
6. Defined outcomes: every task that is scheduled should have a defined outcome.

1.6.1 Pert chart

Program evaluation and review technique (pert) is a project scheduling method that is applied to software development.

Pert provide quantitative tool that allow the software planner to-Determine the critical path-the chain of tasks that determines the duration of the project; Establish “most likely” time estimates for individual tasks by applying statistical models; and

Calculate “boundary times” that defines a time “window” for a particular task.

Pert chart(program evolution review technique) for project-

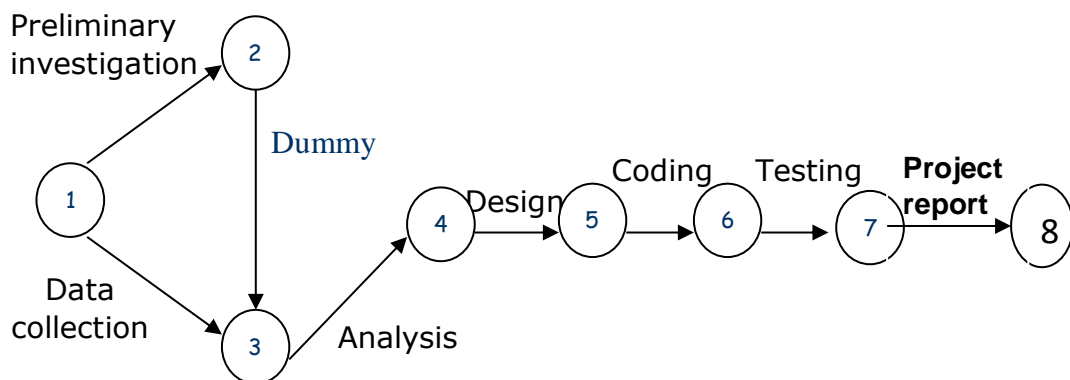


Figure 1.1 Pert chart

1.6.2 Gantt Chart

When creating a project schedule, the planner begins with a set of tasks (the work breakdown structure). If automated tools are used, the work breakdown is input as a task network. Effort, duration and start dates are input are each task network. As a consequence of this input, a timeline chart also called a Gantt chart is generated. A timeline chart is developed for entire project.

Gantt chart for project:

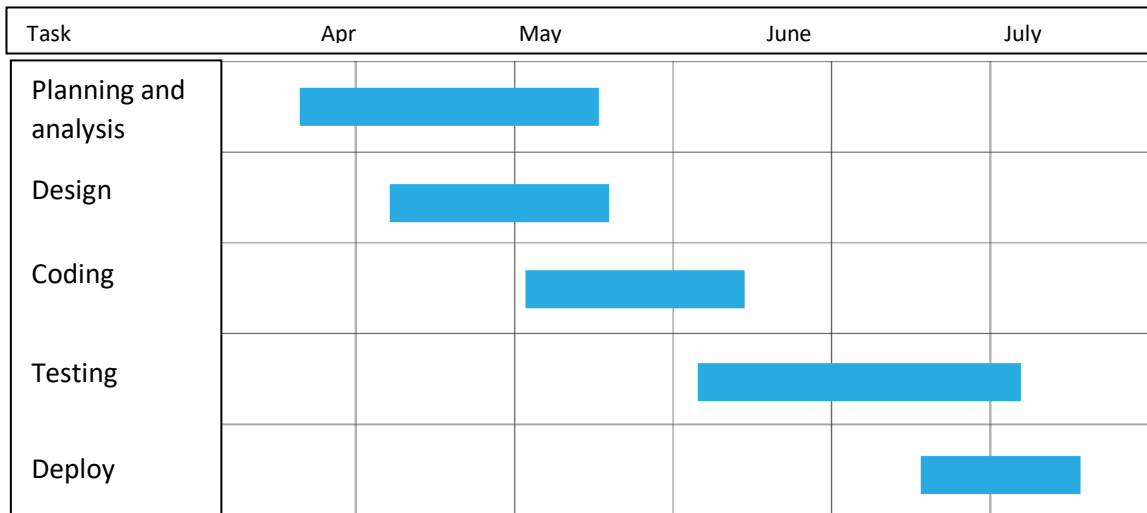


Figure 1.2:Gannt chart for project

Here horizontal bars indicate the duration of each task.

CHAPTER 2

LITERATURE REVIEW

ABSTRACT

Our software is planned for the developing up an Salesforce-Hubspot Integration, that will help to manage all data of any Records Data on cloud with the help salesforce. Salesforce is one of the trending cloud computing technology, It's a CRM (Customer relationship management), which is available 24*7 on cloud, no need to install any extra software. we can do our work on cloud with ease and flexibility as well as availability. Our software mainly reduces the work load tasks and it is efficient to maintain the data for a longer time than the hand written data as well give cloud ease.

Our project is for Integration which is Intranet based software with cloud flexibility. our system is for managing, manipulating, reporting etc. information for the Integration. Our project is being created for a building Integration to keep up & simple access to information. For accessing this the user should be enrolled with the system, after that they could change or manipulate data by the authorizations provided to the user. Salesforce-Hubspot_Integration presidency application is based on an intranet application that provide giving information to management with in firm of all level.

KEYWORDS:- Cloud, Salesforce, Salesforce-Hubspot Integration, cloud computing, CRM, Apex.

2.1 INTRODUCTION

The Aim of this system is to making an application which allow a normal user who is even not familiar with programming concept can use our system easily[10].

“Salesforce-Hubspot Integration Application” is based on cloud computing, a Salesforce application.

With the traditional database we use to store data in databases respectively with any software, coding or manually, it's quite hectic job.[15] that managing the database separately. but this time we have cloud-based storage mechanism which is easier and simpler to manage the database, that is salesforce[13].

Salesforce is customer relationship management (CRM) suite give applications for different size of organizations like small, midsize, large. with a proper focus on support and sales. It is an on-demand service. It contains managing all thing related of relationship between an firm and its user.also provide security in different ways[14].

So, the maintenance and maintenance of this Project became very easy, it provide:-

- Easy accessibility.
- It makes searching of data easier and faster.
- Easy availability.
- liberates lengthy manual records.

So our project is providing convenience in different aspects.

2.2 RELATED WORK

2.2.1 College Management System

It's a system which manages the information of college, information of student, information of placement, various event going in college. It keep tracking record of all the data. It has also a notice board which have data about various programme either its cultural or any sports which is supposed to be held soon or technical[5] .

2.2.2 Campus Cloud – A Management Information System On Cloud

This paper has find several problem with the systems intended for management of Integration and other systems similar. It is successful implementation of such type of systems makes for consistently better performance, institutions gets several problem, such as issues of revenue, issues of technological, complexity, technical knowledge lacks. Campus Cloud focuses on educational firms The best level of integration requirements of a given organization would be defined as per, with the on-demand nature and modular of the Cloud service, give the best possible advantages to the users[6].

2.2.3 Salesforce-Hubspot Integration

Salesforce-Hubspot Integration, a system developed with the help of Java ,that could be used for presidency of different things in various firms like colleges, schools and universities. It have different access level for people of different categories like administrators, special users, normal users. It use SQL for management of database and can be connected so that accessible from any location ,that is to cloud database storage. It will be developed using Netbeans IDE. It contains different module which is available for different section[7].

2.2.4 Cloud Based College Management System

This system work mainly on Cloud Platform Techniques, Microsoft Azure to handle the database and code with monitoring of network for reasons of security and handling PHP extensions using PHP libraries inbuilt and Database MySQL and windows server

2016,virtual server. The now work can improve by PHP Code of each page method of ajax calling technique of JavaScript/JQuery Programming Language[8].

2.2.5 Salesforce.Com-A Cloud Provider

The proposed system work is about the using cloud stage which would change all the customary perspectives of system, product improvement Technologies and application. Salesforce.com, the best cloud providers. There are numerous reasons because of which IT industries are moving to cloud. Furthermore, quantities of reasons , industries need to taught to adopting salesforce.com cloud. The system work is focusing on regular and essential highlight of salsforce.com The aim of this proposed system is to show the resources available in the salesforce.com[2].

2.2.6 Extremely Effective Crm Solution Using Salesforce

Salesforce is one of the hot cloud computing tech. in computer industry, which is available on the cloud, there is no need to install any software. Salesforce.com is one of the on demand CRM, which runs on the force.com platform. we are talking about Introduction to the Cloud Computing, different Service models in the Cloud Computing, Types of it, Architecture of it and MVC. Introduction to the Salesforce, SOQL and Its Operators and also Force.com IDE and CRM[11].



Figure 2.2 flow of website

2.3 DESIGN

2.3.1 Design

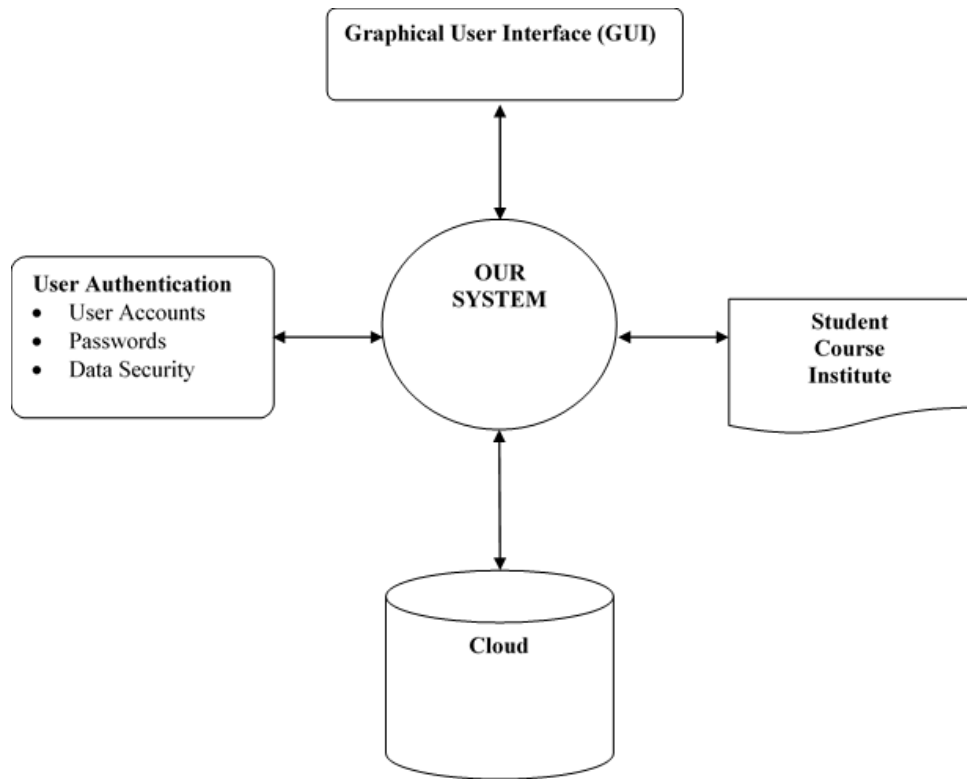


Figure 2.3 Design

In this we define the projects structure, feature, criteria for success the main objective is to create the desired project. our system is based on cloud.

2.3.2 Implementation And Evaluation

The implementation of the system is done with the help of salesforce and apex.by using of force.com cloud platform. With the help of apex language.by the using of force.com pages leveraging and functionalities the information on our account of salesforce[1]. With the help of the custom domain, user can use this domain to access the website.

2.3.2.1 Salesforce

Salesforce customer relationship management (CRM) which is an on-demand suite offering applications for different level of organization like small, midsize and large organizations, with a complete focus on support and sales as well.

Salesforce initially started for CRM solution as a cloud-base. CRM full form is Customer Relationship management.

It basically used for establishing a better connectivity between user and the organisation. With the help of cloud based technology, where all stuffs related to user available for 24*7. To form a ideology of trust between both.

2.3.2.2 Apex

Apex is object-oriented strongly typed, programming language ,it is on-demand. It is stored ,compiled, and run entirely the platform of the Force.com.

On which user can perform different tasks as they needed for making the project more effective and ready to use.

From the java syntax ,the Apex syntax assemble mostly and show as stored procedure.

The apex, programming language allow the coder to write their enterprises logic and can also attach records to save process. The apex has unit test execution and creation built-in support as well though which it get whopping effect.

As a programming language apex is Easy to use, Integrated, Data focused, Hosted, Rigorous, automatically up-gradable Multi-tenant aware,, easy to test and easily versioned.

2.3.3 GUI

The graphical user interface is one important factor by which the user can easily access the website to understand what he need to do in order to use the software effectively[3].

A easy and effective GUI is good for both user as well as developer.

Some of the GUI are

as follow:

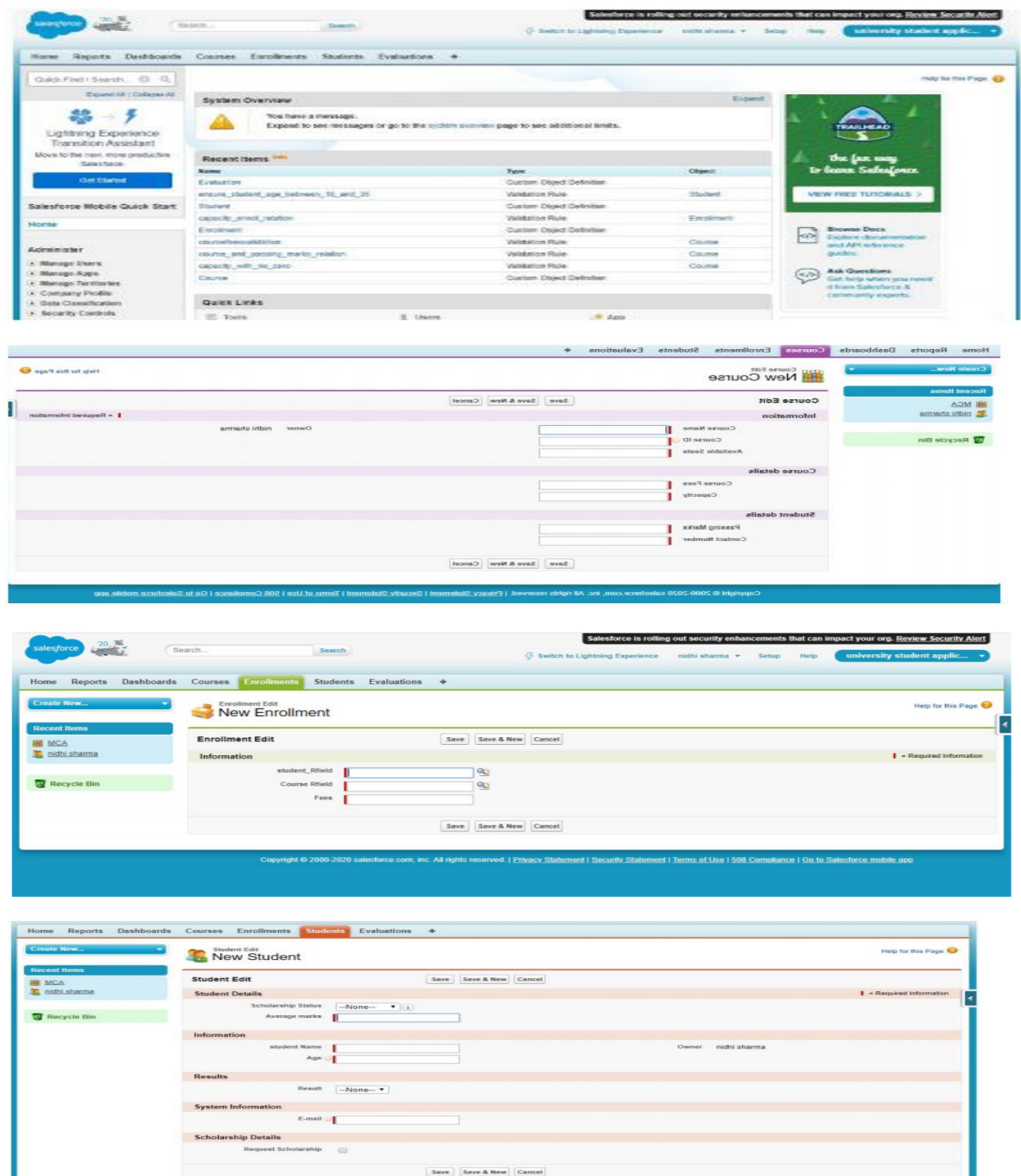


Figure 2.3 some screens

2.4 RESULT

We have come on result that our system working fine in each case. It is user friendly as well as efficient to use. we have done different things to verify the performance.

TEST CASE RESULT

TestCase#	Description	Result
TC#1	Loading the	Passed
TC#2	Login	Passed
TC#3	Validating	Passed
TC#4	Content	Passed
TC#5	Course page	Passed
TC#6	Reports page	Passed
TC#7	Logout	Passed

2.5 DISCUSSION

System was completely done after was duly coded. each modules of the project were checked to ensure they are fully functional units.[4] This was done by checking each unit to give assurance that it functions as required and that it performed exactly as defined. The success of each individual gave us go ahead to carryout testing properly[9].

The defined system was validated by the using a series of short questionnaire that was completely filled by representatives users who have used the system and give suggestion according to the need .This was done to the assess if the system met their respective needs and requirements. It was also find that it is easy to access the data as well as available when needed. With the flexibility of the cloud it is quite useful and better version of management system.

2.6 CONCLUSION & FUTURE SCOPE

2.6.1 CONCLUSION

A system means a lot of experience. I learned a lot of thing this project development. This project has also sharpened my concept cloud computing.

2.6.2 FUTURE SCOPE

To make our system more user friendly.

I will add Helping BOT in the system.

Adding of Online examination module.

CHAPTER 3

FEASIBILITY STUDY

3.1 INTRODUCTION

Feasibility of the system in an important aspect, which is to be considered. The system needs to satisfy the law of economic, which states that the maximum output should be yielded in minimum available resources.

A feasibility analysis evaluates the project's potential for success; therefore, perceived objectivity is an essential factor in the credibility of the study for potential investors and lending institutions. There are five types of feasibility study—separate areas that a feasibility study examines, described below.

1. Technical Feasibility

This assessment focuses on the technical resources available to the organization. It helps organizations determine whether the technical resources meet capacity and whether the technical team is capable of converting the ideas into working systems. Technical feasibility also involves the evaluation of the hardware, software, and other technical requirements of the proposed system. As an exaggerated example, an organization wouldn't want to try to put Star Trek's transporters in their building—currently, this project is not technically feasible.

2. Economic Feasibility

This assessment typically involves a cost/ benefits analysis of the project, helping organizations determine the viability, cost, and benefits associated with a project before financial resources are allocated. It also serves as an independent project assessment and enhances project credibility—helping decision-makers determine the positive economic benefits to the organization that the proposed project will provide.

3. Legal Feasibility

This assessment investigates whether any aspect of the proposed project conflicts with legal requirements like zoning laws, data protection acts or social media laws. Let's say an organization wants to construct a new office building in a specific location. A feasibility study might reveal the organization's ideal location isn't zoned for that type of business. That organization has just saved considerable time and effort by learning that their project was not feasible right from the beginning.

4. Operational Feasibility

This assessment involves undertaking a study to analyze and determine whether—and how well—the organization's needs can be met by completing the project. Operational feasibility

studies also examine how a project plan satisfies the requirements identified in the requirements analysis phase of system development.

5. Scheduling Feasibility

This assessment is the most important for project success; after all, a project will fail if not completed on time. In scheduling feasibility, an organization estimates how much time the project will take to complete.

When these areas have all been examined, the feasibility analysis helps identify any constraints the proposed project may face, including:

- Internal Project Constraints: Technical, Technology, Budget, Resource, etc.
- Internal Corporate Constraints: Financial, Marketing, Export, etc.
- External Constraints: Logistics, Environment, Laws, and Regulations, etc

3.2 MAIN ASPECTS

There are three aspects of feasibility to be considered namely.

1. Technical
2. Operational
3. Economical

TECHNICAL:

In the technical aspects one may consider the hardware equipment for the installation of the software. The system being centralized will required very little hardware appliances. Hence this helps the system to work smoothly with limited amount of working capitals.

OPERATIONAL:

In the operational aspects may think of the benefits of the workload that many a personal may have to share. This is eased out and the required output may be

retrieved in a very short time. Thus there is accuracy in the work on time is also saved there will be very little work that needs to be performed.

ECONOMICAL:

Economical system is definitely feasible because the hardware requirement is less and the operational working for the system requires less number of recruits. This help introduction over-staffing and wastage funds.

We studied on the position to evaluate solution. Most important factors in this study were tending to overlook the confusion inherent in system Development the constraints and the assumed studies. It can be started that it the feasibility study is to serve as a decision document it must answer three key questions.

1. Is there a new and better way to do the job that will benefit the user?
2. What are the costs and savings of the alternatives?
3. What is recommended?

On these questions it can be explained that feasibility study of the system includes following different angles.

3.2.1 Technical feasibility:

This centers on the existing computer system (hardware, software etc.) and to what extent it can support the proposed additional equipment .in this stage of study, we have collected information about technical tools available by which I could decide my system design as the technical requirements.

3.2.2 Operational Feasibility:

In this stage of study we have checked the staff availability. I concentrate on knowledge of end users that are going to use the system. This is also called as behavioral feasibility in which I have studied on following aspects; people are inherently resistant to change, and computers have been known to facilitate change .An estimate has been made to how strong a reaction the user staff is having toward the development of a computerized system. It is common knowledge that computer installations have something to do with turnover. I had explained that there is need to educate and train the staff on new ways of conducting business.

3.2.3 Economical feasibility:

Economical analysis is the most frequently used method for evaluating the effectiveness of candidate system. More commonly known as cost\benefit analysis, the procedure is to determine the benefits and savings that benefits outweigh costs. The decision was to design and implement system because it is for having chanced to be approved. This is an on going effort that improves the accuracy at each phase of the system life cycle.

In developing cost estimates for a system I need to consider several cost elements. Among these is hardware personal facility. Operating and supply costs.

3.3 BENEFITS

Benefits of conducting a feasibility study:

- Improves project teams' focus
- Identifies new opportunities
- Provides valuable information for a "go/no-go" decision
- Narrows the business alternatives
- Identifies a valid reason to undertake the project
- Enhances the success rate by evaluating multiple parameters
- Aids decision-making on the project
- Identifies reasons not to proceed

3.4 SYSTEM REQUIREMENT SPECIFICATION

Any system can be designed after specifies the requirement of the user about that system. For this first of all gathered information from user by the preliminary investigation which is starting investigation about user requirement..

The data that the analysts collect during preliminary investigation are gathered through the various preliminary methods.

Documents Reviewing Organization

The analysts conducting the investigation first learn the organization involved in, or affected by the project. Analysts can get some details by examining organization charts and studying written operating procedures.

Collected data is usually of the current operating procedure:

- The information relating to clients, projects and students and the relationship between them was held manually.

- Managing of follow-ups was through manual forms.
- Complaints require another tedious work to maintain and solve.
- Payments details had to be maintained differently.

Gathering Information By Asking Questions

Interviewing is the most commonly used techniques in analysis. It is always necessary first to approach someone and ask them what their problems are, and later to discuss with them the result of your analysis.

Questionnaires

Questionnaires provide an alternative to interviews for finding out information about a system. Questionnaires are made up of questions about information sought by analyst. The questionnaire is then sent to the user, and the analyst analyzes the replies.

Electronic Data Gathering

Electronic communication systems are increasingly being used to gather information. Thus it is possible to use electronic mail to broadcast a question to a number of users in an organization to obtain their viewpoint on a particular issue.

In my project, with the help of Marg software solutions, I have send questionnaire through electronic mail to twenty employees of the company and retrieved the information regarding the problem faced by existing system.

Interviews

Interview allows the analysts to learn more about the nature of the project request and reason of submitting it. Interviews should provide details that further explain the project and show whether assistance is merited economically, operationally or technically.

One of the most important points about interviewing is that what question you need to ask.

It is often convenient to make a distinction between three kinds of question that is

- Open questions
- Closed question
- Probes

Open questions are general question that establish a persons view point on a particular subject.

Closed questions are specific and usually require a specific answer.

CHAPTER 4

DESIGN

4.1 INTRODUCTION

System is created to solve problems. One can think of the systems approach as an organized way of dealing with a problem. In this dynamic world, the subject system analysis and design, mainly deals with the software development activities.

Since a new system is to be developed, the one most important phases of software development life cycle is system requirement gathering and analysis. Analysis is a detailed study of various operations performed by a system and their relationship within and outside the system. Using the following steps it becomes easy to draw the exact boundary of the new system under consideration.

All procedures, requirements must be analysed and documented in the form of detailed DFDs, logical data structure and miniature specifications.

System analyses also include sub-dividing of complex process involving the entire system, identification of data store and manual processes.

4.2 SYSTEM DESIGN

System design is the process of planning a new system or to replace the existing system. Simply, system design is like the blueprint for building, it specifies all the features that are to be in the finished product.

System design phase follows system analysis phase. Design is concerned with identifying functions, data streams among those functions, maintaining a record of the design decisions and providing a blueprint the implementation phase.

Design is the bridge between system analysis and system implementation. Some of the essential fundamental concepts involved in the design of application software are:

- Abstraction
- Modularity
- Verification

Abstraction is used to construct solutions to problem without having to take account of the intricate details of the various component sub problems. Abstraction allows system designer to make step-wise refinement, which at each stage of the design may hide,

unnecessary details associated with representation or implementation from the surrounding environment.

Modularity is concerned with decomposing of main module into well-defined manageable units with well-defined interfaces among the units. This enhances design clarity, which in turn eases implementation, Debugging, Testing, Documenting and Maintenance of the software product. Modularity viewed in this sense is a vital tool in the construction of large software projects.

Verification is fundamental concept in software design. A design is verifiable if it can be demonstrated that the design will result in implementation that satisfies the customer's requirements. Verification is of two types namely.

- Verification that the software requirements analysis satisfies the customer's needs.
- Verification that the design satisfies the requirement analysis.

Some of the important factors of quality that are to be considered in the design of application software are:

Reliability:

The software should behave strictly according to the original specification and should function smoothly under normal conditions.

Extensibility:

The software should be capable of adapting easily to changes in the specification.

Reusability:

The software should be developed using a modular approach, which permits modules to be reused by other application, if possible.

The System Design briefly describes the concept of system design and it contains four sections. The first section briefly describes the features that the system is going to provide to the user and the outputs that the proposed system is going to offer.

The second section namely Logical Design describes the Data Flow Diagrams, which show clearly the data movements, the processes and the data sources, and sinks, E-R diagrams which represent the overall logical design of the database, and high-level process structure of the system.

Preliminary Design:

Preliminary design is basically concerned with deriving an overall picture of the system. Deriving entire system into modules and sub-modules while keeping Cohesion and Coupling factors in mind. Tools, which assist in preliminary design process, are Data Flow Diagrams.

Code design:

The purpose of code is to facilitate the identification and retrieval for items of information. A code is an ordered collection of symbols designed to provide unique identification of an entity or attribute. To achieve unique identification there must be only one place where the identified entity or the attribute can be entered in the code; conversely there must be a place in the code for every thing that is to be identified. This mutually exclusive feature must be built into any coding system.

The codes for this system are designed with two features in mind. Optimum human oriented use and machine efficiency They are also operable i.e., they are adequate for present and anticipate data processing both for machine and human use.

Input /Output design :

is a part of overall system design, which requires very careful attention. The main objectives of input design are:

- To produce a cost-effective method of input.
- To achieve the highest possible level of accuracy.
- To ensure that the input is acceptable to and understood by the user staff.

Outputs from computer systems are required primarily to communicate the results of processing to users. They are also to provide a permanent hard copy of these results for later consultation.

The various types of outputs are required by this system are given below:

- External outputs, whose destination is outside the concern and which require special attention because they, project the image of the concern.
- Internal outputs, whose destination is within the concern and which require careful design because they are the user's main interface within the computer.
- Operation outputs, whose use is purely within the computer department, E.g., program listings, usage statistics etc.

4.3 SDLC

Software Development Life Cycle (SDLC) is a framework that defines the steps involved in the development of software at each phase. It covers the detailed plan for building, deploying and maintaining the software.

SDLC defines the complete cycle of development i.e. all the tasks involved in planning, creating, testing, and deploying a Software Product.



Figure 4.1: Above image depicting the planning step

SDLC Phases

Given below are the various phases:

- Requirement gathering and analysis
- Design
- Implementation or coding
- Testing
- Deployment
- Maintenance

Requirement Gathering and Analysis

During this phase, all the relevant information is collected from the customer to develop a product as per their expectation. Any ambiguities must be resolved in this phase only. Business analyst and Project Manager set up a meeting with the customer to gather all the information like what the customer wants to build, who will be the end-user, what is the purpose of the product. Before building a product a core understanding or knowledge of the product is very important.

Once the requirement gathering is done, an analysis is done to check the feasibility of the development of a product. In case of any ambiguity, a call is set up for further discussion. Once the requirement is clearly understood, the SRS (Software Requirement Specification) document is created. This document should be thoroughly understood by the developers and also should be reviewed by the customer for future reference.

Design

In this phase, the requirement gathered in the SRS document is used as an input and software architecture that is used for implementing system development is derived.

Implementation or Coding

Implementation/Coding starts once the developer gets the Design document. The Software design is translated into source code. All the components of the software are implemented in this phase.

Testing

Testing starts once the coding is complete and the modules are released for testing. In this phase, the developed software is tested thoroughly and any defects found are assigned to developers to get them fixed.

Deployment

Once the product is tested, it is deployed in the production environment or first UAT (User Acceptance testing) is done depending on the customer expectation.

Maintenance

After the deployment of a product on the production environment, maintenance of the product i.e. if any issue comes up and needs to be fixed or any enhancement is to be done is taken care by the developers.

4.4 SOFTWARE ENGG. PARADIGM APPLIED

Software engineering is a layered technology. The foundation for software engineering is the process layer. Software engineering processes the glue that holds the technology layers together and enables ratios and timely development of computer software. Process defines a framework for a set of key process areas that must be established for effective delivery of software engineering technology.

Software engineering methods provide the technical how-to's for building software. Methods encompass a broad array of tasks that include requirements analysis, design, program construction, testing and support. Software engineering tools provide automated or semi-automated support for the process and the methods. When tools are integrated so that information created by one tool can be used by another tool, a system for the support of software development, called computer-aided software engineering is established.

The following paradigms are available:

1. The Waterfall Model
 2. The Prototyping Model
 3. The Spiral model
- Etc.

4.4.1 The Prototype model

The prototype model requires that before carrying out the development of actual software, a working prototype of the system should be built. A prototype is a toy implementation of the system. A prototype usually turns out to be a very crude version of the actual system, possibly exhibiting limited functional capabilities, low reliability, and inefficient performance as compared to actual software. In many instances, the client only has a general view of what is expected from the software product. In such a scenario where there is an absence of detailed information regarding the input to the system, the processing needs, and the output requirement, the prototyping model may be employed.

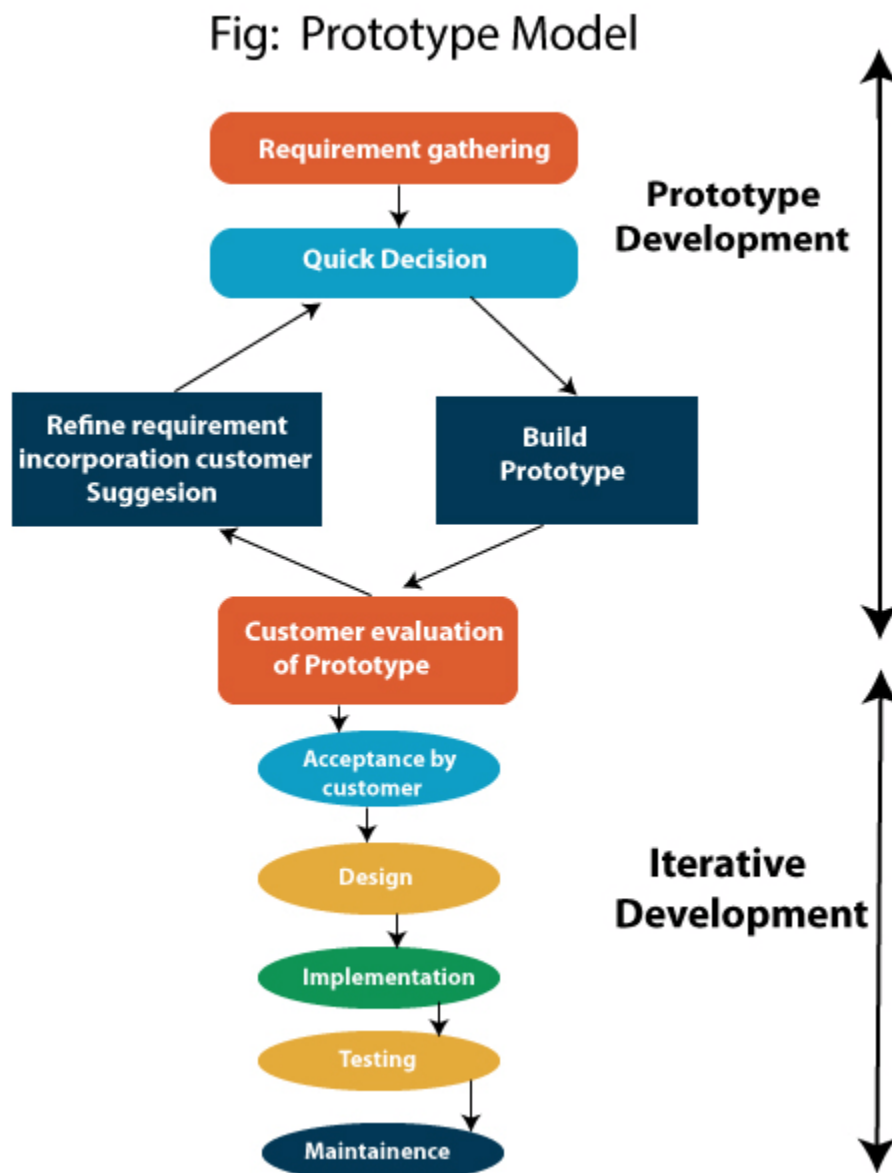


Figure 4.2:Prototype model

4.4.1.1 Advantage of Prototype Model

1. Reduce the risk of incorrect user requirement
2. Good where requirement are changing/uncommitted
3. Regular visible process aids Presidency
4. Support early product marketing

5. Reduce Maintenance cost.
6. Errors can be detected much earlier as the system is made side by side.

4.4.1.2 Disadvantage of Prototype Model

1. An unstable/badly implemented prototype often becomes the final product.
2. Require extensive customer collaboration
 - Costs customer money
 - Needs committed customer
 - Difficult to finish if customer withdraw
 - May be too customer specific, no broad market
3. Difficult to know how long the project will last.
4. Easy to fall back into the code and fix without proper requirement analysis, design, customer evaluation, and feedback.
5. Prototyping tools are expensive.
6. Special tools & techniques are required to build a prototype.
7. It is a time-consuming process.

4.5 DFD

DFD is the abbreviation for **Data Flow Diagram**. The flow of data of a system or a process is represented by DFD. It also gives insight into the inputs and outputs of each entity and the process itself. DFD does not have control flow and no loops or decision rules are present. Specific operations depending on the type of data can be explained by a flowchart. Data Flow Diagram can be represented in several ways.

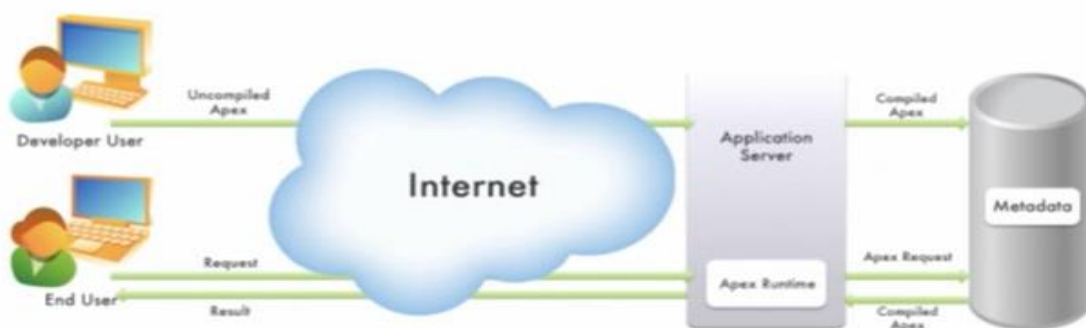


Figure 4.3 Apexworking

Level 0 DFD :

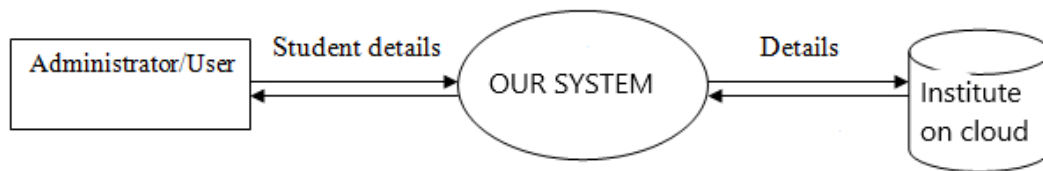


Figure 4.4 Context level

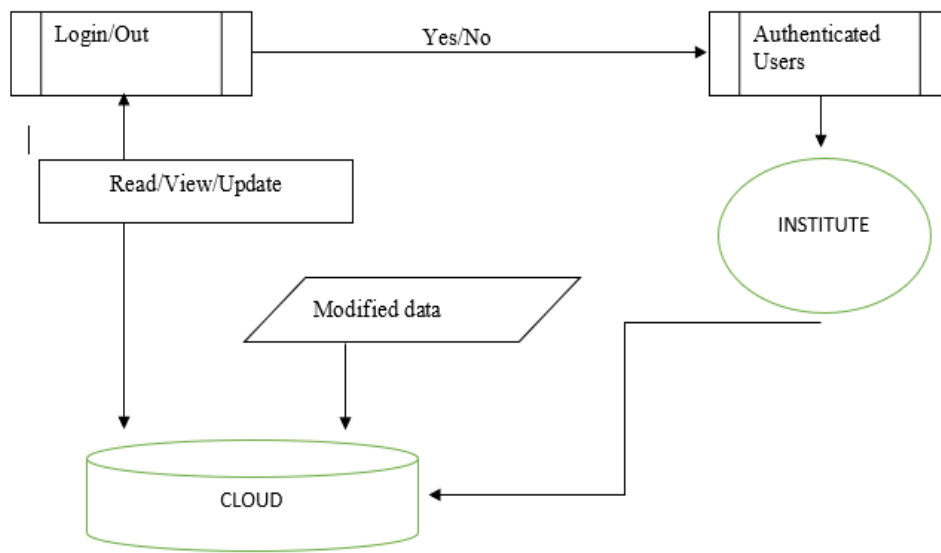


Figure 4.5 Dfd 1 level

4.6 UML use case diagram

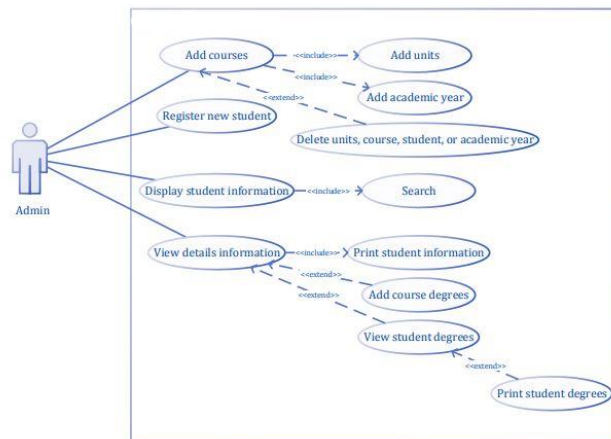


Figure 4.6 Uml use case

4.7 ER DIAGRAM

An Entity–relationship model (ER model) describes the structure of a database with the help of a diagram, which is known as Entity Relationship Diagram (ER Diagram). An ER model is a design or blueprint of a database that can later be implemented as a database. The main components of E-R model are: entity set and relationship set.

An ER diagram has three main components:

1. Entity
2. Attribute
3. Relationship

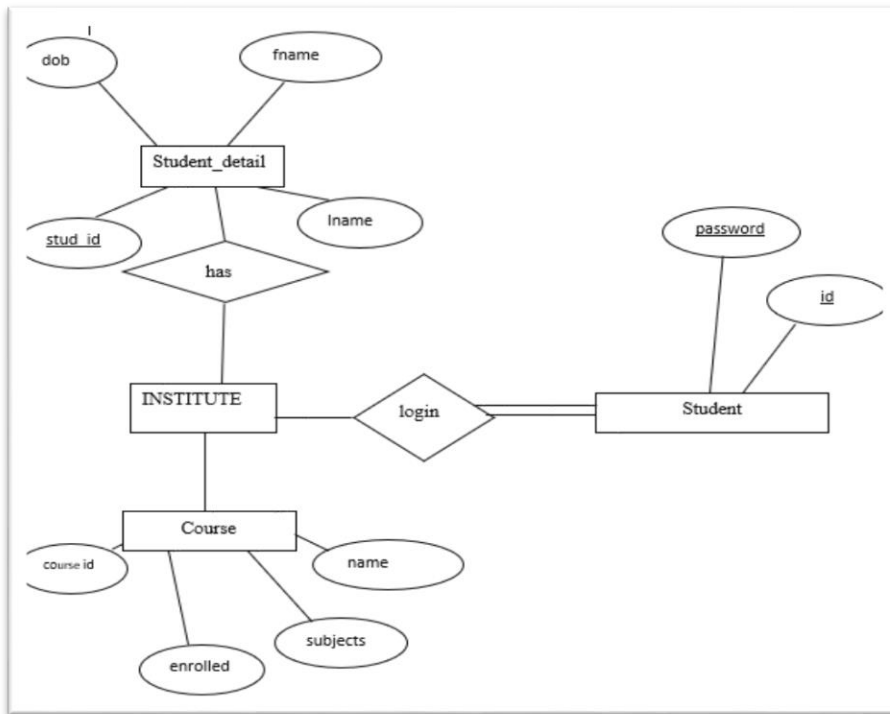


Figure 4.7:ER diagram of system

4.7.1 ER- Diagram Notations

ER- Diagram is a visual representation of data that describe how data is related to each other.

- **Rectangles:** This symbol represent entity types
- **Ellipses :** Symbol represent attributes
- **Diamonds:** This symbol represents relationship types
- **Lines:** It links attributes to entity types and entity types with other relationship types
- **Primary key:** attributes are underlined
- **Double Ellipses:** Represent multi-valued attributes

CHAPTER 5

REPORT

GIST

The diagram **figure 5.1**, depicting our system.
We have designed and developed an easy, Useful, reliable system.

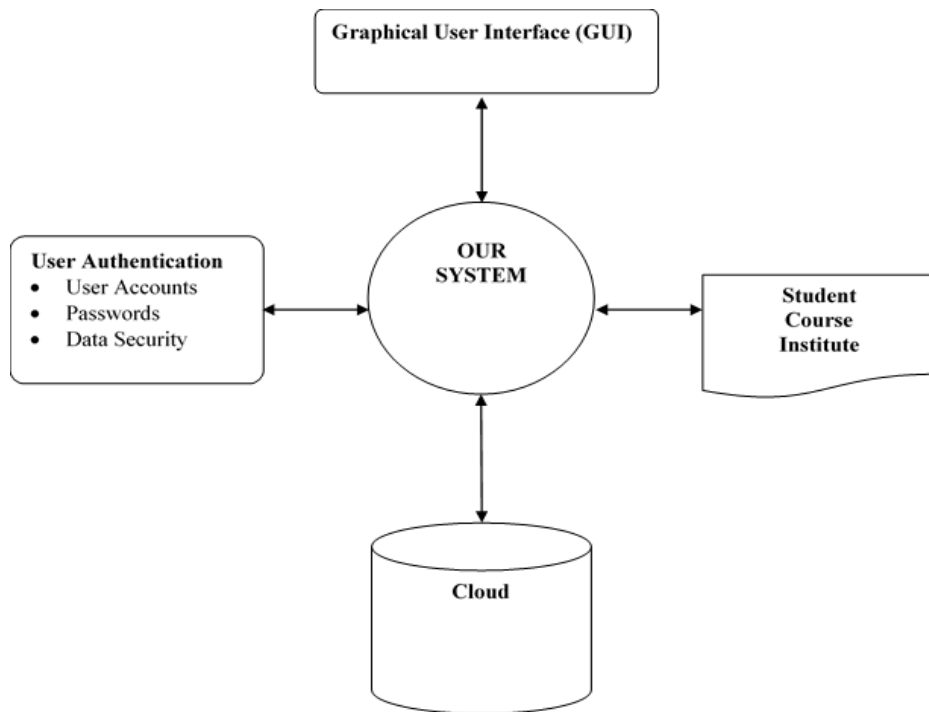


Figure 5.1 System

This gives a high level view of the system with the main components and the services they provide and how they communicate. It consists of the general graphical user interface facilities.

5.2 Output Screen

HOME PAGE

The screenshot displays the Salesforce Home Page interface. At the top, there is a navigation bar with the Salesforce logo, a search bar, and links to 'Switch to Lightning Experience', 'Setup', and 'Help'. A banner at the top right states: 'Salesforce is rolling out security enhancements that can impact your org. Review Security Alert'. Below the navigation bar, a horizontal menu lists 'Home', 'Reports', 'Dashboards', 'Courses', 'Enrollments', 'Students', and 'Evaluations'. The main content area is divided into several sections:

- System Overview:** A section with a warning icon and the message: 'You have a message. Expand to see messages or go to the system overview page to see additional limits.'
- Recent Items:** A table listing recent items with columns for Name, Type, and Object.
- Quick Links:** A section with links to 'Tools', 'Users', and 'App'.
- Lightning Experience Transition Assistant:** A section with a lightning bolt icon and the text: 'Move to the new, more productive Salesforce. Get Started'.
- Salesforce Mobile Quick Start:** A section with a mobile phone icon and the text: 'Home'.
- Administer:** A section with a list of links: 'Manage Users', 'Manage Apps', 'Manage Territories', 'Company Profile', 'Data Classification', and 'Security Controls'.
- Trailhead:** A section with a green background and the text: 'the fun way to learn Salesforce. VIEW FREE TUTORIALS >'.
- Browse Docs:** A section with a document icon and the text: 'Explore documentation and API reference guides.'
- Ask Questions:** A section with a speech bubble icon and the text: 'Get help when you need it from Salesforce & community experts.'

Name	Type	Object
Evaluation	Custom Object Definition	
ensure_student_age_between_18_and_35	Validation Rule	Student
Student	Custom Object Definition	
capacity_enroll_relation	Validation Rule	Enrollment
Enrollment	Custom Object Definition	
coursefeesvalidation	Validation Rule	Course
course_and_passing_marks_relation	Validation Rule	Course
capacity_with_no_zero	Validation Rule	Course
Course	Custom Object Definition	

Fig 5.2.1 Showing 5 objects

Courses Object:

The screenshot displays the 'New Course' form within the Salesforce interface. The top navigation bar includes links for Home, Reports, Dashboards, Courses (highlighted), Enrollments, Students, and Evaluations. On the left sidebar, there are buttons for 'Create New...', 'Recent Items', and a 'Recycle Bin' icon. The main content area is titled 'Course Edit' and 'New Course'. It features three tabs: 'Save', 'Save & New', and 'Cancel'. The form is organized into three sections: 'Information', 'Course details', and 'Student details'. The 'Information' section contains fields for 'Course Name', 'Course ID', and 'Available Seats'. The 'Course details' section contains fields for 'Course Fees' and 'Capacity'. The 'Student details' section contains fields for 'Passing Marks' and 'Contact Number'. A legend on the right indicates that a red bar next to a field name signifies 'Required Information'. At the bottom of the form, there are 'Save', 'Save & New', and 'Cancel' buttons. The footer of the page contains copyright information for Salesforce, Inc. and links to various legal documents.

Home Reports Dashboards **Courses** Enrollments Students Evaluations +

Create New... Recent Items Recycle Bin

Course Edit
New Course

Help for this Page

Course Edit Save Save & New Cancel

Information = Required Information

Course Name Course ID Available Seats

Course details Course Fees Capacity

Student details Passing Marks Contact Number

Save Save & New Cancel

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Fig 5.2.2 Showing Course Object

5.3 Validations On Course Object:

Course Validation Rule

[Back to Course](#)

[Help for this Page](#)

Validation Rule Detail

[Edit](#) [Clone](#)

Rule Name	capacity_with_no_zero	Active	✓
Error Condition Formula	Capacity__c < 1		
Error Message	value should be greater than 0	Error Location	Capacity
Description			
Created By			

[Edit](#) [Clone](#)

Fig 5.3.1 Validations

Courses Enrollments Students Evaluations +

Course Validation Rule

[Back to Course](#)

[Help for this Page](#)

Validation Rule Detail

[Edit](#) [Clone](#)

Rule Name	course_and_passing_marks_relation	Active	✓
Error Condition Formula	IF(Course_Fees__c > 3000, passing_marks__c > 20, IF(Course_Fees__c > 2000, passing_marks__c < 30, IF(Course_Fees__c < 2000, passing_marks__c < 40, null)))		
Error Message	value entered is incorrect	Error Location	Top of Page
Description			
Created By		Modified By	

[Edit](#) [Clone](#)

Fig 5.3.2 Validations on Course_Fees Object

Course Validation Rule

Help for this Page ?

[Back to Course](#)

Validation Rule Detail

Edit Clone

Rule Name	coursefeesvalidation	Active	<input checked="" type="checkbox"/>
Error Condition Formula	Course_Fees__c >= 10000		
Error Message	invalid rule	Error Location	Course Fees
Description			
Created By		Modified By	

Edit Clone

Fig 5.3.3 Validations on Course_Fees Object

Enrollment Object

salesforce

20

Search

Switch to Lightning Experience

Setup

Help

university student applic...

Home

Reports

Dashboards

Courses

Enrollments

Students

Evaluations

+

Create New...

Recent Items

MCA

Recycle Bin

Enrollment Edit

New Enrollment

Help for this Page

Enrollment Edit

Save

Save & New

Cancel

Information

Required Information

student_rfield

Course Rfield

Fees

Save

Save & New

Cancel

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Fig 5.4 showing all the Fields of Enrollment Object

Validation On Enrollment Object

[Courses](#) [Enrollments](#) [Students](#) [Evaluations](#) [+](#)

Enrollment Validation Rule

[Back to Enrollment](#)

Help for this Page ?

Validation Rule Detail

EditClone

Rule Name	capacity_enroll_relation	Active	✓
Error Condition Formula	Course_Rfield__r.Available_seats__c < 1		
Error Message	invalid value	Error Location	Course Rfield
Description			
Created By		Modified By	

EditClone

Fig 5.5 Showing Validations and Master Detailed Relationships

Students Object

Home Reports Dashboards Courses Enrollments **Students** Evaluations +

Create New...

Recent Items

MCA

Recycle Bin

Student Edit
New Student

Help for this Page

Student Edit Save Save & New Cancel

Student Details Required Information

Scholarship Status --None--

Average marks

Information

student Name

Age

Results

Result --None--

System Information

E-mail

Scholarship Details

Request Scholarship

Save Save & New Cancel

Fig 5.6 Showing all the Fields Of Students Object

Validations On Students Object

[Courses](#) [Enrollments](#) [Students](#) [Evaluations](#) [+](#)

Student Validation Rule

[Back to Student](#)

[Help for this Page](#)

Validation Rule Detail

EditClone

Rule Name	ensure_student_age_between_18_and_35	Active	✓
Error Condition Formula	Age__c < 18 Age__c > 35		
Error Message	not valid	Error Location	Age
Description			
Created By	Modified By		

EditClone

Fig 5.7 Showing Validations On Students Object

Evaluation Object

The screenshot shows the Salesforce 'New Evaluation' form. At the top, there's a navigation bar with the Salesforce logo, a search bar, and a 'Switch to Lightning Experience' button. Below the navigation bar, the 'Evaluations' tab is selected. The main content area is titled 'New Evaluation' and contains an 'Evaluation Edit' section with 'Save', 'Save & New', and 'Cancel' buttons. The 'Information' section includes three required fields: 'student Rfield', 'Course Rfield', and 'marks scored'. The 'student Rfield' and 'Course Rfield' fields have a red bar on the left indicating they are required. The 'marks scored' field is a simple text input. At the bottom of the form, there are 'Save', 'Save & New', and 'Cancel' buttons. The footer contains copyright information for 2000-2020 Salesforce.com, Inc.

salesforce 20

Search... Search

Switch to Lightning Experience Setup Help university student applic...

Home Reports Dashboards Courses Enrollments Students Evaluations +

Create New...

Recent Items

MCA

Recycle Bin

Evaluation Edit

New Evaluation

Help for this Page

Evaluation Edit Save Save & New Cancel

Information Required Information

student Rfield

Course Rfield

marks scored

Save Save & New Cancel

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Fig 5.7 Showing Evaluation Object

Relationships Between Objects

Custom Fields & Relationships

New

Field Dependencies

Set History Tracking

Custom Fields & Relationships Help ?

Action	Field Label	API Name	Data Type	Indexed	Controlling Field	Modified By	Track History
Edit Del	Course Rfield	Course_Rfield__c	Master-Detail(Course)	✓			<input type="checkbox"/>
Edit Del	marks scored	marks_scored__c	Number(18, 0)				<input type="checkbox"/>
Edit Del	student Rfield	student_Rfield__c	Master-Detail(Student)	✓			<input type="checkbox"/>

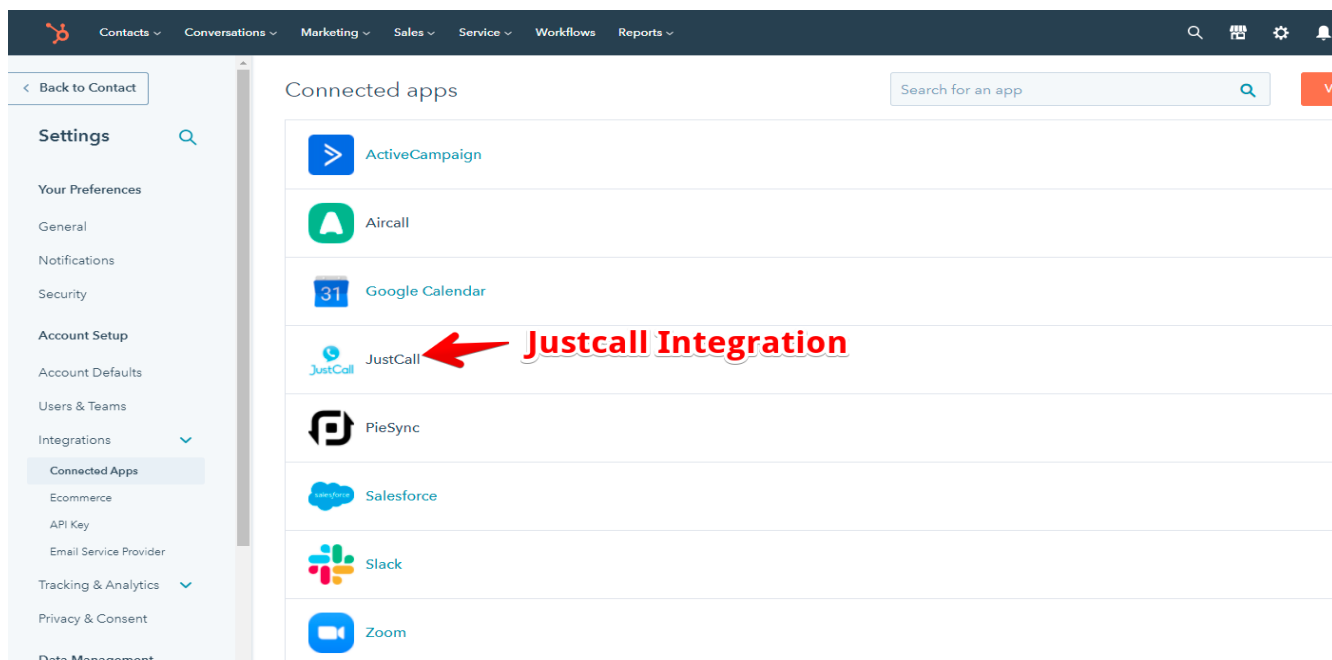
5.8 Showing Mater-Detailed Relationships Between Objects

Salesforce Hubspot Integration

- Our main motive it to resolve the client problem which are faced during the client product.
- We are creating and managing tickets for that in CRM and provide the better customer experience.
- We are storing and managing data in Salesforce.
- We have integrate Hub spot CRM with Salesforce for that.
- We have Integrate client website with hubspot to take the data as input.
- We have created some chatbot and forms in hubspot which are embedded in

client website.

Here is the Just Call Integration with hub spot



Hubspot Integration Settings

https://justcall.io/app/integrations/_hubspot/settings?id=4964

JustCall

Hubspot Integration Settings

Dashboard

Phone Numbers

Team Members

Teams

Contacts

Call Logs

SMS & MMS

Fax

Scheduler

Integrations

Explore Add Ons

Calling Credits (+Add)

\$1.13

Select Language

Hubspot

General SettingsWorkflow SettingsConnected NumbersAdvanced SettingsIntegration RecipesProfessional Services

Log outgoing answered calls as

Log outgoing unanswered calls as

Log incoming answered calls as

Log missed calls as

Log voicemails as

Log incoming SMS as

Log outgoing SMS as

Disabled

Disabled

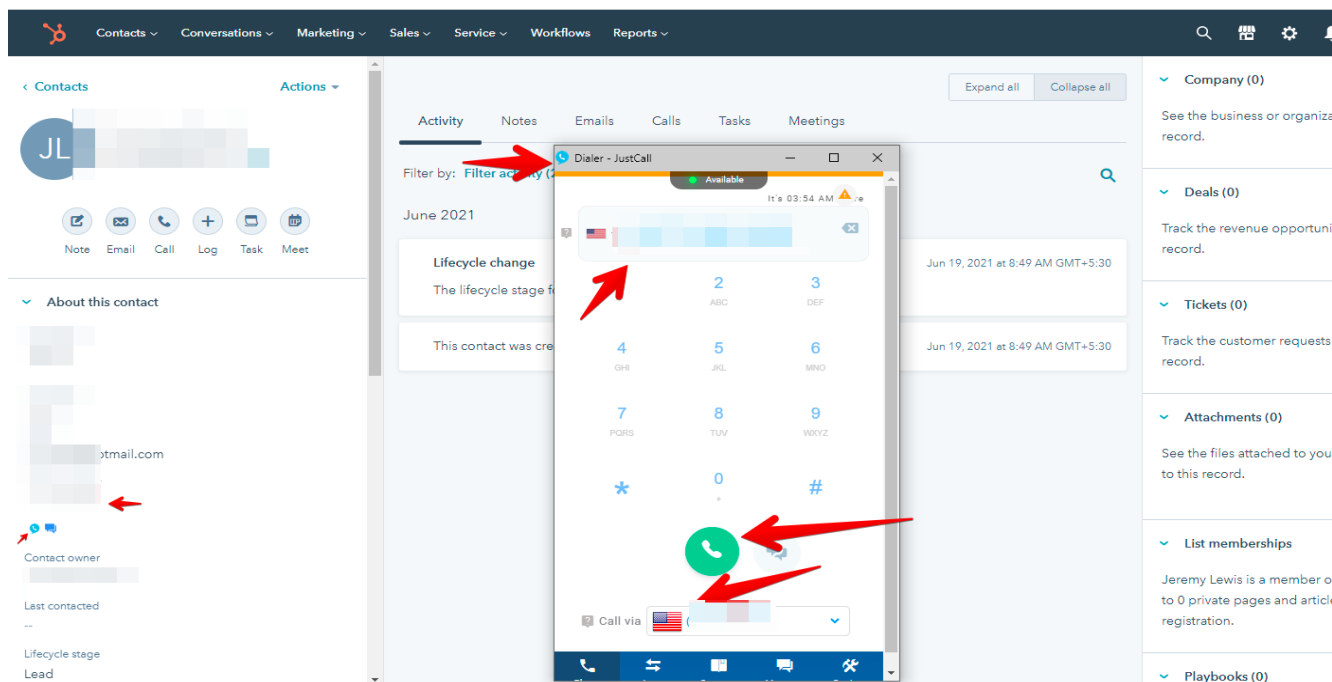
Disabled

Calls (Engagements)

Calls (Engagements)

Texts (Notes) & Timeline ev

Disabled



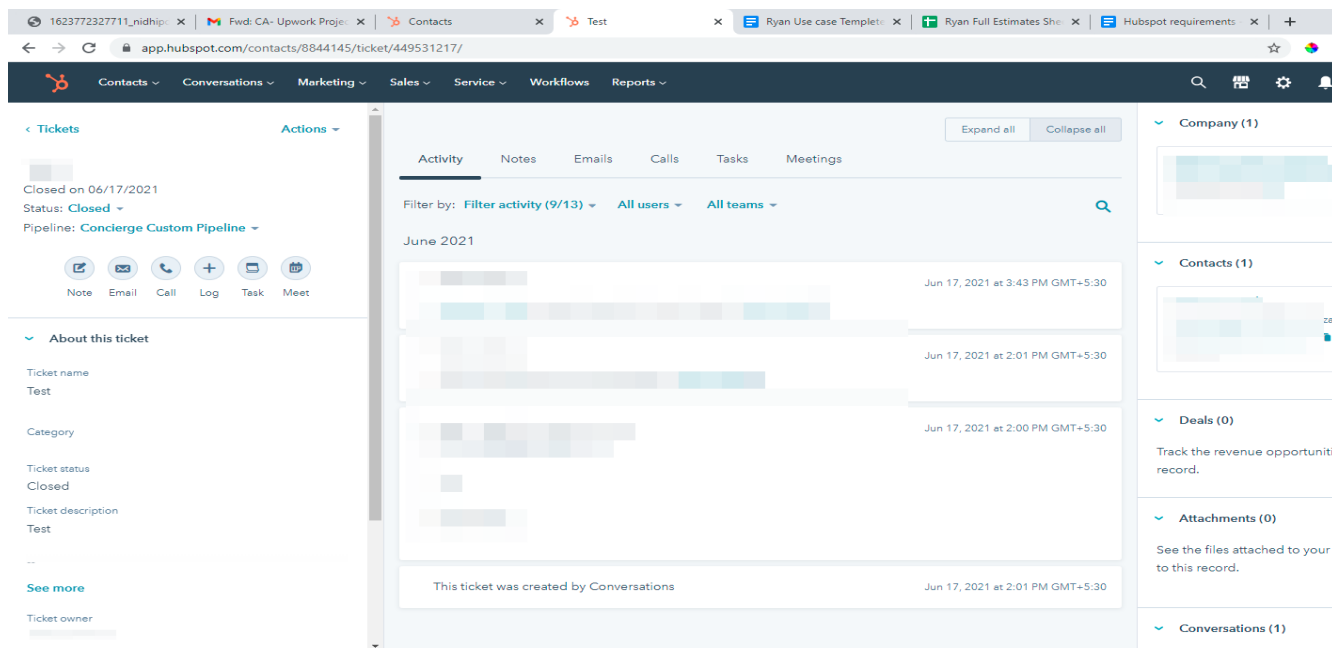
Hub spot Form which is rendered in Client Website

A screenshot of a HubSpot form with several input fields and a submit button. Red annotations with arrows point to specific fields:

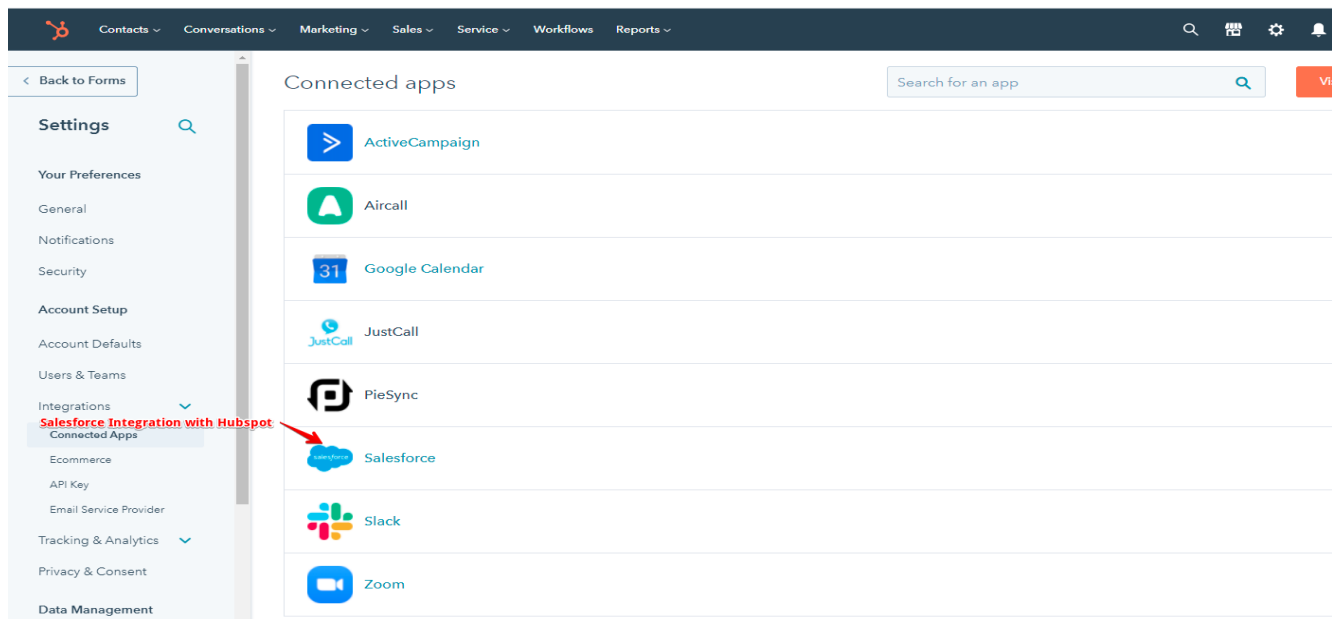
- Contact First name** points to the **First Name *** field.
- Contact last name** points to the **Last Name *** field.
- Contact Email** points to the **Email *** field.
- ticket Name** points to the **Issue *** field.
- Contct Linked Account** points to the **Inception Id** field.
- Ticket Details** points to the **Details** field.

The form includes a **Submit** button at the bottom.

Hub spot Form ticket created and contact created



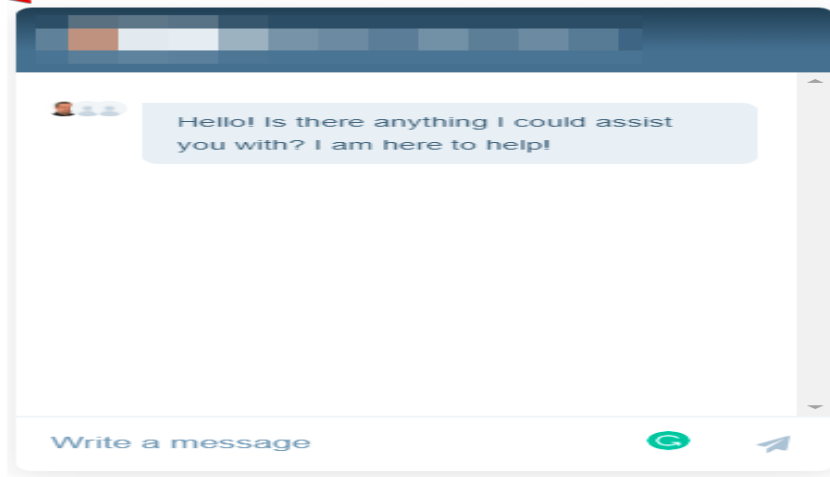
**Here is the Salesforce Integration with
hubspot**



**Live Chat Bot which create a ticket in
hubspot**

Preview

Hubspot Live chat bot preview
linked with client website



Restart

Close



Placester

Go to placester.com

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What is Concierge Custom service?





- Placester Launches Concierge Custom™ A New Way for Real Estate Professionals to Outsource One-off & Recurring Website Marketing Tasks.
- New Placester offering helps brokers, agents, and admins unlock scalable website marketing help to absorb and streamline day-to-day website marketing, allowing them to spend less time on marketing busy work and more time building their business.
- The release comes at a time when real estate brokers and agents at all levels are leveraging the power of Placester to support their need to deliver the consistent website branding initiatives without the need for in-house developers.
- Concierge Custom™ allows real estate professionals to affordably expand their website marketing capacity with dedicated outsourced talent—from custom development and design to content creation and agent onboarding. Essential project information such as scope, cost, timing, and deliverables are clearly articulated upfront so that businesses know exactly what to expect. They can also leverage the Services Marketplace to instantly order pre-packaged tasks in the wide range of work done by the expert creative teams at Placester.

Write a message

Example of some tickets created by live chat



[Contacts](#)
[Conversations](#)
[Marketing](#)
[Sales](#)
[Service](#)
[Workflows](#)
[Reports](#)

Tickets

33 Tickets

All pipelines

All tickets

My open tickets

Unassigned tickets

+ Add view

All views

Search ID, name, or sub

Ticket owner

Create date

Last activity date

Priority

More filters

Table actions

	TICKET NAME	ASSOCIATED CONTACTS	ASSOCIATED COMPANY	PIPELINE	TICKET STATUS
<input type="checkbox"/>	Test ticket			Concierge Custom Pipeline	Waiting on concierge
<input type="checkbox"/>	New JustCall JustCall Ticket			Concierge Custom Pipeline	New (Concierge)
<input type="checkbox"/>	Nancy JustCall Ticket			Concierge Custom Pipeline	New (Concierge)
<input type="checkbox"/>	→ Chat bot ticket			Concierge Custom Pipeline	New (Concierge)
<input type="checkbox"/>	→ Chat bot ticket			Concierge Custom Pipeline	New (Concierge)
<input type="checkbox"/>	→ Chat bot ticket			Concierge Custom Pipeline	New (Concierge)
<input type="checkbox"/>	→ Chat bot ticket			Concierge Custom Pipeline	New (Concierge)
<input type="checkbox"/>	→ Chat bot ticket			Concierge Custom Pipeline	New (Concierge)
<input type="checkbox"/>	New JustCall JustCall Ticket			Concierge Custom Pipeline	New (Concierge)
<input type="checkbox"/>	New JustCall Contact JustCall Ticket			Concierge Custom Pipeline	New (Concierge)

Prev

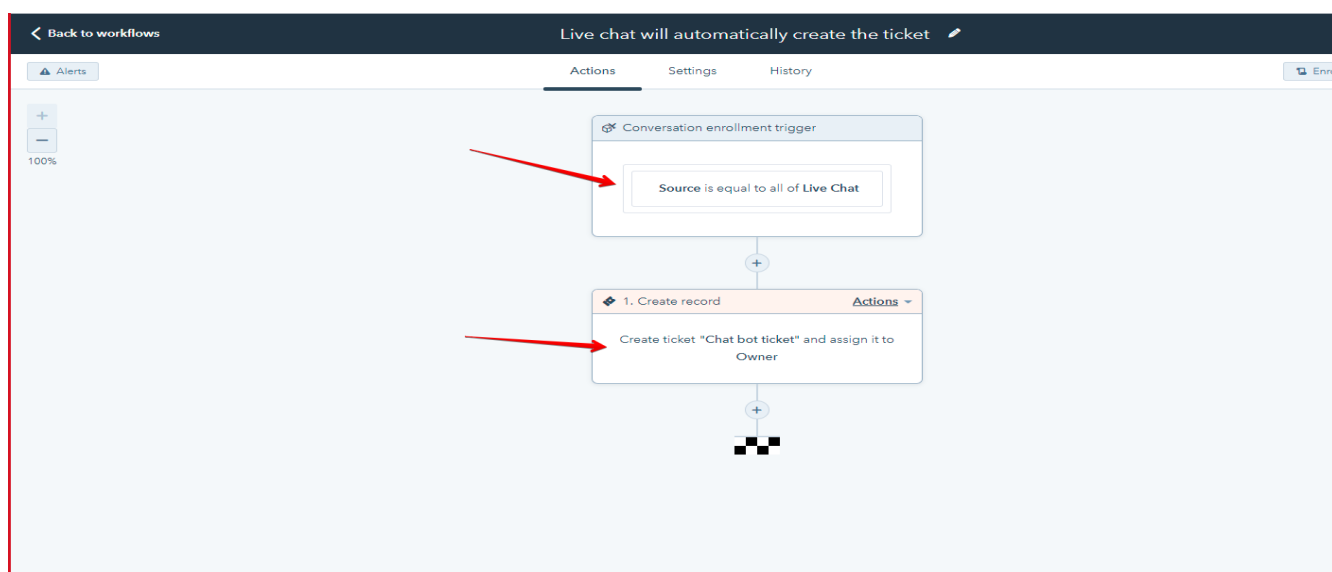
1

2

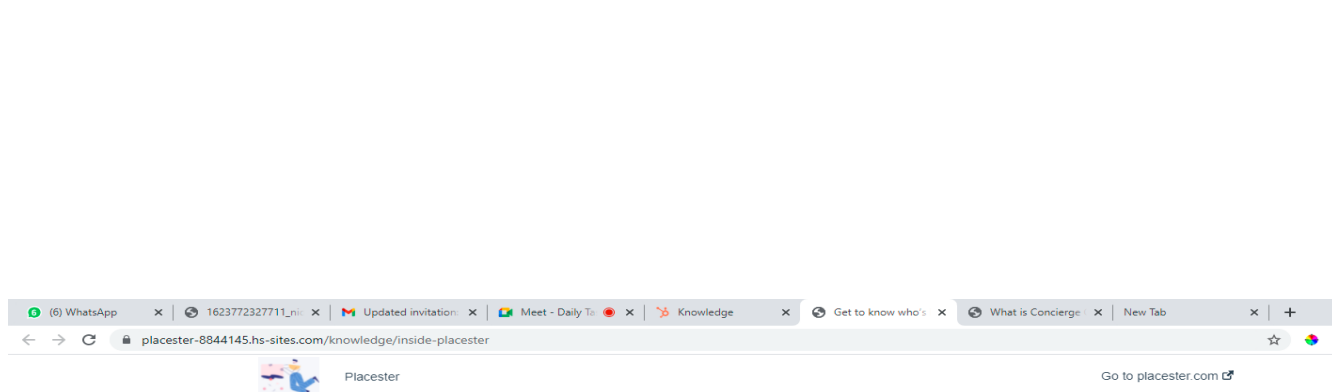
Next

25 per page

Created a flow for creating ticket from live chat



Knowledge Base Creation



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Get to know who's behind Placester and the mission that drives us?

Letter from our CEO

- A lot of people ask me why we wanted to build Placester. It's a fair question. There are plenty of options out there for real estate websites. But the problem was that none of the options was right for me.
- I was an agent at a small brokerage, and we were struggling to build a brand online. Websites are generally made by developers and designers, not the people who actually need the website to work for their business. We didn't have the resources on staff to develop our website, mostly, because our brokerage needed to prioritize sales. All of the brand and marketing stuff was slipping through the cracks.
- So I looked for a better solution.
- Unfortunately, what I found was that the website platforms on the market required us to hire



Search for answers

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What is Concierge Custom service?

- Placester Launches Concierge Custom™ A New Way for Real Estate Professionals to Outsource One-off & Recurring Website Marketing Tasks.
- New Placester offering helps brokers, agents, and admins unlock scalable on-demand marketing help to absorb and streamline day-to-day website marketing, allowing them to spend less time on marketing busy work and more time building their business.
- The release comes at a time when real estate brokers and agents at all levels are discovering the power of Placester to support their need to deliver the consistent website, marketing, and branding initiatives without the need for in-house developers.
- Concierge Custom™ allows real estate professionals to affordably expand their marketing capacity with dedicated outsourced talent—from custom development and graphic design to content creation and agent onboarding. Essential project information such as scope, cost, timing, and deliverables are clearly articulated upfront so that businesses know exactly what to expect. They can also leverage the Services Marketplace to instantly order pre-packaged tasks in the wide range of work done by the expert creative teams at Placester.

CHAPTER 6

TESTING

6.1 INTRODUCTION

Software Testing is a critical element of software quality assurance and represents the ultimate review of specification, design and code generation. The increasing visibility of software as a system element and the attendant “costs” associated with a software failure are motivating forces for well planned, thorough testing.

6.1.1 Testing Objectives

The following are the testing objectives:

- Testing is a process of executing a program with the intent of finding an error.
- A good test case is one that has a high probability of finding an as-yet-undiscovered error
- successful test is one that uncovers an as yet undiscovered error.

6.1.2 Testing Principles

The basic principles that guide software testing are as follows:

- All tests should be traceable to customer requirements.
- Tests should be planned long before testing begins.
- The parate principle applies to software testing

Pareto principle states that 80 percent of all errors uncovered during testing will likely be traceable to 20 percent of all program components.

Testing should begin “in the small “and progress toward testing “in the large.”

Exhaustive testing is not possible.

6.2 LEVEL OF TESTING

There are different levels of testing

->Unit Testing

->Integration Testing

->System Testing

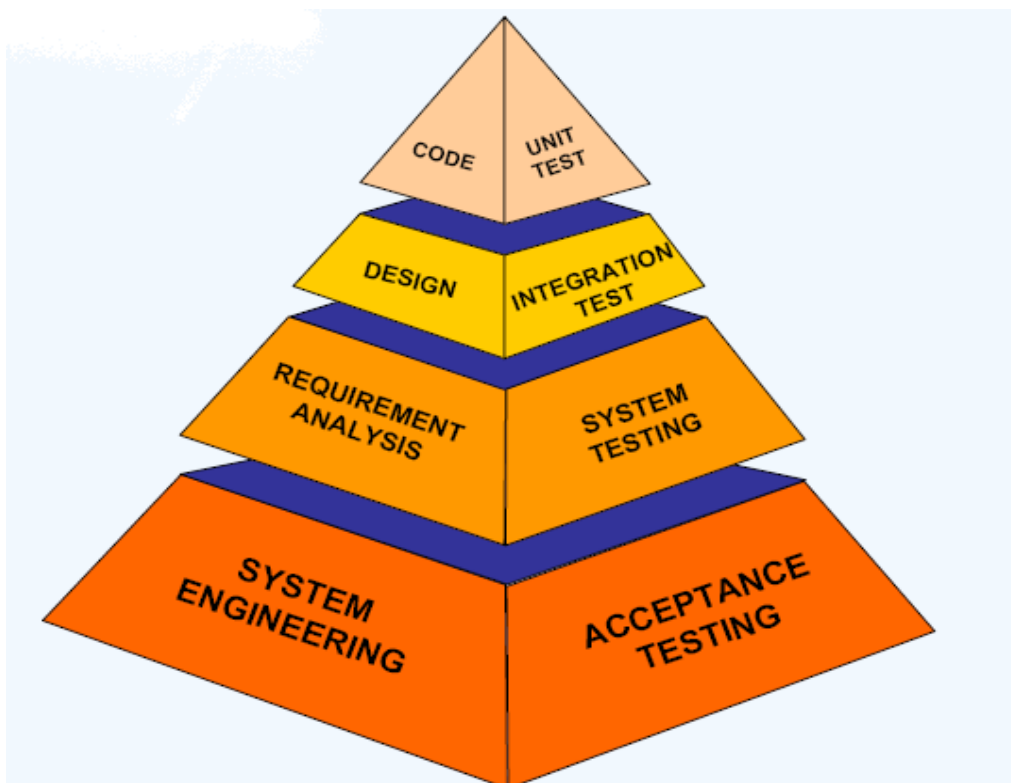


Figure 6.1:Testing pyramid

6.2.1 Unit testing

Unit testing focuses verification effort on the smallest unit of software design, the module. The important control parts are tested to uncover with in the boundary of the module. The module interface is tested to ensure that the information properly flows into and out of the program unit and boundary conditions are tested to ensure that the modules operate properly at boundaries established to limit or restrict processing. Test date is provided through testing screens.

6.2.2 Integration testing

Integrating testing is a systematic technique for constructing Program structure while conducting tests to uncover error associates with interfacing .The objective is to take unit modules and built a program structure that has been directed by design.

- Integration Testing will test whether the modules work well together.
- This will check whether the design is correct.
- Integration can be done in 4 different ways:

6.2.3 System testing

System testing is the process of testing the completed software as a part of the environment it was created for. It is done to ensure that all the requirements specified by the customer are met. System testing involves functional testing and performance testing.

- System Testing will contain the following testing :
 - Functional Testing.
 - Performance Testing.
- Function Testing will test the implementation of the business needs.
- Performance Testing will test the non-functional requirements of the system like the speed, load etc

SOME IMPORTANT OBSERVATIONS

6.3.1 System Testing and Validation Results.

System testing was done after the system was duly coded. Individual modules of the system were checked to ensure they are fully functional units before the integrating them. This was done by examining each unit; each script was checked to ensure that it functions as required and that it performed exactly as intended. The success of each individual unit gave us the go ahead to carryout integration testing.

The system was validated using a short questionnaire that was filled by representatives of the users who were let to interact with the system using test data and provided feedback about the system features. This was done to assess if the system met their needs and requirements as regards. It was found out that the system performed in conformance to the then defined user needs and requirements. Results of the validation are shown as percentages of respondents against each requirement.

6.3.2 Testing Test Scenarios

1. Check if the page load time is within the acceptable range.
2. Check the page load on slow connections.
3. Check the response time for any action under a light, normal, moderate, and heavy load conditions.
4. Check the performance of database stored procedures and triggers.
5. Check the database execution time.
6. Check for load testing of the application.
7. Check for the Stress testing of the application.
8. Check CPU and memory usage under peak load conditions.

We have checked for scenarios and find that our system performing well in the circumstances.

6.4 TEST CASE RESULT SUMMARY

TestCase#	Description	Result
TC#1	Loading the home page	Passed
TC#2	Login	Passed
TC#3	Validating	Passed
TC#4	Content	Passed
TC#5	Course page loading	Passed
TC#6	Reports page loading	Passed
TC#7	Logout	Passed

CHAPTER 7

CONCLUSION AND FUTURE SCOPE

7.1 CONCLUSION

A software project means a lot of experience. I learned a lot through this project. This project has sharpened our concept cloud computing. It provides easy methods to manage the load of work easily for the users. It is much fast and more efficient as the data once entered can be used and accessed easily. This project has given me an ample opportunity to design, code, test and implements an application. This has helped in putting into practice of various Software Engineering principles concepts like maintaining integrity and consistency of data.

7.2 FUTURE SCOPE

- The Future scope is to make the system more user friendly and enhanced.
- And we will make Mobile app for our system.
- I will add Helping BOT in the system.
- Online examination module would be introduced to conduct online examination.
 - Further, the faculty can upload the videos of their lectures on to this site and students who had missed those classes can view those videos.

References

1.

A theory of salesforce compensation plans is presented where the sales of a product depend not only on the salesperson's effort but also on the uncertainty in the selling environment.

APA--

Basu, A. K., Lal, R., Srinivasan, V., & Staelin, R. (1985). Salesforce compensation plans: An agency theoretic perspective. *Marketing science*, 4(4), 267-291.

2.

The authors develop a conceptual model depicting relationships between salesforce control systems

APA—

Cravens, D. W., Ingram, T. N., LaForge, R. W., & Young, C. E. (1993). Behavior-based and outcome-based salesforce control systems. *Journal of Marketing*, 57(4), 47-59.

3.

Salesforce behavior can have a significant effect on customer satisfaction.

APA—

Grewal, D., & Sharma, A. (1991). The effect of salesforce behavior on customer satisfaction: an interactive framework. *Journal of Personal Selling & Sales Management*, 11(3), 13-23.

4.

Successfully assimilating salespeople into an organization is a critical responsibility of sales managers, but little published research has explored this topic. The authors test a model of salesforce assimilation (socialization). The findings indicate that realism and congruence are important antecedents to several desirable job-related outcomes.

APA—

Dubinsky, A. J., Howell, R. D., Ingram, T. N., & Bellenger, D. N. (1986). Salesforce socialization. *Journal of Marketing*, 50(4), 192-207.

5.

This report concerns the impact of several organizational climate variables on the job satisfaction of a cross-section of industrial salesmen.

APA—

Churchill Jr, G. A., Ford, N. M., & Walker Jr, O. C. (1976). Organizational climate and job satisfaction in the salesforce. *Journal of Marketing Research*, 13(4), 323-332.

6.

This article reviews pertinent research related to the antecedents of turnover and discusses a research study involving a national industrial firm's salesforce. The study examined the moderating effect of salespeople's performance on the relationship between their job satisfaction and propensity to leave their firm. The paper concludes with implications for researchers and sales managers.

APA—

Futrell, C. M., & Parasuraman, A. (1984). The relationship of satisfaction and performance to salesforce turnover. *Journal of Marketing*, 48(4), 33-40.

7.

Forms of control systems used in salesforce evaluation and based on the monitoring of outcomes or of behaviors are described, contrasted, and evaluated in terms of emerging theories in economics, organization theory, and cognitive psychology.

APA—

Anderson, E., & Oliver, R. L. (1987). Perspectives on behavior-based versus outcome-based salesforce control systems. *Journal of Marketing*, 51(4), 76-88.

8.

This paper discusses recent advances in the study of salesforce motivation and compensation. Special emphasis is given to quantitative approaches from the economics, finance, and marketing literatures.

APA—

Coughlan, A. T., & Sen, S. K. (1989). Salesforce compensation: Theory and managerial implications. *Marketing Science*, 8(4), 324-342.

9.

Employee turnover is a subject of great importance to practitioners and researchers alike.

APA—

Lucas Jr, G. H., Parasuraman, A., Davis, R. A., & Enis, B. M. (1987). An empirical study of salesforce turnover. *Journal of Marketing*, 51(3), 34-59.

10.

The authors propose that a general class of market response models with marketing parameter equations be used for the study of marketing interactions.

APA—

Gatignon, H., & Hanssens, D. M. (1987). Modeling marketing interactions with application to salesforce effectiveness. *Journal of Marketing Research*, 24(3), 247-257.

11. Activities that enhance salesforce performance are examined

APA –

Barker, A. T. (1999). Benchmarks of successful salesforce performance. *Canadian Journal of Administrative Sciences/Revue Canadienne des Sciences de l'Administration*, 16(2), 95-104.

12. Supervisory reactions of sales managers to potentially unethical salesperson behavior are examined in a national survey of sales executives.

APA—

Bellizzi, J. A., & Hite, R. E. (1989). Supervising unethical salesforce behavior. *Journal of Marketing*, 53(2), 36-47.

13.

During disruptions such as the COVID-19 pandemic, the resilience of any commercial organization becomes a critical characteristic.

APA—

Sharma, A., Rangarajan, D., & Paesbrugghe, B. (2020). Increasing resilience by creating an adaptive salesforce. *Industrial Marketing Management*, 88, 238-246.

14. Relationship marketing has been defined as a marriage between a seller and a buyer. Unfortunately, as in many marriages, it may end up in divorce.

APA—

Perrien, J., Paradis, S., & Banting, P. M. (1995). Dissolution of a relationship: the salesforce perception. *Industrial Marketing Management*, 24(4), 317-327.

15.

The author presents a model designed to explain the performance, job satisfaction, and other behavioral outcomes experienced by salespeople.

APA—

Bagozzi, R. P. (1978). Salesforce performance and satisfaction as a function of individual difference, interpersonal, and situational factors. *Journal of Marketing Research*, 15(4), 517-531