

**A PROJECT REPORT
ON**

PLANNING AID INFORMATION GADGET

**Submitted in partial fulfillment of the requirements of the award of the
degree of**

BACHELOR OF TECHNOLOGY

IN

**DEPARTMENT OF COMPUTER SCIENCE AND
ENGINEERING**

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**SREENIVASA INSTITUTE OF TECHNOLOGY AND
MANAGEMENT STUDIES (AUTONOMOUS)
CHITTOOR-517127,A.P.**

**(Affiliated to J.N.T.U Anantapur and Accredited by NAAC & NBA)
(2016-2020)**

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MANAGEMENT STUDIES (AUTONOMOUS)
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(2016-2020)**



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To emerge as a Centre of Excellence for Learning and Research in the domains of engineering, computing and management.

INSTITUTE MISSION

- Provide congenial academic ambience with state-art of resources for learning and research.
- Ignite the students to acquire self-reliance in the latest technologies.
- Unleash and encourage the innate potential and creativity of students.
- Inculcate confidence to face and experience new challenges.
- Foster enterprising spirit among students.
- Work collaboratively with technical Institutes / Universities / industries of National and International repute.

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MISSION

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M2 : Inculcate confidence to face and experience new challenges from industry and society.

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M4 : Foster enterprising spirit among students.

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PO1 - Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2 - Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3 - Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4 - Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5 - Modern tool usage: Ability to design and develop hardware and software in emerging technology environments like cloud computing embedded products, real-time systems, Internet of Things, Big Data etc.

PO6 - The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7 - Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8 - Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9 - Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10 - Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11 - Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12 - Life-long learning: Basic knowledge in hardware/software methods and tools for solving real-life and R&D problems with an orientation to lifelong learning.

EVALUATION RUBRICS FOR PROJECT WORK

Rubric (CO)	Excellent (Wt = 3)	Good (Wt = 2)	Fair (Wt =1)
Selection of Topic (CO1)	Select a latest topic through complete knowledge of facts and concepts.	Select a topic through partial knowledge of facts and concepts.	Select a topic through improper knowledge of facts and concepts.
Analysis and Synthesis (CO2)	Through comprehension through analysis/ synthesis.	Reasonable comprehension through analysis/ synthesis.	Improper comprehension through analysis/ synthesis.
Problem solving (CO3)	Through comprehension about what is proposed in the literature papers.	Reasonable comprehension about what is proposed in the literature papers.	Improper comprehension about what is proposed in the literature papers.
Literature survey (CO4)	Extensive Literature survey with standard references.	Considerable Literature survey with standard references.	Incomplete Literature survey with substandard references.
Usage of Techniques & Tools (CO5)	Clearly identified and has complete knowledge of techniques and tools used in the project work.	Identified and has sufficient knowledge of techniques and tools used in the project work.	Identified and has inadequate knowledge of techniques and tools used in the project work.
Project work impact on society (CO6)	Conclusion of project work has strong impact on the society.	Conclusion of project work has considerable impact on the society.	Conclusion of project work has feeble impact on the society.
Project work impact on Environment (CO7)	Conclusion of project work has strong impact on the Environment.	Conclusion of project work has considerable impact on the Environment.	Conclusion of project work has feeble impact on the Environment.
Ethical attitude (CO8)	Clearly understands ethical and social practices.	Moderate understanding of ethical and social practices.	Insufficient understanding of ethical and social practices.

Independent Learning (CO9)	Did literature survey and selected topic with a little guidance.	Did literature survey and selected topic with considerable guidance.	Selected a topic as suggested by the supervisor.
Oral presentation (CO10)	Presentation in logical sequence with key points, clear conclusion and excellent language.	Presentation with key points, conclusion and good language.	Presentation with insufficient key points and improper conclusion.
Report Writing (CO10)	Status report with clear and logical sequence of chapters using excellent language.	Status report with logical sequence of chapters using understandable language.	Status report not properly organized.
Time and Cost Analysis (CO11)	Comprehensive time and cost analysis.	Moderate time and cost analysis.	Reasonable time and cost analysis.
Continuous Learning (CO12)	Highly enthusiastic towards continuous learning.	Interested in continuous learning.	Inadequate interest in continuous learning.

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CERTIFICATE

Certified that this is a bonafide record of the dissertation work entitled, **"PLANNING AID INFORMATION GADGET"** developed and submitted by **P.Jyoshna (16751A0574), P.Roshini (16751A0580), R.SaiPriya (16751A0589), P.Harshitha (16751A0578)** to the department of computer science and engineering, in partial fulfillment of the requirements for the degree of **BACHELOR OF TECHNOLOGY** from Jawaharlal Nehru Technology University, Ananthapur.

Signature of the supervisor
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Submitted for the University Examination held on _____

INTERNAL EXAMINER

EXTERNAL EXAMINER

DECLARATION

We affirm that the project work titled **“PLANNING AID INFORMATION TECHNOLOGY”** being submitted in partial fulfillment for the award of **BACHELOR OF TECHNOLOGY** is the original work carried out by us. It has not formed the part of any other project work submitted for award of any degree, either in this or any other university.

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ABSTRACT

In the fast forward world of technology, everyone is running behind the mobile application and they need all the information on the mobile phone itself. Nowadays the Mobile application users have increased and it equals the population. In this real-world humans are seeing all the information and news in mobile itself. Mobile application are currently trending for all the fields example, Food, Shopping, Banking, etc. So all the company assigning a job or raise a ticket through mail with full secured. But there is some hardware or internet issues is happening which means it will make an immediate solution for the problem otherwise it's making some delay to resolve the problem. The higher official will escalate the issues and it will make some problems for the team members and it takes immediate action from the higher authority. As well as hacking also getting the most advanced technology there is no secured for the data and make some data traffic while running through the website. To overcome the reasonable issues we have developed an application. The application will make easily useable for the users and it will reduce time efficiency. They can easily analysis the daily report and it will make more helpful for the users.

This application is mainly developed for the company industries to maintain and see the types of product from the client. Data will be most secured with higher priority and it will maintain by chain process method. At the same time data will not be hacked by the third parties person because the data will get hidden and the data will not be seen by all the users. Only respective login users can see the hidden details and they have separate with authorized persons. There is no malware detection may not be happened it will fully be secured and it get some update to the respective users. This application will be most useful for the software industries because it will reduce time and work will happened on time for all the users.

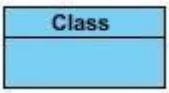






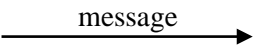
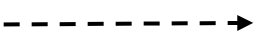
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LIST OF ABBREVIATIONS

S.NO.	ABBREVIATION	DESCRIPTION
1.	PHP	Hypertext Preprocessor
2.	JDK	Java Development Kit
3.	IDE	Integrated Development Environment
4.	JVM	Java Virtual Machine
5.	GUI	Graphical User Interface
6.	XML	Extensible Markup Language
7.	SDK	Software Development Kit
8.	UML	Unified Modeling Language

LIST OF SYMBOLS

S.NO	SYMBOL NAME	SYMBOL	DESCRIPTION
1.	Class		Classes represent a collection of similar entities grouped together.
2.	Association		Association represents a static relationship between classes.
3.	Aggregation		Aggregation is a form of association. It aggregates several classes into single class.
4.	Actor		Actors are the users of the system and other external entity that react with the system.
5.	Use case		A use case is an interaction between the system and the external environment.
6.	Generalization		It is used to represent parent and child representation.
7.	Object life line		Object lifelines represents the vertical dimension that object communicates.
8.	Message		It represents the messages exchanged.
9.	Dependency		It represents one class is dependent with another.

CHAPTER 1

1.1. INTRODUCTION

In the present world everything is running through online. Mobile Application is the big network within that several types of sections is there. Presently IT sector is also moving towards the mobile applications. The application is related to the job allotment for the employees in the company through mobile application.

In this application we have client, management and team member modules, where the client who need a product to complete will give it to the company where the company management is the admin of the application and they receive the product details that was sent by the client and assign it to the team member according to the product description and team member availability. The products that need to be completed within shortterm will be considered first. Daily updates about the product will be sent to the client as the team member will send the updates about the product to the management. Firstly a minimum of resource fund must be paid to the management as the management considers the product for completion and after submitting the product complete amount can be paid. In most of the cases the client can be satisfied of the product.

This application consist of an attractive user interface, userfriendly application to the users, reduce workload and reduce time-consuming and increase the working process with flexible in use.

1.2. LITERATURE REVIEW

1. Blockchain in Internet Of Things: Challenges and Solutions By

A. Dorri, S.S. Kanhere, R. Jurdak (Available at <https://arXiv:1608.05187>)

The internet of things IOT is experiencing exponential growth in research and industry, but it still suffers from privacy and security vulnerabilities. Blockchain are computationally expensive and involve high bandwidth overhead and delays.

Disadvantages:

Privacy and security vulnerabilities.

2. Scheduling internet of things applications in cloud computing By H.S. Narman And M.S. Atiquzzaman (Available at <https://doi.org/10.1007/s12243-016-0527-6>)

Internet of things is one of the greatest technology revolutions in the history. Due to IOT potential, daily objects will be consciously worked in harmony with optimized performances. However, today, technology is not ready to fully bring its power to our daily life because of huge data analysis requirements in instant time, on the other hand cloud computing gives IOT an opportunity to make the revolution in our life.

Disadvantages:

Huge data analysis requirements.

3. Blockchain based business process management framework for service composition by W. Viriyasitavat (Available at <https://doi.org/10.1007/s10845-018-1422-y>)

Business Process Management aims to optimize business processes to achieve better system performance such as higher profit, quick response, and better services. BPM in industry are required to digitize and automate business process workflows and support the transparent interoperations of service vendors.

Disadvantages:

Lack of trustworthiness to every information exchange and cost management.

1.3.PURPOSE OF THEPROJECT

The main scope of the project to reduce the workload and save time efficiency for the company as well as employees also. In this application, we have implemented for the company used with the complete process and it will be reducing timing at the emergency situation. So it will make more helpful for the management and it will be delivered an immediate solution for the employee concerns. This application had include the client details with full conformation and it may have improved for the stability and conformability to the users. They can see the daily job assigned by the higher official through application and they can give the daily report according to the nature of the domain.

The Higher official has only the authority to take a conversation with the client as well as a team lead of each domain. But it will maintained by the higher authority that may have maintained with full secured and authorized person only can access with the user's data. To secure the data we have implemented in the blockchain method and the data will be linked with other data with most securable and effective data. And it has to maintain the data transaction will be effective and secure information will maintain by the higher authority. This application makes user-friendly and it gave comfort to the users.

CHAPTER 2

SYSTEM ANALYSIS

2.1. INTRODUCTION

After analyzing the requirements of the task to be performed, the next step is to analyze the problem and understand its context. The first activity in the phase is studying the existing system and another is to understand the requirements and domain of the new system. Both the activities are equally important, but the first activity serves as a basis of giving the functional specifications and then the successful design of the proposed system. Understanding the properties and requirements of a new system is more difficult and requires creative thinking and understanding of the existing running system is also difficult, improper understanding of the present system can lead to diversion from solution.

2.2. ANALYSISMODEL

The model that is basically being followed is the SPIRAL MODEL, which states that the phases are organized in a linear order. First of all the feasibility study is done. Once that part is over the requirement analysis and project planning begins. If system exists one and modification and addition of the new module is needed, analysis of the present system can be used as the basic model.

The design starts after the requirement analysis is complete and the coding begins after the design is complete. Once the programming is completed, the testing is done. In this model, the sequence of activities performed in a software development project is: -

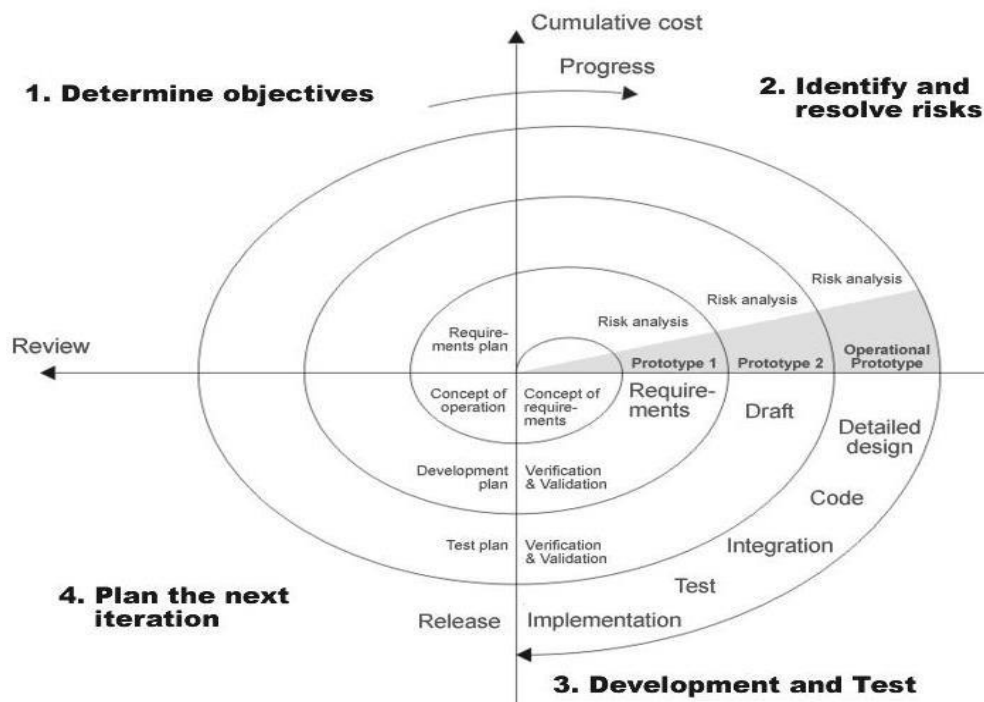
- RequirementAnalysis
- ProjectPlanning
- Systemdesign

- Detailedesign
- Coding
- Unit System integration &testing
- Here the linear ordering of these activities is critical. End of the phase and the output of testing

One phase is the input of another phase. The output of each phase is to be consistent with the overall requirement of the system.

SPIRAL MODEL was defined by Barry Boehm in his 1988 article, "A spiral Model of Software Development and Enhancement. This model was not the first model to discuss iterative development, but it was the first model to explain why the iteration models.

2.2.1.The following diagram shows how a spiral model acts like:



2.3 Hardware And Software Requirements

Hardware Requirements:

- ✓ RAM: 8GB RAM
- ✓ PROCESSOR: Intel CORE i3
- ✓ HARD DISK: 100GB

Software Requirements:

- ✓ FRONT END: Java
- ✓ BACK END: MySQL
- ✓ SERVER: PHP
- ✓ VERSION: JDK 8
- ✓ PLATFORM: WINDOWS 10
- ✓ IDE: ANDROID STUDIO 3.5.2
- ✓ SQL TOOL: PHPMyAdmin

2.4. EXISTING SYSTEM

In the existing system, we have seen out that many companies have to assign a job through official mail and have to see all the information through email. And it makes some time to deliver that message to the concern person and it will not receive it to the right person at that time. The works will be jet-lagged and they will get escalated from the client-side they want to finish the task within that duration. It may have required for accessing details maybe not proper otherwise it affected by server issues. So the staff will affected due to those issues and it makes some similarities to the other teams. It will be affected by their promotions and career growth of the individual person. Then data traffic may have happened while all the users had accessed in the same server. There is a chance for the data loss because data will

happen sometime and they can take advantage of restless work. The deadline may be across the date and it will be escalated with higher official they will take immediate action with the client.

2.4.1 Disadvantages:

- One Person has to be maintained all the details for all the team.
- It will increase the time efficiency of the user.
- Client details will be viewable to all the teams.
- The agreement process will be happened depends upon the client requirement.
- Planning, discussion, and team coordination will not be in a proper manner.

2.5. Proposed System:

In the proposed system, we have to take on a concentrate on allocated daily tickets to the right person with a proper and immediate response. They can view the new and previous tickets through the application. And it has to update the registered details with correct information that will be provided to the users. That details will be maintained by the management and it will most be secured with high credential sensitivity details. After that user can view the new tickets requested from the managers according to the responding team. They can view the tickets after that they will started for the nature of the job and it will be required to all the team with the responding domain. And they can see the product information on the client requirement but the name will get hide because it maintains the security purpose. They can available to see the status of the previous tickets whether it's finished or still progress they can check for their reference. The product data will be stored like a chain-like process and it will be stored and most securing the data in this process. There is no chance for data loss and misusing the data with unauthorized persons. The data storage process will act as an effective and most sensible data will be provided.

2.5.1 Advantages:

- Effective managers and team coordination will happen for the planning and discussion process.
- Accurate Data will be provided by the client to the management.
- Reduce Time and Less pressure for the employees and management.
- Third Parties Cant not be hacked the details and it will happen effectively.
- Agreementation process will happen in the rare case due to performance.

2.6 STUDY OF THE PROJECT

2.6.1 MODULE DESCRIPTION

MODULES:

1. Checking Internet Connectivity
2. Authentication and Authorization
3. Client
4. Manager
5. Employee
6. Products
7. Resource Fund
8. Ranking
9. Report
10. Job Allocation

- **Authentication**

Authentication is the process of determining whether someone or something is, in fact, who or what it declares itself to be. Authentication technology provides access control for systems

by checking to see if a user's credentials match the credentials in a database of authorized users or in a data authentication server.

Users are usually identified with a user ID, and authentication is accomplished when the user provides a credential, for example, a password, that matches that user ID. Most users are most familiar with using a password, which, as a piece of information that should be known only to the user, is called a knowledge [authentication factor](#).

- **Authorization**

Authorization is the process of giving someone permission to do or have something. In multi-user computer systems, a system administrator defines for the system which users are allowed [access](#) to the system and what privileges of use (such as access to which file directories, hours of access, amount of allocated storage space, and so forth).

Assuming that someone has logged in to a computer [operating system](#) or [application](#), the system or application may want to identify what resources the user can be given during this session. Thus, authorization is sometimes seen as both the preliminary setting up of permissions by a system administrator and the actual checking of the permission values that have been set up when a user is getting access.

- **Checking Internet Connection**

First, check that mobile data is turned on and you have a data connection. Open your Settings app "Wireless and Networks" or "Connections" Mobile data or Cellular data. On some devices, you may need to select "Data usage" before you see this. Turn mobile data on.

- **Client**

This module provides the client with information in detail. If the client user new to the application means they want to register to this application after they can access this

application easily. The client can be added to the product requirements and if they explore for the development team. But it will get a requirement or otherwise, they can make utilize for the development process.

- **Manager**

This module gives information about the complete manager details. And the manager has to maintain all the data with the complete list. The manager only has access to view and assigns the job for all the employees. Managers can view the client products and they can accept the requirement as per the needs. After that manager have to split the requirements to the required teams. As they have to allocated to the respective domain as well as they will be given the complete instruction for the project.

- **Employee**

This module gives the information about the employee data will be get secured and maintained by the managers. If the client user new to the application means they want to register to this application after they can access this application easily. They can view the product list after that respective team can assign a job for the respective team members. At the last end of the day they want to send a final report to the manager. And they can update the status of the project and shared it with the teammates as well as the manager.

- **ResourceFund**

These modules provide information about the resource given by the client. They can allocate some resource funds for the product and it will be viewed to the managers. Once product delivery had satisfied with the client the resource will be delivered to the respective company and it have maintain with full security.

- **Products**

These modules provide the product information with full specification of the products. The product details will be provided by the seller with full description and it may have given

the full clearance of the product. The product rate will be the sale for a reasonable amount and there is no third person will not be interfered with assigning the product. And it will be process be like user and admin conversation only it will be followed. After that, he will assigned to team members depend upon the teamstatus.

- **Report**

These modules provide feedback daily report for the given development product. The team leader and manager have only access to see the daily report and then staus will be the view for the client-side as well as the management side. The manager will update and transfer the status of the product development to the client manager.

- **JobAllocation**

This module provides information about allocating a job for the respective team. The team will get the confirmation about the product with the date modifier and it will be delivered to the respective domain. They can assign the job to team members with split to the divisions and it has to start the devlopment for the given product and it has to finish within the deadline of thedevelopment.

CHAPTER 3

FEASIBILITY REPORT

The preliminary investigation examines project feasibility, the likelihood the system will be useful to the organization. The main objective of the feasibility study is to test the Technical, Operational and Economical feasibility for adding new modules and debugging the oldest 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:

- TechnicalFeasibility
- OperationalFeasibility
- EconomicFeasibility

3.1. TechnicalFeasibility

The technical issue usually raised during the feasibility stage of the investigation includes thefollowing:

- Does the necessary technology exist to do what issuggested?
- Does the proposed equipment have the technical capacity to hold the data required to use the newsystem?
- Will the proposed system provide an adequate response to inquiries, regardless of the number or location ofusers?
- Can the system be upgraded ifdeveloped?
- Are there technical guarantees of accuracy, reliability, ease of access and datasecurity?

Earlier no system existed to cater to the needs of the 'Secure Infrastructure Implementation System'. The current system developed is technically feasible. It is a browser-based user interface for audit workflow. Thus, it provides easy access to users.

The purpose is to create, establish and maintain a workflow among various entities in order to facilitate all concerned users in their various capacities or roles. Permission to the users would be granted based on the rules specified. Therefore, it provides a technical guarantee of accuracy, reliability, and security. The software and hardware requirements for the development of this project are not many and are already available or are available as free as open source.

The work for the project is done with the current equipment and existing software technology. Necessary bandwidth exists for providing fast feedback to the users irrespective of the number of users using the system.

3.2. Operational Feasibility

The analyst considers the extent the proposed system will fulfill his departments. That is, whether the proposed system covers all aspects of the working system and whether it has considerable improvements. We have found that the proposed “Information transaction” will certainly have considerable improvements over the existing system.

3.3. Economic Feasibility

The proposed system is economically feasible because the cost involved in purchasing the hardware and the software is approachable. Working in this system need not require a highly qualified professional. The operating-environment costs are marginal. The less time involved also helped in its economic feasibility.

CHAPTER 4

SOFTWARE REQUIREMENT SPECIFICATION

INTRODUCTION

In the system analysis phase, the system analyst determines what the new system should be accomplished. This phase includes two steps. Analyzing the existing system, and determining the needs of the new system. Before the development of the new system, the proper methodology must be taken into consideration. The major activity in this phase is problem understanding and requirement specification. In problem analysis, the analyst has to understand the problem and its context of the system. This chapter also deals with the feasibility study of the proposed system along with the Detailed Description of the existing system and the proposed system. The feasibility study is done in order to check whether the project is feasible or not.

Purpose

The purpose of this Software Requirement Specification (SRS) is to help the project. It is provided with some requirements which are used in the Transaction Mercator System. All parts design, coding, and testing will be prepared with the helping of SRS. The purpose of this document is to detail the requirements placed on the Transaction Mercator System and serves as a contract between the customer and the developers as to what is to be expected of the stock exchange, and how the components of the system are working with each other with externalsystems.

DEVELOPERS RESPONSIBILITIES OVERVIEW:

The developer is responsible for:

Developing the system, which meets the SRS and solving all the requirements of the system?

- Demonstrating the system and installing the system at the client's location after the acceptance testing issuccessful.

Submitting the required user manual describing the system interfaces to work on it and also the documents of the system

- Conducting any user training that might be needed for using the system.
- Maintaining the system for a period of one year after installation.

4.1. FUNCTIONAL REQUIREMENTS:

Following is a list of functionalities of the browsing enabled system.

- An Activity with a UI that allows you to browser settings. Provide a second Activity that allows users to access the share with permission from the administrator. Handle the activity lifecycle appropriately. A precondition for any points in this part of the grade is code that compiles and runs.
- Your application should allow a user to browse the shares, buy and sell the shares with specific metadata. The assignment requires you to create a UI for browsing and a UI for integrating the two.

4.2. NON-FUNCTIONAL REQUIREMENTS:

- Each member should have a separate system. The system should ask the username and password to open the application. It doesn't permit to unregistered user to access the System. The system should have Role-based System functions access. Approval Process has to be defined. The system should have Modular customization components so that they can be reused across the implementation.
- These are mainly the following:
- Secure access to confidential data (employee's details). 24 X 7 availability
- Better component design to get better performance at peak time
- Flexible service based architecture will be highly desirable for future extension

4.3. PERFORMANCE REQUIREMENTS

Performance is measured in terms of the output provided by the application. Requirement specification plays an important part in the analysis of a system. Only when the required specifications are properly given, it is possible to design a system, which will fit into the required environment. It rests largely on the part of the users of the existing system to give the required specifications because they are the people who finally use the system. This is because the requirements have to be known during the initial stages so that the system can be designed according to those requirements. It is very difficult to change the system once it has been designed and on the other hand designing a system, which does not cater to the requirements of the user, is of no use.

CHAPTER 5

SYSTEM DEVELOPMENT ENVIRONMENT

5.1. INTRODUCTION TO ANDROID

5.1.1. JAVA:

Java is Platform Independent. Java is an object-oriented programming language developed by James Gosling and colleagues at Sun Microsystems. It implements a strong security model, which prevents compiled Java programs from illicitly accessing resources on the system where they execute or in the network. Popular World-Wide Web browsers, as well as some World-Wide Web servers and other systems, implement Java interpreters. These are used to display interactive user interfaces, and to script behavior on these systems.

Java is a programming language that produces software for multiple platforms. Thus programmer writes a Java application, the byte code runs on most operating systems (OS), including Windows, Linux, and Mac OS. Java extracts much of its syntax from the C and C++ programming languages.

Java produces applets (browser-run programs), which promote graphical user interface (GUI) and object interaction by Internet users. Previous to Java applets, Web pages were usually static and non-interactive. Java applets have less in popularity with the release of competing products, such as Adobe Flash and Microsoft Silverlight.

Java applets run in a Web browser with Java Virtual Machine (JVM), which translates Java byte code into native processor instructions and allows indirect OS or platform program execution. JVM provides the majority of components needed to run byte code, which is usually smaller than executable programs written through other programming languages. Byte code cannot run if a system lacks required JVM.

Java program development requires a Java software development kit (SDK) that typically includes a compiler, interpreter, documentation generator and other tools used to produce a complete application.

Development time maybe get faster through the use of integrated development environments (IDE) - such as JBuilder, Netbeans, Eclipse or JCreator. IDEs make easier the

development of GUIs, which include buttons, text boxes, panels, frames, scrollbars and other objects via drag-and-drop and point-and-click actions.

Java programs are found in desktops, servers, mobile devices, smart cards and Blu-ray Discs (BD).

Java Platform

One characteristic of Java has an ability to carry or move software from one machine to another, which means the programs in the Java language, can run similarly on any hardware or operating-system platform. This is achieved by compiling the Java language code to an intermediate representation called Java byte code, instead of directly to platform-specific machine code. Java byte code instructions are similar to machine code but are planned to be interpreted by a virtual machine (VM) written for the particular purpose to host the hardware. End-users commonly use a Java Runtime Environment (JRE) installed on their own machine for standalone Java applications, or in a Web browser for Java applets. It adopts as one's standard library to provide a generic way to access host-specific features such as graphics, threading, and networking.

A major benefit of using the byte code is porting. However, the overhead of interpretation means that interpreted programs almost always run more slowly than programs compiled to a native executable. As compilers were introduced from early stages which compile byte code to machine code during runtime.

Just as application servers such as GlassFish provide lifecycle services to web applications, the Net Beans runtime container provides them to Swing applications. Application servers are used to compose web modules, Enterprise JavaBean module, is a single web application, just as the Net Beans which runtime container understands how to compose Net Beans modules pass into a single Swingapplication.

Modularity offers a solution to "JAR hell" by letting developers organize their code into strictly separated and versioned modules. Only the declared dependencies on each program can be able to use the given code from each other's exposed packages. This strict organization is of particular relevance to large applications developed by engineers in distributed environments, during the development as well as the maintenance of their shared codebase.

End-user of the applications is able to install the users' purpose of all installed modules, of each and every application in every required program. In short, the Net Beans runtime container is an execution environment that understands what a module is, handles its lifecycle, and enables it to interact with other modules in the sameapplication.

Each and every object and file of a program has a registration process with the main and central way of all the net beans application to handle the main way of communication within the modules. This page summarizes the list of such extension points defined by modules with API. Context menu actions are read from the layer folder Loaders/text/x-ant+ XML/Actions.

The maps folders contain the subfolders of every particular or specific key of every map such as Emacs, JBuilder's and also the net beans. The name of the keymap can be localized. Use the "System File System. Localizing the Bundle" attribute of your folder for this purpose. The individual keymap folder contains shadows to action. A shortcut is mapped to the name of the file. Emacs shortcut format is used, multi keys are separated by space chars ("C-X P" means Ctrl+X followed by P). "Current Keymap" property of the "Keymaps" folder contains the original (not localized) name of the currentkeymap.

This folder contains the registration of shortcuts. It's supported for backward compatibility purposes only. All new shortcuts should be registered in the "Keymaps/Net Beans" folder. Every shortcut is included in INS folders for accessing the Shortcuts installed INS Shortcuts folder will be added to all keymaps if there is no conflict. It means that if the same shortcut is mapped to different actions in the Shortcut folder and current keymap folder (like Keymap/Net Beans), the Shortcuts folder mapping will be ignored.

- Database Explorer Layer API in DatabaseExplorer
- Loaders-text-dB schema-Actions in DatabaseExplorer
- Loaders-text-SQL-Actions in DatabaseExplorer
- Plug-in Registration in Java EE ServerRegistry

XML layer contract for the registration of server plug-in and instances that implement optional capabilities of server plug-in. Plug-in with server-specific deployment descriptor files should declare the full list in the XML layer as specified in the document plugin-layer-file.html from the above link.

Source files must be named after the public class they contain, appending the suffix .java, for example, HelloWorldApp.java. It must first be compiled into byte code, using a Java compiler, producing a file named Hello World App. class. Only then can it be executed, or 'launched'. The Java source file may only contain one public class but can contain multiple classes with less than public access and any number of public inner classes.

A class that is not declared public may be stored in any .java file. The compiler will generate a class file for each class defined in the source file. The name of the class file is the

name of the class, with `.class` appended. For class file generation, anonymous classes are treated as if their name were the concatenation of the name of their enclosing class, a `$`, and an integer.

The keyword `public` denotes that a method can be called from code in other classes, or that a class may be used by classes outside the class hierarchy. The class hierarchy is related to the name of the directory in which the `.java` file is located.

The keyword `static` in front of a method indicates a static method, which is associated only with the class and not with any specific instance of that class. Only static methods can be invoked without a reference to an object. Static methods cannot access any class members that are not also static. The keyword `void` indicates that the main method does not return any value to the caller. If a Java program is to exit with an error code, it must call `System. Exit ()` explicitly.

The method name "main" is not a keyword in the Java language. It is simply the name of the method the Java launcher calls to pass control to the program. Java classes that run in managed environments such as applets and Enterprise JavaBeans do not use or need a `main ()` method. A Java program may contain multiple classes that have main methods, which means that the VM needs to be explicitly told which class to launch from.

The main method must accept an array of `String` objects. By convention, it is referenced as `args` although any other legal identifier name can be used. Since Java 5, the main method can also use variable arguments, in the form of `public static void main (String... args)`, allowing the main method to be invoked with an arbitrary number of `String` arguments. The effect of this alternate declaration is semantically identical (the `args` parameter is still an array of `String` objects), but allows an alternative syntax for creating and passing the array.

The Java launcher launches Java by loading a given class (specified on the command line or as an attribute in a JAR) and starting its `public static void main(String[])` method. Stand-alone programs must declare this method explicitly. The `String [] args` parameter is an array of `String` objects containing any arguments passed to the class. The parameters to main are often passed by means of a command line.

Printing is part of a Java standard library: The `System` class defines a public static field called `out`. The `out` object is an instance of the `Print Stream` class and provides many methods for printing data to standard out, including `println (String)` which also appends a new line to the passed string.

A Java EE application or a Java Platform, Enterprise Edition application is any deployable unit of Java EE functionality. This can be a single Java EE module or a group of modules packaged into an EAR file along with a Java EE application deployment descriptor. Java EE applications are typically engineered to be distributed across multiple computing tiers.

Features of Java

The prime reason behind the creation of Java was to bring portability and security features into a computer language. Besides these two major features, there were many other features that played an important role in molding out the final form of this outstanding language.

Those features are :

- Simple
- Object-Oriented
- Robust
- PlatformIndependent
- Secure
- Multi-Threading
- ArchitecturalNeutral
- Portable
- HighPerformance

5.1.2. ANDROID:

Android is a mobile operating system (OS) based on the Linux kernel and currently developed by Google. With a user interface based on direct manipulation, Android is designed primarily for touchscreen mobile devices such as smartphones and tablet computers, with specialized user interfaces for televisions (Android TV), cars (Android Auto), and wrist watches (Android Wear). The OS uses touch inputs that loosely correspond to real-world actions, like swiping, tapping, pinching, and reverse pinching to manipulate on-screen objects and a virtual keyboard. Despite being primarily designed for touchscreen input, it also has been used in game consoles, digital cameras, and other electronics.

Android is a software bunch comprising not only the operating systems but also middleware and key applications. **Android** is a powerful Operating System supporting a large number of applications in [Smart Phones](#). These applications make life more comfortable and advanced for users. Hardware that supports Android is mainly based on the [ARMarchitecture](#) platform. The android is an open-source operating system that means that it's free and anyone can use it. The android has got millions of apps available that can help you manage your life one or another way and it is available to low cost in the market for that reason android is very popular. Android development supports the full java programming language. Even other packages that are API and JSE are not supported.

These are the basics to develop an Android application:

- Android applications are composed of one or more application components (activities, services, content providers, and broadcastreceivers)

- Each component performs a different role in the overall application behavior, and each one can be activated individually (even by other applications)
- The manifest file must declare all components in the application and should also declare all application requirements, such as the minimum version of Android required and any hardware configurations required
- Non-code application resources (images, strings, layout files, etc.) should include alternatives for different device configurations (such as different strings for different languages).

5.1.3. Platform Architecture

Android is an open-source, Linux-based software stack created for a wide array of devices and form factors. The following diagram shows the major components of the Android platform.

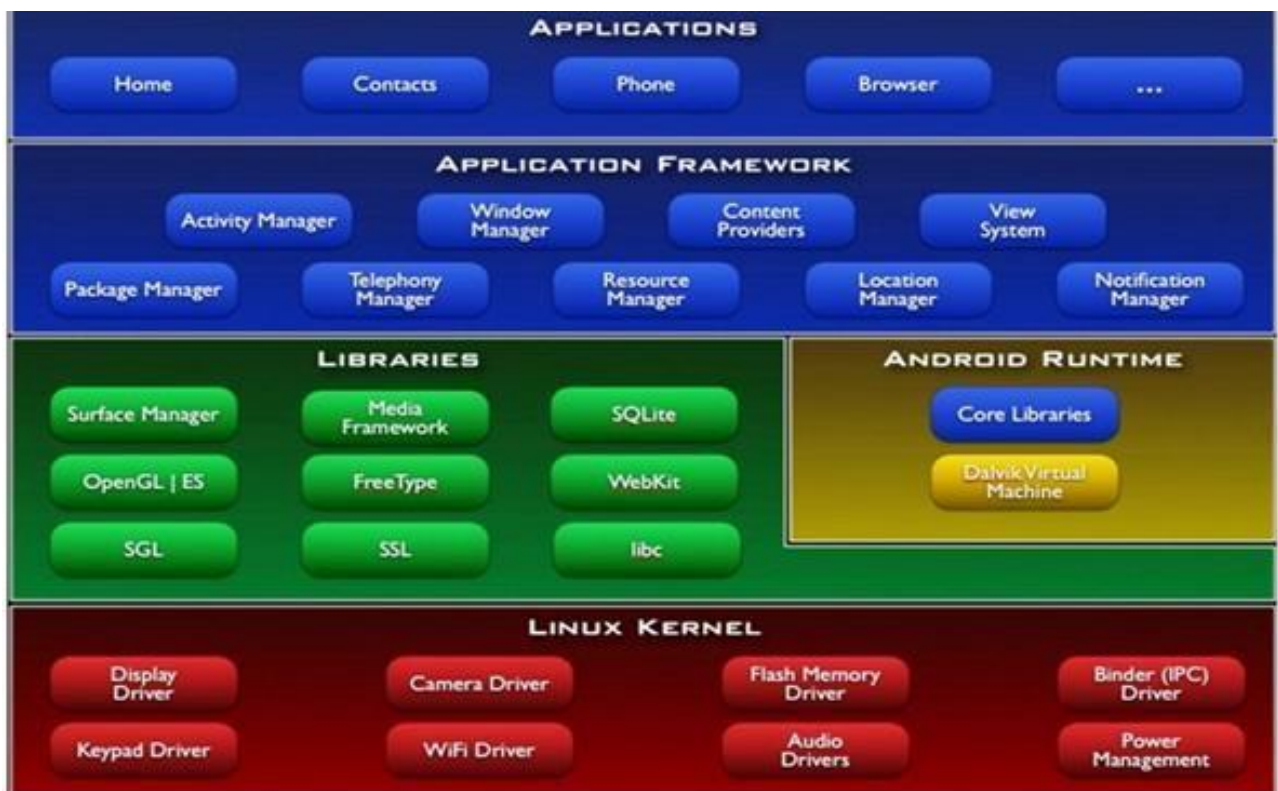


Fig 2.3.1 Android Architecture.

Linux kernel:

The android uses the powerful Linux kernel and it supports a wide range of hardware drivers. The kernel is the heart of the operating system that manages input and output requests from

the software. This provides basic system functionalities like process management, memory management, device management like camera, keypad, display, etc. the kernel handles all the things. Linux is really good at networking and it is not necessary to interface it to the peripheral hardware. The kernel itself does not interact directly with the user but rather interacts with the shell and other programs as well as with the hardware devices on the system.

Hardware Abstraction Layer (HAL) :

The hardware abstraction layer (HAL) provides standard interfaces that expose device hardware capabilities to the higher-level Java API framework. The HAL consists of multiple library modules, each of which implements an interface for a specific type of hardware components, such as the camera or Bluetooth module. When a framework API makes a call to access device hardware, the Android system loads the library module for that hardware component.

Android Runtime:

The android runtime provides a key component called Dalvik Virtual Machine which is a kind of java virtual machine. It is specially designed and optimized for android. The Dalvik VM is the process virtual machine in the android operating system. It is a software that runs apps on android devices. Dalvik VM makes use of Linux core features like memory management and multithreading which is in java language. The Dalvik VM enables every Android application to run its own process. The DalvikVM executes the files in the .dexformat.

Application framework:

The application framework layer provides many higher-level services to applications such as windows manager, view system, package manager, resource manager, etc. The application developers are allowed to make use of these services in their application.

The Android framework includes the following key services:

- **Activity Manager** – Controls all aspects of the application lifecycle and activity stack.
- **Content Providers** – Allows applications to publish and share data with other applications.
- **Resource Manager** – Provides access to non-code embedded resources such as strings, color settings, and user interface layouts.

- **Notifications Manager** – Allows applications to display alerts and notifications to the user.
- **View System** – An extensible set of views used to create application user interfaces.
- **Package Manager** – The system by which applications are able to find out information about other applications currently installed on the device.
- **Telephony Manager** – Provides information to the application about the telephony services available on the device such as status and subscriber information.
- **Location Manager** – Provides access to the location services allowing an application to receive updates about location changes.

Application

The first Layer Android software stack is the applications. Application has both the native applications provided with the particular Android implementation and the third party applications installed by the user after purchasing the device.

C/C++ Libraries

The Android runtime core libraries define the basis of Java and provide the primary APIs for developers writing Android applications. It is important to note, however, that the core libraries do not actually perform much of the actual work and are, in fact, essentially Java “wrappers” around a set of C/C++ based libraries. When making calls, for example, to the android. It gives an Open library for draw 3D graphics on the device display, the library actually ultimately makes calls to the OpenGL ES C++ library which, in turn, works with the underlying Linux kernel to perform the drawing tasks.

In practice, the typical Android application developer will access these libraries solely through the Java-based Android core library APIs. This can be achieved using the native Development Kit (NDK), the purpose of which is to call the native methods of non-Java programming languages (such as C and C++) from within Java code using the Java Native Interface (JNI).

Java Interoperability Libraries

Android applications are implemented using the Java programming language. The Standard Java development environment includes a huge array of classes that are contained in core Java runtime libraries. These libraries provide support for tasks such as string handling, networking, and file manipulation. These are widely used by Java developers regardless of the platform. The Java Interoperability Libraries are in open source that is implemented in a subset of Standard Java core libraries.

Features of Android:

Messaging

SMS and MMS are available in the form of messaging. That including text messaging and Cloud to Device Messaging (C2DM). Google Cloud Messaging (GCM) is also a part of Android Push Messaging service.

Web browser

Android web browser is available based on the open-source Blink layout engine, combined with the home's V8 JavaScript engine.

Voice-based features

Google search through voice has been available in the initial release of Android. Voice actions for calling, texting, navigation, etc. are supported on Android 2.2 onwards. Google extended Voice with the ability to talk back and read answers from Google's Knowledge Graph when queried with specific commands. The ability to control hardware has not yet been implemented.

Multi-touch

Android supports multi-touch which was initially available in mobilephones such as the HTC Hero. The feature was originally disabled at the kernel level (possibly to avoid infringing Apple's patents on touch-screen technology at the time).

Multitasking

Multitasking of applications, with unique handling of memory allocation, is available.

Screen capture

Android supports taking a screenshot by pressing the power and volume-down buttons at the same time. Prior to Android 4.0, the only methods of capturing a screenshot were through the manufacturer and third-party customizations or otherwise by using a PC connection. These alternative methods are still available with the latest Android.

Video calling

Google releases [simpler video calling](#) on mobile for Android users called Google Duo. Before releases of Google Duo, Android does not support native video calling, but some handsets have a customized version that supports it, either via the UMTS network (like the Samsung Galaxy S) or over IP. Users with the Google+ Android app can video chat with other Google+ users through hangouts.

Multiple language support

Android supports multiple languages.

Difference between Android and Java:

In run-time Java, the compiler tricks the byte code file as they are running on a Java Virtual Machine. In reality, this could be an Intel Pentium windows 95 or sun SPARCstation running Solaris or Apple Macintosh running system and all could receive code from any computer through the internet and run the Apple.

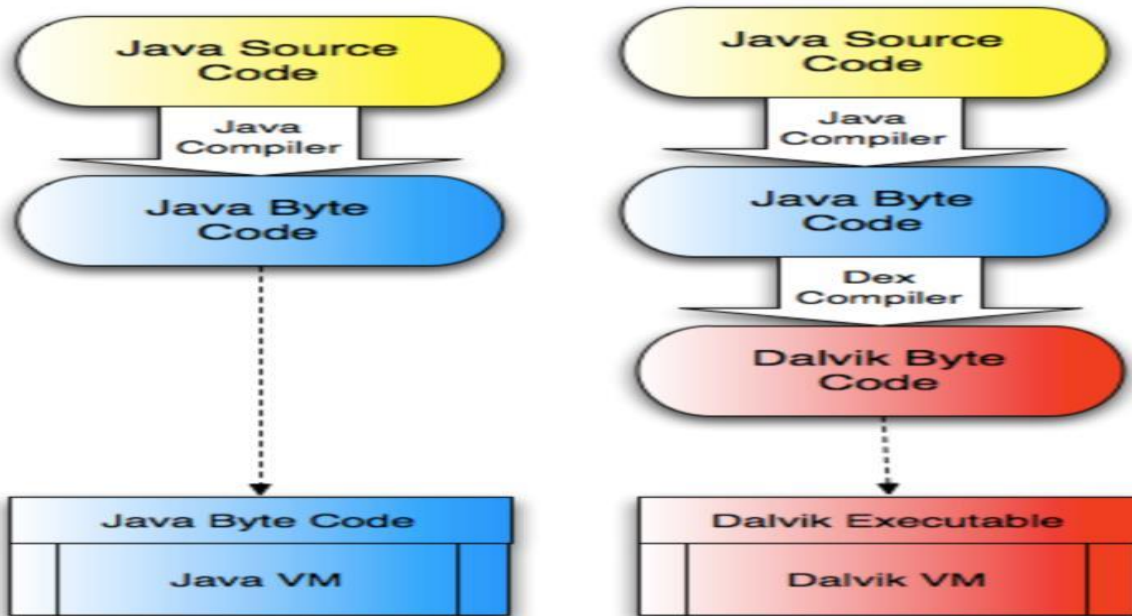


Fig 2.3.2 Difference between Android and Java

SDK:

A software development kit is usually a set of software development tools. It allows tools for the creation of applications for a certain software package, software framework, hardware platform, computer system video game console, operating system, and similar development platform. The Application programming interface (API) is in the form of libraries to interface to a specific programming language or include hardware to communicate with a certain embedded system. Common tools include debugging support. It is frequently presented in an integrated development environment (IDE). SDK includes sample code and supports technical notes to help clarify points from the primary reference material.

5.2. PHP

PHP is open-source. It is executed at the server-side. It is also called server-side scripting language. It is used to develop web applications (an application i.e. executed at the server-side and generates dynamic page).

- ✓ PHP is a server-side scripting language.
- ✓ PHP is an interpreted language, i.e. there is no need for compilation.
- ✓ PHP is an object-oriented language.
- ✓ PHP is an open-source scripting language.
- ✓ PHP is simple and easy to learn a language.

PHP Features:

- ✓ **Performance:** Script written in PHP executes much faster than those scripts written in other languages such as JSP & ASP. It is relative fast since it uses many systemresources.
- ✓
- ✓ **Open Source Software:** PHP source code is free. It is developed and maintained by PHP developers, this will helps in creating a support community, infinite extensionlibrary.
- ✓ **Platform Independent:** PHP is available for WINDOWS, MAC, and LINUX & UNIX operating system. A PHP application developed in one operating system can be easily executed in another operating systemalso.
- ✓ **Compatibility:** PHP is well-matched with almost all local servers such as Apache, IIS,etc.
- ✓ **Embedded:** PHP code can be easily set within HTML tags andscript.
- ✓ **Easy to use:**It uses C like syntax, so for those who are familiar with C, it's very easy for them to pick up and it is very easy to create websitescripts.
- ✓ **Stable:**Php is maintained by developers, if any bugs are found it can be quicklyfixed.
- ✓ **Powerful library support:**Easily find functional modules we need such as PDF, Graph, etc.
- ✓ **Built-in database connection modules:**Connect to the database easily using PHP.Using PHP many websites data/content-driven, so the user database is frequently this will largely reduce the development time of webapps.
- ✓ **Free of cost:**PHP is also preferred because it's a cost-effective solution. It is capable of handling both Linux and Windowsservers.

5.3. MYSQL:

MySQL is a freely available open-source Relational Database Management System (RDBMS) that uses Structured Query Language (**SQL**). MySQL is used for developing various web-based software applications. **MySQL** is a required part of almost every open source **PHP** application. MySQL is the most secure and reliable database management system used in popular web applications like Word Press, Drupal, Joomla, Facebook, and Twitter. It provides data security and support for transactional processing (Example: eCommerce business that involves frequent money transfers). It is based on the structured query language which is used for adding, removing, and modifying information in the database. Standard SQL commands, such as ADD, DROP, INSERT, and UPDATE can be used here.

MySQL can be used for a variety of applications but is most commonly found on Web servers. A website that uses MySQL may include Web pages that access information from a database. These pages are often referred to as "dynamic," meaning the content of each page is generated from a database as the page loads. Websites that use dynamic Web pages are often referred to as database-driven websites.

Many database-driven websites that use MySQL also use a Web scripting language like [PHP](#) to access information from the database. MySQL commands can be incorporated into the PHP code, allowing part or all of a Web page to be generated from database information. Because both MySQL and PHP are both open source (meaning they are free to download and use), the PHP/MySQL combination has become a popular choice for database-driven websites.

MySQL features a distinct storage-engine framework that facilitates system administrators to configure the MySQL database server for a flawless performance. MySQL comes with the assurance of 24X7 uptime and offers a wide range of high availability solutions like specialized cluster servers and master/slave replication configurations. MySQL is a comprehensive solution with self-management features that automate everything from space expansion and configuration to data design and database administration. It makes maintenance, debugging and upgrades fast and easy while enhancing the end-user experience.

CHAPTER 6

SYSTEM DESIGN

6.1. INTRODUCTION

Software design sits in the technical kernel of the software engineering process and is applied regardless of the development paradigm and area of application. Design is the first step in the development phase for any engineered product or system. The designer's goal is to produce a model or representation of an entity that will later be built. Beginning, once system requirement has been specified and analyzed, system design is the first of the three technical activities -design, code and test that is required to build and verify software.

The importance can be stated with a single word "Quality". Design is the place where quality is fostered in software development. The design provides us with representations of software that can assess for quality. Design is the only way that we can accurately translate a customer's view into a finished software product or system. Software design serves as a foundation for all the software engineering steps that follow. Without a strong design, we risk building an unstable system – one that will be difficult to test, one whose quality cannot be assessed until the last stage.

During design, progressive refinement of data structure, program structure, and procedural details are developed reviewed and documented. System design can be viewed from either a technical or project management perspective. From the technical point of view, the design is comprised of four activities – architectural design, data structure design, interface design, and procedural design.

6.2. NORMALIZATION

It is a process of converting a relation to a standard form. The process is used to handle the problems that can arise due to data redundancy, i.e. repetition of data in the database,

maintain data integrity as well as handling problems that can arise due to insert, update, delete anomalies.

Decomposing is the process of splitting relations into multiple relations to eliminate anomalies and maintain anomalies and maintain data integrity. To do this we use normal forms or rules for structuring relations.

Insertion anomaly: Inability to add data to the database due to the absence of other data.

Deletion anomaly: Unintended loss of data due to the deletion of other data.

Update anomaly: Data inconsistency resulting from data redundancy and partial update

Normal Forms: These are the rules for structuring relations that eliminate anomalies.

FIRST NORMAL FORM:

A relation is said to be in first normal form if the values in the relation are atomic for every attribute in the relation. By this, we mean simply that no attribute value can be a set of values or, as it is sometimes expressed, a repeating group.

SECOND NORMAL FORM:

A relation is said to be in the second normal form if it is in first normal form and it should satisfy any one of the following rules.

- The primary key is not a composite primary key
- No, no key attributes are present
- Every non key attribute is fully functionally dependent on a full set of the primary key.

THIRD NORMAL FORM:

A relation is said to be in third normal form if there exists no transitive dependencies.

TransitiveDependency: If two on key attributes depend on each other as well as on the primary key, then they are said to be transitivelydependent.

The above normalization principles were applied to decompose the data in multiple tables, thereby making the data to be maintained in a consistent state.

TABLE DIAGRAM

Server: localhost:3306 > Database: id9722070_roshan > Table: PLN_About_Us

Browse Structure SQL Search Insert Export Import Operations Triggers

Table structure Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	CLT_ID	Int(20)		No	None		AUTO_INCREMENT	Change Drop More
<input type="checkbox"/>	2	CLT_TIT	varchar(30)	utf8_unicode_ci	No	None			Change Drop More
<input type="checkbox"/>	3	CLT_IMG	varchar(30)	utf8_unicode_ci	No	None			Change Drop More
<input type="checkbox"/>	4	CLT_DES	varchar(30)	utf8_unicode_ci	No	None			Change Drop More

Check all With selected: Browse Change Drop Primary Unique Index Fulltext

Server: localhost:3306 > Database: id9722070_roshan > Table: PLN_Client_Add_Product

Browse Structure SQL Search Insert Export Import Operations Triggers

Table structure Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	CLT_ID	int(10)		No	None		AUTO_INCREMENT	Change Drop More
<input type="checkbox"/>	2	CLT_CNAME	varchar(40)	utf8_unicode_ci	No	None			Change Drop More
<input type="checkbox"/>	3	CLT_PNME	varchar(30)	utf8_unicode_ci	No	None			Change Drop More
<input type="checkbox"/>	4	CLT_DES	varchar(200)	utf8_unicode_ci	No	None			Change Drop More
<input type="checkbox"/>	5	CLT_DM	varchar(30)	utf8_unicode_ci	No	None			Change Drop More
<input type="checkbox"/>	6	CLT_DED	varchar(30)	utf8_unicode_ci	No	None			Change Drop More
<input type="checkbox"/>	7	CLT_FUN	varchar(30)	utf8_unicode_ci	No	None			Change Drop More
<input type="checkbox"/>	8	CLT_LOC	varchar(30)	utf8_unicode_ci	No	None			Change Drop More
<input type="checkbox"/>	9	CLT_INT	varchar(30)	utf8_unicode_ci	No	None			Change Drop More
<input type="checkbox"/>	10	CLT_FIN	varchar(30)	utf8_unicode_ci	No	None			Change Drop More
<input type="checkbox"/>	11	CLT_STAT	varchar(30)	utf8_unicode_ci	Yes	0			Change Drop More

Check all With selected: Browse Change Drop Primary Unique Index Fulltext

Server: localhost:3306 > Database: id9722070_roshan > Table: PLN_Client_Register

Browse Structure SQL Search Insert Export Import Operations Triggers

Table structure Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	CLT_ID	int(10)			No	None		AUTO_INCREMENT	Change Drop More
2	CLT_NME	varchar(30)	utf8_unicode_ci		No	None			Change Drop More
3	CLT_CMP	varchar(30)	utf8_unicode_ci		No	None			Change Drop More
4	CLT_CADD	varchar(30)	utf8_unicode_ci		No	None			Change Drop More
5	CLT_PHN	varchar(30)	utf8_unicode_ci		No	None			Change Drop More
6	CLT_EID	varchar(30)	utf8_unicode_ci		No	None			Change Drop More
7	CLT_PASS	varchar(30)	utf8_unicode_ci		No	None			Change Drop More

Check all With selected: Browse Change Drop Primary Unique Index Fulltext

Server: localhost:3306 > Database: id9722070_roshan > Table: PLN_Employee_Register

Browse Structure SQL Search Insert Export Import Operations Triggers

Table structure Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	EMP_ID	int(10)			No	None		AUTO_INCREMENT	Change Drop More
2	EMP_NME	varchar(30)	utf8_unicode_ci		No	None			Change Drop More
3	EMP_ADD	varchar(30)	utf8_unicode_ci		No	None			Change Drop More
4	EMP_PHN	varchar(30)	utf8_unicode_ci		No	None			Change Drop More
5	EMP_MID	varchar(30)	utf8_unicode_ci		No	None			Change Drop More
6	EMP_PSD	varchar(40)	utf8_unicode_ci		No	None			Change Drop More
7	EMP_SID	varchar(30)	utf8_unicode_ci		No	None			Change Drop More
8	EMP_DSG	varchar(30)	utf8_unicode_ci		No	None			Change Drop More
9	EMP_EXP	varchar(30)	utf8_unicode_ci		No	None			Change Drop More
10	EMP_CNME	varchar(30)	utf8_unicode_ci		Yes	NULL			Change Drop More
11	EMP_CADD	varchar(30)	utf8_unicode_ci		Yes	NULL			Change Drop More
12	EMP_DOM	varchar(30)	utf8_unicode_ci		No	None			Change Drop More
13	EMP_EID	varchar(30)	utf8_unicode_ci		No	None			Change Drop More
14	EMP_STAT	varchar(30)	utf8_unicode_ci		No	Not Allocated			Change Drop More

Check all With selected: Browse Change Drop Primary Unique Index Fulltext

Server: localhost:3306 > Database: id9722070_roshan > Table: PLN_Client_Feedback

Browse Structure SQL Search Insert Export Import Operations Triggers

Table structure Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	CLT_ID	int(10)			No	None		AUTO_INCREMENT	Change Drop More
2	CLT_MID	varchar(30)	utf8_unicode_ci		Yes	NULL			Change Drop More
3	CLT_UNME	varchar(30)	utf8_unicode_ci		Yes	NULL			Change Drop More
4	CLT_RAT	varchar(100)	utf8_unicode_ci		Yes	NULL			Change Drop More
5	CLT_CMT	varchar(30)	utf8_unicode_ci		Yes	NULL			Change Drop More
6	CLT_RPLY	varchar(30)	utf8_unicode_ci		Yes	NULL			Change Drop More

Check all With selected: Browse Change Drop Primary Unique Index Fulltext

Server: localhost:3306 > Database: id9722070_roshan > Table: PLN_Job_Assign

Browse Structure SQL Search Insert Export Import Operations Triggers

Table structure Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	EPL_ID	int(10)			No	None		AUTO_INCREMENT	Change Drop More
2	EPL_NME	varchar(50)	utf8_unicode_ci		No	None			Change Drop More
3	EPL_EID	varchar(50)	utf8_unicode_ci		No	None			Change Drop More
4	EPL_DTE	varchar(50)	utf8_unicode_ci		No	None			Change Drop More
5	EPL_PNME	varchar(50)	utf8_unicode_ci		No	None			Change Drop More
6	EPL_PDM	varchar(50)	utf8_unicode_ci		No	None			Change Drop More
7	EPL_PDES	varchar(50)	utf8_unicode_ci		No	None			Change Drop More
8	EPL_PPRO	varchar(50)	utf8_unicode_ci		No	None			Change Drop More
9	EPL_PINT	varchar(50)	utf8_unicode_ci		No	None			Change Drop More
10	EPL_PFIN	varchar(50)	utf8_unicode_ci		No	None			Change Drop More
11	Status	varchar(40)	utf8_unicode_ci		Yes	Pending			Change Drop More

Check all With selected: Browse Change Drop Primary Unique Index Fulltext

Server: localhost:3306 > Database: id9722070_roshan > Table: PLN_Manager_Conformation

Browse Structure SQL Search Insert Export Import Operations Triggers

Table structure Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	CNF_ID	int(10)			No	None		AUTO_INCREMENT	Change Drop More
2	CNF_CNME	varchar(30)	utf8_unicode_ci		No	None			Change Drop More
3	CNF_ADD	varchar(30)	utf8_unicode_ci		No	None			Change Drop More
4	CNF_STAT	varchar(30)	utf8_unicode_ci		No	None			Change Drop More

Check all With selected: Browse Change Drop Primary Unique Index Fulltext

Server: localhost:3306 > Database: id9722070_roshan > Table: PLN_Report_User

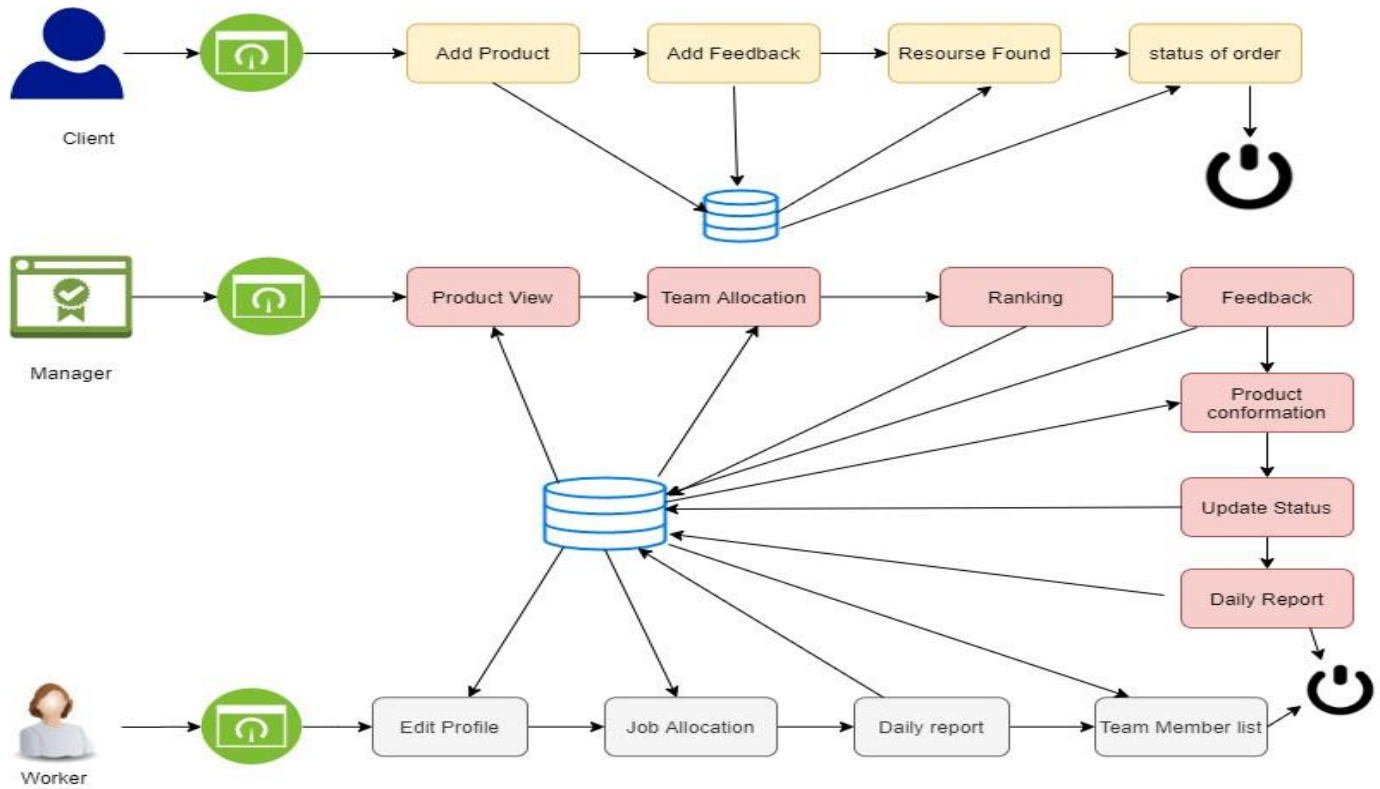
Browse Structure SQL Search Insert Export Import Operations Triggers

Table structure Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	RP_ID	int(11)			No	None		AUTO_INCREMENT	Change Drop More
2	RP_NME	varchar(30)	utf8_unicode_ci		No	None			Change Drop More
3	RP_DOM	varchar(30)	utf8_unicode_ci		No	None			Change Drop More
4	RP_DSIG	varchar(30)	utf8_unicode_ci		No	None			Change Drop More
5	RP_DUR	varchar(30)	utf8_unicode_ci		No	None			Change Drop More
6	RP_PNME	varchar(30)	utf8_unicode_ci		No	None			Change Drop More
7	RP_TEM	varchar(30)	utf8_unicode_ci		No	None			Change Drop More
8	RP_DED	varchar(30)	utf8_unicode_ci		No	None			Change Drop More
9	RP_CSTAT	varchar(30)	utf8_unicode_ci		No	None			Change Drop More
10	RP_DCSTAT	varchar(30)	utf8_unicode_ci		No	None			Change Drop More
11	RP_CNME	varchar(30)	utf8_unicode_ci		Yes	NULL			Change Drop More
12	RP_CLOC	varchar(30)	utf8_unicode_ci		Yes	NULL			Change Drop More

Check all With selected: Browse Change Drop Primary Unique Index Fulltext

6.3.SYSTEM ARCHITECTURE

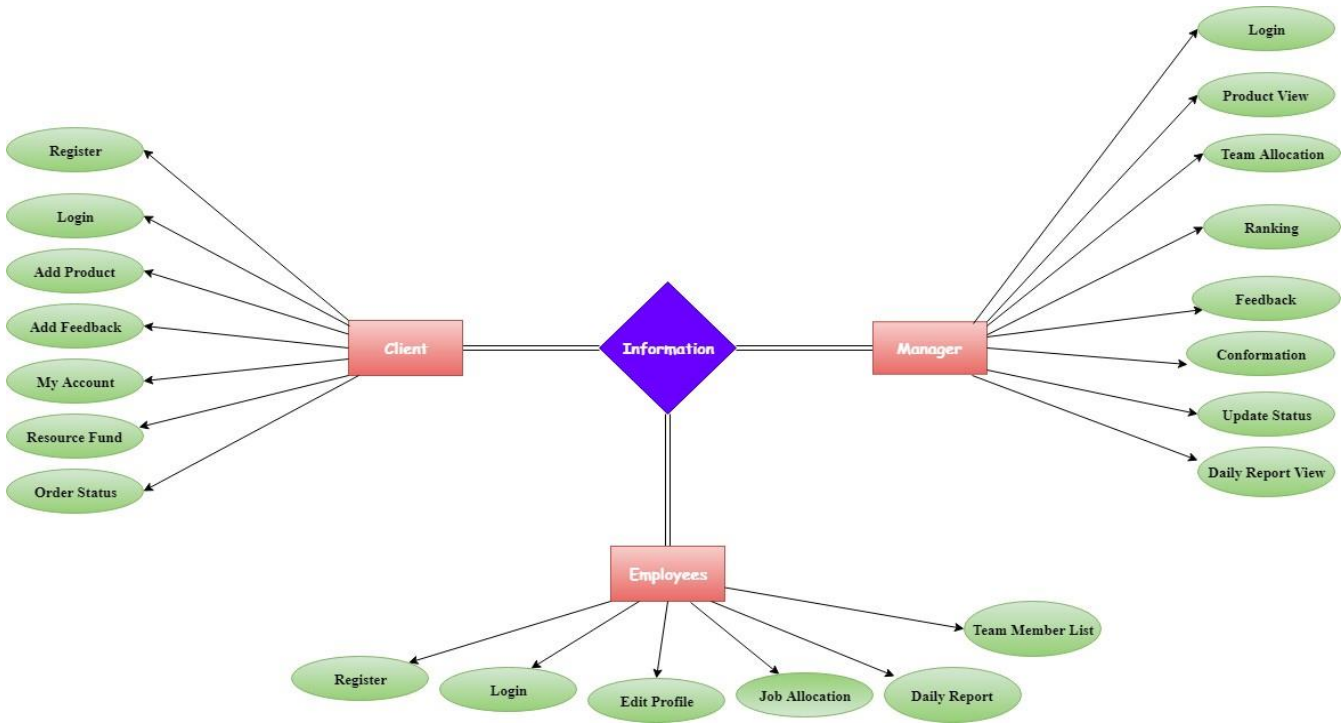


Text

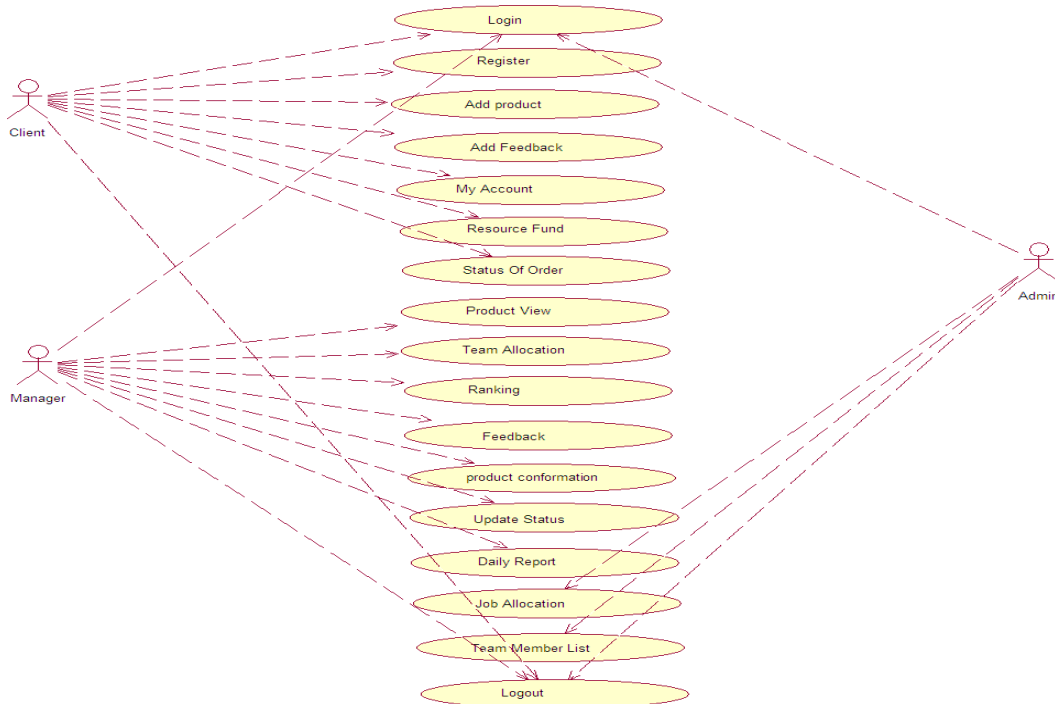
6.4. E – RDIAGRAMS

- The relation upon the system is structured through a conceptual ER-Diagram, which not only specifies the existing entities, but also the standard relations through which the system exists and the cardinalities that are necessary for the system state to continue.
- The Entity-Relationship Diagram (ERD) depicts the relationship between the data objects. The ERD is the notation that is used to conduct, the data modeling activity the attributes of each data object noted in the ERD can be described as a data object description.
- The set of primary components that are identified by the ERD are
 - Data object
 - Relationships
 - Attributes
 - Various types of indicators.

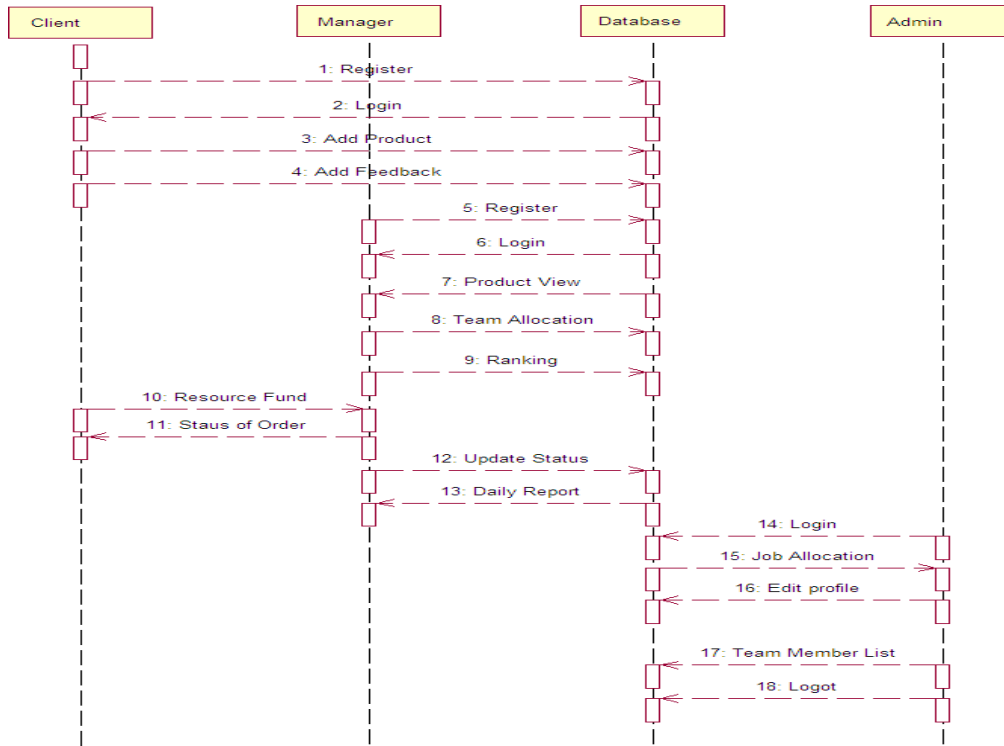
The primary purpose of the ERD is to represent data objects and their relationships.



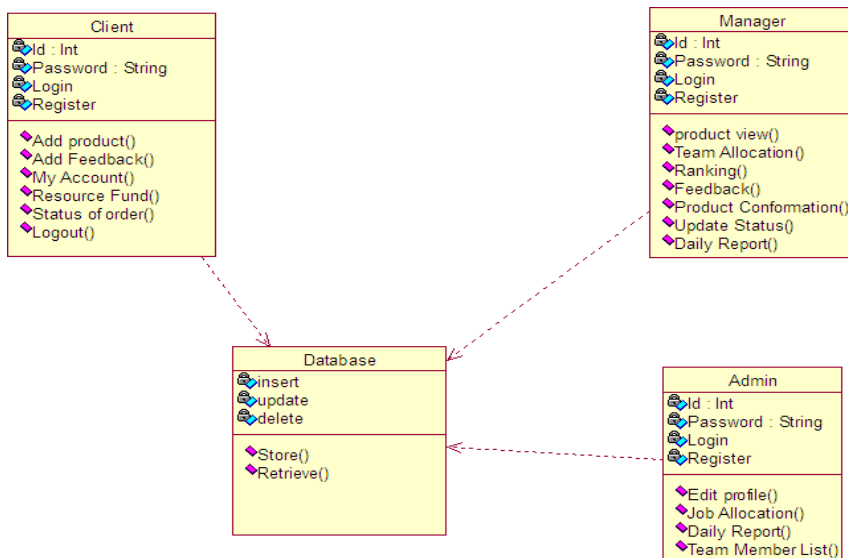
6.5. USE CASE DIAGRAM



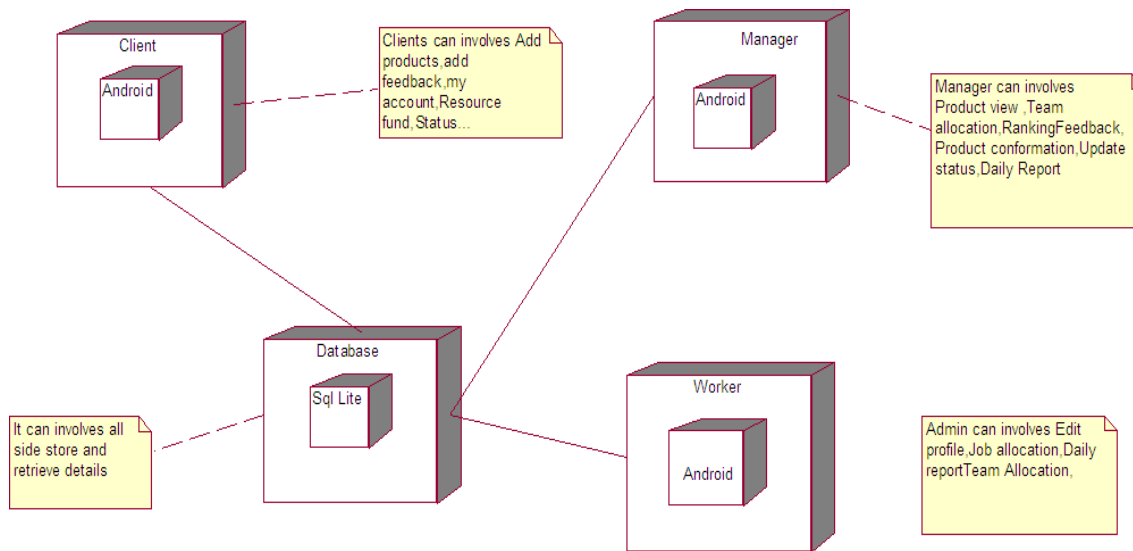
6.6. SEQUENCEDIAGRAM



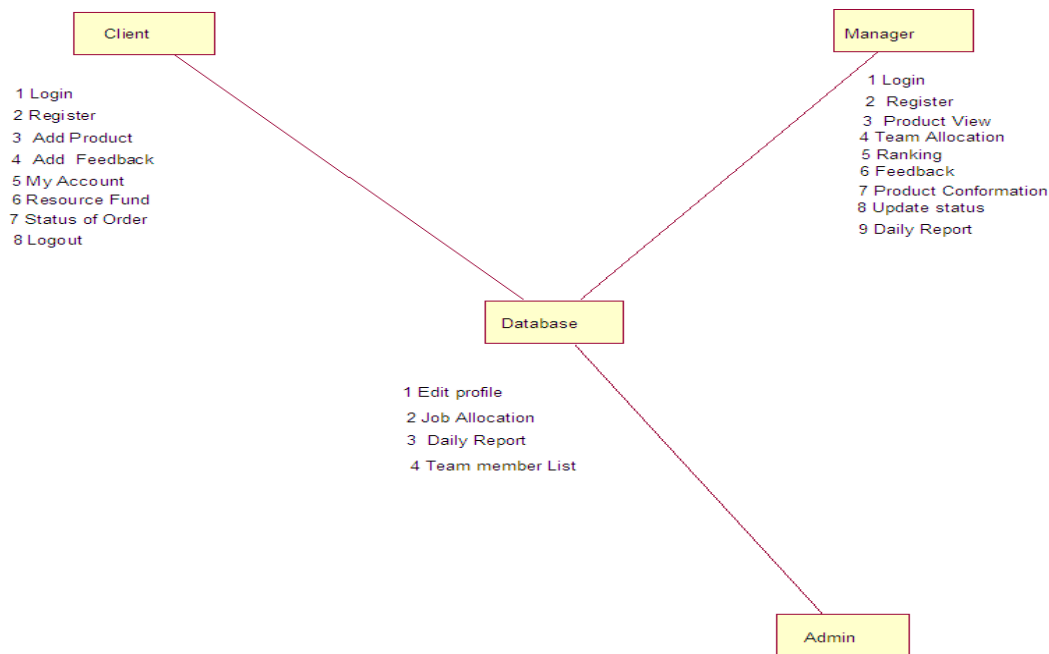
6.7. CLASSDIAGRAM



6.8. DEPLOYMENTDIAGRAM



6.9. CollaborationDiagram



6.10. Data Flow Diagram

Definition:

A Data Flow Diagram (DFD) is a graphical tool used to describe and analyze the movement of data through the system. It is a graphical representation of the “flow” of data through a computer system or a data or it looks at how data flows through a system. These are central tools and basic from which the other components are developed. The transformation of data from input to output, through processed, may be described logically and

independently of physical components associated with the system. The development of DFD is done at several levels. The flow diagram describes the boxes that describe computations, decisions, interactions & loops. It is important to keep in mind that the flow diagrams are not flowcharts and should not include control elements.

Characteristics

- Information and/or data flow is represented by a labeled arrow
- Processes (transformations) are represented by labeled circles (bubbles)
- Information sources and sinks are represented by boxes
- Files and depositories are represented by a rounded rectangle or a double line.

Types

- Logical data flow diagram
- Physical data flow diagram

Features

- The DFD shows data, not the control loops and decisions are controlled considerations do not appear on a DFD
- The DFD does not indicate the time factor involved in any process whether the data flow takes place easily daily, weekly, monthly or yearly
- The sequence of events is to bring out on DFD

DFD Symbols

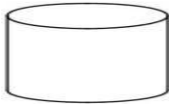
Process

A process transforms incoming data flow into outsourcing data flow.



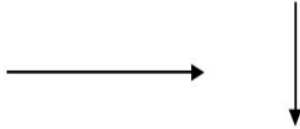
Datastore

Data sources are repositories of data in the system. They are sometimes also referred to as files.



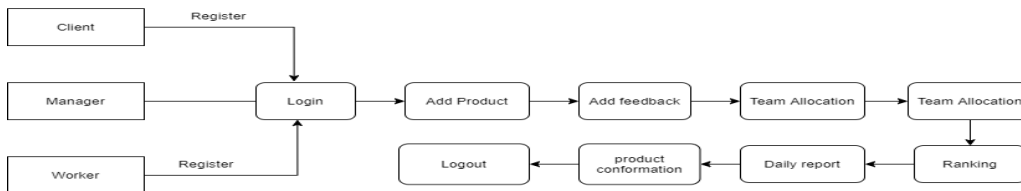
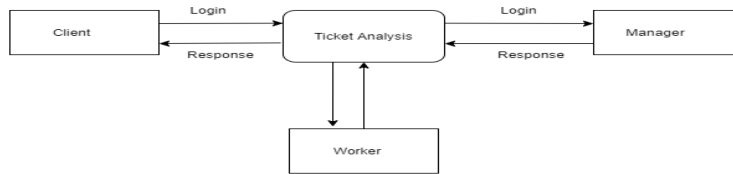
Data flow

Data flows are pipelines through which packets of information flow. Label the arrows with the name of the data that moves through it.

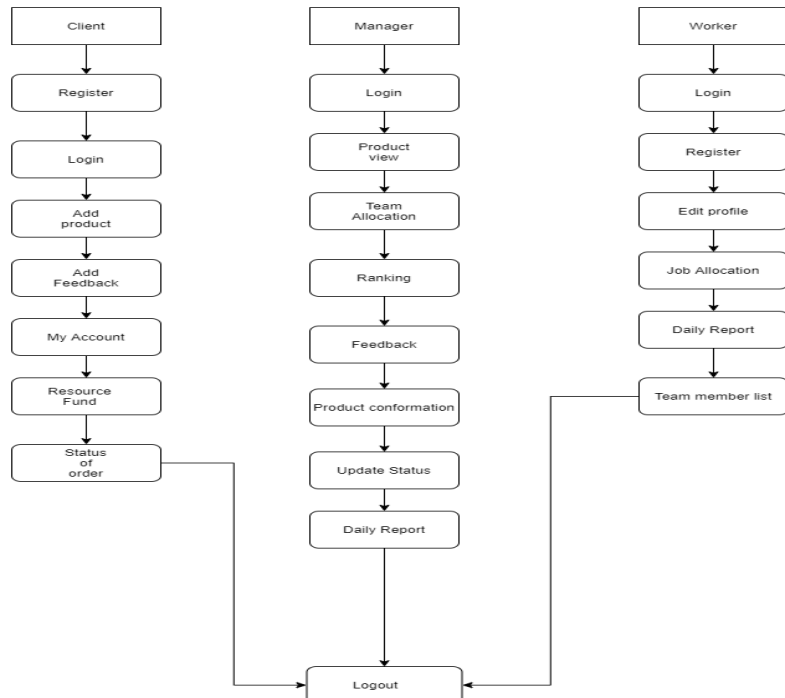


External Entity

External entities are objects outside the system, with which the system communicates.



DFD LEVEL 1



DFD LEVEL 2

Chapter 7(CODING)

PROGRAM FOR CLIENT REGISTRATION LAYOUT IN XML:

```
<?xml version="1.0" encoding="utf-8"?>

<LinearLayout

xmlns:android="http://schemas.android.com/apk/res/android"

xmlns:app="http://schemas.android.com/apk/res-auto"

xmlns:tools="http://schemas.android.com/tools"

android:layout_width="match_parent"

android:layout_height="match_parent"

android:orientation="vertical"

tools:context="com.example.Information.Client.ClientRegister">

<ScrollView

android:layout_width="match_parent"

android:layout_height="wrap_content"

android:fitsSystemWindows="true"

android:padding="20dp">

<LinearLayout

android:orientation="vertical"

android:layout_width="match_parent"

android:layout_height="wrap_content"

android:background="@color/Darkblue"

android:textColorHint="@color/black"

android:textColor="@color/white"

android:padding="25dp">
```

```
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_gravity="center"
    android:layout_marginTop="25dp"
    android:text="Register"
    android:fontFamily="@font/andika"
    android:textAlignment="center"
    android:textColor="@color/white"
    android:textSize="40dp"
    android:textStyle="bold"/>
```

```
<ImageView
    android:layout_width="100dp"
    android:layout_height="100dp"
    android:layout_gravity="center"
    android:layout_margin="2dp"
    android:background="@color/white"
    android:layout_weight="5"
    android:src="@drawable/site" />
```

```
<!-- Name Label-->
```

```
<com.google.android.material.textfield.TextInputLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
```

```
android:layout_marginTop="8dp"
android:layout_marginBottom="8dp"
android:textColorHint="@color/white">

<EditText
android:id="@+id/CClientname"
android:layout_width="match_parent"
android:layout_height="65dp"
android:hint="Name"
android:inputType="textCapWords"
android:textColor="@color/white"
android:textSize="18sp"
android:textStyle="bold"
android:fontFamily="@font/andika"/>
</com.google.android.material.textfield.TextInputLayout>
```

```
<com.google.android.material.textfield.TextInputLayout
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginTop="8dp"
android:layout_marginBottom="8dp"
android:textColorHint="@color/white">
<EditTextandroid:id="@+id/Clientcompanyname"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:inputType="text"
android:hint="Company Name"
```

```
android:fontFamily="@font/andika"  
android:textColor="@color/white"  
android:textStyle="bold"  
android:textSize="18sp"/>  
</com.google.android.material.textfield.TextInputLayout>
```

```
<!--Address-->
```

```
<com.google.android.material.textfield.TextInputLayout
```

```
android:layout_width="match_parent"
```

```
android:layout_height="wrap_content"
```

```
android:layout_marginTop="8dp"
```

```
android:layout_marginBottom="8dp"
```

```
android:textColorHint="@color/white">
```

```
<EditTextandroid:id="@+id/Clientaddress"
```

```
android:layout_width="match_parent"
```

```
android:layout_height="wrap_content"
```

```
android:inputType="textCapWords"
```

```
android:hint="Address"
```

```
android:textColor="@color/white"
```

```
android:textStyle="bold"
```

```
android:textSize="18sp"
```

```
android:fontFamily="@font/andika"/>
```

```
</com.google.android.material.textfield.TextInputLayout>
```

```
<!-- Email Label -->
```

```
<com.google.android.material.textfield.TextInputLayout
```

```
android:layout_width="match_parent"
```

```
android:layout_height="wrap_content"
android:layout_marginTop="8dp"
android:layout_marginBottom="8dp"
android:textColorHint="@color/white">
<EditTextandroid:id="@+id/Clientinput_email"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:inputType="textEmailAddress"
android:hint="Email Id"
android:textColor="@color/white"
android:textStyle="bold"
android:textSize="18sp"
android:fontFamily="@font/andika"/>
</com.google.android.material.textfield.TextInputLayout>
```

```
<!-- Mobile Label -->
<com.google.android.material.textfield.TextInputLayout
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginTop="8dp"
android:layout_marginBottom="8dp"
android:textColorHint="@color/white">
<EditTextandroid:id="@+id/Clientmobile_number"
android:inputType="number"
android:layout_width="match_parent"
```

```
android:layout_height="wrap_content"
android:textColor="@color/white"
android:hint="Mobile Number"
android:textStyle="bold"
android:textSize="18sp"
android:fontFamily="@font/andika"/>
</com.google.android.material.textfield.TextInputLayout>
```

```
<!-- Password Label -->
```

```
<com.google.android.material.textfield.TextInputLayout
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginTop="8dp"
app:passwordToggleEnabled="true"
app:passwordToggleTint="@color/white"
android:layout_marginBottom="8dp"
android:textColorHint="@color/white">
```

```
<EditTextandroid:id="@+id/Clientpassword"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:inputType="textPassword"
android:hint="Password"
android:textColor="@color/white"
android:textStyle="bold"
android:textSize="18sp"
```

```
android:fontFamily="@font/andika"/>
</com.google.android.material.textfield.TextInputLayout>
```

```
<com.google.android.material.textfield.TextInputLayout
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginTop="8dp"
app:passwordToggleEnabled="true"
app:passwordToggleTint="@color/white"
android:layout_marginBottom="8dp"
android:textColorHint="@color/white">
```

```
<EditTextandroid:id="@+id/Clientrepassword"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:inputType="textPassword"
android:hint="Re-Password"
android:textColor="@color/white"
android:textStyle="bold"
android:textSize="18sp"
android:fontFamily="@font/andika"/>
</com.google.android.material.textfield.TextInputLayout>
```

```
<!-- Signup Button -->
```

```
<Button
android:id="@+id/Clientbtn_signup"
```

```
android:layout_width="fill_parent"
android:layout_height="wrap_content"
android:background="@drawable/button"
android:textColor="@color/white"
android:textStyle="bold"
android:textSize="18sp"
android:textColorHint="#000"
android:padding="12dp"
android:text="Create Account"
android:fontFamily="@font/andika"/>

</LinearLayout>
</ScrollView>

</LinearLayout>
```

PROGRAM FOR CLIENT REGISTRATION IN JAVA:

```
package com.example.Information.Client;

import android.app.ProgressDialog;
import android.content.Intent;
import android.content.SharedPreferences;

import android.os.Build;
import android.os.Bundle;
import android.util.Patterns;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

import androidx.annotation.RequiresApi;
import androidx.appcompat.app.AppCompatActivity;

import com.android.volley.AuthFailureError;
import com.android.volley.Request;
import com.android.volley.RequestQueue;
import com.android.volley.Response;
```

```

import com.android.volley.VolleyError;
import com.android.volley.toolbox.StringRequest;
import com.android.volley.toolbox.Volley;
import com.example.AidedInfo.R;

import java.util.HashMap;
import java.util.Map;

public class ClientRegister extends AppCompatActivity {
    Button signup_btn;
    EditText name, address, mobile_number, email, password, cpname;
    ProgressDialog progressDialog;
    @RequiresApi (api = Build.VERSION_CODES.LOLLIPOP)
    @Override
    protected void onCreate (Bundle savedInstanceState) {
        super.onCreate ( savedInstanceState );
        setContentView ( R.layout.activity_client_register);
        setTitle ("Register ");

        name = findViewById ( R.id.CClientname);
        cpname=findViewById (R.id.Clientcompanyname);
        address=findViewById (R.id.Clientaddress);
        mobile_number= findViewById ( R.id.Clientmobile_number);
        email = findViewById ( R.id.Clientinput_email);
        password = findViewById ( R.id.Clientpassword);
        signup_btn= findViewById (R.id.Clientbtn_signup);
        progressDialog= new ProgressDialog( ClientRegister.this);

        progressDialog.setIndeterminate(true);
        //here is the trick:
        progressDialog.setIndeterminateDrawable(getResources().getDrawable(R.drawable.anim1, null));

        signup_btn.setOnClickListener ( new View.OnClickListener () {
            @Override
            public void onClick(View view) {
                validation ();
            }
        } );
    }
    private void validation() {

        final String ename = name.getText ().toString ().trim ();
        final String ecpname=cpname.getText ().toString ().trim ();
        final String eaddress = address.getText ().toString ().trim();
        final String emobilenumber = mobile_number.getText ().toString ().trim ();
        final String email = email.getText ().toString ().trim ();
        final String epassword = password.getText ().toString ().trim ();
    }
}

```

```

if (validateName ( ename ) &&validateCompanyName( ecpname ) &&validateAddress(
eaddress ) &&validateMobilenumber ( emobilenumber ) &&validateEmail ( eemail )
&&validatePassword ( epassword )) {
signupRequest ();

    } else {
Toast.makeText( getApplicationContext (), "All fields
Required", Toast.LENGTH_LONG).show ();
    }

}

private booleanvalidateCompanyName(String ecpname) {
if (ecpname.equals ( "" )) {
name.setError ( "Enter Your Employee-ID" );
returnfalse;
    } else if (ecpname.length () <10) {
name.setError ( "Maximum 50 Characters" );
returnfalse;
    }

return true;
}

private booleanvalidateAddress(String eaddress) {
if (eaddress.equals ( "" )) {
address.setError ( "Enter Your Address" );
returnfalse;
    } else if (eaddress.length () >80) {
address.setError ( "Maximum 50 Characters" );
returnfalse;
    }

return true;
}

private booleanvalidatePassword(String epassword) {
if (epassword.equals ( "" )) {
password.setError ( "Enter Your Password" );
returnfalse;
    } else if (epassword.length () >32) {
password.setError ( "Maximum 32 Characters" );
returnfalse;
    } else if (epassword.length () <8) {
password.setError ( "Minimum 8 Characters" );
returnfalse;
    }

return true;
}

```

```

private boolean validateEmail(String eemail) {
    if (eemail.equals ( "" )) {
        email.setError ( "Enter Your Email Address" );
        return false;
    } else if (!Patterns.EMAIL_ADDRESS.matcher ( eemail ).matches ()) {
        email.setError ( "Enter A Valid Email Address" );
        return false;
    }

    return true;
}

private boolean validateMobilenumber(String emobilenumber) {
    if (emobilenumber.equals ( "" )) {
        mobile_number.setError ( "Enter Your Mobile Number" );
        return false;
    }
    if (emobilenumber.length () != 10) {
        mobile_number.setError ( "Enter A Valid Mobile Number" );
        return false;
    }

    return true;
}

private boolean validateName(String ename) {
    if (ename.equals ( "" )) {
        name.setError ( "Enter Your Name" );
        return false;
    } else if (ename.length () >50) {
        name.setError ( "Maximum 50 Characters" );
        return false;
    }

    return true;
}

private void signupRequest() {

    final ProgressDialog progressDialog = new ProgressDialog (
    ClientRegister.this);
    progressDialog.setTitle ( "Please Wait" );
    progressDialog.setMessage ( "Creating Account" );
    progressDialog.show ();

    StringRequest stringRequest = new StringRequest (
    Request.Method.POST, "https://roshanarchu.000webhostapp.com/Planning%20Aided/cl
ient/register.php", new Response.Listener< String > () {

```

```

@Override
public void onResponse(String response) {
progressDialog.show ();
        finish ();
        Intent i = new Intent (
ClientRegister.this,ClientLoginActivity.class);
startActivity ( i );
Toast.makeText( ClientRegister.this,response.toString
()),Toast.LENGTH_SHORT).show ();
        }
    },new Response.ErrorListener () {
@Override
public void onErrorResponse(VolleyError error) {
//          Toast.makeText(MainActivity.this,error.toString(),
Toast.LENGTH_SHORT).show();
}
    } ) {
@Override
protected Map < String, String >getParams() throws AuthFailureError {
        Map < String, String > par = new HashMap <> ();
par.put ( "CLT_NME",name.getText ().toString () );
par.put("CLT_CMP",cpname.getText ().toString ());
par.put ( "CLT_CADD",address.getText ().toString () );
par.put ( "CLT_PHN",mobile_number.getText ().toString () );
par.put ( "CLT_EID",email.getText ().toString () );
par.put ( "CLT_PASS",password.getText ().toString () );
returnpar;
        }
    };
RequestQueuerq = Volley.newRequestQueue( getApplicationContext () );
rq.add ( stringRequest ); } }

```

Chapter 8 (OUTPUT SCREENS)



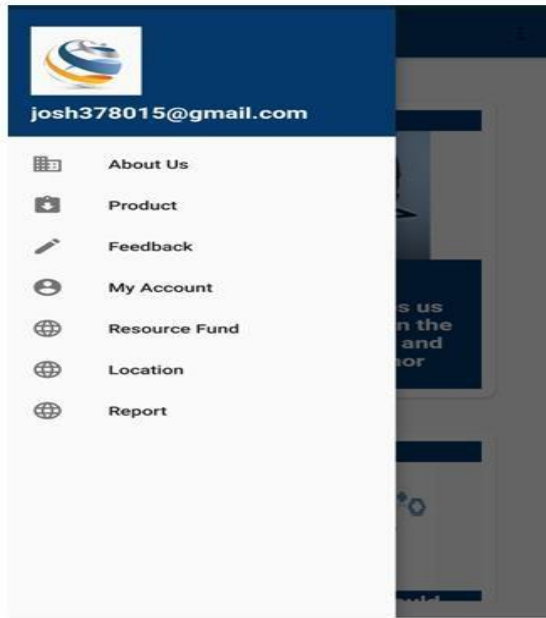
8.1. output pages:

Client Register/Login

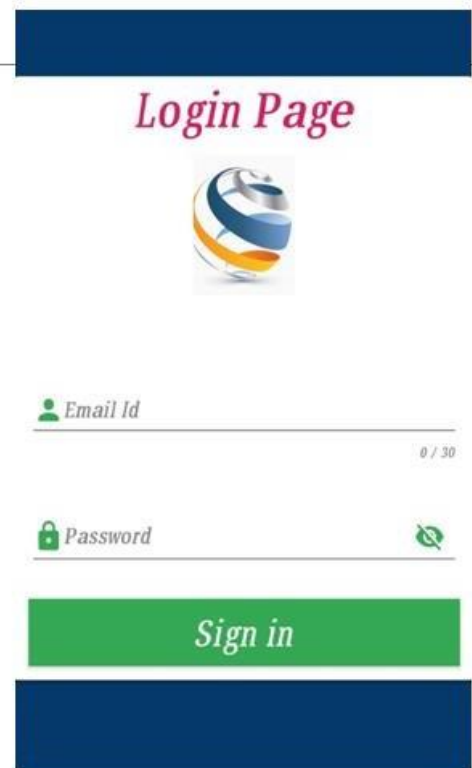
The login page has a dark blue header. Below the header, the text "Login Page" is displayed in a red serif font. A logo is centered below the text. There are two input fields: "Email Id" with a user icon and "Password" with a lock icon. A green "Sign in" button is positioned below the fields. Below the button, the text "Create a New Account..?" is shown in red. A dark blue footer is at the bottom.

The register page has a green header with the text "Register". Below the header, there are several input fields: "Name", "Company Name", "Address", "Email Id", "Mobile Number", "Password", and "Re-Password". Each field has a corresponding icon (user, lock, eye). A pink "CREATE ACCOUNT" button is at the bottom.

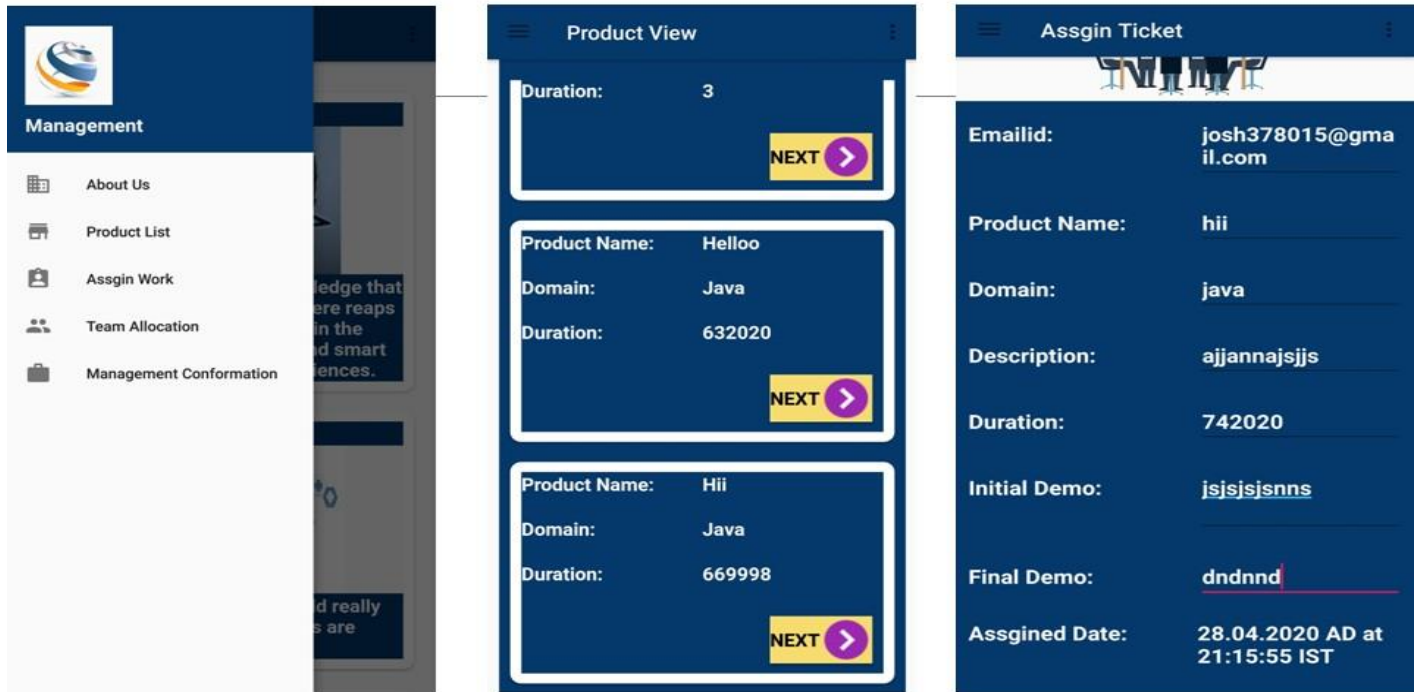
Client Homepage



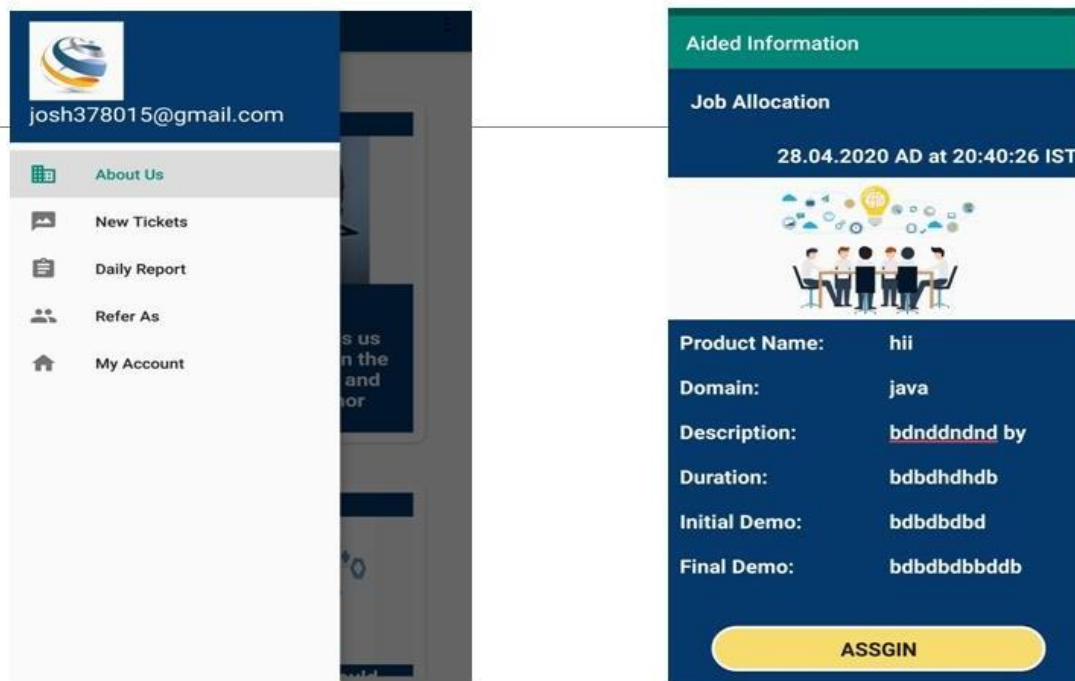
Management Login Page



Management Homepage:



Team member Homepage:



CHAPTER 9

SYSTEM TESTING AND IMPLEMENTATION

9.1. INTRODUCTION

Software testing is a critical element of software quality assurance and represents the ultimate review of specification, design, and coding. In fact, testing is the one step in the software engineering process that could be viewed as destructive rather than constructive.

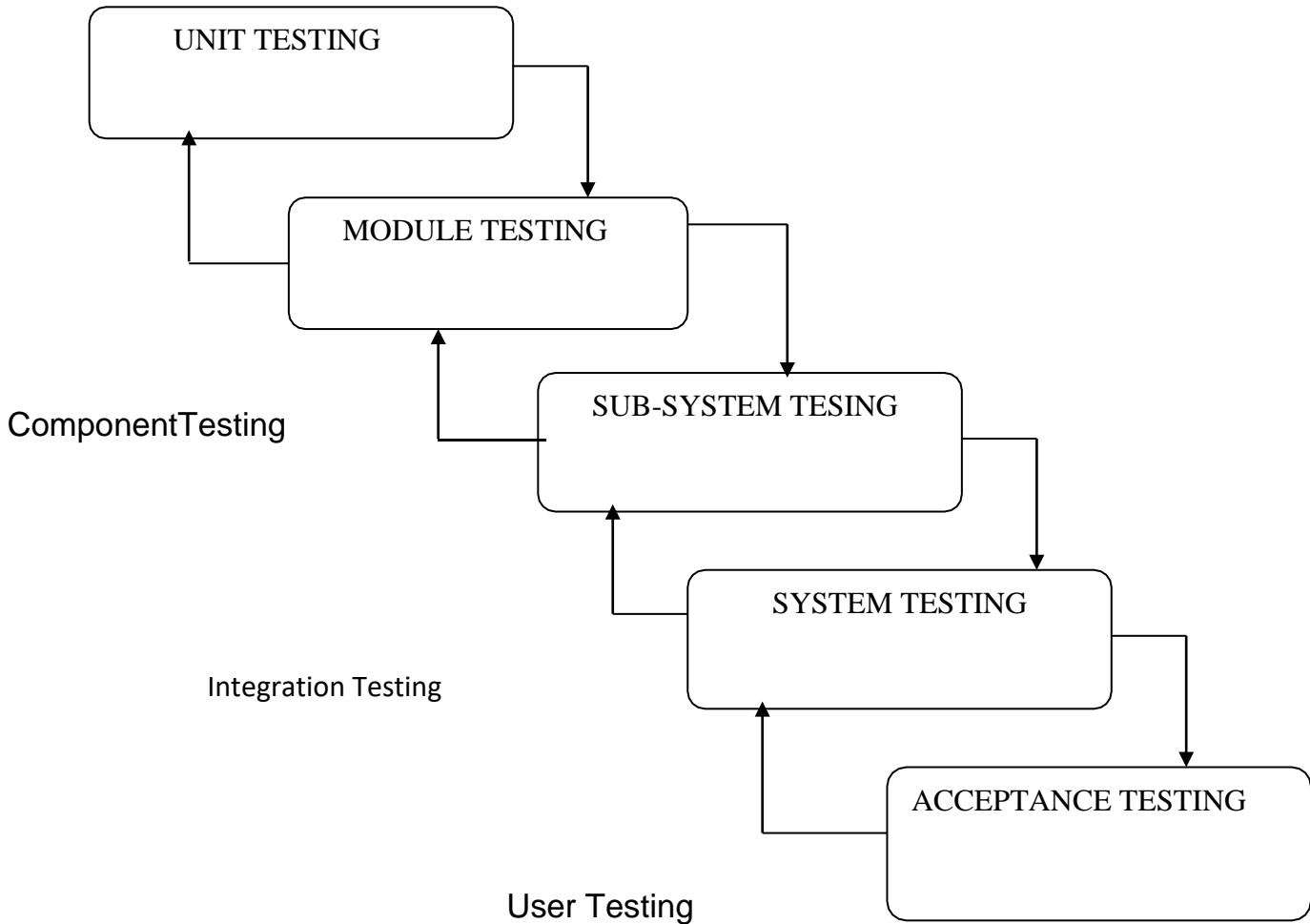
A strategy for software testing integrates software test case design methods into a well-planned series of steps that result in the successful construction of software. Testing is the set of activities that can be planned in advance and conducted systematically. The underlying motivation of program testing is to affirm software quality with methods that can economically and effectively apply both strategic to both large and small-scale systems.

9.2. STRATEGIC APPROACH TO SOFTWARE TESTING

The software engineering process can be viewed as a spiral. Initially, system engineering defines the role of software and leads to software requirement analysis where the information domain, functions, behavior, performance, constraints and validation criteria for software are established. Moving inward along the spiral, we come to design and finally to coding. To develop computer software we spiral in along streamlines that decrease the level of abstraction at each turn.

A strategy for software testing may also be viewed in the context of the spiral. Unit testing begins at the vertex of the spiral and concentrates on each unit of the software as implemented in source code. Testing progress is done by moving outward along the spiral to integration testing, where the focus is on the design and the construction of the software architecture. Taking another turn on outward on the spiral we encounter validation testing where requirements established as part of software requirements analysis are validated

against the software that has been constructed. Finally, we arrive at system testing, where the software and other system elements are tested as a whole.



9.3. UNIT TESTING

Unit testing focuses verification effort on the smallest unit of software design, the module. The unit testing, we have is white box oriented and some modules the steps are conducted in parallel.

1. WHITE BOX TESTING

This type of testing ensures that

- All independent paths have been exercised at least once
- All logical decisions have been exercised on their true and false sides

- All loops are executed at their boundaries and within their operational bounds
- All internal data structures have been exercised to assure their validity.

To follow the concept of white-box testing we have tested each form .we have created independently to verify that Data flow is correct, All conditions are exercised to check their validity, All loops are executed on their boundaries.

2. BASIC PATH TESTING

The established technique of flow graph with Cyclomatic complexity was used to derive test cases for all the functions. The main steps in deriving test cases were:

Use the design of the code and draw correspondent flow graphs.

Determine the Cyclomatic complexity of the resultant flow graph, using the formula:

$$V(G) = E - N + 2 \text{ or}$$

$$V(G) = P + 1 \text{ or}$$

$$V(G) = \text{Number Of Regions}$$

Where $V(G)$ is Cyclomatic complexity,

E is the number of edges,

N is the number of flow graph nodes,

P is the number of predicate nodes.

Determine the basis of a set of linearly independent paths.

3. CONDITIONAL TESTING

In this part of the testing, each of the conditions was tested to both true and false aspects. And all the resulting paths were tested. So that each path that may be generated on a particular condition is traced to uncover any possible errors.

CHAPTER 10

SYSTEM SECURITY

10.1. INTRODUCTION

The protection of computer-based resources that includes hardware, software, data, procedures and people against unauthorized use or natural Disaster is known as System Security.

A security system can be divided into four related issues:

- Security
- Integrity
- Privacy
- Confidentiality

SYSTEM SECURITY refers to the technical innovations and procedures applied to the hardware and operation systems to protect against deliberate or accidental damage from a defined threat.

DATA SECURITY is the protection of data from loss, disclosure, modification, and destruction.

SYSTEM INTEGRITY refers to the proper functioning of hardware and programs, appropriate physical security and safety against external threats such as eavesdropping and wiretapping.

PRIVACY defines the rights of the user or organizations to determine what information they are willing to share with or accept from others and how the organization can be protected against unwelcome, unfair or excessive dissemination of information about it.

CONFIDENTIALITY is a special status given to sensitive information in a database to minimize the possible invasion of privacy. It is an attribute of information that characterizes its need for protection.

10.2. SECURITY IN SOFTWARE

System security refers to various validations on data in the form of checks and controls to avoid the system from failing. It is always important to ensure that only valid data is entered

and only valid operations are performed on the system. The system employs two types of checks and controls:

CLIENT SIDE VALIDATION

Various client-side validations are used to ensure on the client-side that only valid data is entered. Client-side validation saves server time and loads to handle invalid data. Some checks are imposed:

- JavaScript is used to ensure those required fields are filled with suitable data only. The maximum lengths of the fields of the forms are appropriately defined.
- Forms cannot be submitted without filling up the mandatory data so that manual mistakes of submitting empty fields that are mandatory can be sorted out at the client-side to save the server time and load.
- Tab-indexes are set according to the need and taking into account the ease of use while working with the system.

SERVER SIDE VALIDATION

Some checks cannot be applied on the client-side. Server-side checks are necessary to save the system from failing and intimating the user that some invalid operation has been performed or the performed operation is restricted. Some of the server-side checks imposed are:

- A server-side constraint has been imposed to check for the validity of the primary key and foreign key. A primary key value cannot be duplicated. Any attempt to duplicate the primary value results in a message intimating the user about those values through the forms using the foreign key can be updated only of the existing foreign key values.
- The user is intimated through appropriate messages about the successful operations or exceptions occurring at the server-side.

CHAPTER 11

CONCLUSION

In this application, we have enrolled the online Job assignment with higher authority. They can manage the data storage with complete detail and their use need. It will get differ from the task given to each domain it will be most secure and valuable data transfer process has been happened. And they can add the daily report and status of the job to be maintained by management and employees. According to the product, the status client can be given the ranking to the company and they share feedback about the company and product. They can take care of the data and it will be deliverable once the demo process will get a positive result. Data is more secure than the other application and hackers can't be easily hacked the user data. Future work it's may concentrate on security purposes with constant and efficient. Better to make the stable person for the broker and make the proper validation of the user details. Online Chatting with a video call to the client will be added for the user confidence and assurance to buy the product. And the client can track the product with the help of the track sheet report will be sent from the management side. And to make a better user interface model and user-friendly with a better option to the userconvenience.

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12th March 2020

To Whom It May Concern

This is to certify that P. Jyoshna, (Reg.No: 16751A0574) B.Tech (Computer Science and Engineering), student of Sreenivasa Institute of Technology and Management Studies has successfully completed her project titled on "Planning Aid Information Gadget" in our company from January -2020 to March-2020.

All necessary details were provided from our side for the establishment of this project. We have noticed that, during the period, She has shown keen interest in her assignments and was also regular in attendance.

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