ABSTRACT

The main idea of E-CONTRACT application is to make contract work available to everyone. This contract application covers all existing contract work in the community. This will benefit both job seekers and customers. Users have the option to select services as required. Notification will be given the respective contractors in the nearest area, when the users select and submit the contract. The contract can be viewed for other contractor's cases. Communication platform is available for users and contractors. The contractors have the option to record their features, that way we can select contractors that are user friendly. Users can also record the feedback of contractors. In this document we present our understanding of what needs to be accomplished in the project along with the budget and time estimation.

LIST OF FIGURES

LIST OF TABLES

CHAPTER 1

1.INTRODUCTION

The main idea of E-CONTRACT application is to make contract work available to everyone. This contract application covers all existing contract work in the community. This will benefit both job seekers and customers. Users have the option to select services as required. Notification will be given the respective contractors in the nearest area, when the users select and submit the contract. The contract can be viewed for other contractor's cases. Communication platform is available for users and contractors. The contractors have the option to record their features, that way we can select contractors that are user friendly. Users can also record the feedback of contractors. In this document we present our understanding of what needs to be accomplished in the project along with the budget and time estimation.

E-CONTRACT is an android web application which mainly enhances communication among contractors and users. So the user can easily search contractors with their needs. It is an interactive web enabled application. Admin can block the contractors from site if they are not good at works. If the user have any complaint about works they can inform to the admin through this site. The main website feature is admin can monitor all functions and provide contractors for users. The contractors can register to this site with their technical skills. The user can easily communicate with contractor to the communication platform. User can buy the necessary materials for construction from contractors and user can transfer money through this application itself. By this user can save time and money. It is simple user interface. This allows user to select their contractors

and the contractor can take over the users work. Contractors add vacancy and user view vacancy and apply job. It help the user to get a job. The main idea of this application to make contract work available to everyone.

CHAPTER 2

2.PROMBLEM DEFINITION AND METHODOLOGY

2.1 PROBLEM DEFINITION

It is an android web application which mainly enhances communication among contractors and users. So the user can easily search contractors with their needs. It is an interactive web enabled application. Admin can block the contractors from site if they are not good at works. If the user have any complaint about works they can inform to the admin through this site. The main website feature is admin can monitor all functions and provide contractors for users. The contractors can register to this site with their technical skills. The user can easily communicate with contractor to the communication platform. User can buy the necessary materials for construction from contractors and user can transfer money through this application itself. By this user can save time and money. It is simple user interface. This allows user to select their contractors and the contractor can take over the users work. Contractors add vacancy and user view vacancy and apply job. It help the user to get a job. The main idea of this application to make contract work available to everyone.

2.2 OBJECTIVES

The main objective of this application is to ensure the communication between contractors and users. In this application the contractor can keep track of the users works, user can view vacancy in the contractor site and apply job, checking the efficiency of nearby contractor, works document sharing and download chat each other.

2.3 MOTIVATION

The earlier techniques required more manual effort. More times was consumed for finding contractors. Hectic and complex procedure for user to find a particular work related contractors. Develop an android application which is more flexible and user friendly.

2.4 METHODOLOGY

Creating separate login for each contractors and user. They will see the sections of work of their respective duties. They will be interlinked. All the activities will be done under the supervision of authorities. In earlier days iterative waterfall model was very popular to complete a project. Now a days developers face various problems while using to developers face various problem while using it to develop software. The main difficulties included handling change requests from users during project.

The Agile model was primarily designed to help a project to adapt to change requests quickly. So, the main aim of the Agile model is to facilitate quick project completion. To accomplish this task agility is required. Agility is achieved by fitting the process to the project, removing activities that may not be essential for a specific project. Also, anything that is wastage of time and effort is avoided.

Actually, Agile model refers to a group of development processes.

These processes share some basic characteristics but do have certain subtle differences among themselves. A few Agile SDLC models are given below:

Agile model is the combination of iterative and incremental process models are:

- Requirement gathering
- Requirement analysis
- Design

- Coding
- Unit testing
- Acceptance testing

The time to complete an iteration is known as a Time Box. Time-box refers to the maximum amount of time needed to deliver an iteration to customers. So the end date for an iteration does not change. Thought the development team can decide to reduce the delivered functionality during a Time-Box if necessary to deliver it on time. The central principle of the agile model is the delivery of an increment to the customer after each Time-box.

Principles of Agile model:

- To establish close contact with the customer during development and to gain a clear understanding of various requirements, each Agile project usually includes a customer representative on the team. At the end of each iteration stakeholders and the customer representative review, the progress made and re-evaluate the requirements.
- Agile model relies on working software deployment rather than comprehensive documentation.
- Frequent delivery of incremental versions of the software to the customer representative in intervals of few weeks.
- Requirement change requests from the customer are encouraged and efficiently incorporated.
- It emphasizes on having efficient team members and enhancing communications among them is given more importance. It is realized that enhanced communication among the development team members

Can be achieved through face-to-face communication rather than through the exchange of formal document.

- Agile development process usually deploy Pair Programming. In Pair programming, two programmers work together at one work-station. One does coding while the other reviews the code as it is typed in. The two programmers switch their roles every hour or so.

Requirements:

The requirements phase is the first phase in waterfall development model, setting the stage for the rest of the phases of the software application development. The requirements phase aims to come up with Requirement

Specification document or documents. The aim is to define the requirements in as clear and as detail manner as possible.

System Design:

This stage is to create a blueprint that will satisfy all documented requirements, then to identify all inputs, processes this phase looks at how the software will be built and how the system will operate with particular emphasis on hardware, software, network infrastructure and user interface. Here I designed according to the inputs needed for the client and also consider case maintenance.

Implementation:

The implementation phase is building the design into actual software. During this phase, the software programmes do the actual coding to build the software according to the design document. With inputs from system design, the system is first developed in small programs called units, which are integrated in the next phase. Each unit is developed and tested for its functionality which is referred to as Unit Testing.

Verification:

All the units developed in the implementation phase are integrated into system after testing of each unit. Post integration the entire system is tested for any faults and failures. Different units of this system are integrated and modules are tested. After that the whole system is tested.

Maintenance:

There are some issues which come up in the client environment. To fix those issues patches are released. Also, to enhance the product some better versions are released. Maintenance is done to deliver these changes in the

customer environment. This will be done after the implementation of the application in the environment.

2.5 SCOPE

The scope of this system consists of managing project task on the intranet. It is used by contractor and user to do the construction work, provides direct access of contractors to users and can get the details of contractors like works, locations, fees, type of contractors etc. This will benefit both job seekers and customers This application allow the user to quickly and easy search a contractor for construction work. It can be used any time as it is a web based application (user location does not matters).

CHAPTER 3

3.REQUIREMENT ANALYSIS AND SPECIFICATION

3.1 REQUIREMENT ANALYSIS

The information requirements of the user for their competitive world and require such a system. The various techniques used in this phase are Observations, Interviews and Discussions. A complete understanding of software requirements is essential to the success of a software development effort. System Analysis refers to an orderly structured process for identifying and solving problems using computer. It is the most essential part of the project development. It is the process of gathering and interpreting facts, diagnosing problems and using the information to recommended improvements to the system. Training, experience and common sense are required for the collection of the information needed to do the analysis.

3.2 EXISTING SYSTEM

Currently there's no similar concepts like this system. The existing system is a manually maintained system. Now a days, people find a contractor by going directly and looking for them. Lot of time is waisted in this process. Now there's no application to find a particular work related contractor from home. Users need to personally go to contractors and check their works and book the contractor.

3.3 PROPOSED SYSTEM

In the proposed system propose to computerize the above mentioned activities. In existing system all data processing is done manually. All the files and records are replaced by the system software. When there are a lot of issues such as retrieval and storage information, reporting etc. and keeping track of them becomes tedious task. By implementing a computerized system, the limitation in the present system will be reduced. Man power can be reduced to a great extend and efficiency and accuracy can be increased to manifold. More over consumption of time can be traduced to far greater extend by the implementation of the proposed system. The main objective of this application is to make contract work available to everyone. This contract application covers all existing contract work in the community. This will benefit both job seekers and customers. The Simple user interface. This allows customer to select their contractors and the contractor can take over the customers works. easy to use.

3.4 REQUIREMENT SPECIFICATION

System analysis is the process of gathering and interpreting facts, diagnosing and using this information to recommended improvements to the system. The objectives of the system analysis phase are the establishment of the requirements for the system to be acquired, developed and installed. System analysis is for finding out what happens in the existing system deciding on what changes and features are required and defining exactly what the proposed system must be analysis specified what the system should do.

3.4.1 Functional Requirements

The definition of a functional requirement is any requirements which specify what the system should do. In other words, a functional requirement will describe a particular behavior of function of the system when certain conditions are met, for example: Send email when a new customer signs up" or open a new account. A functional requirement for an everyday object like a cup would be: ability to contain tea or coffee without leaking.

Typical functional requirements include:

- Business Rules
- Transaction corrections, adjustments and cancellations
- Administrative functions
- Authentication
- Authorization levels
- Audit Tracking
- External Interfaces
- Certification Requirements

- Reporting Requirements
- Historical Data
- Legal or Regulatory Requirements

3.4.2 Non-Functional Requirements

The definition of anon-functional requirement is any requirement which specifies how the system performs a certain function. In other words, a non-functional requirement will describe how a system should behave and what limits there are on its functionality. Non-functional requirements generally specify the system's quality attributes or characteristics, for example: "Modified data in a database should be updated for all users accessing it within two seconds. "Non-functional requirements constrains on the services or functions offered by the system such as timing constraints, constraints on the development process, standards, etc. Usually defined on the system as a whole a non-functional requirement for the cup mentioned previously would be: "contain hot liquid without heating up to more than 45°C".

Typical non-functional requirements include:

- Performance-for example: response time, throughput, utilization, static volumetric
- Scalability
- Capacity
- Availability
- Reliability
- Recoverability
- Maintainability

- Serviceability
- Security
- Regulatory
- Manageability
- Environmental
- Data integrity
- Usability
- Interoperability

It is important to correctly state non-functional requirements since they'll affect your users' experience when interacting with the system.

3.4.3 Environmental Details

Software Requirements:

One of the most difficult task is selecting software for the system, once the system requirements is found out then we have to determine whether a particular software package fits for the system requirements.

- Operating system : Windows 7 or above, Android,Linux
- Technology Used : Python
- IDE : PyCharm , Eclipse/Android Studio
- Framework : Flask
- Database : MySQL

Hardware Requirements:

The selection of hardware is very important in the existence and proper working of any software. The selection hardware, the size and capacity requirements are also important.

- PROCESSOR : INTEL DUAL CORE or above
- HARD DISK : 160 GB
- RAM :4 GB
- INPUT DEVICES : KEYBOARD, MOUSE
- OUTPUT DEVICES : MONITOR

3.5 FEASIBILITY STUDY

A feasibility study is a preliminary study undertaken to determine and document a project's viability. The results of this study are used to make a decision whether to proceed with the project. If it indeed leads to a project being approved, it will – before the real work of the proposed project starts – be used to ascertain the likelihood of the project's success. It is an analysis of possible alternative solutions to a problem and a recommendation on the best alternative. It, for example, can decide whether an order processing be carried out by a new system more efficiently than the previous one. The feasibility study proposes one or more conceptual solutions to the problem set for the project. The conceptual solution gives an idea of what the new system will look like. They define what will be done on the computer and what will remain manual. It also indicates what input will be needed by the system and what outputs will be produced. These solutions should be proven feasible and a preferred solution is accepted.

The feasibility study environment enables all alternatives to be discussed and evaluated. This phase starts with an identification of the main characteristics of the required system. During this stage it is important to collect information as much as possible about the software package that might meet the specification from as many sources as possible.

Normally, the central endeavour of a feasibility study is a cost benefit analysis of various alternatives. It can be defined as a systematic comparison between the cost of carrying out a service or activity and the value of that service or activity. The main benefits are qualitative than quantitative.

A feasibility study could be used to test a new working system, which could be used because:

- The correct system may no longer suit its purpose,
- Technological advancement may have rendered the current system obsolete,
- The business is expanding, allowing it to cope with extra work load,
- Customers are complaining about the speed and quality of work the business provides.
- Competitors are now winning a big enough market share due to an effective integration of a computerized system.

When a new project is proposed, it normally goes through feasibility assessment. Feasibility study is carried out to determine whether the proposed system is possible to develop with available resources and what should be the cost consideration.

Facts considered in the feasibility analysis were

- Technical Feasibility
- Operational Feasibility
- Economic Feasibility

3.5.1 Technical Feasibility

This involves questions such as whether the technology needed for the system exists, how difficult it will be to build, and whether the firm has enough experience using that technology. The assessment is based on an outline design of system requirements in terms of Input, Output, Fields, Programs, and

Procedures. This can be qualified in terms of volumes of data, trends, frequency of updating etc.in order to give an introduction to the technical system.

3.5.2 Operational Feasibility

This analysis involves how it will work when it is installed and assessment of political and managerial environment in which it is implemented. People are inherently resistant to change and computers have been known to facilitate change. The new proposed system is very much useful to the users and there for it will accept broad audience.

The proposed system offers:

- Greater user friendliness
- Better output which can be easily interpreted.
- Higher speed.
- Meets the requirements of the organizations.

3.5.3 Economic Feasibility

This involves questions such as whether the firm can afford to build the system, whether its benefits should substantially exceed its costs, and whether the project has higher priority and profits than other projects that might use the same resources. This also includes whether the project is in the condition to fulfil all the eligibility criteria and the responsibility of both sides in case there are two parties involved in performing any project.

This study presents tangible and intangible benefits from the project by comparing the developments and operational costs. The technique of cost benefit analysis is often used as a basis for assessing economic feasibility. This

system needs some more initial investment than the existing system, but it can be justifiable that it will improve the quality of service.

Thus feasibility study should centre along the following points:

- Improvement resulting over the existing method in terms of accuracy, timeliness.
- Cost comparison.
- Estimate on the life expectancy of the hardware.
- Overall objective.

3.6 PROJECT PLANNING AND SCHEDULING

For the successful completion of every project there must be detailed scheduling. The software development has different participating steps. First of all, I had done the requirements analysis phase. For this I visit different websites, and I discuss with my friends and project guide. After collecting the requirements a detailed study of preliminary investigation is done. After the analysis phase the requirements and document design is divided into modules. The document is created, which includes dataflow diagrams, ER diagrams etc.

As next step the actual development of the system takes place. The design representations are translated into codes is done by providing explanations of how procedures are used. Documentation is essential to test the program and carry on maintenance once the application has been installed.

As next step testing is done. After a system has been developed it is very important to check if it fulfils the user requirements. Implementation of the system means putting up system on user's side. Like any system there is an aging process. Therefor the system requires periodic maintenance for software or hardware.

3.7 SOFTWARE REQUIREMENTS SPECIFICATION

A software requirements specification (SRS) is a description of a software system to be developed, laying out functional and non-functional requirements. (Non-functional requirements impose constraints on the design or implementation such as performance engineering requirements, quality standards, or design constraints). The specification may include a set of use cases that describe interactions the users will have with the software. The software requirements specification document enlists enough and necessary requirements that are required for the project development. To derive the requirements we need to have clear and through understanding of the products to be developed or being developed. This is achieved and refined with detailed and continuous communications with the project team and customer till the completion of the software.

About The Front End:

Python

An Integrated Development Environment (DE) (also known as Integrated Design Environment or Integrated Debugging Environment) is a software application that provides comprehensive facilities to computer programmers for software development. An DE normally consists of:

- A source code editor
- A compiler and/or an interpreter
- Build automation tools
- A debugger
- The IDE is used here is PyCharm

PyCharm is the most popular IDE used for Python scripting language. PyCharm offers some of the best features to its users and developers in the following aspects:

- Code completion and inspection
- Advanced debugging
- Support for web programming and frameworks such as Django and flask.

Features of PyCharm Besides, a developer will find PyCharm comfortable to work with because of the features mentioned below:

- Code Completion: PyCharm enables smoother code completion whether it is for built in or for an external package.
- SQLAlchemy as Debugger: You can set a breakpoint, pause in the debugger and can see the SQL representation of the user expression for SQL Language code.

Git Visualization in Editor: When coding in Python, queries are normal for a developer. You can check the last commit easily in PyCharm as it has the blue sections that can define the difference between the last commit and the current one. The proposed system has a high operational feasibility. Because the website can access anywhere and anytime. For operating the website, we only need an internet connection. The c language in the hardware or software environment does not affect the system.

- Code Coverage in Editor: You can run .py files outside PyCharm Editor as Well marking it as code coverage details elsewhere in the project tree, in the summary section etc.
- Package Management: All the installed packages arc displayed with proper visual representation. This includes list of installed packages and the ability to search and add new packages.

- Local History: Local History is always keeping track of the changes in a way that complements like Git. Local history in PyCharm gives complete details of what is needed to rollback and what is to be added.
- Refactoring: Refactoring is the process of renaming one or more files at a time and PyCharm includes various shortcuts for a smooth refactoring process.
- User Interface of PyCharm Editor: The user interface of PyCharm editor is shown in the screenshot given below. Observe that the editor includes various features to create a new project or import from an existing project.

Python is an interpreted, high-level, general-purpose programming Language. Created by Guido Van Rossum and first released in 1991, Python's design philosophy emphasizes code readability with its notable use of significant whitespaces.

HTML

Hypertext Markup Language (HTML) is the standard markup language for creating web pages and web applications. With Cascading Style Sheets (CSS) and JavaScript it forms a triad of cornerstone technologies for the World Wide Web. Web browsers receive HTML documents from a web server or from local storage and render them into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document.

ANDROID

The android system supports background processing, provides a rich user interface library, supports 2-D and 3-D graphics using the OpenGL-ES (short OpenGL) standard and grants access to the file system as well as an embedded SQLite database.

Android Software Development Kit (Android SDK) contains the necessary tools to create, compile and package Android applications. Most of these tools are command line based. The primary way to develop Android application is based on java programming language.

Most of Android's configuration files are based on XML. In this case these editors allow you to switch between the XML representation of file and a structured user interface for entering the data.

Android Eclipse

A complete set of tools for developers who want to create Eclipse plug-ins or Rich Client Applications. It includes a complete SDK, developer tools and source code, an XML editor and the Eclipse Communication Framework.

Eclipse is an integrated development environment (IDE) use in computer programming, and is the most widely used Java IDE. It contains a base workspace and an extensible plug-in system for customizing the environment. Eclipse is written mostly in Java and its primary use is for developing Java applications, but it may also be used to develop applications in other programming through the use of plugins,

Features

- Org.eclipse.cvs
- Org.eclipse.eqinox.p2.user.ui

- Org.eclipse.help
- Org.eclipse.jdt
- Org.eclipse.pde
- Org.eclipse.platformOrg.eclipse.rcp

About the Back End

Database Servers

A database server is used to store data in a database. Users can access the data and manipulate it. There are many types of databases. The most popular among them is the Relational Database Management System (RDBMS).

RDBMS

RDBMS is a type of database management system that stores data in the form of related tables. Relational database are powerful because they require few assumptions about how data is related or how it will be extracted from the database. As a result, the same database can be viewed in many different ways. An important feature of relational systems is that a single database can be spread across several tables. This differs from flat-file database, in which each database is self-contained in a single table.

MYSQL

MySQL is an open source relational database and it includes advanced data types. MySQL operates using client/server architecture in which the server runs on the machine containing the database and client connect to the server over the network. MySQL run on all platforms supported by MySQL and provides the

most direct means of interacting with the server, so it's the logical client to begin with.

- You need to have the MySQL software installed.
- You need a MySQL account so that you can connect to the server.
- You need a database to work with.

The required software includes the MySQL clients and a MySQL server. The client program must be located on the machine where you will working. The server can be located on our machine although that is not required. As long as you have permission to connect to it the server can be located anywhere. In addition to the MySQL software you will need a MySQL account so that the server will allow you to connect and create us sample database and its table.
Microsoft SQL Server 2008 is a full-featured relational database management system (RDBMS) that offers a variety of administrative tools to ease the burdens of database development, maintenance and administration. In this article, we'll cover six of the more frequently used tool Enterprise Manager, Query analyser, SQL, Profiler, Service Manager, Data Transformation Services and Books Online. Let's take a brief look at each:

Enterprise Manager is the main administrative console for SQL Server installations. It provides you with a graphical "birds-eye view of all of the SQL Server installation on your network. You can perform high-level administrative functions that affect one or more servers, schedule common maintenance tasks or create and modify the structure of individual databases.

Query Analyzer offers a quick method for performing queries against any of your SQL Server databases. It's a great way to quickly pull information out of a database in response to a user request, test queries before implementing them

in other applications, create/modify stored procedures and execute administrative tasks.

SQL Profiler provides a window into the inner workings of your database. You can monitor many different event types and observe database performance in real time. SQL Profiler allows you to capture and replay system "traces that log various activities. It's a great tool for optimizing databases with performance issues or troubleshooting particular problems.

Service Manager is used to control the MS SQL Server (the main SQL Server process), MSDTC (Microsoft Distributed Transaction Coordinator) and SQL Server- Agent processes. An icon for this service Manager to start, stop or pause any one of these services.

Data Transformation Services (DTS) provide an extremely flexible method for importing and exporting data between a Microsoft SQL Server installation and a large variety of other formats. The most commonly used DTS application is the "Import and Export Data" wizard found in the SQL Server program group.

CHAPTER 4

4.1.SYSTEM DESIGN

Design is the first step in the development phase for every engineered product or system. Computer software designing techniques like engineering design approaches in the other disciplines, changes continuously as new methods, better analysis and broader understanding evolve.

System design involves translating information requirements and conceptual design into technical specification and general flow of processing After the user requirements are identified, related information is gathered to verify the problem and after evaluating the existing system, a new system is proposed. The proposed system consist of various tables, the maintenance and report generation.

4.1.1INPUT DESIGN

Input design is part of overall system design, which requires careful attention. The major objectives of input design are to make the data entry easier logical and error free with this objective the screen for the system are developed. The input design requirement such as user friendliness, consistent formal and interactive dialog boxes for giving the right message and help for the user at the right time development of the project. The decisions made during the input design are:

- To provide cost effective method of input.
- To achieve the highest possible level of accuracy.
- To ensure that the input is understood by the user

The input type involves converting the user-originated inputs into a computer based format. The aim of the computer design is to make the data entry easier, logical error free. It helps us to filler errors in the input data that

otherwise entered into the database might have brought in a lot of inconsistency.

Alert for wrong entries such as primary key duplication, letters in numeric data, wrong data format, range exceed have been provided in the application Upon this, a well-documented instruction set has been provided for the non-frequent and first-time users to familiarize them with our web site.

Maximum care has been taken to ensure that users type in only minimum data into the system, as all he or she will have to do is to move and click the mouse or strike e key to select the desired data at the desired position.

The input design is the link between the information system and the user It comprises developing specification and procedures for data preparation and those steps that are necessary to put input data into a usable form for processing data entry. Instructing the computer to read data from a written or a printed document can achieve the activity of putting data into the computer for processing or it can occur by having people key data directly into the system. The design of inputs focuses on controlling the amount of inputs required, controlling errors, avoiding delay, avoiding extra steps and keeping the process simple.

4.1.2 OUTPUT DESIGN

Output design generally refers to the results and information that are generated by the system. For many end users, output is the main reason for developing the system and the basis on which they evaluate the usefulness of application.

The objective of a system finds its shape in terms of the output. The analysis of the objective of a system leads to determination of outputs. Outputs of a system can take various forms. The most common are reports, screens

displays, printed form, graphical drawing etc. the output also vary in terms of their contends, frequency, timing and format. The users of the output, its purpose and sequence of details to be printed are all considered. The output from a system is the justification for its existence. If the outputs are inadequate in any way, the system itself is inadequate.

Output design phase of the system is concerned with the convergence of information to the end user-friendly manner. The output design should be efficient, intelligible so that system relationship with the end user is improved and their by enhancing the process of decision-making.

Output Types:

- External Outputs, whose destination is outside the organization and is the main image of the organization.
- Internal Outputs, whose destination is within the organization and which require careful design because it is user's main interface with the computer.
- Operational Outputs, whose use is purely within the computer departments.
- Interactive outputs, which involve the user in communicating directly with the computer.

4.2 USERS OF THE SYSTEM

This website uses admin and contractor. The android part is used by the customer. To be a user must register one time in this Android part The user gets their user name and password at the time of registration and they should use this username and password for further.

4.3 MODULARITY CRITREIA

1.Admin

- Approve Contactors.
- Block Contractors.
- View job vacancy.
- View contract request
- Feedback view.
- View complaints and reply.

2.Contractor

- Registration.
- Add and manage products.
- Add & manage vacancy request.
- View customers Job request & update status.
- Sent feedback.
- Add & manage works (share documents, videos and images about works).
- Add features and mange details (skills, experience……etc.)
- Communication platform.
- Contractor groups.
- View ordered product details.

3.Customer

- Registration.
- Search Nearby contractors & sent request.
- View request status.
- Buy products.
- Ordered products.
- Communication platform.
- View vacancy & Apply job.
- Complaints and reply.
- Send feedback.

4.4 ARCHITECTURE DIAGRAM

4.4.1 Data Flow Diagrams:

A data flow diagram (DFD) or a bubble chart is a graphical tool for structured analysis. DFD models a system by using external entities from which data flow to a process, which transforms the data and creates output data flows which go other process or external entities or files. Data in files may also flow to processes as inputs.

DFDS can be hierarchically organized, which help in partitioning and analysing large systems. As a first step, one dataflow diagram can depict an entire system which gives the system overview. It is called context diagram of level0 DFD. The context diagram can be further expanded.

The successive expansion of a DFD from the context diagram to those giving more details is known as levelling of DFD. Thus a top down approach is used, starting with an overview and then working out the details. The main merit

of the DFD is that it can provide an overview of what data a system would process, what transformation of data are done, what files are used, and where the results flow.

DFD Design Notation

In DFD, there are four main symbols:

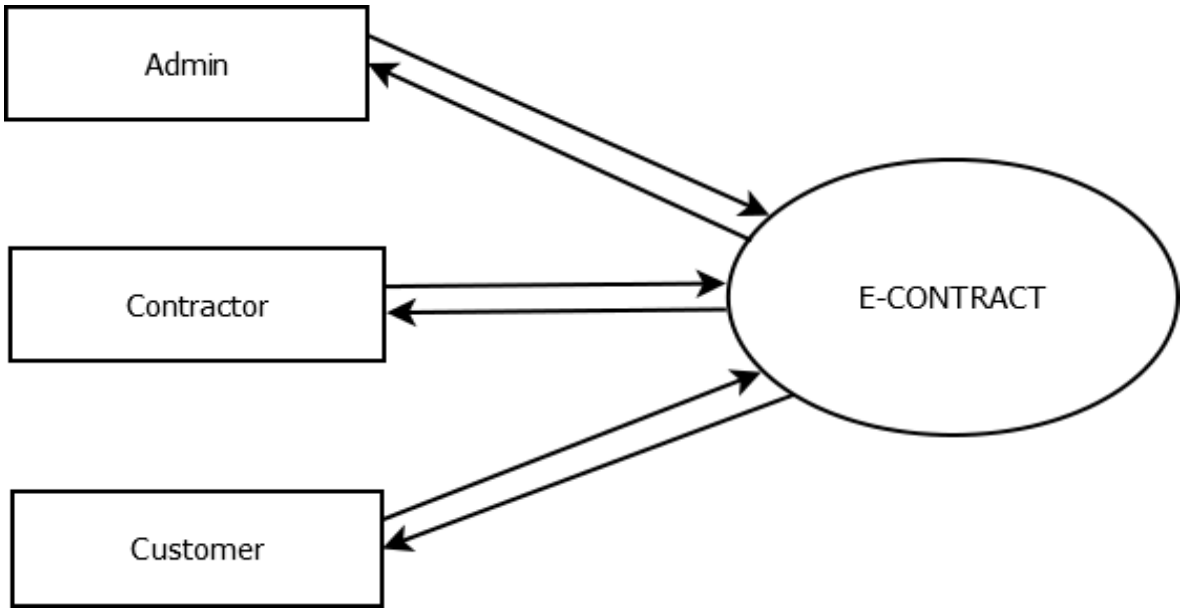
Source or Destination of Data

Flow of Data

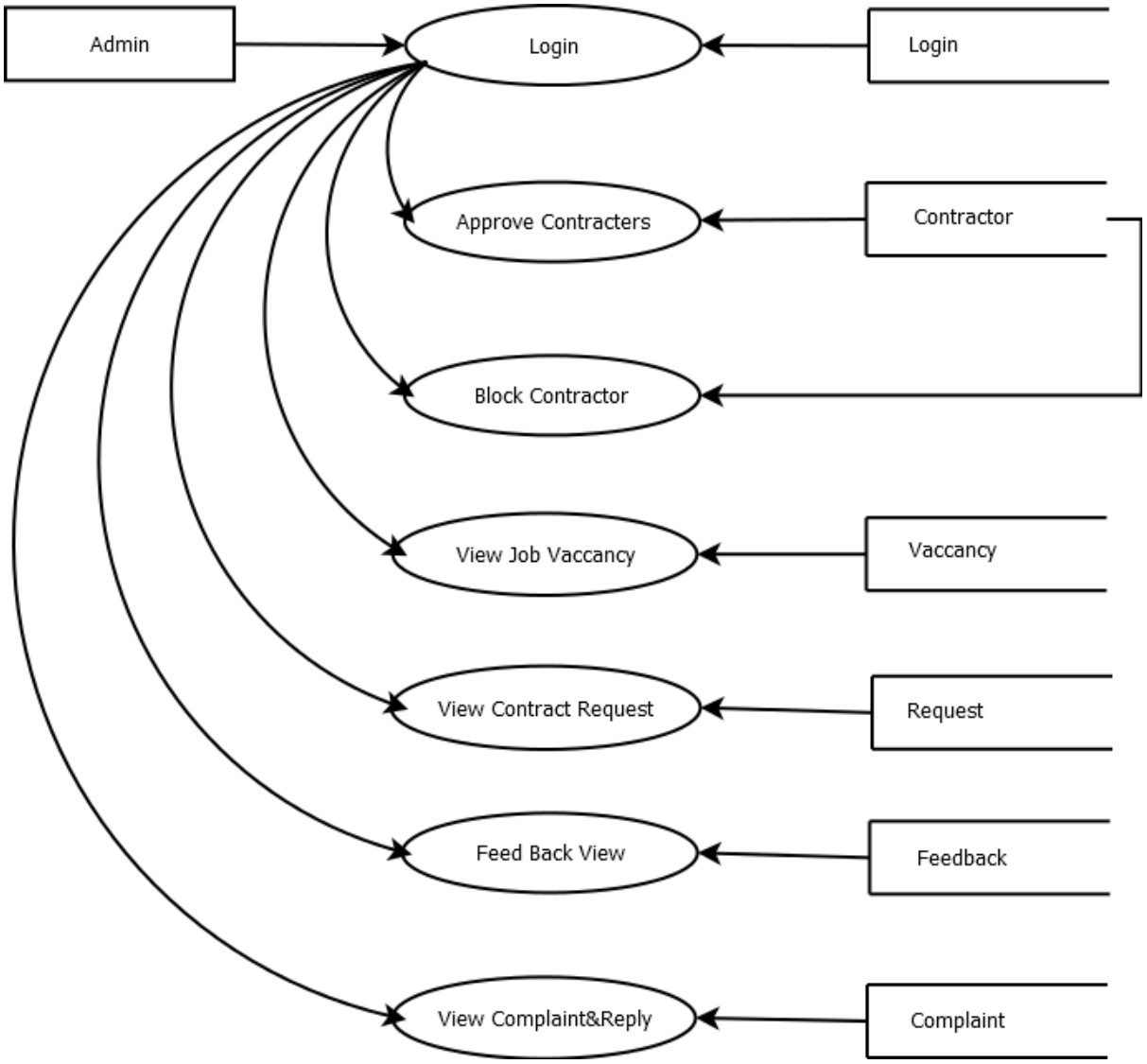
Process

Temporary Repository of Data

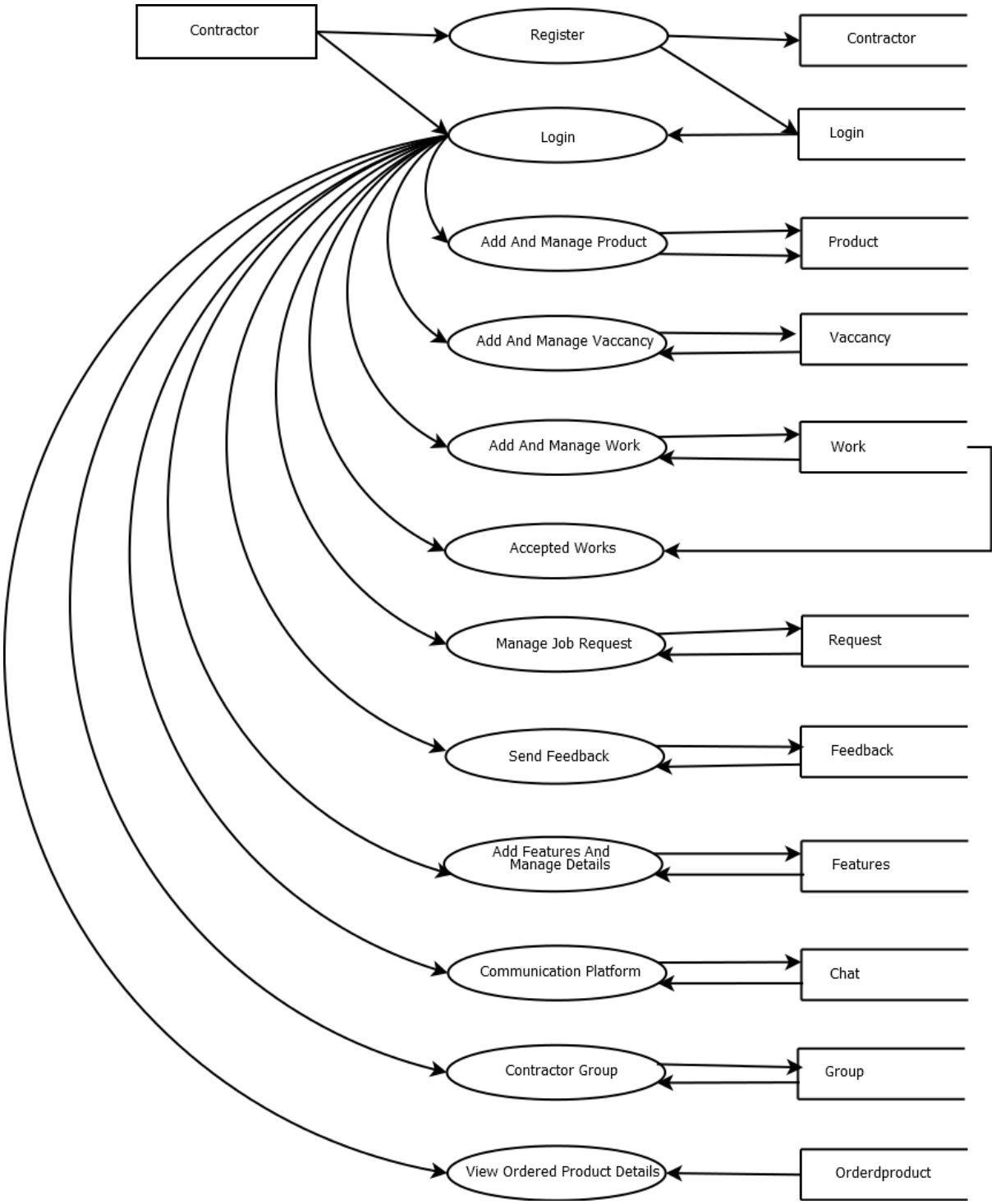
LEVEL-0



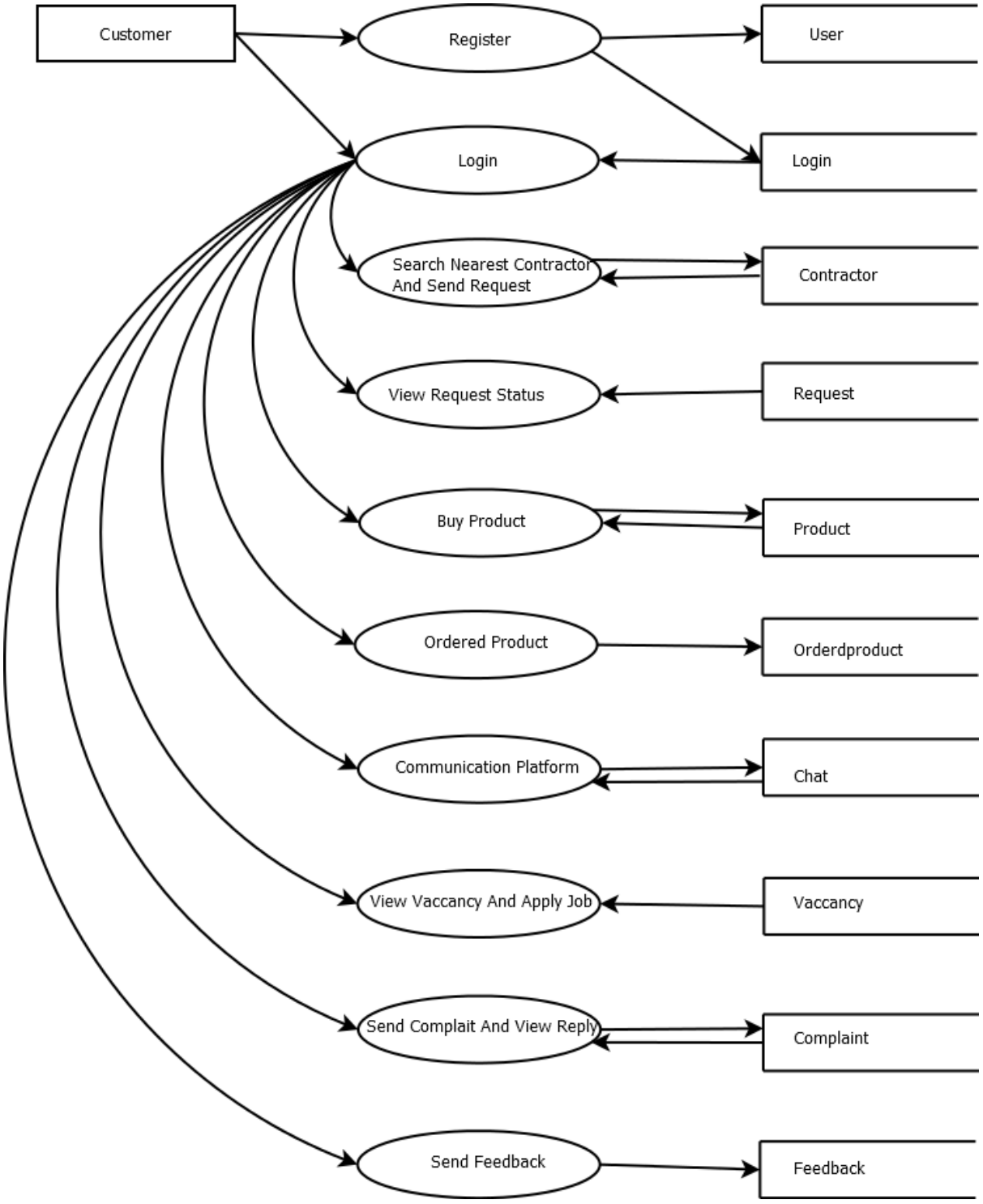
LEVEL 1.1:ADMIN



LEVEL 1.2:CONTRACTOR



LEVEL 1.3:CUSTOMER



4.5 DATABASE DESIGN

Database design is the process of producing a detailed data model of a database. This logical d at a model contains all the needed logical and physical design choices and physical storage parameters needed to generate a design in a data definition language, which can be used to create a database. The term database design can be used to describe many different parts of the design of an overall database system. Principally, and most correctly, it can be thought of as the logical design of the base data structures used to store the data. In the relational model these are the tables and views. In an object database the entities and relationships map directly to object classes and named relationships. However, the term database design could also be used to apply to the overall process of designing, not just the base data structures, but also the forms and queries used as part of the overall database application with in the database management system. The process of doing database design generally consists of a number of steps which will be carried out by the database designer.

NORMALIZATION

Database Normalization is a technique of organizing the data in the database. Normalization is a systematic approach of decomposing tables to eliminate data redundancy(repetition) and undesirable characteristics like Insertion, Update and Deletion Anomalies. It is a multi-step pro cess that puts data into tabular form, removing duplicated data from the relation tables. In our design the tables have been normalized up to third normalization form. Normalizations applied during database design are:

- First Normal Form (1NF)
- Second Normal Form (2 NF)
- Third Normal Form (3 NF)

First Normal Form

If a relation contains composite or multi-valued attribute, it violates first normal form or a relation is in first normal form if it does not contain any composite or multi-valued attribute. A relation is in first normal form if every attribute in that relation is singled valued attribute. Our application satisfies 1 NF. The first normal form states that:

- Every column in the table must be unique
- Separate tables must be created for each set of related data
- Each table must be identified with a unique column or concatenated columns called the primary key
- No rows may be duplicated
- No columns may be duplicated
- No row/column intersections contain a null value
- No row/column intersections contain multivalued fields 12

Second Normal Form

A relation is said to be in 2NF if and only if it satisfies all 1NF conditions for the primary key and every non-primary key attribute of the relation is fully

dependent on its primary key alone. If a non-key attribute is not dependent on the key, it should be removed from the relation and places as a separate relation. i.e., the fields of the table in 2NF are all related to primary key.

Third Normal Form

A relation is said to be in 3NF if and only if it is in 2NF and more over non-key attribute of the relation should not depend on other non-key attributes. The data in the system has to be stored and retrieved from database. Designing the database is a part of system design. Data elements and data structures to be stored have been identified at analysis stage. They are structured and put together to design the data storage and retrieval system.

4.5.1 List Of Entities And Attributes

Entities

- Login
- Contractor
- User
- Work
- Complaint
- Feedback
- Features
- Orderedproduct
- Request
- Chat
- Product
- Vacancy

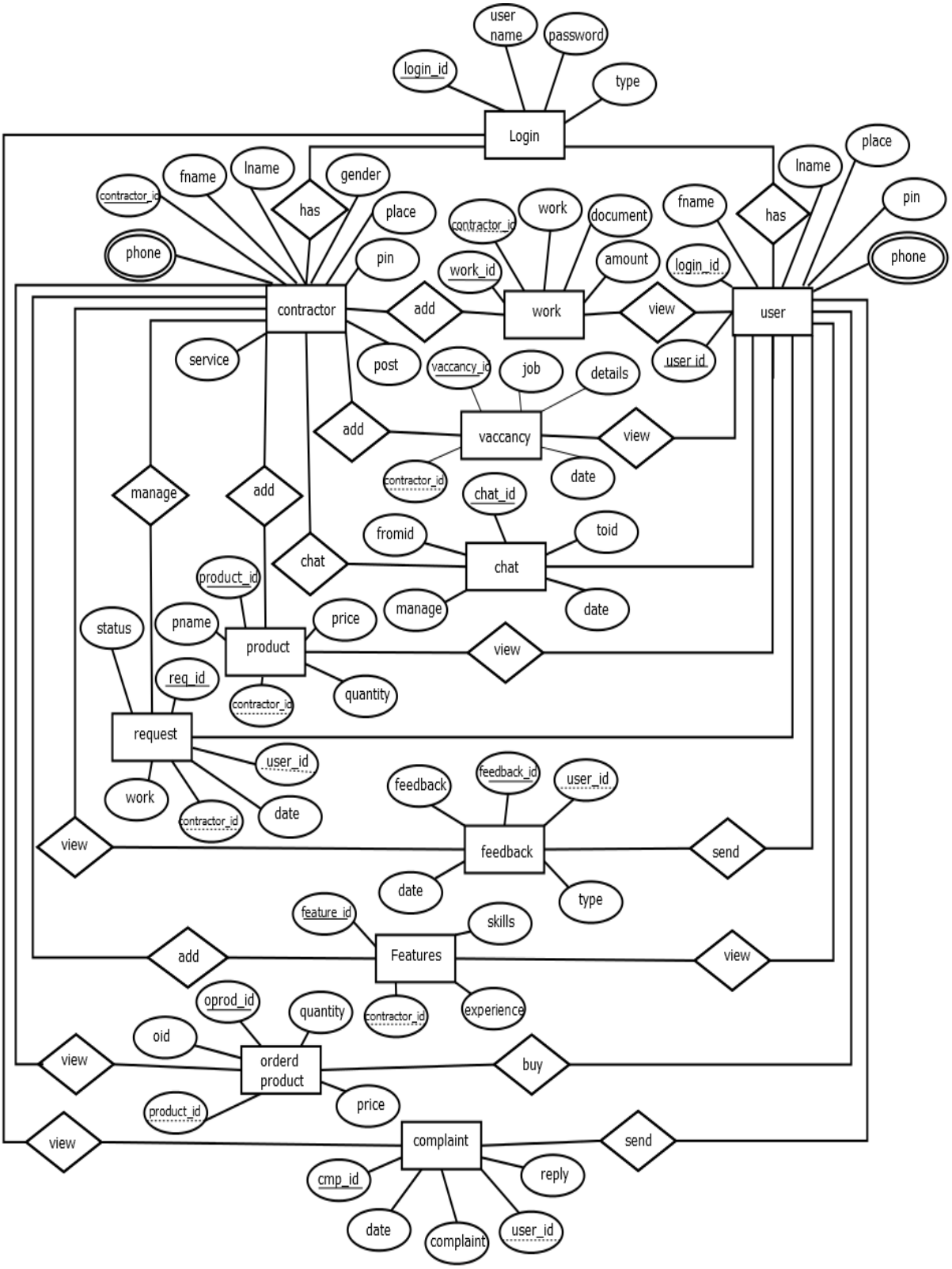
Attributes

- Login_id
- User_name
- Password
- Type
- Contractor_id
- Fname
- Lname

- Gender
- Pin
- Post
- Place
- Phone
- Service
- User_id
- Vacancy_id
- Job
- Details
- Date
- Feedback_id
- Feedback
- Request_id
- Status
- Cmp_id
- Complaint
- Reply
- Pid
- Pname
- Price
- Quantity
- Work
- Amount
- Skills
- Experience

- Chat_id
- Fromid
- Toid
- Oid

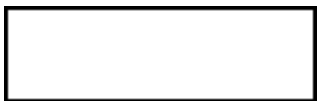
ER Diagram


user name
password
login_id
type
Login
fname
lname
gender
has
contractor_id
phone
place
pin
contractor
work_id
work
document
amount
add
view
service
post
vaccancy_id
job
details
vaccancy
date
manage
chat_id
fromid
toid
chat
product_id
pname
price
status
product
req_id
quantity
request
user_id
feedback
feedback_id
send
feature_id
skills
Features
experience
oprod_id
oid
orderd product
buy
complaint
cmp_id
reply
user
login_id
user id
place
pin

4.5.2 Entity Relationship Model

Entity:

An entity is an object or concept about which you want to store information.



Attribute:

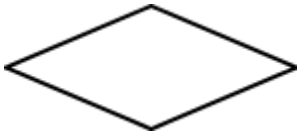
Each entity has attributes, or particular properties that describe the entity.

Key attribute:

A key attribute is the unique, distinguishing characteristic of the entity.

Relationships:

Relationships illustrate how to entities share information in the database structure.



4.5.3 Structure Of Tables

1.Login

Sl.NO	Field Name	Data Type	Constraints
1	Login_Id	Int	Primary Key
2	User_Name	Varchar	Not Null
3	Password	Varchar	Not Null
4	Type	Varchar	Not Null

2.Contractor

Sl.NO	Field Name	Data Type	Constraints
1	Contractor_Id	Int	Primary Key
2	First Name	Varchar	Not Null
3	Last Name	Varchar	Not Null
4	Gender	Varchar	Not Null
5	Place	Varchar	Not Null
6	Pin	Int	Not Null
7	Post	Varchar	Not Null
8	Phone	Int	Not Null
9	Service	Varchar	Not Null

3.User

Sl.NO	Field Name	Data Type	Constraints
1	User_Id	Int	Primary Key
2	Login_Id	Int	Foreign_Key
3	First Name	Varchar	Not Null
4	Last Name	Varchar	Not Null
5	Place	Varchar	Not Null
6	Pin	Int	Not Null
7	Post	Varchar	Not Null
8	Phone	Int	Not Null

4.Vaccancy

Sl.NO	Field Name	Data Type	Constraints
1	Vaccancy_Id	Int	Primary Key
4	Job	Varchar	Not Null
3	Details	Varchar	Not Null
4	Date	Date	Not Null
5	Contractor_Id	Int	Foreign_Key

5.Feedback

Sl.NO	Field Name	Data Type	Constraints
1	Feedback_Id	Int	Primary Key
2	Feedback	Varchar	Not Null
3	User_Id	Int	Foreign_Key
4	Date	Date	Not Null
5	Type	Varchar	Not Null

6.Request

Sl.NO	Field Name	Data Type	Constraints
1	Request_Id	Int	Primary Key
2	User_Id	Int	Foreign_Key
3	Contractor_Id	Int	Foreign_Key
4	Work	Varchar	Not Null
5	Date	Date	Not Null
6	Status	Varchar	Not Null

7.Complaint

Sl.NO	Field Name	Data Type	Constraints
1	Complaint_Id	Int	Primary Key
2	Complaint	Varchar	Not Null
3	Date	Date	Not Null
4	User_Id	Int	Foreign_Key
5	Reply	Varchar	Not Null

8.Product

Sl.NO	Field Name	Data Type	Constraints
1	Product_Id	Int	Primary Key
2	Product Name	Varchar	Not Null
3	Quantity	Int	Not Null
4	Price	Int	Not Null
5	Contractor_Id	Int	Foreign_Key

9.Work

Sl.NO	Field Name	Data Type	Constraints
1	User_Id	Int	Primary Key
2	Contractor_Id	Int	Foreign_Key
3	Work	Varchar	Not Null
4	Document	Varchar	Not Null
5	Amount	Int	Not Null

10.Features

Sl.NO	Field Name	Data Type	Constraints
1	Feature_Id	Int	Primary Key
2	Contractor_Id	Int	Foreign_Key
3	Skills	Varchar	Not Null
4	Experience	Varchar	Not Null

11.Chat

Sl.NO	Field Name	Data Type	Constraints
1	Chat_Id	Int	Primary Key
2	Fromid	Varchar	Not Null
3	Toid	Varchar	Not Null
4	Manage	Varchar	Not Null
5	Date	Date	Not Null

12.Group

Sl.NO	Field Name	Data Type	Constraints
1	Group_id	Int	Primary Key
2	User_id	Int	Foreign_Key
3	Message	Varchar	Not Null
4	Date	Date	Not Null

13.OrderedProduct

Sl.NO	Field Name	Data Type	Constraints
1	Oproduct_id	Int	Primary Key
2	Oid	Int	Foreign_Key
3	Product_Id	Int	Foreign_Key
4	Quantity	Int	Not Null
5	Price	Int	Not Null

CHAPTER 5

5.IMPLEMENTATION

Implementation of the system refers to the final installing of the package in its real environment, to the satisfaction of the indeed users and the operation of the system. It is the process of converting a new or missed system design to operation. It is the key stage in achieving successful new system. The process of putting the developed system in actual use is called system implementation. This includes all those activities that take place to convert from the old system to new system. It must therefore be carefully planned and controlled. Proper guidance should be imparted to the users so that he is comfortable in using the application.

5.1 INMPLIMENTATION PLAN

The transformation from theoretical designs to working system is done in this stage. Developed package of system is tested with simple data, accurate error identification and then through proposed change from the user etc. a dress rehearsal working of system is done, so as the system is scrutinized, for pointing out errors and modification required if any keeping in mind the expectation and specification from the system.

Education And Training

The expectations from the system are made achieved by the people who will be involved to be confident of their role in the new system. The complexity of the system is directly proportional to the amount of training and education given from the user. Education is different from the training, as the user through education can be a part

of development of the system. Education has the capability to make training more interesting and important contribution in the system changes.

Training just means to give user specific skills in order to meet their new job requirements. The role of system analyst in training will make it more understandable and effective. Training provides a better overview of new system and its present objectives.

Training Of Application Software

Awareness about the new system is made to the users through training, and with the underlying philosophy of the system (screen design, flow, error type during inputs, validation checks etc.) application use the system, as the users of the system may be of at different levels of hierarchy.

5.2 POST IMPLIMENTATION REVIEW

System performance v/s expected requirements are evaluated. The implementation problems if any is taken seriously and taken care of along with admiring the achievements, failures etc. The words done here are used to improve the efficiency and user friendliness of the system.

Security

System security is a branch of technology known as information security as applied to computers and networks. The objective of the system security includes protection

of information and property from theft, corruption, or natural disaster, while allowing the information and property to remain accessible and productive to its intended users. The term system security, means the collective processes and mechanism by which sensitive and valuable information and service are protected from publication, tempering or collapse by unauthorized activities or untrustworthy individuals and unplanned events respectively. The technologies of system security are based on logic. As security is not necessarily the primary goal of most computer application, designing a program with security in mind often imposes restrictions on that program's behaviour.

Maintenance

Maintenance is making adaption of the software of external changes (requirements changes or enhancements) and internal changes (fixing bugs). When changes are made during the maintenance phase all preceding steps of the model must be revisited.

There are three of maintenance:

1. Corrective (Fixing bugs/errors)
2. Adaptive (Updates due to environment changes)
3. Perfective (Enhancements, requirements changes)

Maintenance is enigma of the system development. The definition of the software maintenance can be given describing four activities that are undertaken after the program is released for use.

The maintenance activity occurs since it is unreasonable to assume that software testing will uncover all in a large system. The second that contributes the definition of maintenance occurs since rapid changes are encountered in every aspects of computing, the third activity involves recommendation foe new capabilities, modification to the existing functions and general enhancements when the software used. The fourth maintenance activity occurs when software is changed to improve future maintainability or reliability.

5.3 MODULE HIERARCHY

This project has main two application

- Web based management application
- Android based management application

The registration and further operations of the user is done by using the android application.

Other management activities are done by using the web based application and the module included it in shown below:

- Admin
- Contractor
- Customer

CHAPTER 6

6.TESTING

Software testing is an investigation conducted to provide stakeholders with information about the quality of the product or service under test. Software testing can also provide an objective, independent view of the software to allow the business to appreciate and understand the risk of software implementation. Test technique include, but are not limited to, the process of executing a program or executing a program or application with the intent of finding software bugs (errors or other defects).

Software testing can be stated as the process of validating and verifying that a software program/application/product:

1.Meets the requirements that guided its design and development;

2.Works as expected; and

3.Can be implemented with the same characteristics.

Software testing, depending on the testing method employed, can be implemented at any time in the development process. However, most of the test effort occurs after the requirements have been defined and the coding process has been completed. As such, the methodology if the test is governed by the software development methodology adopted.

Different software development models will focus the test effort at different points in the development process. Newer development models, such as Agile, often employ test driven development and place an in the hands of the developer, before it reaches a formal team of testers. In a more traditional model, most of the test execution occurs after the requirements have been defined and the coding process has been completed.

Testing can never completely identify all the defects within software. Instead, it furnishes a criticism or comparison that compares the state and

behaviour the product against oracles-principles or mechanisms by which someone might a problem. Theses oracle may include (but are not limited to) specifications, comparable products, past versions of the same product, inferences about intended or expected purpose, user or customer expectations, relevant standards, applicable laws, or other criteria.

Every software product has a target audience. Foe example the audience for video games software is completely different from banking software. Therefore, when an organization develops or otherwise invests in a software product, it can assess whether the software product will be acceptable to its end users, its target audience, its purchasers, and other stakeholders. Software testing is the process of attempting to make this assessment.

6.1 UNIT TESTING

Unit testing is the test of a simple piece of code- in our case a subroutine, an event. In formal terms it is smallest piece of code testable. It is the testing of each module and the integration of the overall system is done. Unit testing becomes verification, an effort on the smallest unit of software in the module. This is known as “module testing”. Component-level testing is the next level up from unit testing. A computer can have fairly straight forward functionality, but it is just complex enough to warrant breaking down the actual implementation into several smaller units. In this module of testing each and every input and output from was been tested in order to check whether they could run successfully. The software worked as expected and no bugs had blocked the execution of the test. Distinct outputs were generated for each input. Incorrect output was easily identified. Internal errors were automatically detected through self testing mechanism.

6.2 INTEGRATION TESTING

Integration testing is a systematic testing that can be done with sample data. The need for the integration test is to be find the overall system performance. The process of combining multiple modules systematically for conducting tests in order to find errors in the interface between modules is called 'integration testing'. Integration testing is done after successful completion of unit testing.

The major form in this project is the registration of a third party to the size where he/she can add properties. Only the registered third parties can logon to the site, that is every registered third party's are given a user id and a password for login. If the provided user id and password by the third party is correct the can logon to their page where they can add the properties as well as edit their properties.

6.3 SYSTEM TESTING

System testing is a type of software testing that is performed on a complete integrated system to evaluate the compliance of the system with the corresponding requirements. In system testing, integration testing passed components are taken as input. The goal of integration testing is to detect any irregularity between the units that are integrated together. System testing detects defects within both the integrated units and the whole system. The result of system testing is the observed behaviour of a component or a system when it is tested. System testing is carried out on the whole system in the context of either system requirement specifications or functional requirement specifications or in the context of both. System testing tests the design and behaviour of the system and also the expectations of the customer. It is

performed to test the system beyond the bounds mentioned in the software requirements specification (SRS). System Testing is basically performed by a testing team that is independent of the development team that helps to test the quality of the system impartial. It has both functional and non-functional testing. System Testing is a black-box testing. System Testing is performed after the integration testing and before the acceptance testing.

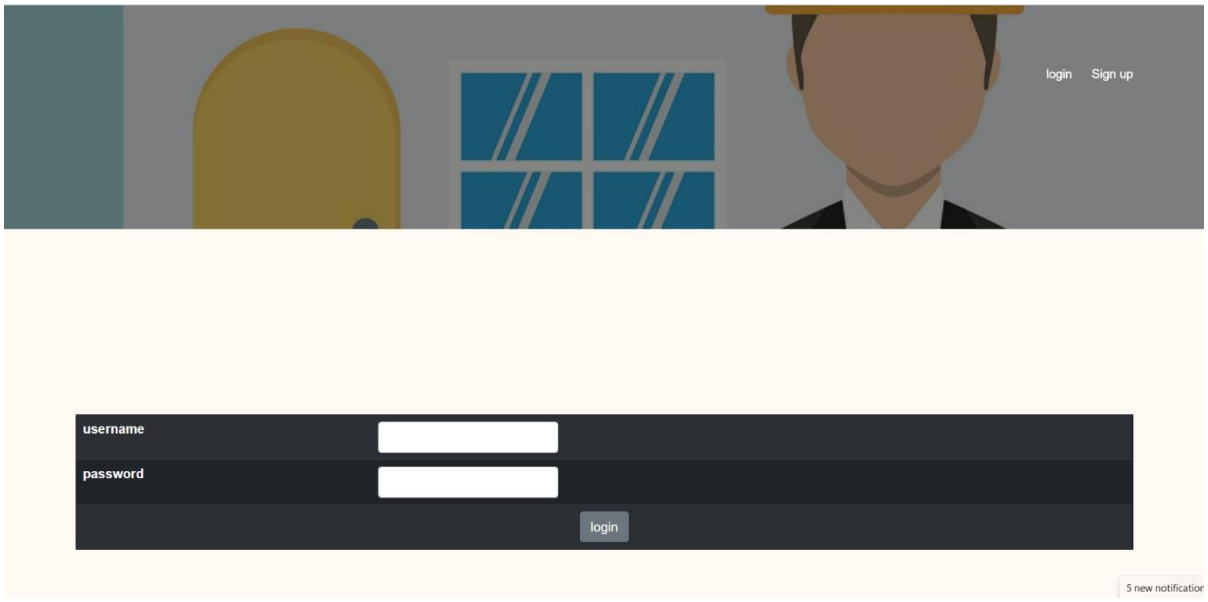
6.4 VALIDATING TESTING

Validating testing can be defined as many, but a single definition is that validation succeeds when the software function in a manner that can be reasonable excepted by the customer. After validation test have been conducted one of the two possible conditions exits.

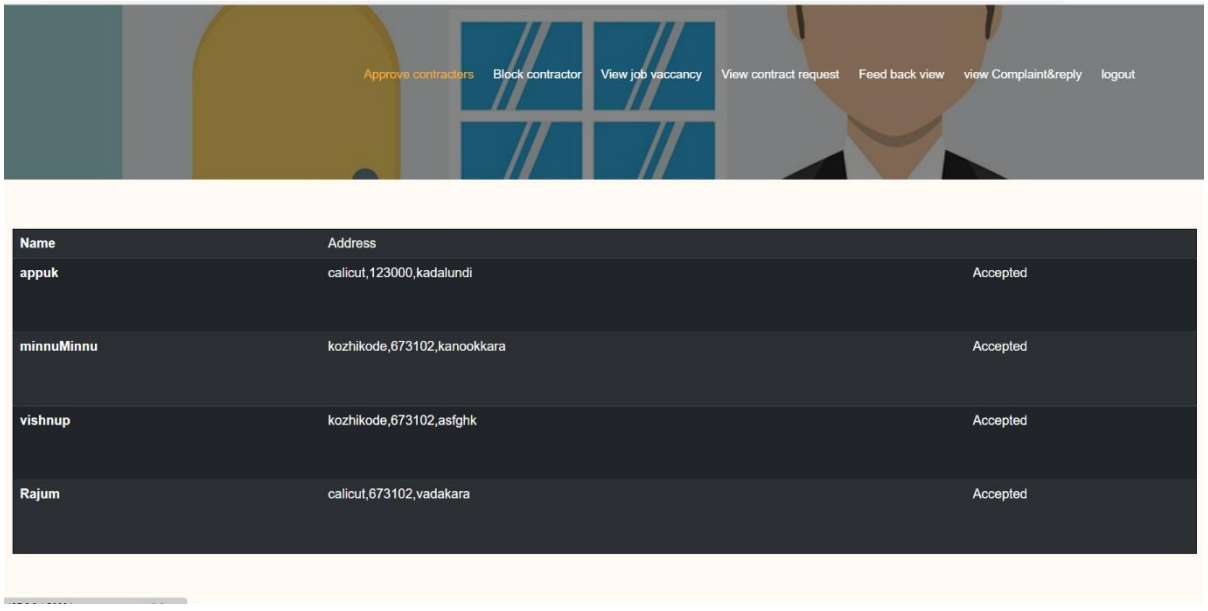
The function or performance characteristics are acceptable and confirmed to specification. A decision from specification is uncovered and defining list is created. System validation checks the quality of software in both simulated user requirements are verified and studied. All the validation of the project are working successfully.

6.5 SCREENSHOTS

Login page



Approve Contractors



Block Contractors

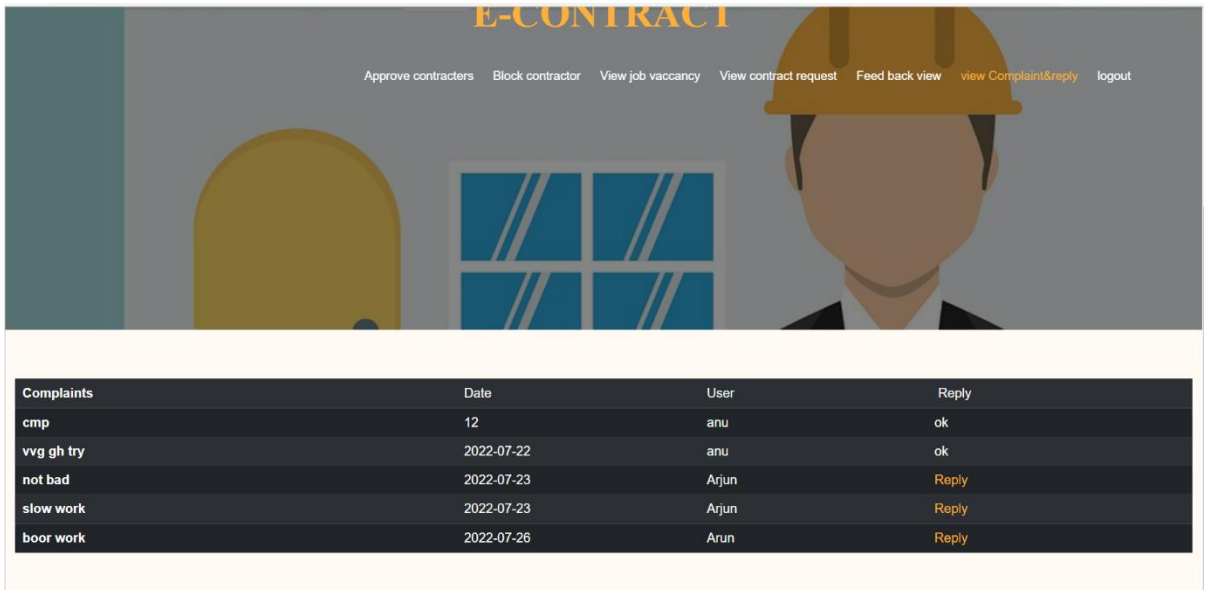
Name	Address	Phone	service	
appu k	calicut,123000,kadalundi,	9855883344	ddd@gmail.com	Block
minnu Minnu	kozhikode,673102,kanookkara,	8078783531	minnu@gmail.com	Block
vishnu p	kozhikode,673102,asfghk,	8080808080	vishnu@gmail.com	Block
Raju m	calicut,673102,vadakara,	8086733531	raju@gmail.com	Block

View job vacancy

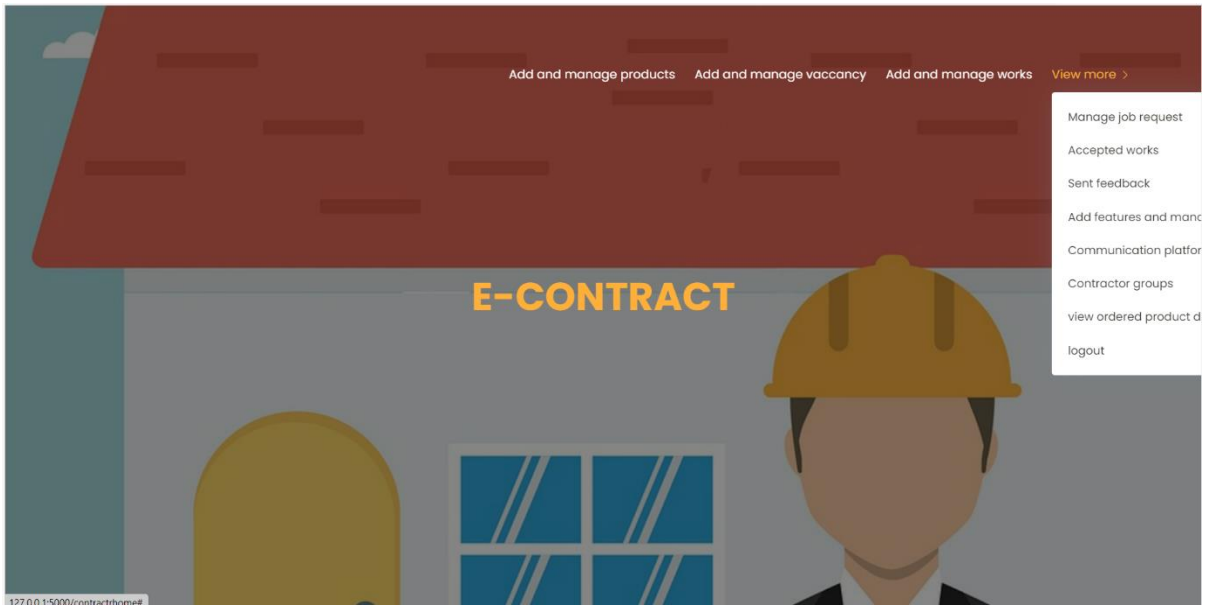
Job	Description	Date
plumber	kozikode	2022-08-03
painting	paiting,vadakara	2022-07-19
electrical	electrical,calicut	2022-07-12
carpenter	wayanad	2022-07-19
roofer	kozikode	2022-07-27
electriction	chombala,calicut	2022-07-19

View feedback

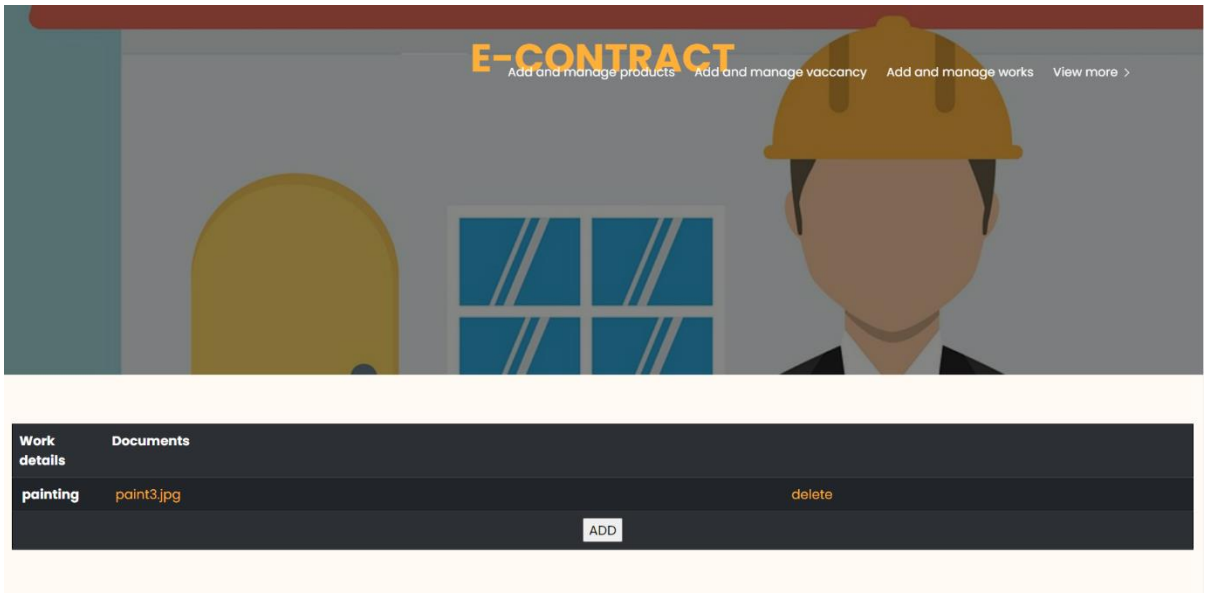
View complaint&reply



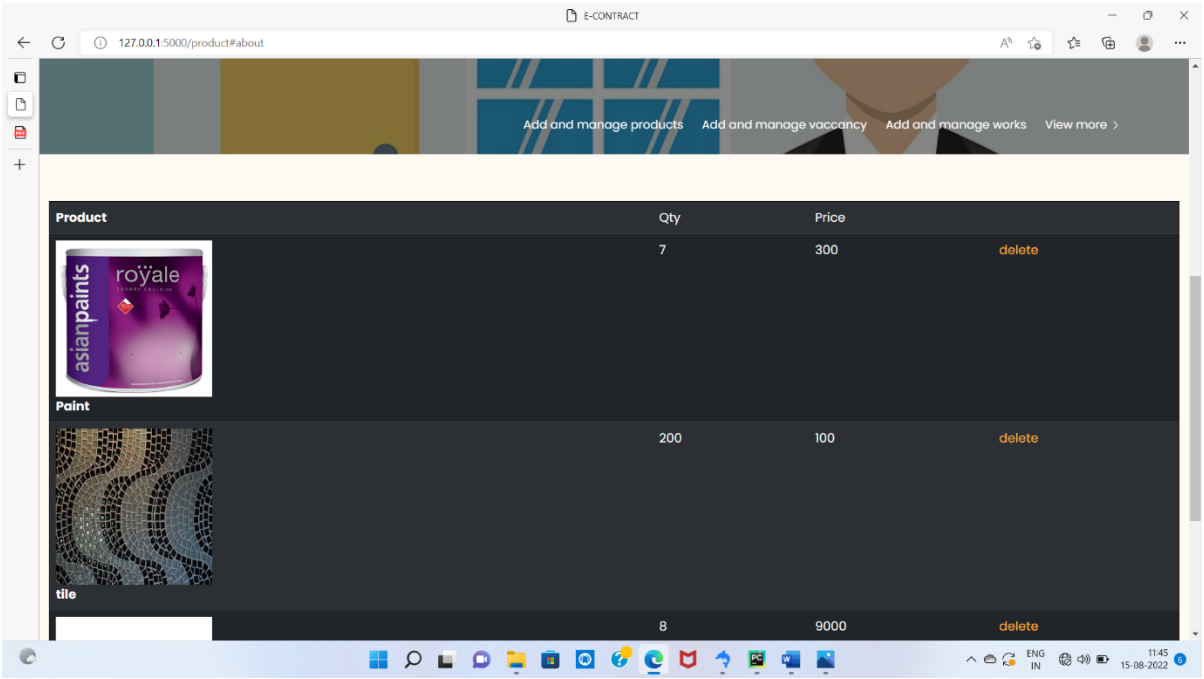
Contractor home page



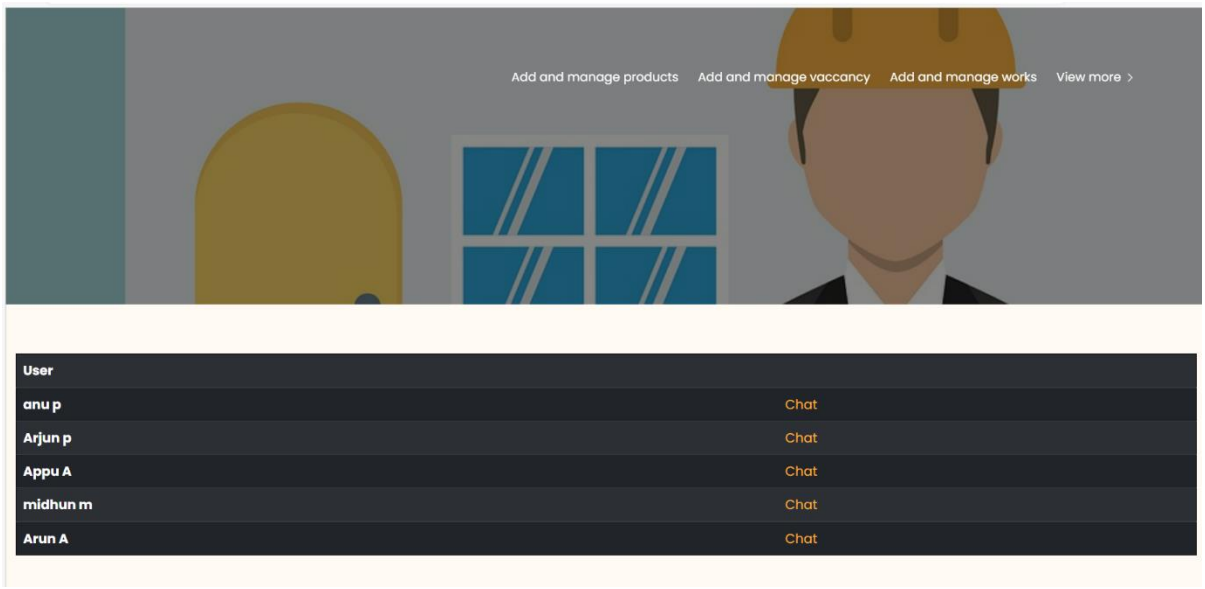
Add and manage work



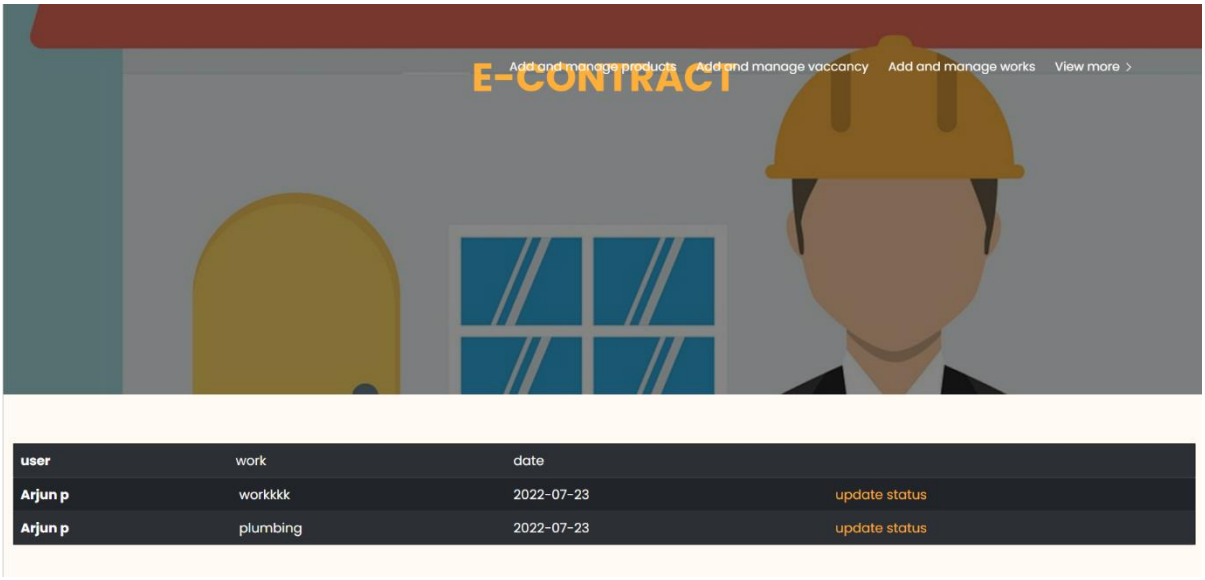
Add and manage product



Communication platform

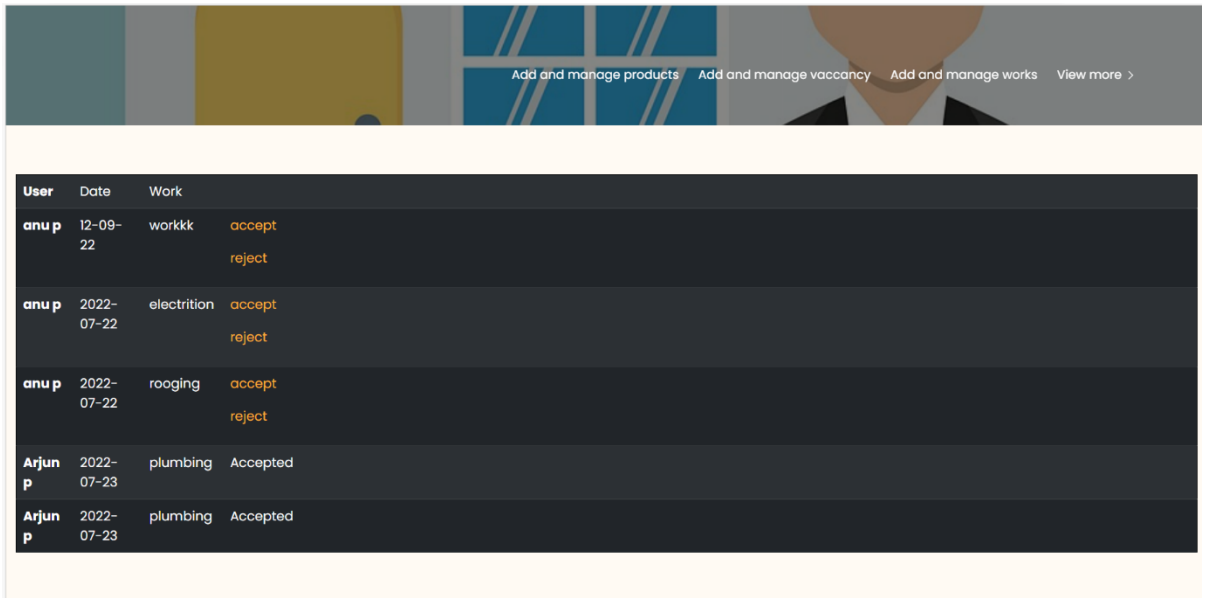


Accepted work



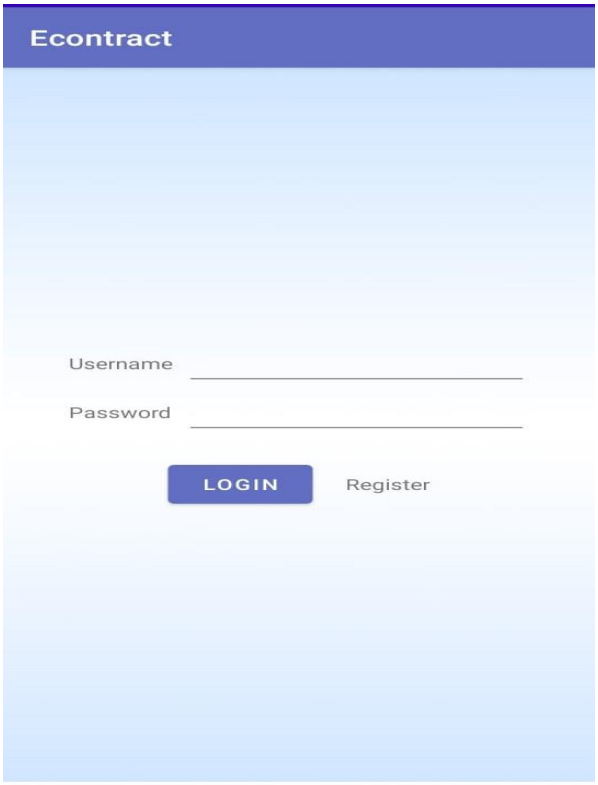
user	work	date	
Arjun p	workkkk	2022-07-23	update status
Arjun p	plumbing	2022-07-23	update status

Manage job request

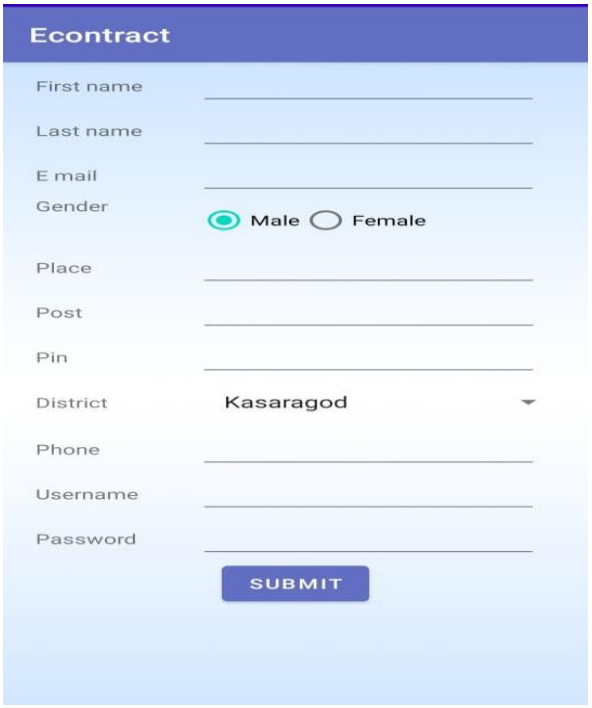


User	Date	Work	
anu p	12-09-22	workkk	accept reject
anu p	2022-07-22	electrition	accept reject
anu p	2022-07-22	rooging	accept reject
Arjun p	2022-07-23	plumbing	Accepted
Arjun p	2022-07-23	plumbing	Accepted

User login

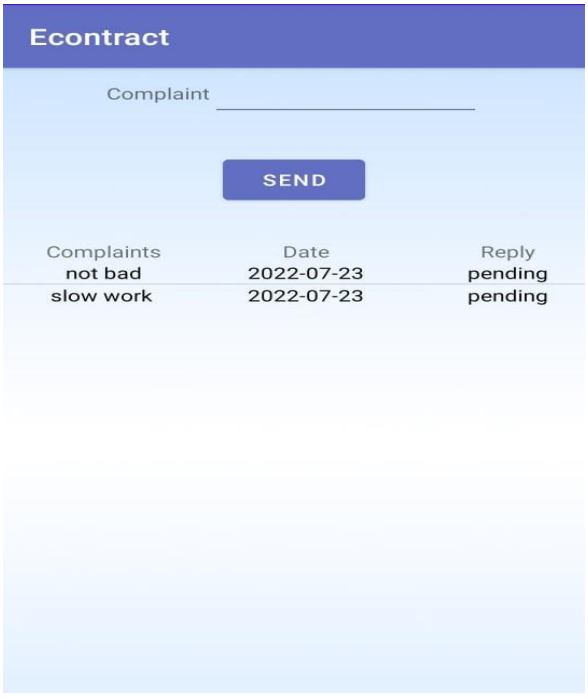


User registration



Search nearest contractor

Send complaint and view reply



View vaccancy and apply job

CHAPTER 7

CONCLUSION

The system that I developed was implemented and tested with real data and were found to be error free. Also it is found the system will work successfully. I tried to make the system maximum user friendly. System is protected from any unauthorized access by giving user name and password during login process.

All the necessary validations are carried out in this project, so that any kind of users can make use of this software. In this document we present our understanding of what needs to be accomplished in the project along with the budget and time estimation.

BIBLIOGRAPHY

Books

- Fundamentals of Database Systems, Elmarsi and B. Navethe, Pearson's Education
- Software Engineering, Lan Somerville, 5th Edition, Pearson education Asia
- RohitKhorana, Software Engineering Principles and practices

Websites

- www.wikipidea.com
- www.google.com
- www.what's.com
- Tutorial point
- Slide shares