Delhi Best NCR

A PROJECT REPORT

SUBMITTED BY

Shivam Chaudhary
(University Roll No: 1900290149090)

Submitted in partial fulfillment of the Requirements for the Degree of

MASTER OF COMPUTER APPLICATIONS

Under the Supervision of

Mr. Ankit Verma
ASSISTANT PROFESSOR
KIET Group of Institution, Ghaziabad

FACULTY OF MCA
DR. APJ ABDUL KALAM TECHNICAL UNIVERSITY LUCKNOW
(Formerly Uttar Pradesh Technical University, Lucknow)

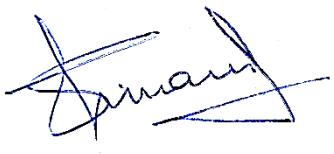
DECLARATION

I hereby declare that the work presented in this report entitled "Delhi Best NCR", was carried out by me. 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.

Name and Roll. No. : **Shivam Chaudhary (University Roll No.1900290149090)**

Branch : **M.C.A. 6th Semester**



Shivam Chaudhary

(Candidate Signature)

ACKNOWLEDGEMENT

Here I gladly present this project report on **"DELHI BEST NCR"** as part of the 6th semester MCA currently submitting this report.

I take this opportunity to express our sincere thanks and deep gratitude to all those people who extended their whole hearted co-operation and have helped me in completing this project successfully.

Special thanks to **Mr. Ankit Verma** and **Mr. Amit Kumar Gupta** project coordinate for all the help and guidance extended to me by him in every stage during my project. His inspiring suggestion and timely guidance enabled me to perceive the various aspects of the project in a new light.

I would also thanks to **Mr. Ajay Kumar Shrivastava (Head, Department of Computer Applications)** who guided me a lot in completing this project. I would also like to thanks my parents & project mate for guiding and encouraging me throughout the duration of the project.

Shivam Chaudhary (1900290149090**)**

Certificate

Certified that **Shivam Chaudhary** (**University Roll No.1900290149090),** have carried out the project work having "Delhi Best NCR" for Master of Computer Applications from Dr. A.P.J. Abdul Kalam Technical University (AKTU) under my supervision. The project report embodies original work, and studies are carried out by the student himself /herself and the contents of the project 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/Institution.

Date:

Shivam Chaudhary
(University Roll No. 1900290149090)

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

Date :

Mr. Ankit Verma
Associate Professor
Department of Computer Applications
KIET Group of Institutions, Ghaziabad

Signature of Internal Examiner **Signature of External Examiner**

Dr. Ajay Shrivastava
Head, Department of Computer Applications
KIET Group of Institutions, Ghaziabad

TABLE OF CONTENTS

Chapter 1
Introduction

We are Delhi NCR-based business listing company. We are providing a complete package for 360° marketing solutions to businesses. We know everyone is not on the web because they do not have a website.

They need to put themselves on the web, without them having to create a website of their own. We have made multiple platforms for your Name, Address and Phone number to be accessed by potential customers. Delhi NCR BEST business listings website would take the details of the visitor thus generating a potential lead for you.

We have the mission to ensure safe and secure online business for all enterprises (Food & Restaurant, Fashion & Lifestyle, Travelling & Tourism, Real estate, Healthcare, Education, Business, e-Commerce) as well as their buyers.

We drive online business listing for suppliers and buyers both with cutting-edge promotional technology, insightful business methods, and technological capabilities. Local business listings are a must with the increasing trust of consumers in the customer reviews and the strong online presence.

We are the most efficient and effective medium to market your company's products/services to a highly targeted audience of buyers & sellers.

We have a focus on the rapid growth of site traffic. Delhi NCR BEST business listing helps your potential customers to reach you while searching for the services, products, facilities you are offering.

Our strong and complete business listing platform creates high chances of taking the visitor to your website. Free business listings have the potential to attract and redirect traffic to your websites but make sure you manage your listings and engage with your visitors regularly.

Delhi NCR BEST value your trust above everything else and constantly effort to provide the well-researched listings to clients and platform of the most popular product or service categories to generate more leads and sales to our business users.

Listing your business on every possible business directory is the best way to make sure your business maximizes its SEO and is visible in as many searches as possible. In addition, creating a free business listing with the same information on a variety of local business listing websites helps search engines confidently show your profiles more often, focusing on keyword searches related to your products or services. In other words, listing your business massively drives your local SEO. This will increase the reach of your business profile in searches across multiple search engines in local and mobile queries.

Benefits of business directories

These are some of the many benefits of creating a free business listing on a business directory, social media platform or review site:

- **Boosting your online presence.** Before the internet, businesses relied on phone books, newspaper ads, and other forms of traditional marketing and advertising to make themselves known. In the online era, no marketing plan is complete without maximizing your online presence. For a strong online presence, creating a business page for your company on every possible review site, social media platform and free business listing site is vital.

- **Making your business known locally.** Local SEO is important to the success of businesses that target an audience in a specific geographic region. Without a proper presence in online directories, your business may fail to reach a potential customer who could travel just minutes from their home to get what they need from your company. Without creating a free business listing in directories – which almost always include geographic filters – you may struggle to make your business name known to that potential customer, among thousands of others. There are many ways to promote your business locally, but start by ensuring your site has a presence on sites listed below.
- **Getting your info out there.** Want potential customers to know when your store is open, how to get in touch, what services you provide and how much other customers trust you? Free business listings allow you to share information such as your business hours, contact information, and addresses on platforms where users can search for businesses based on specialty, location, and ratings.
- **Driving your brand engagement and reputation.** Even customers who ultimately choose another business over yours or don't click on your link will see your business name. This recognition cements your brand's reputation in potential customers' minds – especially if your ratings are high – and increases the chances that they'll choose you in the future.

System Analysis:

System analysis is a management technique which helps us in designing a new system or improving on existing system. It is also the process of gathering and interpreting facts, designing, problems and using the information to recommend improvements to the system.

Analysis of the system means identification , understanding and critically the system, and its part for the achieving the goals (objective) set for the system as a whole, through modification, changed interrelationship of components, deleting and merging or separating or breakup of contents. It may also involve upgrading a system as a whole.

System analysis, thus, emerges as a means through which the total system is conceived, design implemented and made operational to achieve the desired objective. The basic objective of the system analysis is to understand and modify the system in some way to improve its functioning.

The modification may require one or more of the following such as:

The modification may require one or more of the following such as:

- Change the outputs
- Change the goal of the system
- Make it more efficient

➢ It is a process of collecting and interpreting facts, identifying the problems, and decomposition of a system into its components.

➢ System analysis is conducted for the purpose of studying a system or its parts in order to identify its objectives.

➢ It is a problem solving technique that improves the system and ensures that all the components of the system work efficiently to accomplish their purpose.

➢ Analysis specifies what the system should do

Chapter 2

Literature Review

3.1 What Is a Strategy?

There are different definitions of strategy. However, for the purpose of this study, we must select a definition. According to Tony Proctor, a strategy is a plan that integrates an organization's major goals, policies, decisions and sequences of action into a cohesive whole. It can be applied at all levels in an organization and pertain to any of the functional areas of management. Thus there may be production, financial, marketing, personnel and corporate strategies, just to name a few. In marketing, there may be pricing, product, promotion, distribution, marketing research, sales, advertising, merchandising, etc. strategies. Strategy is concerned with effectiveness rather than efficiency and is the process of analysing the environment and designing the fit between the organization, its resources and objectives and the environment. [4]

Michael Porter states that strategy is about the means or ways (steps) of attaining goals and not their specification. He also indicates that strategy is one element in a four-part structure. According to Porter, those four part structures are: (a) what are the goals to be attained? (b) How will the resources be deployed? (c) The tactics; i.e. the ways in which resources that have been deployed are actually used or employed and (d) are the resources (means) themselves available and at our disposal? Both strategy and tactics bridge the gap between goals and means. In business, as in the military, strategy bridges the gap between policy and tactics. It is the creation of a unique and valuable position, involving a different set of activities. Meaning strategy is about competitive position, about differentiating 9 yourself in the eyes of the customer, about adding value through a mix of activities different from those used by competitors. [5]

Subhash C. Jain went further to highlight 5 reasons why an organization needs strategy. He stipulated that any organization needs strategy (a) when resources are finite, (b) when there is uncertainty about competitive strengths and behaviour, (c) when commitment of resources is irreversible, (d) when decisions must be coordinated between far-flung places and over time, and (e) when there is uncertainty about control of the initiative. [6] As have been stated above, it can be seen that strategy is vital to the success of the business. Without it, company's goals may not be realised as there may be loss of focus on how to achieve those goals.

Therefore, it helps to give focus to the often scattered energy of tactics, and bring power to goals and the larger business vision. [7]

3.1.1 The Hierarchies of Strategy

There are three major levels of strategy in most multi product/service organizations: corporate strategy, business strategy and functional strategy.

Corporate strategy:

Strategy at this level attempts to bring together all the business lines of a company and point them toward an overall goal. It is mainly concerned with defining the set of businesses that should form the company's overall profile. [6]

Business strategy:

At the business level, strategy focuses on defining the manner of competition in a given industry or product/market segment. It usually covers a plan for a single product or a group of related products. Today, most strategic action takes place at the business unit level, where sophisticated tools and techniques permit the analysis of a business; the forecasting of such variables as market growth, pricing, and the impact of government regulation; and the establishment of a plan that can sidestep threats in an erratic environment from competitors, economic cycles, and social, political, and consumer changes. [6]

Functional strategy:

Centers on how resources allocated to the various functional areas can be used most efficiently to support the business-level strategy. The primary focus of marketing strategy at this level is to allocate and coordinate marketing resources and activities to achieve the firm's objective within a specific product market [8]

Each functional area of a business (e.g. marketing) makes its own unique 11 contribution to strategy formulation at different levels. In many firms, the marketing function represents the greatest degree of contact with the external environment, the environment least controllable by the firm. In such firms, marketing plays a pivotal role in strategy development. In its strategic role, marketing consists of establishing a match between the firm and its environment. It seeks solutions to problems of deciding (a) what business the firm is in and what kinds of business it may enter in the future and (b) how the chosen field(s) of endeavor may be successfully run in a competitive environment by pursuing product, price, promotion, and distribution perspectives to serve target markets. In the context of strategy formulation, marketing has two dimensions: present and future. The present dimension deals

with the existing relationships of the firm to its environments. The future dimension encompasses intended future relationships (in the form of a set of objectives) and the action programs necessary to reach those objectives. [6]

3.2 Marketing Strategy

According to Philip Kotler et al (1999) marketing strategy is the marketing logic by which the business unit hopes to achieve its marketing objectives. [9] It is an endeavour by a corporation (or any organization) to differentiate itself positively from its competitors, using its relative corporate strengths to better satisfy customer needs in a given environmental setting [6] For an organization, target consumers are at the centre of the marketing strategy. The company identifies the total market it wants to serve and divides it into smaller segments. It then selects the most promising segments and focuses 12 on serving them. It designs a marketing mix using mechanisms under its control: product, price, place and promotion. It also engages in marketing analysis, planning, implementation and control in order to find the best marketing mix and to take action. The company uses these activities to enable it to watch and adapt to the marketing environment. [9]

Subhash went on to explain that within a given environment, marketing strategy deals essentially with the interplay of three forces known as the strategic three Cs which are: the customer, the competition, and the corporation. He noted that these three strategic Cs are dynamic, living creatures with their own objectives to pursue and together, form the marketing strategy triangle. If what the customer wants does not match the needs of the corporation, the latter's long-term viability may be at stake. Positive matching of the needs and objectives of customer and corporation is required for a lasting good relationship. But such matching is relative, and if the competition is able to offer a better match, the corporation will be at a disadvantage over time. In other words, the matching of needs between customer and corporation must not only be positive, it must be better or stronger than the match between the customer and the competitor. When the corporation's approach to the customer is identical to that of the competition, the customer cannot differentiate between them. The result could be a price war that may satisfy the customer's but not the corporation's needs.

Furthermore, based on the interplay of the strategic three Cs, formation of marketing strategy requires the following three decisions:

1. Where to compete; that is, it requires a definition of the market (for example, competing across an entire market or in one or more segments).

2. How to compete; that is, it requires a means for competing (for example, introducing a new product to meet a customer's need or establishing a new position for an existing product).

3. When to compete; that is, it requires timing of market entry (for example, being first in the market or waiting until primary demand is established). Thus, marketing strategy is the creation of a unique and valuable position, involving a different set of activities. Thus, development of marketing strategy requires choosing activities that are different from rivals. [6]

3.3 Types of marketing strategies

Michael Porters Generic Strategies

According to Porter (1985), there are two basic types of competitive advantage a firm can possess: low cost or differentiation. The significance of any strength or weakness a firm possesses is ultimately a function of its impact on relative cost or differentiation. Cost advantage and the differentiation in turn are derived from industry structure. The two basic types of competitive advantage combined with the scope of activities for which a firm seeks to achieve them lead to three generic strategies for achieving above-average performance in an industry: cost leadership, differentiation, and focus. The focus strategy has two variants, cost focus 14 and differentiation focus. [10]

Cost Leadership:

A company pursuing cost leadership strategy aims to become the low cost producer in its industry. The company has a broad scope; it can serve many industry segments and may even operate in related industries. The sources of cost advantage vary and depend on what the industry structure is. They may be the pursuit of economies of scale, propriety technology, preferential access to raw materials etc. For example, in the facility service industry, a company providing the service of security guard could achieve cost advantage by maintaining low overhead, an abundant source of low cost of labour and provide efficient training procedures due to high turn over. If a firm can achieve and sustain overall cost leadership, then it will be an above average performer in its industry provided it can command price at or near the industry average. If a firm which is a cost leader offers equivalent or lower prices than its rivals then its low cost position will yield high returns. However, despite being a cost leader and relies on cost leadership for its competitive advantage a firm cannot ignore the bases of differentiation because if its product is not perceived as comparable or acceptable by buyers, a cost leader will be forced to lower prices well

below its competitors' in order for it to gain sales. This may nullify the benefits of its favourable cost position. Also, the cost leader must achieve parity or proximity in the bases of differentiation relative to its competitors. Parity in the bases of differentiation allows a cost leader to translate its cost advantage directly into higher profits than competitors. Proximity in differentiation implies that the price discount necessary to achieve an acceptable market share does not offset a cost leader's advantage which enables the cost leader to earn above average 15 returns. The strategic logic of cost leadership usually requires that a firm be the cost leader and not one of several firms trying to be in that position. Many firms have made serious errors by failing to recognize this. When there is more than one aspiring cost leader, rivalry among them is usually fierce because every point of market share is viewed as crucial. Unless one firm can gain cost leader and "persuade" others to abandon their strategies, the consequences for profitability (and long run industry structure) can be disastrous. Thus cost leadership is a strategy particularly dependent on preemption, unless major technical change allows a firm to radically change its cost position. [10]

Differentiation: The second generic strategy according to Porter (1998) is differentiation. In a differentiation strategy, a firm strives to be unique in its industry along some dimensions that are widely valued by buyers. It selects one or more an attribute that many buyers in an industry perceive as important and uniquely position itself to meet that need. It is rewarded for its uniqueness with a premium price. The means for differentiation is peculiar to each industry. Differentiation can be based on the product itself, the delivery system by which it is sold, the marketing approach, and a broad range of other factors. A firm that can achieve and sustain differentiation will be an above average performer in its industry if its premium price exceeds the cost it incurred to be unique. A differentiator therefore must always seek ways of differentiating that lead to a price premium greater than the cost of differentiating. A differentiator can not ignore its cost position because its price premium will be nullified by a markedly inferior position. A differentiator thus aims at cost parity or proximity relative to its competitors, by reducing cost in all areas that do 16 not affect differentiation.

The logic of the differentiation strategy requires that a firm choose attributes in which to differentiate itself that are different from its rivals. A firm must truly be unique in something or be perceived as unique if it is to expect a premium price. In contrast to cost leadership however, there can be more than one successful differentiation strategy in an industry if there are a number of attributes that are valued by customers. [10]

Focus: The third generic strategy is focus. This strategy is quite different from the others because a firm chooses a narrow competitive segment in the industry and fits its strategy to serving them to the exclusion of others. By optimizing its strategy for the target segment, the focuser seeks to achieve a competitive advantage it its target segments even though it does not possess an overall competitive advantage. The focus strategy has two variants; the cost focus and differentiation focus. In cost focus a firm endeavours to achieve cost adavantage in its target segment while in differentiation focus, it seeks differentiation in its target segment. Both variants of the focus strategy rest on differences between a focuser's target segment and other segments in the industry. The target segment must either have buyers with unusual need or the production and delivery system that best serve the target market must be different from that of other industry segment. Cost focus exploits differences in cost behaviour in some segment, while differentiation focus exploits the special needs of buyers in certain segments. Such differences imply that the segments are poorly served by broadly targeted competitors who serve them at the same time as they serve others. The focuser can thus achieve competitive advantage by dedicating 17 itself to the segment exclusively. Breadth of target is clearly a matter of degree, but the essence of focus is the exploitation of a narrow target differences from the balance of the industry. Narrow focus in and of itself is not sufficient for above average performance. [10] A focuser takes advantage of suboptimization in either direction by broadly targeted competitors. Competitors may be underperforming in meeting the needs of a particular segment, which brings the opportunity for differentiation focus. Also, broadly targeted competitors may be over performing in meeting the needs of a segment which means that they are bearing higher than necessary cost in serving it. An opportunity for cost focus may be present in just meeting the needs of such a segment and no more. However, before the focus strategy can succeed, a focuser's target segment must be different from the competitors and be structurally attractive. This difference and attractiveness enables the focuser to become an above-average performer in its industry. The importance of segment structural attractiveness cannot be over emphasized because some segments in an industry are much less profitable than others. Nevertheless, there is often room for several sustainable focus strategies in an industry, as long as focusers choose different target segments. Most industries have a variety of segments, and each one that involves a different buyer need or different optimal production or delivery system is a candidate for a focus strategy. [10] Stuck in the middle: A firm that carries out each generic strategy but does not achieve any of them can be said to be "Stuck in the middle". It has no competitive advantage. This strategic position is usually a recipe for below 18 average performance. A firm that is struck in the

middle will compete at a disadvantage because the cost leader, differentiators, or focuser will be better positioned to compete in any segment. If a firm that it stuck in the middle is lucky enough to discover a profitable product or buyer, competitors with a sustainable competitive advantage will quickly eliminate the spoil. In most industries, quite a few competitors are stuck in the middle. A firm that is stuck in the middle will earn attractive profits only if the structure of its industry is highly favourable, or if the firm is fortunate enough to have competitors that are also stuck in the middle. Usually, however, such a firm will be much less profitable than rivals achieving one of the generic strategies. Industry maturity tends to widen the performance differences between firms with a generic strategy and those that are stuck in the middle because it exposes ill-conceived strategies that have been carried along by rapid growth. [10] Competitive Advantage Lower cost Differentiation Figure 3.2 Three Generic Strategies 1. Cost Leadership 2. Differentiation 3. A Cost focus 3B. Differentiation Focus Broad Target Competitive Scope Narrow Target 19 Table 3.1 Risk of the generic strategies [9] RISKS OF COST LEADERSHIP RISKS OF DIFFERENTIATION RISKS OF FOCUS Cost leadership is not Sustained • competitors imitate • technology changes • other bases for cost Leadership erode Proximity in differentiation is lost Cost focuser achieve even lower cost in segment Cost leadership is not Sustained • Competitors imitate • bases for differentiation become less important to buyers Cost proximity is lost Differentiation focuser achieve even greater differentiation in segments The focus strategy is imitated The target segment becomes structurally unattractive • structure erodes • demand disappears Broadly targeted competitors overwhelm the segment • the segment's differences from other segments narrows • the advantages of a broad line increase New focuser sub-segment.

Chapter 3

Feasibility Study

Preliminary investigation examine project feasibility, the likelihood the system will be useful to the users. The main objective of the feasibility study is to test the Technical, Operational and Economical feasibility for adding new modules and debugging old running system. All system is feasible if they are unlimited resources and infinite time. There are aspects in the feasibility study portion of the preliminary investigation:

1. Technical Feasibility
2. Operation Feasibility
3. Economic Feasibility
4. Scheduling Feasibility

A feasibility study is an analysis that takes all of a project's relevant factors into account including economic, technical, legal, and scheduling considerations to ascertain the likelihood of completing the project successfully. Project managers use feasibility studies to discern the pros and cons of undertaking a project before they invest a lot of time and money into it. Feasibility studies also can provide a company's management with crucial information that could prevent the company from entering blindly into risky businesses.

The Importance of Feasibility Studies

Feasibility studies are important to business development. They can allow a business to address where and how it will operate. They can also identify potential obstacles that may impede its operations and recognize the amount of funding it will need to get the business up and running.

Below are some key benefits of conducting a feasibility study Improves project team’s 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

Apart from the approaches to feasibility study listed above, some projects also require other constraints to be analyzed -

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

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.
It is concern with equipment; software technology as well as available personal will successfully satisfied the user requirement. It includes

- The facility to produce output in the given time.
- The response time is under certain condition.
- Ability to process a certain volume of transactions at a particular speed.
- Facility to communicate data to distance location.

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.

This involves questions such as how much time is available to build the new system, when it can be built, or whether it interferences with other normal business operations, type and amount of resources required, dependencies, and developmental procedures with other revenue prospectus.

OPERATIONAL FEASIBILITY

It concern with the fact that whether the system will operate and work once it is implemented. Do the current work practices and procedures support a new system?

Operational feasibility is the measure of how well a proposed system solves the problems, and takes advantage of the opportunities identified during scope definition and how it satisfies the requirements identified in the requirements analysis phase of system development.

Also social factors i.e. how the organizational changes will affect the working lives of those affected by the system.

The operational feasibility assessment focuses on the degree to which the proposed development project fits in with the existing business environment and objectives with regard to development schedule, delivery date, corporate culture and existing business processes.

To ensure success, desired operational outcomes must be imparted during design and development.

These include such design-dependent parameters as reliability, maintainability, supportability, usability, reducibility, disposability, sustainability, affordability and others.

These parameters are required to be considered at the early stages of design if desired operational behaviors are to be realized. A system design and development requires appropriate and timely application of engineering and management efforts to meet the previously mentioned parameters.

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.

REQUEST APPROVAL

A request can be approved when it is desirable and feasible. It is not necessary that all request or projects are feasible or desirable. It may be happen so many requests are received from the organization but only those request are approved which are feasible and desirable.

A project, which is approved, its cost, printing, completion time and the personnel require must be estimated.

Project proposals may need approval both internally and externally. While the specific language may change slightly depending on the nature of the recipient, a standard format that states the request establishes a justification, explains the nature of the project and the approximate budget, among other information, will serve as a good template for future project proposal requests. They may Checkup below Points to approve the Project.

- Determining if your project meets the criteria for University review.
- Consulting with your College for its specific review and approval requirements.
- Considering your project's activities that may require additional attention or approvals.

After checking all the approval organization comes for the financial approval and the points which they consider before approving the budgets of the software they may consider below points.

- IDENTIFY AND ANALYZE KEY INFLUENCERS AND THEIRNEEDS
- UNDERSTAND THE CURRENT BUSINESS IT STRETEGY
- ANALYZE THE BUSINESS NEED &ALTERNATIVES
- CHECKING THE WORTH OF THE PROJECTOUTCOME

Chapter-4

Design Analysis

Data Flow Diagram:

A data flow diagram shows the way information flows through a process or system. It includes data inputs and outputs, data stores, and the various sub processes the data moves through. DFDs are built using standardized symbols and notation to describe various entities and their relationships.

Data flow diagrams visually represent systems and processes that would be hard to describe in a chunk of text. You can use these diagrams to map out an existing system and make it better or to plan out a new system for implementation. Visualizing each element makes it easy to identify inefficiencies and produce the best possible system.

Before actually creating your data flow diagram, you'll need to determine whether a physical or logical DFD best suits your needs. If you're new to data flow diagrams. Logical data flow diagrams focus on what happens in a particular information flow: what information is being transmitted, what entities are receiving that info, what general processes occur, etc. The processes described in a logical DFD are business activities a logical DFD doesn't delve into the technical aspects of a process or system. Non-technical employees should be able to understand these diagrams.

Basic Elements of DFD

DFD is easy to understand and quite effective when the required design is not clear and the user wants a notational language for communication. However, it requires a large number of iterations for obtaining the most accurate and complete solution.

The following table shows the symbols used in designing a DFD and their significance:

Symbol Name	Symbol	Meaning
Square		Source or Destination of Data
Arrow		Data flow
Circle		Process transforming data flow
Open Rectangle		Data Store

Circle: A circle (bubble) shows a process that transforms data inputs into data outputs.

Data Flow: A curved line shows the flow of data into or out of a process or data store.

Data Store: A set of parallel lines shows a place for the collection of data items. A data store indicates that the data is stored which can be used at a later stage or by the other processes in a different order. The data store can have an element or group of elements.

Source or Sink: Source or Sink is an external entity and acts as a source of system inputs or sink of system outputs.

It is a technique developed by Larry Constantine to express the requirements of system in a graphical form.

- It shows the flow of data between various functions of system and specifies how the current system is implemented.
- It is an initial stage of design phase that functionally divides the requirement specifications down to the lowest level of detail.
- Its graphical nature makes it a good communication tool between user and analyst or analyst and system designer.
- It gives an overview of what data a system processes, what transformations are performed, what data are stored, what results are produced and where they flow.

Types of DFD

DFDs are of two types: Physical DFD and Logical DFD. The following table lists the points that differentiate a physical DFD from a logical DFD.

Physical DFD	Logical DFD
It is implementation dependent. It shows which functions are performed.	It is implementation independent. It focuses only on the flow of data between processes.
It provides low level details of hardware, software, files, and people.	It explains events of systems and data required by each event.
It depicts how the current system operates and how a system will be implemented.	It shows how business operates; not how the system can be implemented

Data flow diagram levels

Data flow diagrams are also categorized by level. Starting with the most basic, level 0, DFDs get increasingly complex as the level increases. As you build your own data flow diagram, you will need to decide which level your diagram will be.

Level 0 DFD

Also known as context diagrams, are the most basic data flow diagrams. They provide a broad view that is easily digestible but offers little detail. Level 0 data flow diagrams show a single process node and its connections to external entities.

Level 1 DFD

Still a general overview, but they go into more detail than a context diagram. In a

level 1 data flow diagram, the single process node from the context diagram is broken down into sub processes. As these processes are added, the diagram will need additional data flows.

Level 2 DFD

Simply break processes down into more detailed sub processes. In theory, DFDs could go beyond level 3, but they rarely do. Level 3 data flow diagrams are detailed enough that it doesn't usually make sense to break them down further.

Steps to follow while creating Data Flow Diagram

Identify major inputs and outputs in your system.
Nearly every process or system begins with input from an external entity and ends with the output of data to another entity or database. Identifying such inputs and outputs gives a macro view of your system—it shows the broadest tasks the system should achieve. The rest of your DFD will be built on these elements, so it is crucial to know them early on.

1. Build a context diagram

Once you've identified the major inputs and outputs, building a context diagram is simple. Draw a single process node and connect it to related external entities. This node represents the most general process information undergoes to go from input to output.

The example below shows how information flows between various entities via online community. Data flows to and from the external entities, representing both input and output. The center node, "online community," is the general process.

2. Expand the context diagram into a level 1 DFD

The single process node of your context diagram doesn't provide much information—you need to break it down into sub processes. In your level 1 data flow diagram, you should include several process nodes, major databases, and all external entities. Walk through the flow of information: where does the information start and what needs to happen to it before each data store?

3. Expand to a level 2+DFD

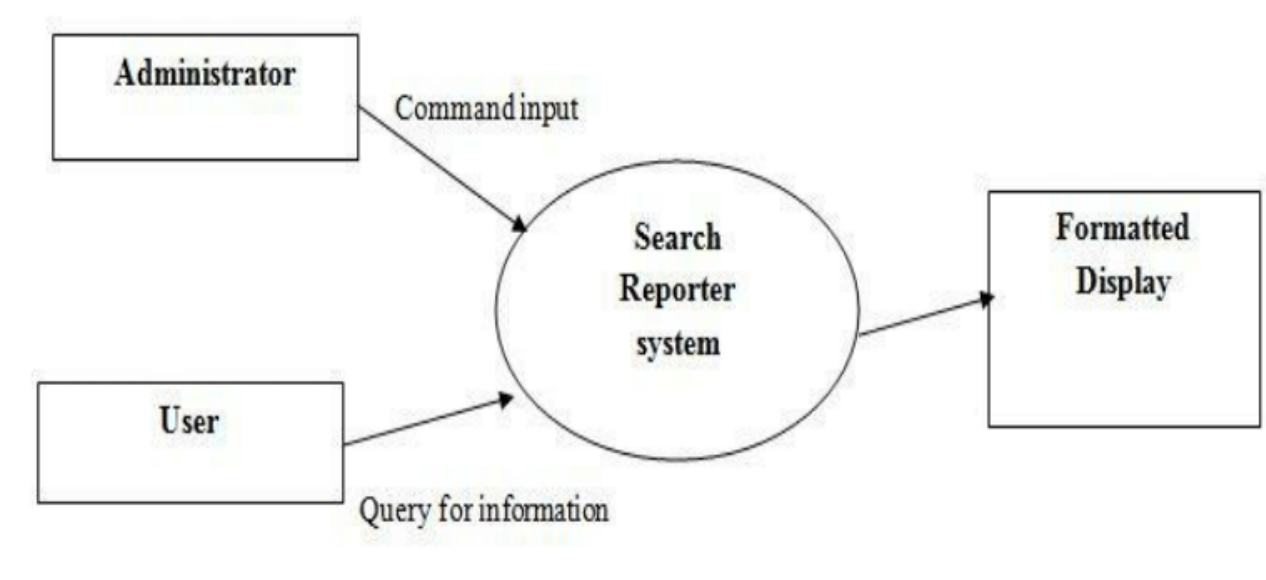
To enhance the detail of your data flow diagram, follow the same process as in step 3. The processes in your level 1 DFD can be broken down into more specific subprocesses. Once again, ensure you add any necessary data stores and flows—at this point you should have a fairly detailed breakdown of your system. To progress beyond a level 2 data flow diagram, simply repeat this process. Stop once you've reached a satisfactory level of detail.

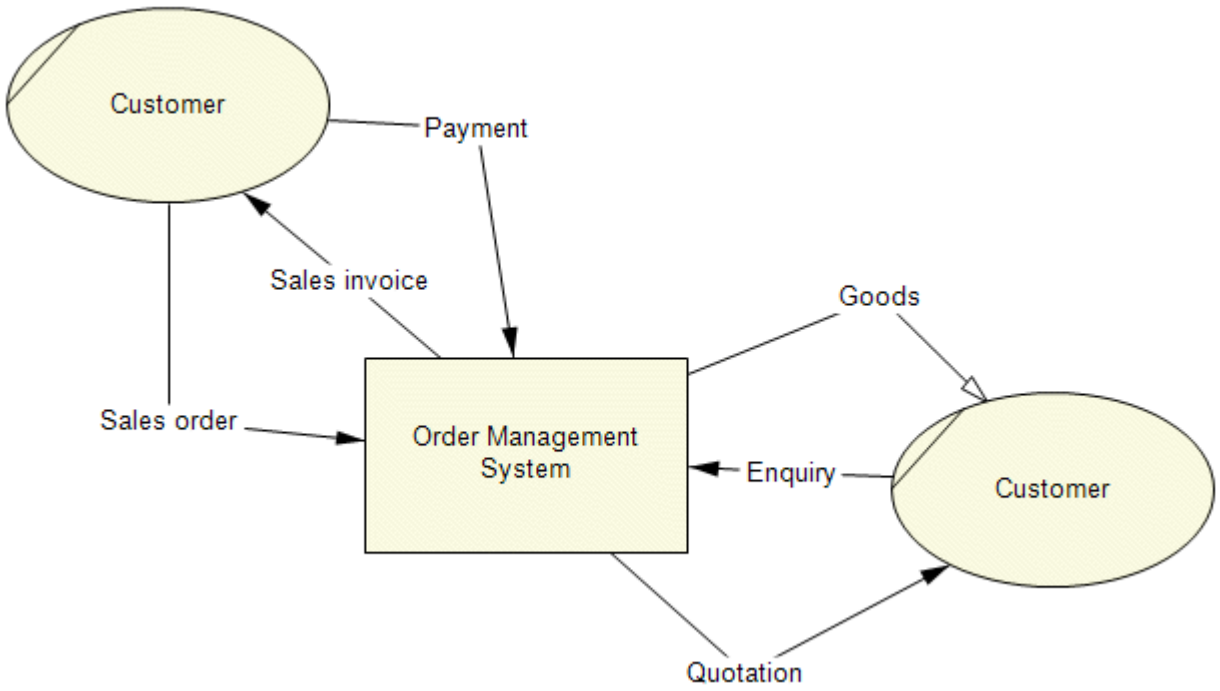
4. Confirm the accuracy of your final diagram

When your diagram is completely drawn, walk through it. Pay close attention to the flow of information: does it make sense? Are all necessary data stores included? By looking at your final diagram, other parties should be able to understand the way your system functions. Before presenting your final diagram, check with co-workers to ensure your diagram is comprehensible.

Advantages of Data Flow Diagram

- It aids in describing the boundaries of the system.
- It is beneficial for communicating existing system knowledge to the users.
- A straightforward graphical technique which is easy to recognize.
- DFDs can provide a detailed representation of system components
- It is used as the part of system documentation file.
- DFDs are easier to understand by technical and nontechnical audiences


Administrator
Command input
Search
Reporter
system
Formatted
Display
User
Query for information


Customer
Payment
Sales invoice
Goods
Sales order
Order Management System
Enquiry
Customer
Quotation

Entity-Relationship Diagrams

ER-modeling is a data modeling method used in software engineering to produce a conceptual data model of an information system. Diagrams created using this ER-modeling method are called Entity-Relationship Diagrams or ER diagrams or ERDs.

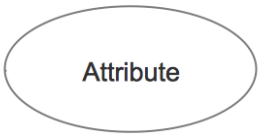
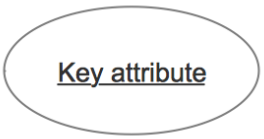
Purpose of ERD

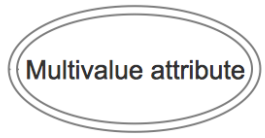
- The database analyst gains a better understanding of the data to be contained in the database through the step of constructing the ERD.
- The ERD serves as a documentation tool.
- Finally, the ERD is used to connect the logical structure of the database to users. In particular, the ERD effectively communicates the logic of the database to users.

Components of an ER Diagrams

It is the specialized Entity Relationship diagram symbols, and the meanings of those symbols

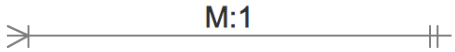
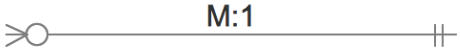
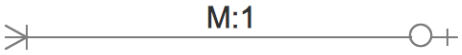
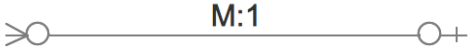
Entity Relationship Diagram Symbols — Chen notation

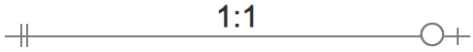
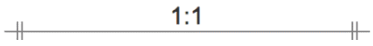
Symbol	Shape Name	Symbol Description
Entities		
	Entity	An entity is represented by a rectangle which contains the entity's name.
	Weak Entity	An entity that cannot be uniquely identified by its attributes alone. The existence of a weak entity is dependent upon another entity called the owner entity. The weak entity's identifier is a combination of the identifier of the owner entity and the partial key of the weak entity.
	Associative Entity	An entity used in a many-to-many relationship (represents an extra table). All relationships for the associative entity should be many
Attributes		
	Attribute	In the Chen notation, each attribute is represented by an oval containing atributte's name
	Key attribute	An attribute that uniquely identifies a particular entity. The name of a key attribute is underscored.

	Multivalued attribute	An attribute that can have many values (there are many distinct values entered for it in the same column of the table). Multivalued attribute is depicted by a dual oval.
	Derived attribute	An attribute whose value is calculated (derived) from other attributes. The derived attribute may or may not be physically stored in the database. In the Chen notation, this attribute is represented by dashed oval.

Relationships		
	Strong relationship	A relationship where entity is existence-independent of other entities, and PK of Child doesn't contain PK component of Parent Entity. A strong relationship is represented by a single rhombus
	Weak (identifying) relationship	A relationship where Child entity is existence-dependent on parent, and PK of Child Entity contains PK component of Parent Entity. This relationship is represented by a double rhombus.

Entity Relationship Diagram Symbols — Crow's Foot notation

Symbol	Meaning
Relationships (Cardinality and Modality)	
	Zero or One
	One or More
	One and only One
	Zero or More
Many - to – One	
	a one through many notation on one side of a relationship and a one and only one on the other
	a zero through many notation on one side of a relationship and a one and only one on the other
	a one through many notation on one side of a relationship and a zero or one notation on the other
	a zero through many notation on one side of a relationship and a zero or one notation on the other
Many - to – Many	
	a zero through many on both sides of a relationship

	a zero through many on one side and a one through many on the other
	a one through many on both sides of a relationship
	a one and only one notation on one side of a relationship and a zero or one on the other
	a one and only one notation on both side

Levels of ER Models:

Three levels related ER diagrams include:

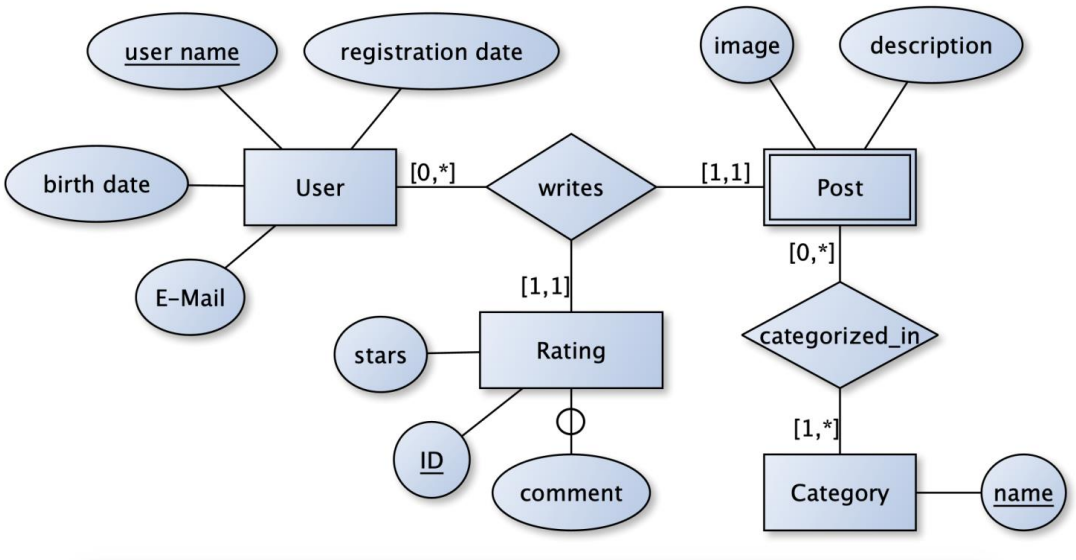
- **Conceptual Data Model** – It provides information on what is going to be part of model set which makes it highest level ER model.
- **Logical Data Model** – It is detailed form of ER model which helps in establishing relationship of data entities.
- **Physical Data Model** – The physical data model is highly detailed which allows in producing a database.

Benefits of ER Diagram:

The ER diagram is highly popular as it carries multiple benefits which include:

- **Efficient communication:** It allows the readers to understand the relationship among different fields in an effective manner. Symbols are utilized to represent information effectively and they also help in comprehending the working of the database.

- **Visual representation:** The data-flow diagrams along with ER diagrams can be used effectively for visual representation of the layout.
- **Easy understanding:** Due to ease of understanding associated with design using ER diagrams, it can be represented to the concerned people for confirmation. Also, changes can be made effectively on the basis of the suggestions.
- **Highly Flexible:** The ER diagram can be effectively utilized for establishing and deriving relationships from the existing ones. Mathematical formulas and relational tables can be utilized for performing this operation.



DATABASE

A database is an organized collection of data, generally stored and accessed electronically from a computer system. Where databases are more complex they are often developed using formal design and modeling techniques.

The database management system (DBMS) is the software that interacts with end users, applications, and the database itself to capture and analyze the data. The DBMS software additionally encompasses the core facilities provided to administer the database. The sum total of the database, the DBMS and the associated applications can be referred to as a "database system". Often the term "database" is also used to loosely refer to any of the DBMS, the database system or an application associated with the database.

Computer scientists may classify database-management systems according to the database models that they support. Relational databases became dominant in the 1980s. These model data as rows and columns in a series of tables, and the vast majority use SQL for writing and querying data. In the 2000s, non-relational databases became popular, referred to as NoSQL because they use different query language

XAMPP is a lightweight solution that works perfectly on multiple platforms likes Linux, Windows, and Mac OS.

XAMPP Php My Admin What it is?

Php My Admin is a free and open source software that lets you handle the administration of MySQL over the web. You can easily manage the database through a graphic user interface known as php My Admin in this case. Php My Admin is written in PHP and has gained a lot of popularity in terms of web-based MySQL management solution. You can perform operations on MySQL via php My Admin user interface while you can still directly execute SQL queries. And it lets you carry out operations like editing, creating, dropping, amend MySQL database, alter fields, tables, indexes, etc. In fact, which user should be given what privileges, you can manage that too. Php My Admin has huge multi-language community support.

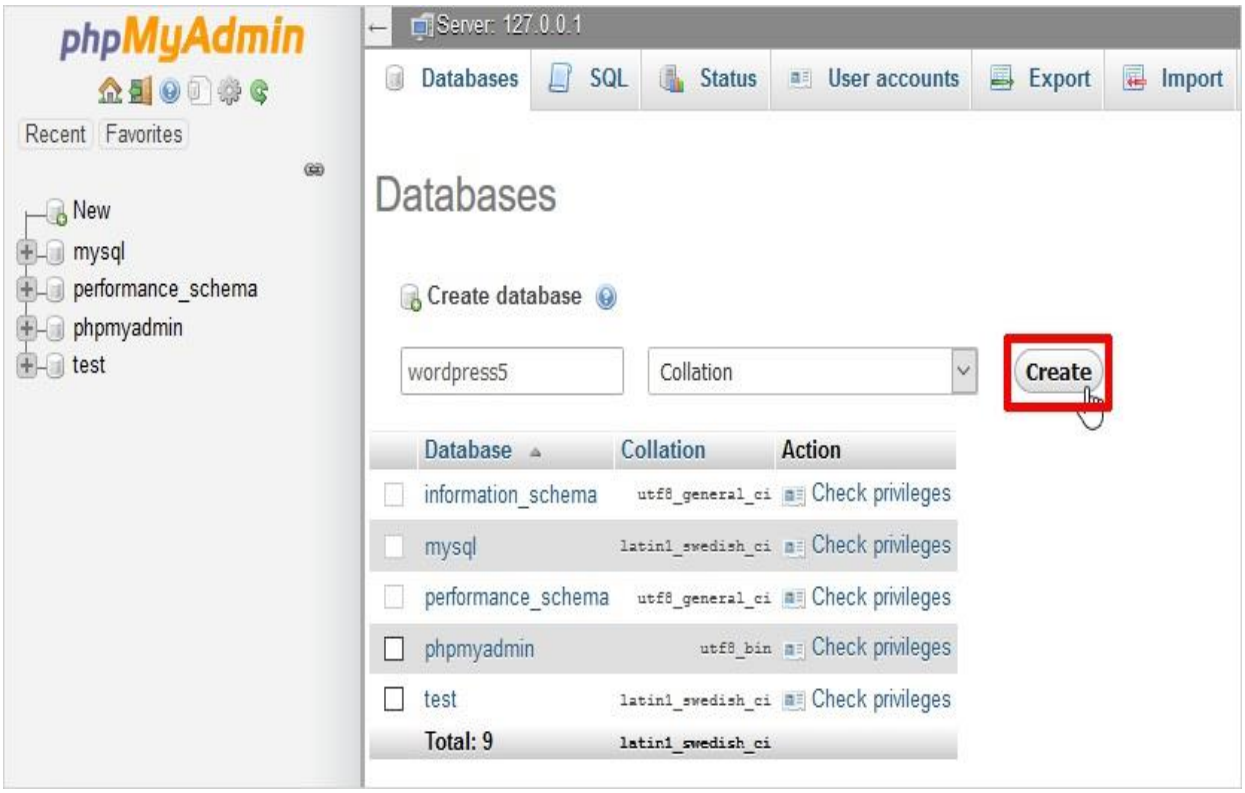
Create Database on XAMPP php My Admin

Php My Admin support a wide range of MySQL operations which makes working with database easy and simple. Moreover, the interactive user interface of php My Admin helps you manage the queries pretty easily. In order to create a XAMPP MySQL database, you need to launch XAMPP first.

Now navigate to http://localhost/phpmyadmin

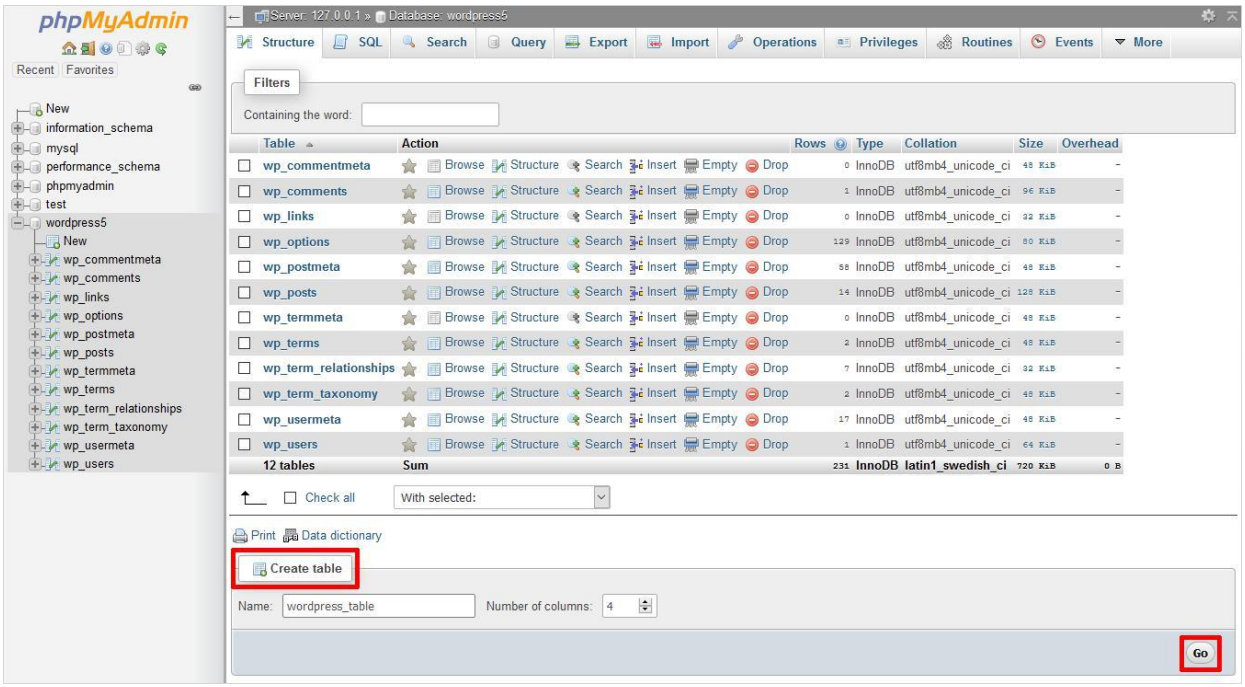
And click on the Database tab. Now you should see the option to create a Database and input field to enter the database name. Write the database name and hit the 'Create' button. You will see a success message in a while.

From the list of tables, you can view your database. You are free to use this database wherever you like with default settings. By default the Host Name is 'localhost', MySQL user is 'root' and have no password.



Create Tables Using phpMyAdmin XAMPP

Tables play a vital role in the storage of information (dynamic content). On XAMPP MySQL store the information in the tables. You can easily add tables to MySQL using the intuitive phpMyAdmin user interface. In the phpMyAdmin click on the ‘Structure’ tab. Below the tables list at the bottom of the page, click on the ‘Create new table on database’ wizard to get started. First, add the table name and the total number of fields and hit the ‘Go’ button.



This way you will be launched to a step-by-step wizard where you need to fill up the required fields. First off, name all the fields and select the relevant type for every field. However, in order to choose the type, use ‘Type’ drop-down menu and fill a value for the length of each field. Next, assign ‘Attribute’ to each field. From the ‘Null’ drop-down menu select the null option and define whether the specified field is a primary key or not. And finally, select the table type and collation method and click the ‘Save’ button to finish the table creation process.

DATABASE TABLE

Table 1:

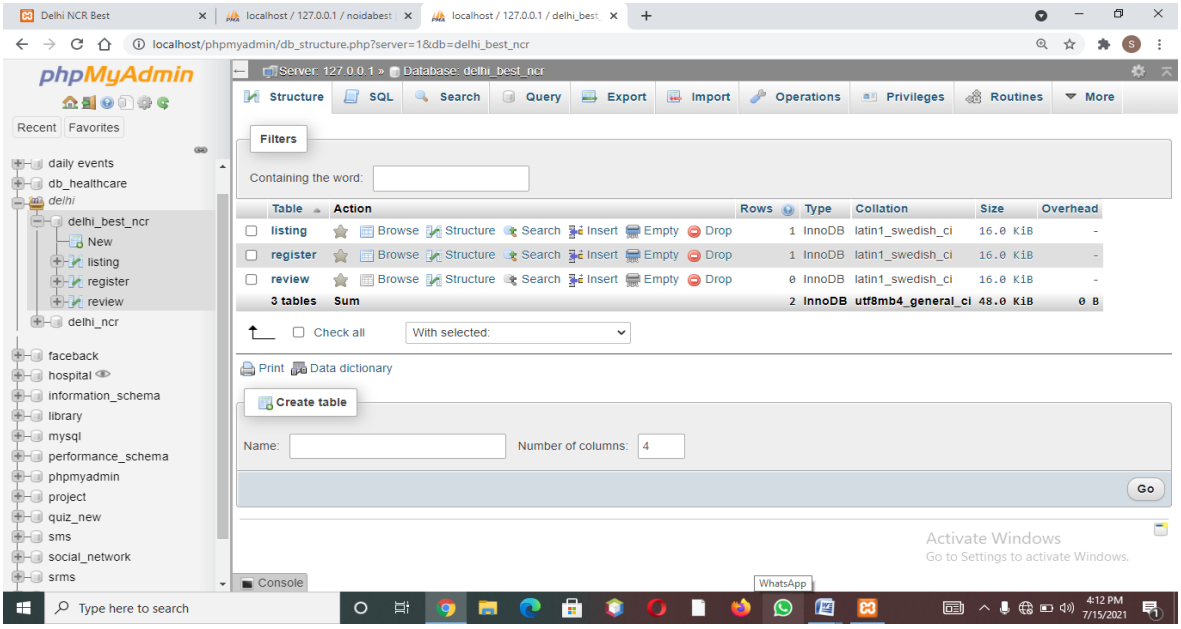


Table 2:

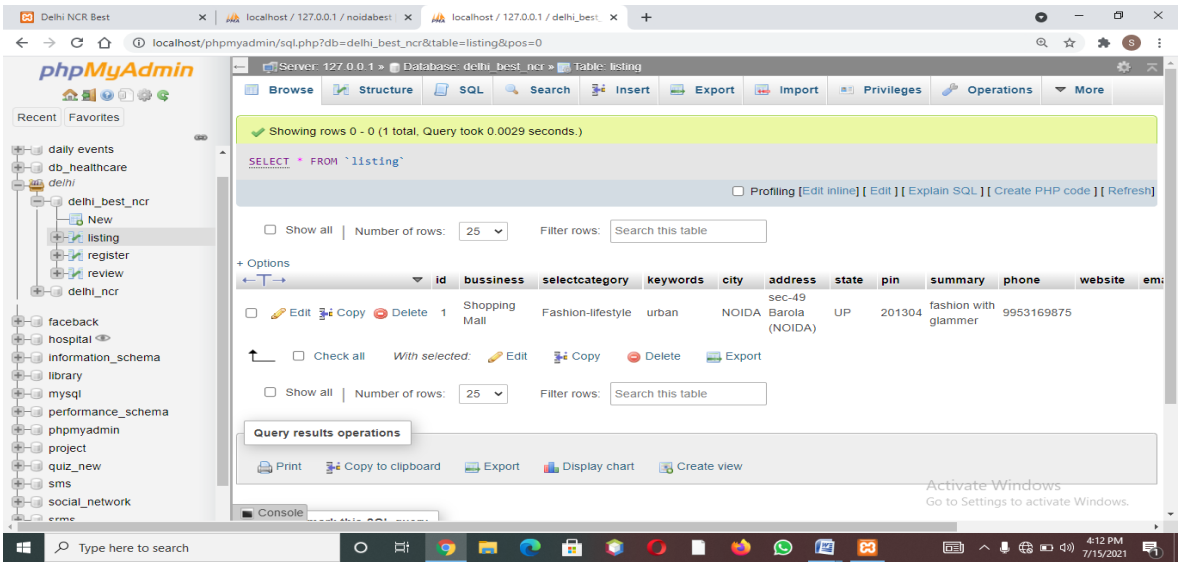


Table 3:

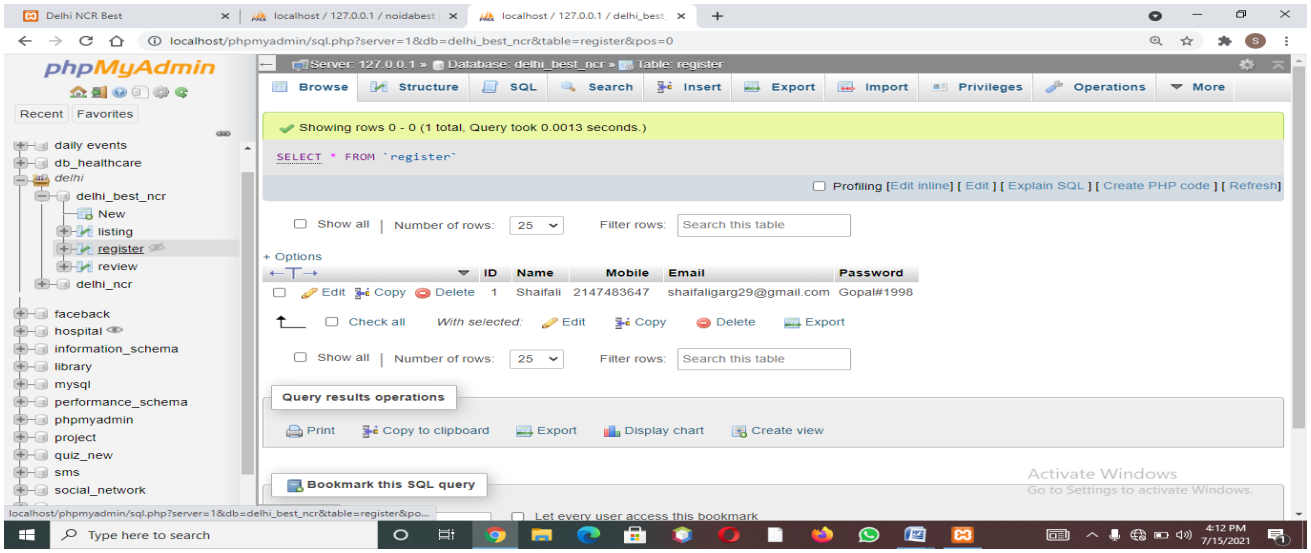
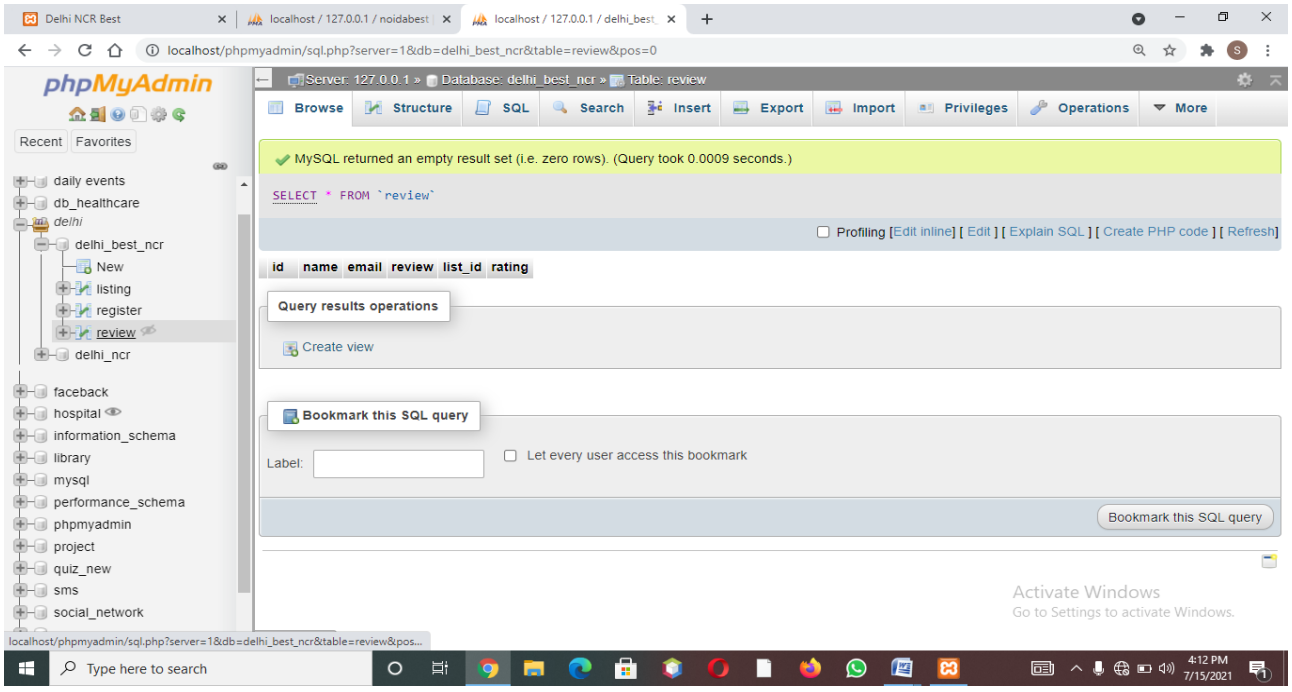


Table 4:



Chapter 5

Software and Hardware Requirements

This section describes the software and hardware requirements of the system

SOFTWARE REQUIREMENTS

Operating system- Windows 7 is used as the operating system as it is stable and supports more features and is more user friendly Database MYSQL. MYSQL is used as database as it easy to maintain and retrieve records by simple queries which are in English language which are easy to understand and easy to write. Development tools and Programming language- HTML is used to write the whole code and develop webpages with css, java script for styling work and php for sever side scripting.

HARDWARE REQUIREMENTS

- Intel Pentium is used as a processor because it is fast than other processors and provide reliable and stable and we can run our pc for longtime. By using this processor we can keep on developing our project without any worries. Ram 256 MB is used as it will provide fast reading and writing capabilities and will in turn support in processing and MONITOR SIZE: 14 INCH, where hard disk:80 GB.

SOFTWARE TOOLS USED -

The whole Project is divided in two parts the front end and the back end.

Front End: The front end is designed using of html, Php, css, Java script

Back End: The back end is designed using MySQL which is used to design the databases

HTML

HTML or Hyper Text Markup Language is the main markup language for creating web pages and other information that can be displayed in a web browser.

HTML is written in the form of HTML elements consisting of tags enclosed in angle brackets (like <html>), within the web page content.

HTML tags most commonly come in pairs like <h1> and </h1>, although some tags represent empty elements and so are unpaired, for example <img>. The first tag in a pair is the start tag, and the second tag is the end tag (they are also called opening tags and closing tags). In between these tags web designers can add text, further tags, comments and other types of text-based content.

The purpose of a web browser is to read HTML documents and compose them into visible or audible web pages. The browser does not display the HTML tags, but uses the tags to interpret the content of the page.

HTML elements form the building blocks of all websites. HTML allows images and objects to be embedded and can be used to create interactive forms. It provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items.

It can embed scripts written in languages such as JavaScript which affect the behavior of HTML web pages.

CHARACTERISTICS:

Every browser supports HTML language.

- Easy to learn and use.
- It is by default in every window so you don’t need to purchase extra software.
- You can integrate HTML with CSS, JavaScript, php etc.

CSS (Cascading Style Sheets) -

CSS Cascading Style Sheets (CSS) is a style sheet language used for describing the look and formatting of a document written in a markup language. While most often used to style web pages and interfaces written in HTML and XHTML, the language can be applied to any kind of XML document, including plain XML, SVG and XUL. CSS is a cornerstone specification of the web and almost all web pages use CSS style sheets to describe their presentation.CSS is designed primarily to enable the separation of document content from document presentation, including elements such as the layout, colors, and fonts.

This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple pages to share formatting, and reduce complexity and repetition in the structural content (such as by allowing for table less web design).

CSS can also allow the same markup page to be presented in different styles for different rendering methods, such as on-screen, in print, by voice (when read out by a speech-based browser or screen reader) and on Braille-based, tactile devices. It can also be used to allow the web page to display differently depending on the screen size or device on which it is being viewed. While the author of a document typically links that document to a CSS file, readers can use a different style sheet, perhaps one on their own computer, to override the one the author has specified.

However if the author or the reader did not link the document to a specific style sheet the default style of the browser will be applied.CSS specifies a priority scheme to determine which style rules apply if more than one rule matches against a particular element. In this so-called cascade, priorities or weights are calculated and assigned to rules, so that the results are predictable.

- **Create Stunning Web site** - CSS handles the look and feel part of a web page. Using CSS, you can control the color of the text, the style of fonts, the spacing between paragraphs, how columns are sized and laid out, what background images or colors are used, layout designs, variation in display for different devices and screen sizes as well as a variety of other effects.
- **Become a web designer** - If you want to start a carrier as a professional web designer, HTML and CSS designing is a must skill.
- **Control web** - CSS is easy to learn and understand but it provides powerful control over the presentation of an HTML document. Most commonly, CSS is combined with the markup languages HTML or XHTML.
- **Learn other languages** - Once you understands the basic of HTML and CSS then other related technologies like javascript, php, or angular are become easier to understand.
- **Adaptive to Diverse Users**- Modern CSS-based Web pages have to accommodate the diverse range of browsers, devices, screen resolutions, font sizes, assistive technologies and other factors that users bring to.
- **Modular-** Modern websites are no longer collections of static pages. Pieces of content and design components are reused throughout a website and even shared between websites, as content management systems.

JAVASCRIPT

JAVA SCRIPT JavaScript (JS) is a dynamic computer programming language. It is most commonly used as part of web browsers, whose implementations allow client-side scripts to interact with the user, control the browser, communicate asynchronously, and alter the document content that is displayed. It is also being used in server-side programming, game development and the creation of desktop and mobile applications.

JavaScript is a prototype-based scripting language with dynamic typing and has first-class functions.

Its syntax was influenced by C. JavaScript copies many names and naming conventions from Java, but the two languages are otherwise unrelated and have very different semantics.

The key design principles within JavaScript are taken from them and Scheme programming languages.

It is a multi-paradigm language, supporting object-oriented, imperative, and functional programming styles. The application of JavaScript to use outside of web pages—for example, in PDF documents, site-specific browsers, and desktop widgets—is also significant. Newer and faster JavaScript VMs and platforms built upon them (notably Node.js) have also increased the popularity of JavaScript for server-side web applications.

On the client side, JavaScript was traditionally implemented as an interpreted language but just-in-time compilation is now performed by recent (post-2012) browsers.

PHP

PHP is a server-side scripting language designed for web development but also used as a general-purpose programming language.

PHP is now installed on more than 244 million websites and 2.1 million web servers. Originally created by Ramus Leadoff in 1995, the reference implementation of PHP is now produced by The PHP Group. While PHP originally stood for Personal Home Page, it now stands for PHP: Hypertext Preprocessor, a recursive back.

PHP code is interpreted by a web server with a PHP processor module, which generates the resulting web page: PHP commands can be embedded directly into an HTML source document rather than calling an external file to process data.

It has also evolved to include a command-line interface capability and can be used in standalone graphical applications. PHP is free software released under the PHP License. PHP can be deployed on most web servers and also as a standalone shell on almost every operating system and platform, free of charge.

Common uses of PHP

- PHP performs system functions, i.e. from files on a system it can create, open, read, write, and close them.
- PHP can handle forms, i.e. gather data from files, save data to a file, through email you can send data, return data to the user.
- You add, delete, modify elements within your database through PHP.
- Access cookies variables and set cookies.
- Using PHP, you can restrict users to access some pages of your website.
- It can encrypt data.

Characteristics of PHP

Five important characteristics make PHP's practical nature possible −

- Simplicity
- Efficiency
- Security
- Flexibility
- Familiarity
- BACK END- The back end is designed using MySQL which is used to design the databases
- MYSQL
- MySQL ("My S-Q-L", officially, but also called "My Sequel") is (as of July 2013) the world's second most widely used open-source relational database management system (RDBMS). It is named after co-founder Michael Wideners daughter, my.
- The SQL phrase stands for Structured Query Language.
- The MySQL development project has made its source code available under the terms of the GNU General Public License, as well as under a variety of proprietary agreements.
- MySQL was owned and sponsored by a single for-profit firm, the Swedish company MySQL AB, now owned by Oracle Corporation .
- MySQL is a popular choice of database for use in web applications, and is a central component of the widely used LAMP open source web application software stack (and other 'AMP' stacks).
- LAMP is an acronym for "Linux, Apache, MySQL, and Perl/PHP/Python." Free-software-open source projects that require a full-featured database management system often use MySQL.

Chapter 6

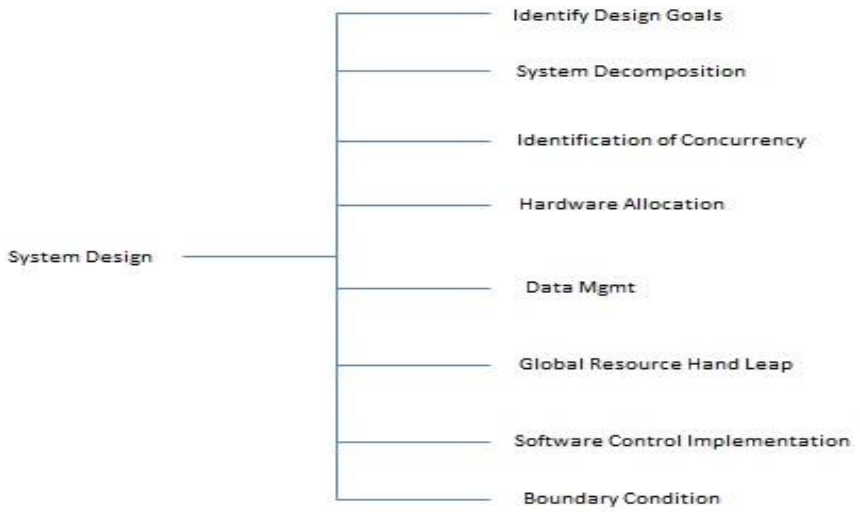
System Design

Systems design is the process of defining the architecture, modules, interfaces, and data for a system to satisfy specified requirements. Systems design could be seen as the application of systems theory to product development. There is some overlap with the disciplines of systems analysis, systems architecture and systems engineering.

System design is the phase that bridges the gap between problem domain and the existing system in a manageable way. This phase focuses on the solution domain, i.e. *"how to implement?"*

It is the phase where the SRS document is converted into a format that can be implemented and decides how the system will operate.

In this phase, the complex activity of system development is divided into several smaller sub-activities, which coordinate with each other to achieve the main objective of system development.



Inputs to System Design

System design takes the following inputs −

- Statement of work
- Requirement determination plan
- Current situation analysis
- Proposed system requirements including a conceptual data model, modified DFDs, and Metadata (data about data).

Outputs for System Design

System design gives the following outputs −

- Infrastructure and organizational changes for the proposed system.
- A data schema, often a relational schema.
- Metadata to define the tables/files and columns/data-items.
- A function hierarchy diagram or web page map that graphically describes the program structure.
- Actual or pseudocode for each module in the program.
- A prototype for the proposed system.

Types of System Design

Logical Design

Logical design pertains to an abstract representation of the data flow, inputs, and outputs of the system. It describes the inputs (sources), outputs (destinations), databases (data stores), procedures (data flows) all in a format that meets the user requirements.

While preparing the logical design of a system, the system analyst specifies the user needs at level of detail that virtually determines the information flow into and out of the system and the required data sources. Data flow diagram, E-R diagram modeling are used.

Physical Design

Physical design relates to the actual input and output processes of the system. It focuses on how data is entered into a system, verified, processed, and displayed as output.

It produces the working system by defining the design specification that specifies exactly what the candidate system does. It is concerned with user interface design, process design, and data design.

It consists of the following steps −

- Specifying the input/output media, designing the database, and specifying backup procedures.
- Planning system implementation.
- Devising a test and implementation plan, and specifying any new hardware and software.
- Updating costs, benefits, conversion dates, and system constraints.

In physical design, the following requirements about the system are decided.

- Input requirement,
- Output requirements,
- Storage requirements,
- Processing requirements,
- System control and backup or recovery.

Architectural Design

It is also known as high level design that focuses on the design of system architecture. It describes the structure and behavior of the system. It defines the structure and relationship between various modules of system development process.

Detailed Design

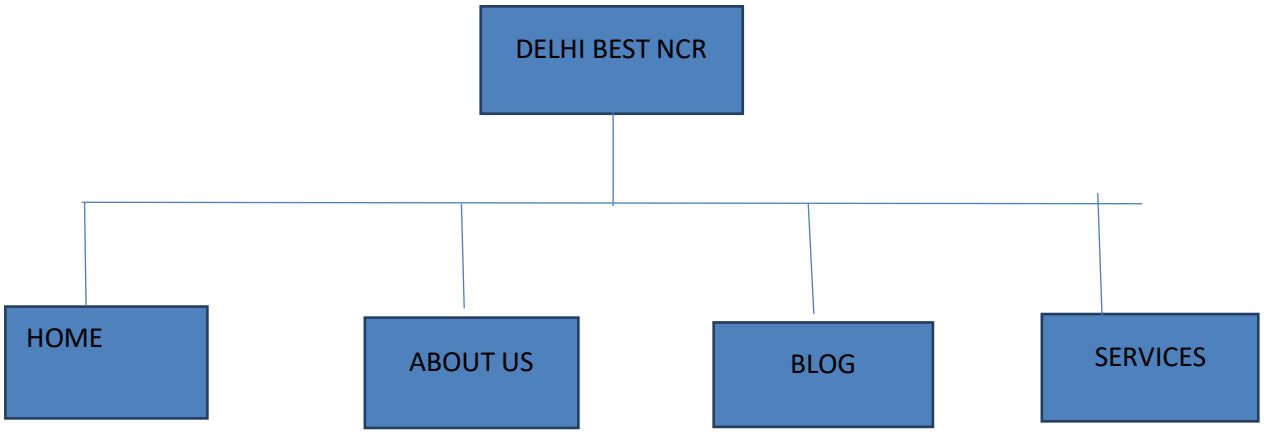
It follows Architectural design and focuses on development of each module.

Conceptual Data Modeling

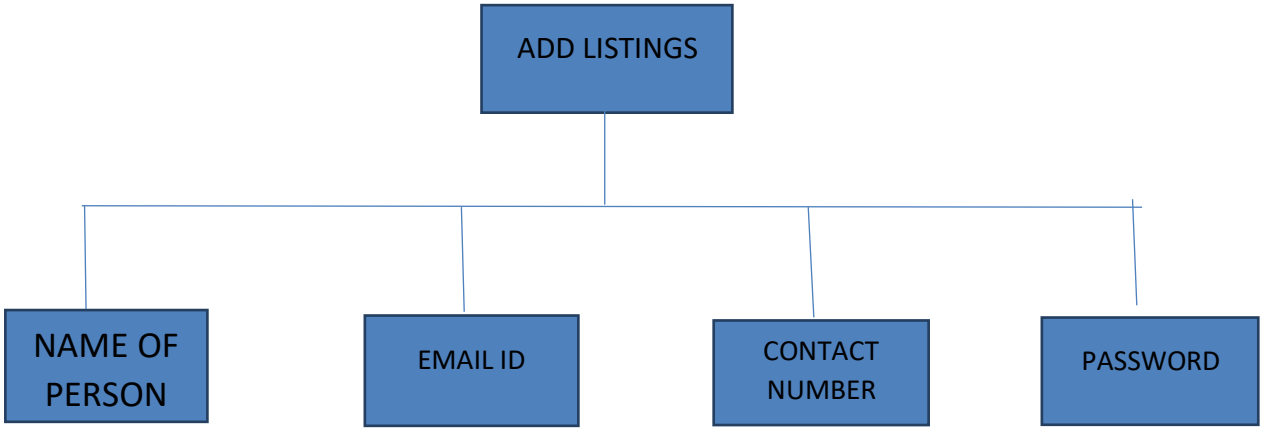
It is representation of organizational data which includes all the major entities and relationship. System analysts develop a conceptual data model for the current system that supports the scope and requirement for the proposed system.

The main aim of conceptual data modeling is to capture as much meaning of data as possible. Most organization today use conceptual data modeling using E-R model which uses special notation to represent as much meaning about data as possible.

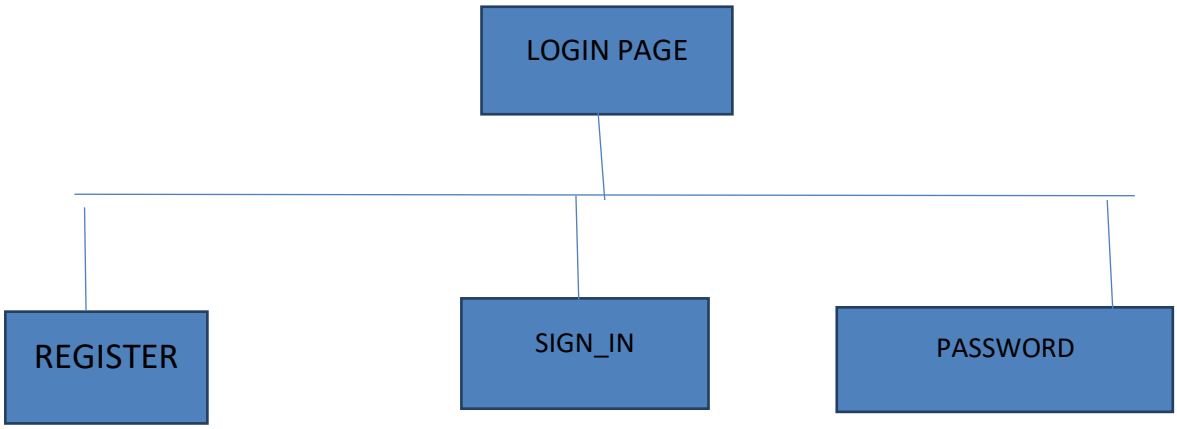
DAILY EVENT SYSTEM MODULE



ADD LISTING



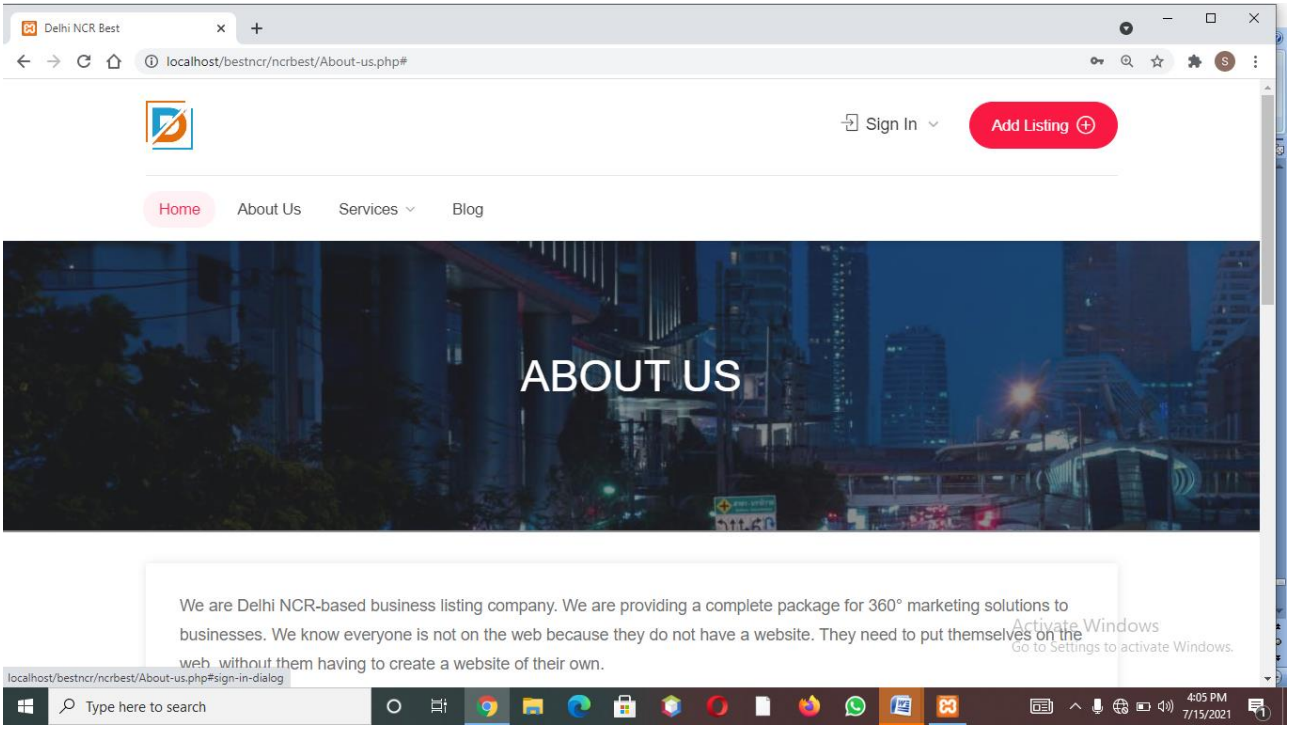
LOGIN PAGE



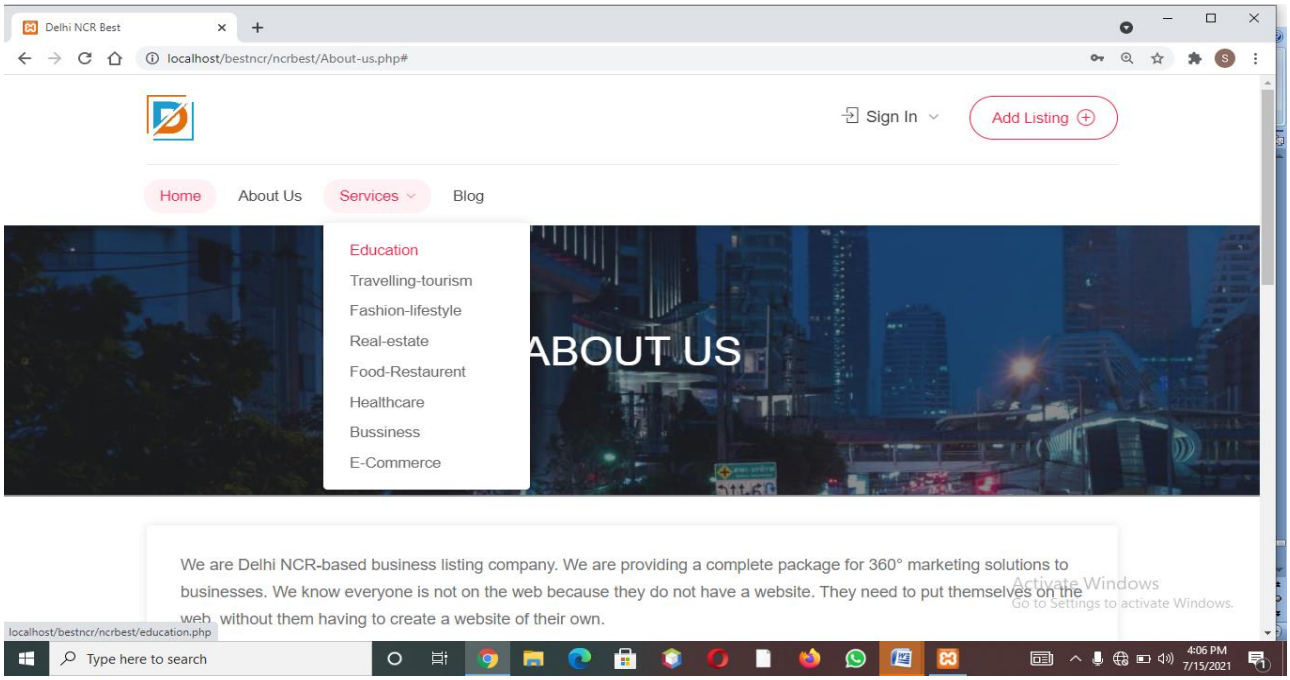
Chapter 7

Screenshots

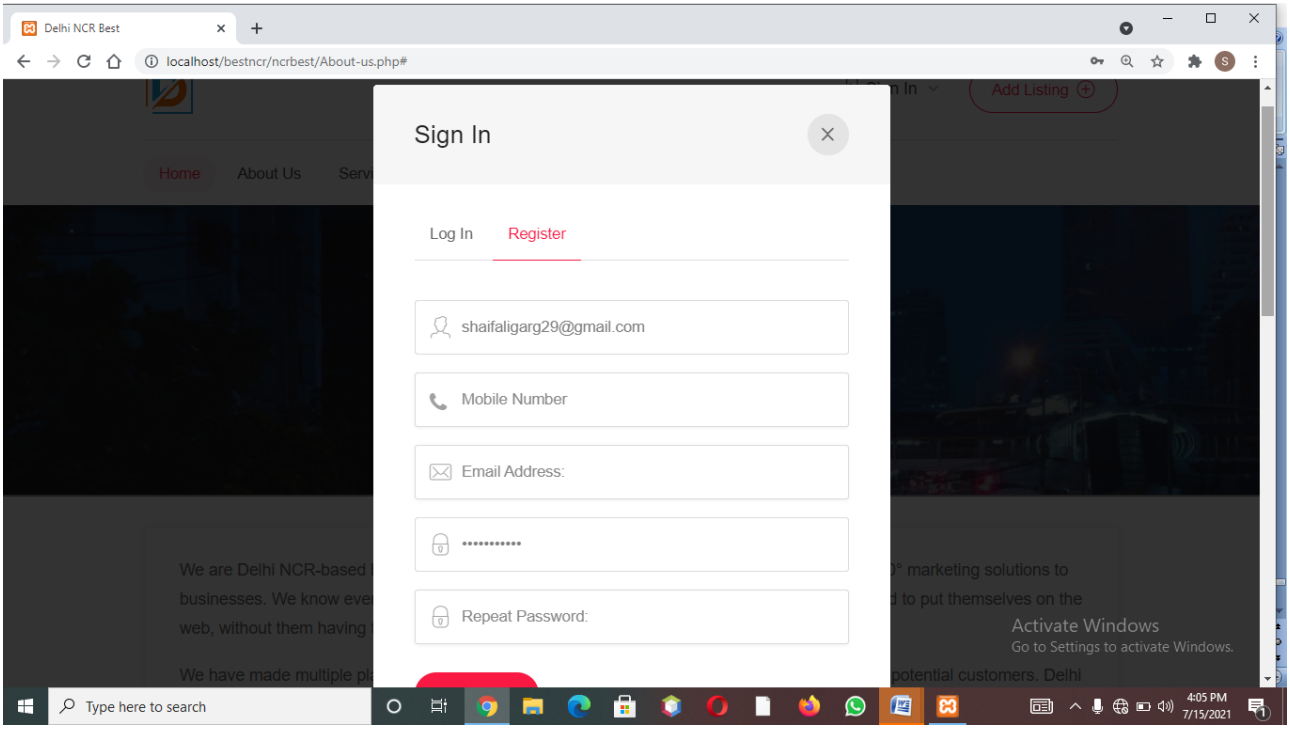
About Page:



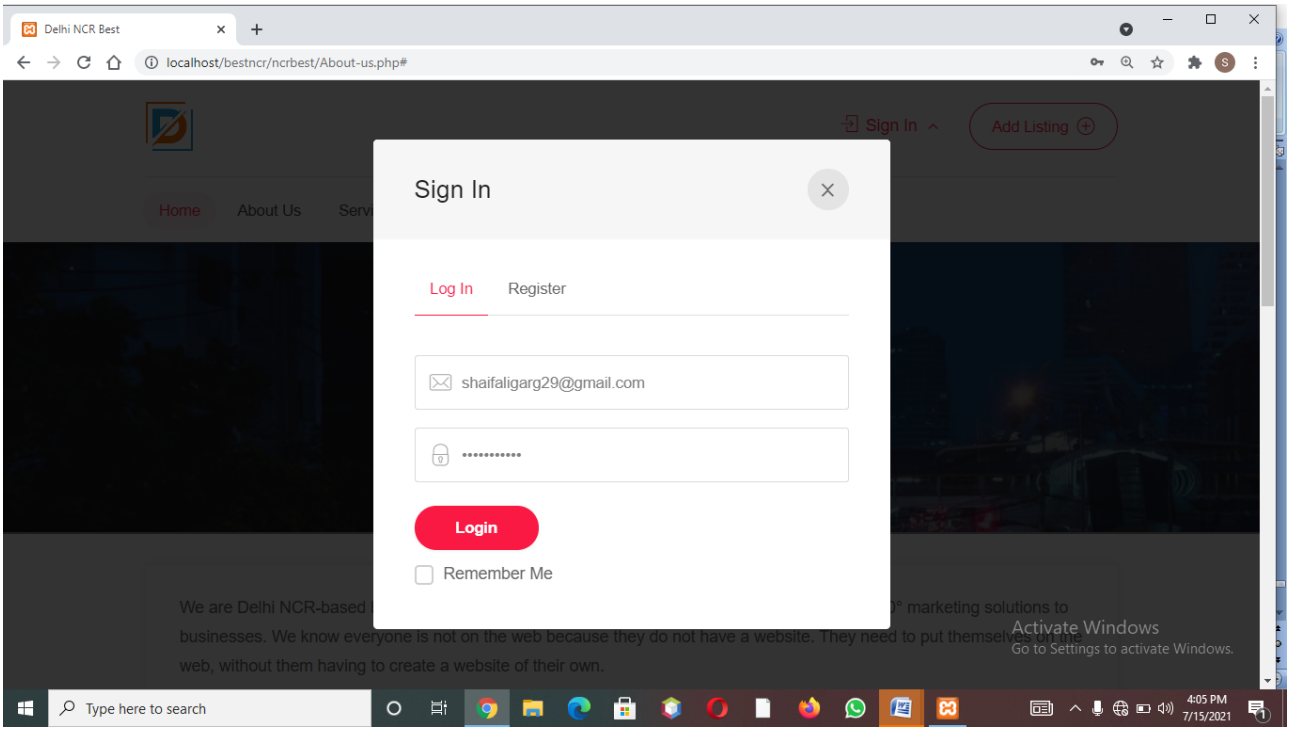
Services:



Register page:



Sign in:



Chapter 8

Testing

After analysis, designing we have to implement our project but first we have to test it. It means we have to show that something works in the project (i.e. that it meets the requirements and operates according to the specification), but also attempts to break the system: to show not where it works but where it fails.

That is, taken beyond the point at which it was expected to operate to see how it behaves under unexpected circumstances. We normally formalize the testing process by referring to three distinct goals:

1. Validation

Simply stated, this test answers the questions: Have I built the right system? Does it satisfy? The requirements? It may seem obvious, but the number of times that the system which is built isn‟t what is wanted at all.

We should compare the system‟s behavior with the original requirements and system specification. Validation is extremely important and it should be carried out with great attention to detail.

2. Verification

In this case, the questions are: Have I built the system right? Is it computing the right Answer? This is basically understood bytesting.

3. Evaluation

Finally, we ask: How good is the system? Again, we seek to assess the systems performance and compare it to that of other similar systems. Ideally, we should identify some quantitative metric by which to compare the systems, since

Numbers are the best and perhaps the only way to objectively describe performance. It can be achieve when the system is subjected to a large variety of input parameters and conditions.

It shows us the 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, through testing.

The process of analyzing a software item to detect the differences between existing and required conditions (i.e., bugs) and to evaluate the features of the software items.

"We execute a program with the intent of finding errors". What is it?

- Once source code has been generated, software must be tested to uncover (and Correct) as many errors as possible before delivery to theusers.
- Your goal is to design a series of test cases that have a high likelihood of finding errors but how? That‟s where software testing techniques enterin to thepicture. What does it?
- During early stages of testing, we perform series oftests.
- However, as the testing process progresses, some testing tools may become involved

What is the importance?

- Every time the program is executed the users tests it! Therefore, we have to execute the program before it gets to the user with the specific intent of finding and removing all errors.

Testing methods

Static and dynamic testing

Reviews, walkthroughs, or inspections are done in static testing. When programming tools/text editors check source code structure or compilers (pre-compilers) check syntax and data flow as static program analysis. Static testing involves verification.

Whereas actually executing programmed code with a given set of test cases is are done in dynamic testing.

Dynamic testing takes place when the program itself is run. Dynamic testing may begin before the program is 100% complete in order to test particular sections of code. Dynamic Testing also involves validation.

Basically testing refers to Testing refers to the potential bugs before its made live and is accessible to general public. Web Testing checks for functionality, usability, security, compatibility, performance of the web application or website. We have done Functional Testing.

- Usability Testing
- Interface Testing
- Database Testing
- Performance Testing
- Compatibility Testing

Usability Testing

In an industry devoted to creating a great experience for people who use products, services, and apps, usability testing is paramount. The main goal of usability testing is to inform the design process from the perspective of the end-user.

Usability is how easy an object is to use. The object can be almost anything, including a machine, tool, process, book, software application or website. Anything that a person can interact with should be usable. In the case of websites and software applications, usability has been defined as the ease at which an average person can use the software or website to achieve specific goals.

The main reason that usability is so important is because there are so many similar websites that people will go to the next site if the first one they visit is not usable. You can have the most beautiful website in the world, but people will leave immediately if they are unable to figure out how to navigate your site quickly.

There are 3 main categories of *usability* testing.

Explorative:

Used early in product development to assess the effectiveness and *usability* of a preliminary design or prototype, as well as users' thought processes and conceptual understanding.

Assessment:

Used midway in product development or as an overall usability *test* for technology evaluation. Evaluates real-time trials of the technology to determine the satisfaction, effectiveness, and overall usability.

Comparative:

Compares two or more instructional technology products or designs and distinguishes the strengths and weaknesses of each

Types of Usability Testing

Hallway Testing:

- Using random people to test the website rather than people who are trained and experienced in testing websites. This method is particularly effective for testing a new website for the first time during development.

Remote Usability Testing:

Testing the usability of a website using people who are located in several countries and time zones. Sometimes remote testing is performed using video conferencing, while other times the user works separately from the evaluator. Nowadays, there are various software available at a relatively low cost that allow remote usability testing to be carried out even by observers who are not usability experts. Typically, the click locations and streams of the users are automatically recorded and any critical incidents that occurred while they were using the site are also recorded, along with any feedback the user has submitted.

Remote usability testing allows for the length of time it took each tester to complete various tasks to be recorded. It is a good method of testing because the tests are carried out in the normal environment of the user instead of a controlled lab.

Expert Review:

An expert in the field is asked to evaluate the usability of the website. Sometimes the expert is brought to a testing facility to test the site, while other times the tests are conducted remotely and automated results are sent back for review. Automated expert tests are typically not as detailed as other types of usability tests, but their advantage is that they can be completed quickly.

Paper Prototype Testing:

Quite simply, this usability testing method involves involves creating rough, even hand- sketched, drawings of an interface to use as prototypes, or models, of a design. Observing a user undertaking a task using such prototypes enables the testing of design ideas at an extremely low cost and before any coding has been done.

Interface Testing

When an application or a software or a website is developed, then there are several components of it. Those components can be server, database etc.

The connection which integrates and facilitates the communication between these components is termed as an Interface.

In simple terms, an interface is a software comprising of a set of commands, messages etc.

For a computer, an interface can be APIs, web services etc. The communication between the different components of a software or an application or a website can affect the overall performance hence this communication i.e. the interface also needs to be tested and verified

Interface testing is done to:

- To check if the server execution is proper.
- Error handling is done properly, and appropriate error messages are shown for queries made by the application or software.
- To check the result when a connection to the server is reset.
- To check the security aspect when the components communicate within themselves.
- To check the impact of network failure on the communication between the components.

Types of Interface Testing

- **Unit Testing:** Testing the functionality of each individual operation (in a function).
- Functional Testing**:** Testing the functionality of broader scenarios involving test case creation, validation, regression etc.
- **Load testing:** Validating the performance under load, mostly by using functional test cases.
- Security testing**:** Testing the security mechanism and it includes penetration testing as well as validating access control, encryption etc.
- **Runtime error detection:** Monitoring an application for problems like runtime race, resource leak, etc.
- **Workflow testing:** This is done to ensure if the interface engine handles your work flow as expected.
- **Individual Systems:** This testing is done to verify the individuality of each system. Like the billing system and inventory management system should be able to operate individually.

Just like any other testing, Interface testing is equally important as it ensures seamless functioning, performance etc. of various data-driven applications and systems, by verifying the communication between the database, networks, and systems.

Database Testing

DATABASE TESTING is a type of software testing that checks the schema, tables, triggers, etc. of the database under test. It also checks data integrity and consistency. It may involve creating complex queries to load/stress test the database and check its responsiveness.

The GUI is usually given the most emphasis by the test and development team members since the Graphical User Interface happens to be the most visible part of the application. However, what is also important is to validate the information that is the heart of the application aka DATABASE.

Let us consider a Banking application wherein a user makes transactions. Now from database testing viewpoint following things are important:

- The application stores the transaction information in the application database and displays them correctly to the user.
- No information is lost in the process.
- No partially performed or aborted operation information is saved by the application.
- No unauthorized individual is allowed to access the user's information.

The 3 types of Database Testing are

- Structural Testing
- Functional Testing
- Non-functional Testing

Structural Testing

The structural data testing involves the validation of all those elements inside the data repository that are used primarily for storage of data and which are not allowed to be directly manipulated by the end users. The validation of the database servers is also a very important consideration in these types of testing. The successful completion of this phase by the testers involves mastery in SQL queries.

Schema testing

The chief aspect of schema testing is to ensure that the schema mapping between the front end and back end are similar. Thus, we may also refer to schema testing as mapping testing.

Let us discuss most important checkpoints for schema testing.

- Validation of the various schema formats associated with the databases. Many times the mapping format of the table may not be compatible with the mapping format present in the user interface level of the application.
- There is the need for verification in the case unmapped tables/views/columns.
- There is also a need to verify whether heterogeneous databases in an environment are consistent with the overall application mapping.

Let us also look at some of the interesting tools for validating database schemas.

- DB Unit that is integrated with Ant is a very suitable for mapping testing.
- SQL Server allows the testers to be able to check and to query the schema of the database by writing simple queries and not through code.

Login and user security

The validations of the login and user security credentials need to take into consideration the following things.

- Whether the user is allowed to perform only those specific operations which are specified by the business requirements.
- Whether the data secured from unauthorizedaccess
- Whether there are different user roles created with differentpermissions
- Whether all the users have required levels of access on the specified Database as required by the business specifications.
- Check that sensitive data like passwords, credit card numbers are encrypted and not stored as plain text in database. It is a good practice to ensure all accounts

should have passwords that are complex and not easily guessed.

- Whether the application prevents the user to proceed further in the application in case of a

  - invalid username but valid password
  - valid username but invalid password.
  - invalid username and invalid password.
  - valid username and a valid password

Functional database testing

The Functional database testing as specified by the requirement specification needs to ensure most of those transactions and operations as performed by the end users are consistent with the requirement specifications.

Following are the basic conditions which need to be observed for database validations.

- Whether the field is mandatory while allowing NULL values on that field.
- Whether the length of each field is of sufficient size?
- Whether all similar fields have same names across tables?
- Whether there are any computed fields present in the Database?

Non-functional testing

Non-functional testing in the context of database testing can be categorized into various categories as required by the business requirements. These can be load testing, Stress Testing, Security Testing, Usability Testing, and Compatibility Testing and so on. The load testing as well as stress testing which can be grouped under the gamut of Performance Testing serves two specific purposes when it comes to the role of non-functional testing

Risk quantification-

Quantification of risk actually helps the stakeholders to ascertain the various system response time requirements under required levels of load. This is the original intent of any quality assurance task. We need to note that load testing does not mitigate risk directly, but through the processes of risk identification and of risk quantification, presents corrective opportunities and an impetus for remediation that will mitigate risk.

Minimum system equipment requirement-

The understanding which we observe through formal testing, the minimum system configuration that will allow the system to meet the formal stated performance expectations of stakeholders. So that extraneous hardware, software and the associated cost of ownership can be minimized. This particular requirement can be categorized as the overall business optimization requirement.

Stress testing

Stress testing is also sometimes referred to as torturous testing as it stresses the application under test with enormous loads of work such that the system fails .This helps in identifying breakdown points of the system.

Important stress testing tools are load runner, win runner and JMeter. Most common occurring issues during database testing

- Significant amount of overhead could be involved in order to determine the state of the database transactions.
- Solution: The overall process planning and timing should be organized so that no time and cost based issues appear.
- New test data have to be designed after cleaning up of the old test data.
- Solution: A prior plan and methodology for test data generation should be at hand.
- An SQL generator is required to transform SQL validators in order to ensure the SQL

- Queries are apt for handling the required database test cases.
- Solution: Maintenance of the SQL queries and their continuous updating is a significant part of the overall testing process which should be part of the overall test strategy.
- The above mentioned prerequisite ensure that the set-up of the database testing procedure could be costly as well as time consuming.
- Solution: There should be a fine balance between quality and overall project schedule duration.

We have done different type of testing to ensure the quality of the system Results of all testing are satisfactory.

Performance Testing

Testing the performance of your website or application allows you to identify improve the overall performance, which can lead to an improved user experience increased revenue. Load tests look at how increased workload affects an application's response time. For example, you can use load testing tools to see how your application performs with a certain number of simultaneous users. The purpose of load testing is to evaluate how your application behaves under normal working conditions.

Stress tests:

Also called fatigue tests, stress tests are similar to load tests, but they look at how an application performs outside the boundaries of normal working conditions. The goal of stress testing is to determine how many concurrent users or transactions the application can handle before it crashes. Load and stress tests can help you identify bottlenecks and decide how to best use your resources to accommodate more traffic.

Spike tests

A spike test is a specific type of stress test used to simulate application performance when the workload increases rapidly and repeatedly.

Endurance tests:

Also called soak tests, endurance tests measure application performance over an extended period of time. Endurance tests can help you identify memory leaks and similar mishaps that occasionally occur.

Scalability tests:

Scalability tests assess how well your application responds to increased workloads. Unlike spike tests, scalability tests involve gradually increasing workload while monitoring the effects on performance. You may also find that your resource usage fluctuates while the workload stays the same.

Volume tests:

Also called flood tests, volume tests focus specifically on how your application performs while handling a large volume of data.

Compatibility Testing

Compatibility is non-functional testing to ensure customer satisfaction. It is to determine whether your software application or product is proficient enough to run in different browsers, database, hardware, operating system, mobile devices, and networks.

The application could also impact due to different versions, resolution, internet speed and configuration etc. Hence it's important to test the application in all possible manners to reduce failures and overcome from embarrassments of bug's leakage. As a Non- functional tests, Compatibility testing is to endorse that the application runs properly in different browsers, versions, OS and networks successfully.

Types Of Software Compatibility Testing

- Browser compatibility testing
- Hardware
- Networks
- Mobile Devices
- Operating System
- Versions
- **Hardware:** It checks software to be compatible with different hardware configurations.
- **Operating Systems**: It checks your software to be compatible with different Operating Systems like Windows, Unix, Mac OS etc.
- **Software**: It checks your developed software to be compatible with other software. For example, MS Word application should be compatible with other software like MS Outlook, MS Excel, VBA etc.
- **Network:** Evaluation of performance of a system in a network with varying parameters such as Bandwidth, Operating speed, Capacity. It also checks application in different networks with all parameters mentioned earlier.

- **Browse**r: It checks the compatibility of your website with different browsers like Firefox, Google Chrome, Internet Explorer etc.
- **Devices**: It checks compatibility of your software with different devices like USB port Devices, Printers and Scanners, Other media devices and Bluetooth.
- **Mobile**: Checking your software is compatible with mobile platforms like Android, iOS etc.
- **Versions of the software:** It is verifying your software application to be compatible with different versions of the software. For instance checking your Microsoft Word to be compatible with Windows 7, Windows 7 SP1, Windows 7 SP2, Windows 7SP3.

System testing

In a system testing, we test a completely integrated system to verify that the system meets its requirements.

In a system testing, we test a completely integrated system to verify that the system meets its requirements. For example, a system test might involve testing a logon interface, records and preview interface and then creating and editing an entry, plus uploading or sharing results, followed by editing or deletion of entries, then logoff.

Test Case

Test cases involve a set of steps, conditions, and inputs that can be used while performing testing tasks. The main intent of this activity is to ensure whether software passes or fails in terms of its functionality and other aspects.

There are many types of test cases such as functional, negative, error, logical test cases, physical test cases, UI test cases, etc.

However, the following components are always available and included in every test case:

- Test case ID
- Product module
- Product environment
- Purpose
- Assumptions
- Steps
- Input

Chapter 9

Future Scope

The Future is quite bright for the system .it has to reach all of the people on the mobile sets. So the system will became more popular. We add some new features also for the clients benefits.it gives the confidence of reality.

It give the higher security for safe the detail of users.

User like this software very much because a higher trust is available.

Daily update the records .and the new record is insert in table.

Listing your business on every possible business directory is the best way to make sure your business maximizes its SEO and is visible in as many searches as possible. In addition, creating a free business listing with the same information on a variety of local business listing websites helps search engines confidently show your profiles more often, focusing on keyword searches related to your products or services.

In other words, listing your business massively drives your local SEO. This will increase the reach of your business profile in searches across multiple search engines in local and mobile queries.

REFRENCES

- Hodges, T., Wilson, G., & Gans, M. (2020). JavaScript for Data Science (1st ed.). Chapman and Hall/CRC. https://doi.org/10.1201/9780367854188
- Fajfar, I. (2015). Start Programming Using HTML, CSS, and JavaScript (1st ed.). Chapman and Hall/CRC. https://doi.org/10.1201/b19402
- Dreskin, J. (2015). A Practical Guide to Indie Game Marketing (1st ed.). Routledge. https://doi.org/10.4324/9781315754901
- Google for problem solving.
- https://www.tutorialspoint.com/html -css.
- http://www.w3schools.com/html/html_intro.asp
- http://www.w3schools.com/css/css_background.asp
- http://www.w3schools.com/js/js_datatypes.asp
- http://www.w3schools.com/sql/sql_insert.asp
- http://www.w3schools.com/sql/sql_update.asp
- http://www.w3schools.com/php/php_forms.asp
- Fundamentals of software engineering by Rajib mall, PHIlearning
- Web development and application development by Ivan Byross BPB publications
- https.apache.org/docs/2.0/misc/tuto rials-html.
- Html and CSS concepts by SAURABH SHUKLA You tube.