CIVIL SUPPLY DISTRIBUTION SYSTEM (CSDS)

A PROJECT REPORT

submitted by

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DECLARATION

I undersigned hereby declare that the project report **CIVIL SUPPLY DISTRIBUTION SYSTEM(CSDS)** , submitted for partial fulfillment of the requirements for the award of degree of Master of Computer Applications of the APJ Abdul Kalam Technological University, Kerala is a bonafide work done by me under supervision of **Mr.Akhil Sekharan** Asst.Professor,MCA . This submission represents my ideas in my own words and where ideas or words of others have been included, I have adequately and accurately cited and ref- erenced the original sources. I also declare that I have adhered to ethics of academic honesty and integrity and have not misrepresented or fabricated any data or idea or fact or source in my submission. I understand that any violation of the above will be a cause for disciplinary action by the institute and/or the University and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been obtained. This report has not been previously formed the basis for the award of any degree, diploma or similar title of any other University.

PALAI

May 27, 2019 ARYA C. NAIR

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ABSTRACT

A Civil Supply Distribution System (CSDS), also known as Ration Shop or Fair Price Shop"(FPS). It is a part of Indias public distribution system established by the Government of India under Ministry of Consumer Affairs, Food and Public Distribution. The main motto of the project is Government distributes rations at a subsidized price to the poor. Usually these are known as "Ration shops" and chiefly sell wheat, rice, kerosene and sugar at a price lower than that of market price. Now other essential commodities are also sold. To buy these items one must have a ration card.

The items from these shops are much cheaper but are of poor quality. Ration shops are now present in most localities in villages, towns and cities. All activities of this shop are done manually. They keep all records in big paper file. Government provides Register Book, Issue Book, Bill book, through the Supply Office to the Ration Shop dealers. The Dealers must keep and maintain these three books with proper entry of data. Due to the manual entry through paper work in the three books, duplicate entry or wrong entry may occur, resulting in wasting time and resources.It is intended to fully automate Ration shops. This system provides easy interface so that person of little computer knowledge can use it easily and efficiently. This system provides enhanced functionality and efficient process design.

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CHAPTER 1

INTRODUCTION

1.1 Need for the Project

Civil Supply distribution system in the country has undergone organic changes from the rationing system introduced during World War II to an important social safety program to ensure food security of the country. Under the Civil Supply distribution System (CSDS), the central government procures and supplies special essential commodities to fair price at xed central issue prices. In the past, a number of items like iodized salt, palm oil, candles, ghee, cloth etc. have been distributed through the CSDS, however at present department of food and supplies have conned the fair price distribution to few cereals, wheat, rice, sugar and kerosene oil. At present India has 4,78,000 ration stores operating across many localities, villages, towns and cities in the country making it the largest distribution network in the world. Department of food and supplies is providing ration cards to the citizens based on their economic conditions.

Against the essential commodities act there are many fraudulent activities going on unfair price shops. Users are forced to wait in long queues for hours together to purchase the essential commodities. Card holders and their family members details are stored in a notebook. Hence each time transaction is made by the card holder, entry had to be made manually in the book. Maintenance of record in book is dicult. Thus, an ecient and automated system is required to minimize the misappropriations.

1.2 Outline of the Report

The Requirement analysis and Specification is included in chapter 2. It provides a model of system information,function and behavior. System modeling is described in chapter 3. Chapter 4 has the review of overall system design.Testing methods and system testing reports are included in chapter 5. System implementation and implementation methods are discussed in chapter 6. The conclusion and future scope of the project is summarized in chapter 7. The concluding discussions include recommendations for future investigations.

1.3 Motivation

The main motivation of this system is to build an automatic and convenient system to protect the interests of the public by countering the malpractices. The main purpose of the system is to implement ngerprint matching algorithm for authentication of the user, which in turn reduces the widespread corruption, misuses of cards and to reduce the time complexity of the manual data entries. The system is used to protect the products of fair price shop in black markets.

1.4 Scope of the project

The aim of the project is to developing a better, efficient ration card system. Our project gives active participation in Step towards Digital India. Automation of distribution system at the ration shop as well as maintaining the database at one main control station and updating the database so that the shopkeeper does not cheat the poor people are what this project aims at achieving.

CHAPTER 2

REQUIREMENT ANALYSIS AND SPECIFICATION

2.1 System study

To develop a computer based system,system analysis is to be performed for an enhanced data model. Firstly studied the existing system in detail for preparing the data model.

Analysis involves requirement determination and specification. Basically it involves establishing requirements for all system elements and then mapping these requirements to the software form. The purpose is to provide an understanding and to enable a communication about the system between the developers and the people establishing requirements.

2.1.1 Existing System

The traditional CSDS is used to distribute grocery items to Indias poor who are valid ration card holders. The validity and the allocation of the ration cards is monitored by the state governments. A ration card holder should be given 35 kg of food grain as per the norms of CSDS.However, there are concerns about the efficiency of the distribution process. In order to make it efficient and improve the current system of CSDS we are implementing Civil Supply Distribution System. Here we are going to make a website for shopping purpose. Using this website ration card holder can order his/her grocery items from the FPS online. The main reason for using this website is

making this process computerized and to remove the drawbacks of the present way of issuing products based on ration card. The main drawback in the current system is that the CSDS has been criticized for its urban bias and its failure to serve the poorer sections of the population effectively. Also many retail shopkeepers have large number of bogus cards to sell food grains in the open market. Many FPS dealers resort to malpractice since they acquire less. Salary So, by this project we are solving this problem too . Most of the times Users do not get their rightful entitlement in terms of quantity. Whats meant for them or the farm produce procured by the FPSs is diverted to the open market. So in order to avoid all these drawbacks we are going to use the Civil Supply Distribution System which will help us to avoid the corruption in CSDS if not eradicate it.

2.1.2 Proposed System

Proposed system can resolve all the problems in the current system. This system connects all FPshops, go downs to the server at higher authorities. When the ration shop dealer gives the ration to the card holder he must enters the coupon number and quantity of the commodity in the specified column in the form. Whenever he press the enter data about ration is stored in the server.That data is not modified by the FPS dealer. Proposed system is in online so, reports are produced to the higher authorities in time. And go down stock details are also available in the system. So, FPS dealer or higher authorities can check whether a particular commodity is in the go down or not. Proposed system gives the flexibility to know the details of fps commodities and go down commodities. Proposed system reduces the manual work. This allows us to reduce the human mistakes in the records entry etc.The main focus of this project is to bring order to the current system by eliminating all these problems and providing a secure environment for transactions to take place. It is also a prospect for Digital India.

The automation of the current ration system will also speed up the process and thus help cope with increasing population. This system provides easy interface so that person of little computer knowledge can use it easily and efficiently. This system provides enhanced functionality and efficient process design.

2.2 System Specification

2.2.1 Specification for Development

2.2.1.1 Hardware Specification

- Processor : Intel Pentium IV and above
- RAM : 256 MB
- Hard Disk : 200 GB or higher
- Display: 14.1 Colour Monitor(CRT,LCD or LED)

2.2.1.2 Software Specification

- Operating System :Windows XP or higher
- Web Browser : Google chrome or other web browsers
- Front-End :HTML,Bootsrap,Javascript,CSS
- Framework : Django
- Back-End Tool : Python
- Data Base : MySQL

2.2.2 Specification for Implementation

2.2.2.1 Hardware Specification

- Processor : Intel Pentium IV and above
- RAM : 256 MB or above
- Hard Disk : 40 GB or higher
- Display: 14.1 Colour Monitor(LCD,CRT or LED)

2.2.2.2 Software Specification

- Operating System :Linux or Windows XP or higher.
- Web Browser : Internet Explorer or other web browsers.

2.3 Software Tools

2.3.1 Django

Django is a Python-based free and open-source web framework, which follows the model-view-template (MVT) architectural pattern. It is maintained by the Django Software Foundation (DSF), an independent organization established as a 501(c)(3) non-profit.

Django is a high-level Python Web framework that encourages rapid development and clean pragmatic design. A Web framework is a set of components that provide a standard way to develop websites fast and easily. Djangos primary goal is to ease the creation of complex database-driven websites. Some well known sites that use Django include PBS, Instagram, Disqus, Washington Times, Bitbucket and Mozilla.

Despite having its own nomenclature, such as naming the callable objects generating the HTTP responses ”views”, the core Django framework can be seen as an MVC

architecture. It consists of an object-relational mapper (ORM) that mediates between data models (defined as Python classes) and a relational database (”Model”), a system for processing HTTP requests with a web templating system (”View”), and a regular-expression-based URL dispatcher (”Controller”).

Also included in the core framework are:

- a lightweight and standalone web server for development and testing.
- a form serialization and validation system that can translate between HTML forms and values suitable for storage in the database.
- a template system that utilizes the concept of inheritance borrowed from object-oriented programming.
- a caching framework that can use any of several cache methods.
- support for middleware classes that can intervene at various stages of request processing and carry out custom functions.
- an internal dispatcher system that allows components of an application to communicate events to each other via pre-defined signals.
- an internationalization system, including translations of Django’s own components into a variety of languages.
- a serialization system that can produce and read XML and/or JSON representations of Django model instances.
- a system for extending the capabilities of the template engine.
- an interface to Python’s built-in unit test framework.

2.3.2 PyCharm

PyCharm is an integrated development environment (IDE) used in computer programming, specifically for the Python language. This is an IDE created by JetBrains. It has an incredible reputation within the Python developer community. Some even describe it as the best IDE for Python. This is an integrated development environment with hundreds of functions, which can turn the tool into a tedious environment, but it is certainly a great choice for programming.

Some of its key features are:

- Integration with frameworks such as Django, Flask, Pyramid or Web2Py.
- Auto-completion.
- Syntax highlighter.
- Analysis tool.
- Refactoring.
- Advanced Python and JavaScript debugger.
- Compatibility with programming tools and languages for developers in Python such as SQLAlchemy (ORM), Google App Engine or Cython.
- Version control system such as Git, CVS and Mercurial.

2.3.3 MySQL

MySQL, the most popular Open Source SQL database management system, is developed, distributed, and supported by Oracle Corporation. The MySQL Web site provides the latest information about MySQL software.

MySQL is a database management system

A database is a structured collection of data. It may be anything from a simple shopping list to a picture gallery or the vast amounts of information in a corporate network. To add, access, and process data stored in a computer database, you need a database management system such as MySQL Server. Since computers are very good at handling large amounts of data, database management systems play a central role in computing, as standalone utilities, or as parts of other applications.

MySQL databases are relational

A relational database stores data in separate tables rather than putting all the data in one big storeroom. The database structures are organized into physical files optimized for speed. The logical model, with objects such as databases, tables, views, rows, and columns, offers a flexible programming environment. You set up rules governing the relationships between different data fields, such as one-to-one, one-to-many, unique, required or optional, and pointers between different tables. The database enforces these rules, so that with a well-designed database, your application never sees inconsistent, duplicate, orphan, out-of-date, or missing data. Feasibility Study

During system analysis, a feasibility study of the proposed system was carried out to see whether it was benecial to the organization. The main aim of the feasibility study is to determine whether it would be nancially and technically feasible to develop the product. While evaluating the existing system, many advantages and disadvantages raised. Analyzing the problem thoroughly forms the vital part of the system buddy. Problematic areas are identied and information is collected. The benets of this site are users can easily interact and get the services without much complexity. It helps to make it possible that more users can interact with the site at a time. Feasibility study is to determine whether the proposed system is technically, economically and behaviorally

feasible in all respects. The main aim of feasibility study is to evaluate alternatives and propose the most feasible and desirable site for development. If there is no loss for the organization then the proposed system is considered nancially feasible. A feasibility study is carried out to select the best system that meets performance requirements. The feasibility study activity involves the analysis of the problem and collection of all relevant information relating to the product such as the different data items which would be input to the system, the processing required to be carried out on these data, the output data required to be produced by the system as well as various constraints on the behavior of the system.

In this scenario, problems are identied. Essential data are being gathered for the existing problems. It is necessary that this analysis familiarizes the designer with objectives, activities, and the function of the organization in which the system is to be implemented. The feasibility study was divided into four:- Technical, Economical, Operational and Behavioral. It is summarized below:

2.3.4 Technical Feasibilty

According to feasibility analysis procedure the technical feasibility of the system is analyzed and the technical requirements such as software facilities, procedure, inputs, are identied. While considering the problems of existing system, it is sufcient to implement the new system. The proposed system can be implemented to solve issues in the existing system. It includes the evaluation of and how it meets the proposed system. This system use ASP. NET as front end technology and SQL Server as back end technology.

2.3.5 Economic Feasibility

Economic analysis is most frequent used for evaluating of the effectiveness of the candidate system. More commonly known as cost/benet analysis the procedure is to determine the benet and saving that are expected from a candidate system and compare them with the existing system. Except for the initial capital amount and the amount after each nancial year, no other huge amount is needed. The expenses can be handles by any participants. So, the system is economically feasible. This feasibility involves some questions such as whether the rm can afford to build the system, whether its benets should substantially exceed its costs, and whether the project has higher priority and prots than other projects that might use the same resources. Here there is no problem. This rm has fully equipped hard ware, and fully edged software, so no need to spend money on these issues. And as the client and the developer are one, there is no further problem in economic issues.

2.3.6 Operational Feasibility

Methods of processing and presentation are all according to the needs of clients since they can meet all user requirements here. The proposed system will not cause any problem under any circumstances and will work according to the specications mentioned. Hence the proposed system is operationally feasible. People are inherently resistant to change and computer has been known to facilitate changes. The system operation is the longest phase in the development life cycle of a system. So, Operational Feasibility should be given much importance. This system has a user-friendly interface. Thus it is easy to handle.

2.3.7 Behavioral Feasibility

In todays world, computer is an inevitable entity. As per the denition of behavior design, many valid points are recognized in this study. This system behavior changes according to different environment. In order to ensure proper authentication and authorization and security of sensitive data of the admin or employers, login facilities.

CHAPTER 3

SYSTEM MODELING

3.1 Introduction

System modeling implies doing modeling for the system, which means creating models or prototypes of the system. They are helpful for further development. Unified Modeling Language(UML) helps in creating diagrammatic representation of models. System models may be used in different ways as part of a process for improving understanding of a situation, identifying problems or formulating opportunities and supporting decision making.

3.2 Module Description

The system after careful analysis has been identified to be presented with the following modules.The Modules involved are:

1. Supply officer Module
2. Dealer Module
3. Consumer Module

Supply Officer

The supply officer enters the website using his login id and password. The supply officer can add new consumers. Every month the supply officer has to update

quantity of goods to be distributed by the dealer to each category like APL, BPL,AAY, and ANP. This can be viewed by the dealer and the consumer. Supply officer has to add the new consumers to the respective ration shops. Once in a week supply officer have to check the purchase details.

Dealer

The dealer enters into the website using his login id and password. When a consumer came to shop for buying goods the dealer have to analyze whether he is the correct person or not by checking his ration card number and Aadhaar card number. If the person is proper consumer, the dealer provides goods depending on their category. Then dealer will enter the details of the purchase done by the consumer. The supply officer and the consumer can view these details in their home page. After delivering goods, it will be deducted from the total amount of units allocated to the particular dealer. The same transaction reflects in the two modules i.e., supply officer and the consumer.

Consumer

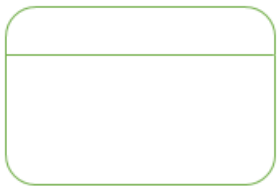
The consumer can see his monthly transaction by visiting the website by entering his ration card number and also he can give Feedback or Complaint to the particular ration shop.

3.3 Data Flow Diagram

A data flow diagram is a graphical technique that depicts information flow and transforms that are applied as data move from input to output. The DFD is used to represent increasing information flow and functional details. A level 0 DFD also called a fundamental system model represents the entire software elements as a single bible with input and output indicated by incoming and outgoing arrows respectively.

A data-flow diagram (DFD) is a way of representing a flow of a data of a process or a system (usually an information system). The DFD also provides information about the outputs and inputs of each entity and the process itself. A data-flow diagram has no control flow, there are no decision rules and no loops. Specific operations based on the data can be represented by a flowchart.

Larry Constantine first developed the DFD as a way of expressing system requirements in a graphical from, this lead to the modular design. A DFD is also known as a bubble Chart has the purpose of clarifying system requirements and identifying major transformations that will become programs in system design. So it is the starting point of the design to the lowest level of detail. A DFD consists of a series of bubbles joined by data flows in the system. There are several notations for displaying data-flow diagrams:

SYMBOL	MEANING
	**External Entity** – Also known as actors, sources or sinks, and terminators, external entities produce and consume data that flows between the entity and the system being diagrammed. These data flows are the inputs and outputs of the DFD.
	**Process** – An activity that changes or transforms data flows. Since they transform incoming data to outgoing data, all processes must have inputs and outputs on a DFD. This symbol is given a simple name based on its function, such as "Ship Order," rather than being labeled "process" on a diagram.
	**Data Store** – A data store does not generate any operations but simply holds data for later access. Data stores could consist of files held long term or a batch of documents stored briefly while they wait to be processed.
	Data Flow – Movement of data between external entities, processes and data stores is represented with an arrow symbol, which indicates the direction of flow. This data could be electronic, written or verbal.

3.3.1 Contex Level

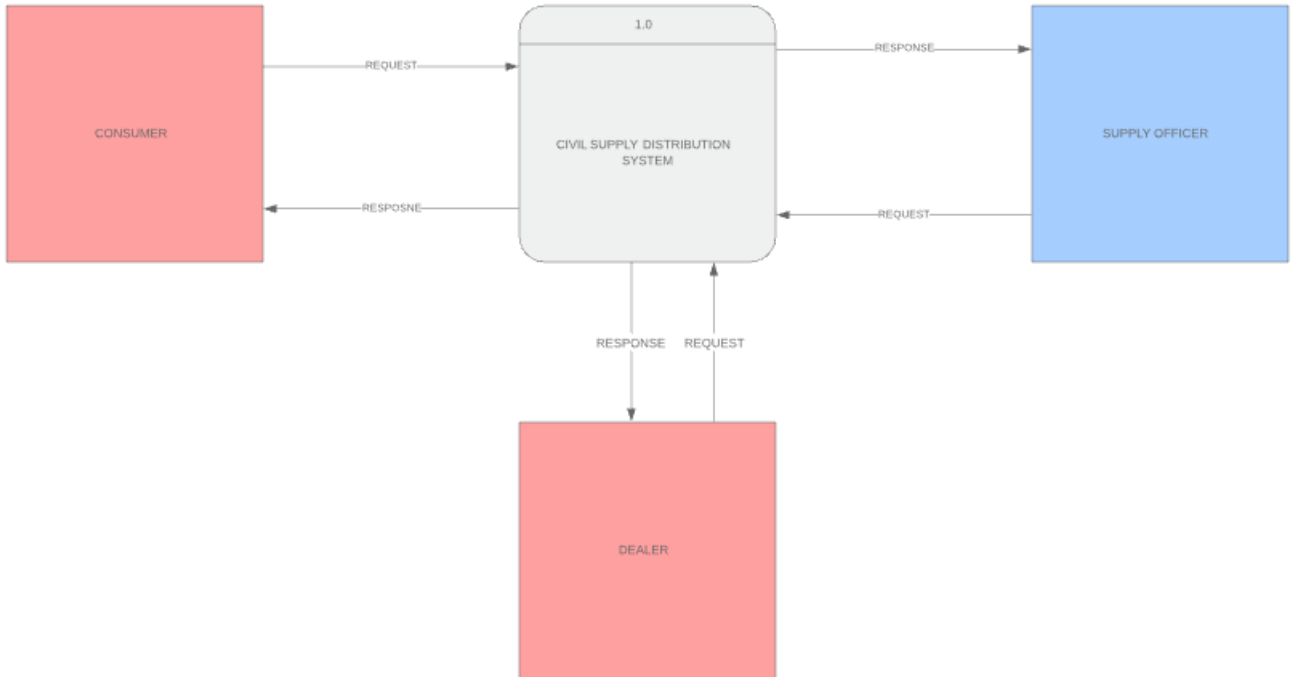


Fig. 3.1. LEVEL0: CIVIL SUPPLY DISTRIBUTION SYSTEM

3.3.2 Level 1 For Consumer

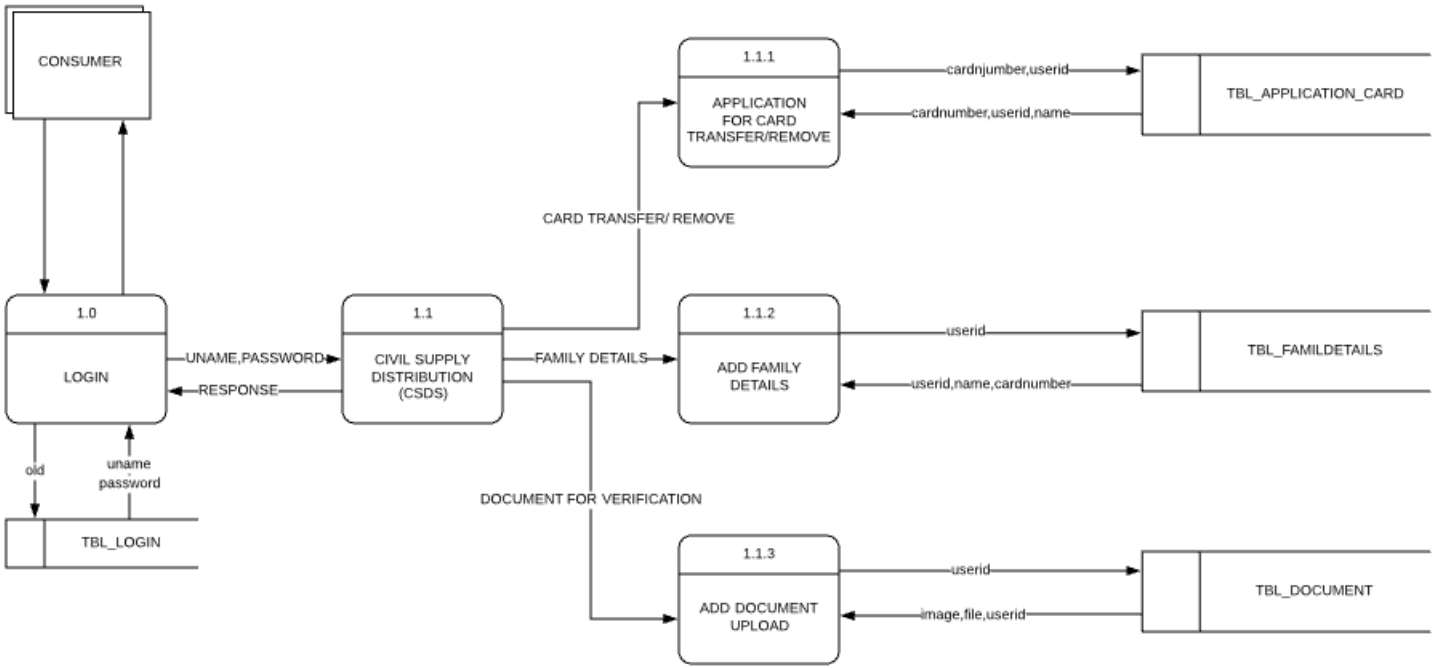


Fig. 3.2. LEVEL 1 FOR CONSUMER: CIVIL SUPPLY DISTRIBUTION SYSTEM

3.3.3 Level 1 For Dealer

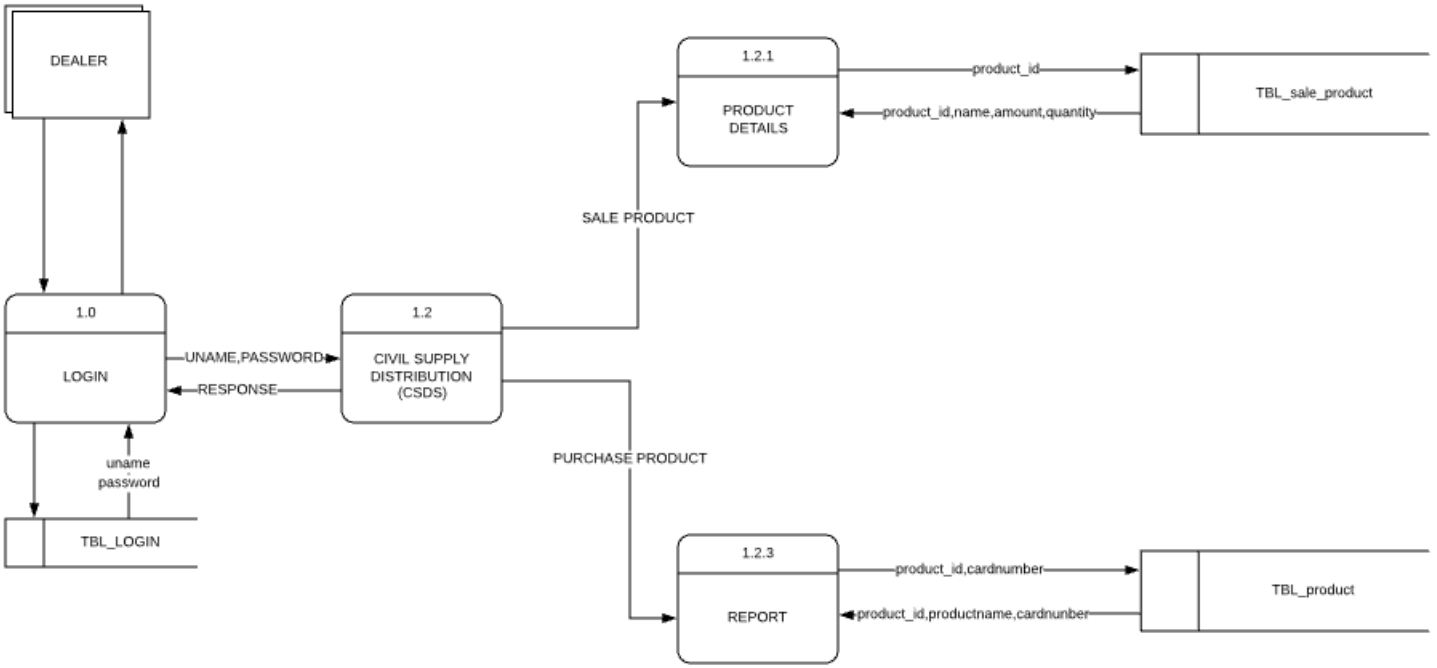


Fig. 3.3. LEVEL 1 FOR DEALER : CIVIL SUPPLY DISTRIBUTION SYSYTEM

3.3.4 Level 1 For Supply Officer(Admin)

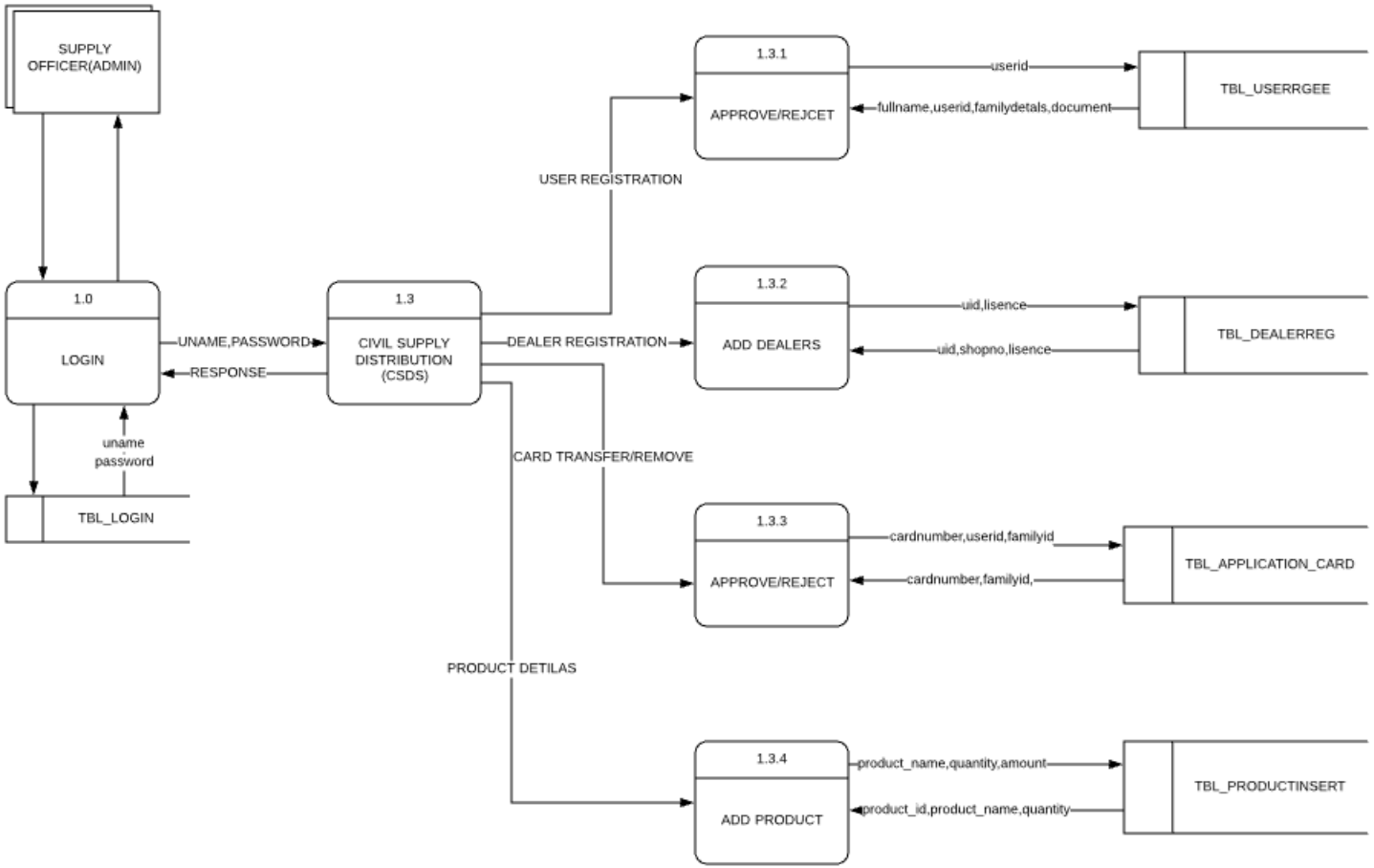


Fig. 3.4. LEVEL 1 FOR SUPPLY OFFICER(ADMIN):CIVIL SUPPLY DISTRIBUTION SYSTEM

3.4 UML Diagram

A UML diagram is a diagram based on the UML (Unified Modeling Language) with the purpose of visually representing a system along with its main actors, roles, actions, artifacts or classes, in order to better understand, alter, maintain, or document information about the system.UML is an acronym that stands for Unified Modeling Language. Simply put, UML is a modern approach to modeling and documenting software.

UML is a way of visualizing a software program using a collection of diagrams. The notation has evolved from the work of Grady Booch, James Rumbaugh, Ivar JAcobson and the Rational Software Corporation to be used for object-oriented design, but it has since been extended to cover a wider variety of software engineering projects. Today, UML is accepted by the Object Management Group(OMG) as the standard for modelling software development.

UML stands for Unied Modeling Language.UML 2.0 helps extend the original UML specication to cover a wider portion of software development efforts including agile practices.

Improved integration between structural models like class diagrams and behavior models like activity diagrams.The original UML specied nine diagrams; UML 2.x brings that number up to 13. The four new diagrams are called: communication diagram, composite diagram, interaction overview diagram and timing diagram. It also renamed state chart diagrams to state machine diagrams , also known as state diagrams.

Types of UML diagrams

The current UML standards call for 13 different types of diagrams: class, activity, object, use case, sequence, package, state, component, communication, composite structure, interaction overview, timing and deployment. These diagrams are

organized into two distinct groups: structural diagrams and behavioral or interaction diagrams. Structural UML diagrams

- Class diagram
- Package diagram
- Object diagram
- Component diagram
- Composite structure diagram

Behavioral UML diagrams

- Activity Diagram
- Sequence diagram
- Use case diagram
- State diagrams
- Communication diagram
- Interaction overview diagram
- Timing diagram

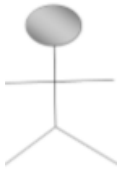
To model a system the most important aspect is capture the dynamic behaviour. To modify a bit in details, dynamic behaviour of the system when it is running or operating. So only behaviour is not sufcient to model a system rather dynamic behaviour is more important than static behaviour. In UML there are ve diagrams available to model

dynamic nature and use case diagram is one of them. Now as we have to discuss that the use case diagram is dynamic in nature there should be some internal or external factors for making the interaction. These internal and external agents are known as actors. So use case diagram consists of actors, usecase and their relationships. The diagram is used to model the system of an application. A single usecase diagram captures a particular functionality of a system. Use case Diagram objects:

- Actor
- Use case
- System
- Package

Actor

Actor is a use case diagram in an entity that performs a role in one given system. This could be a person, organization or an external system usually drawn like skeleton.



Use case

A use case represents a function or an action within the system. Its drawn as a noval and named with the function. **System** System is used to dene the scope of the

use case and drawn as a rectangle. This is an optional element but useful when your

visualizing large systems. For example you can create all the use cases and then use the system object to dene the scope covered by your project. Or you can even use it to show the different areas covered in different releases.

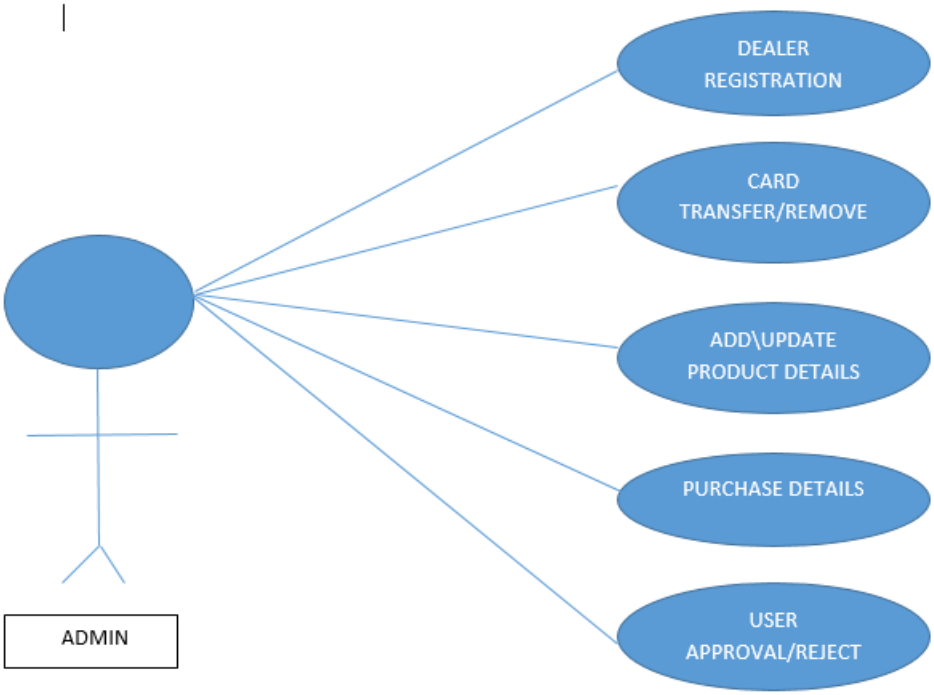
Package

Package is an other optional element that is extremely useful incomplex diagrams. Similar to use class diagrams, packages are used to group together use cases. The following is the UML diagram of this system:

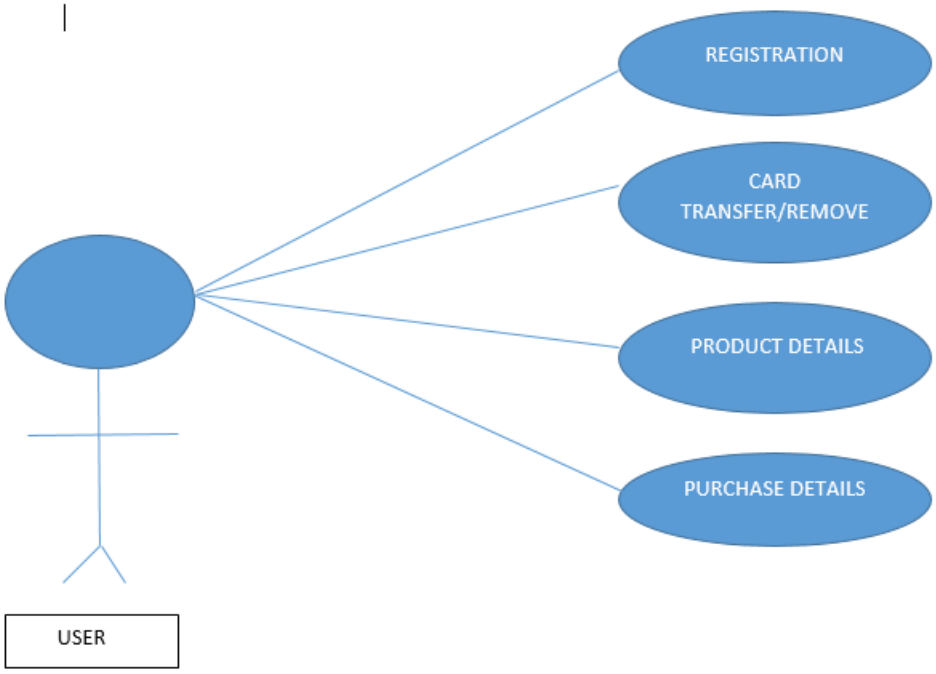
Sequence Diagram

UML sequence diagrams are used to represent or model the ow of messages, events and actions between the objects or components of a system.Time is represented in the vertical direction showing the sequence of interaction of the header elements.

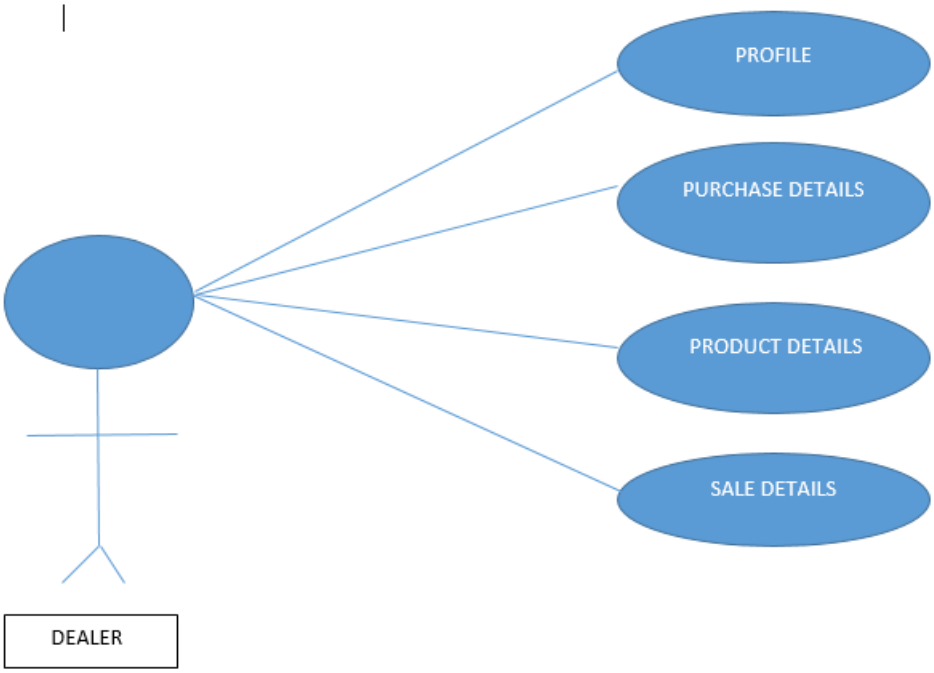
Sequence Diagrams are used primarily to design, document and validate the architecture, interfaces and logic of the system by describing the sequence of actions that need to be performed to complete a task. UML sequence diagrams are useful design tools because they provide a dynamic view of the system behavior which can be difcult to extract from static diagrams or specications.



UML DIAGRAM FOR ADMIN



UML DIAGRAM FOR USER



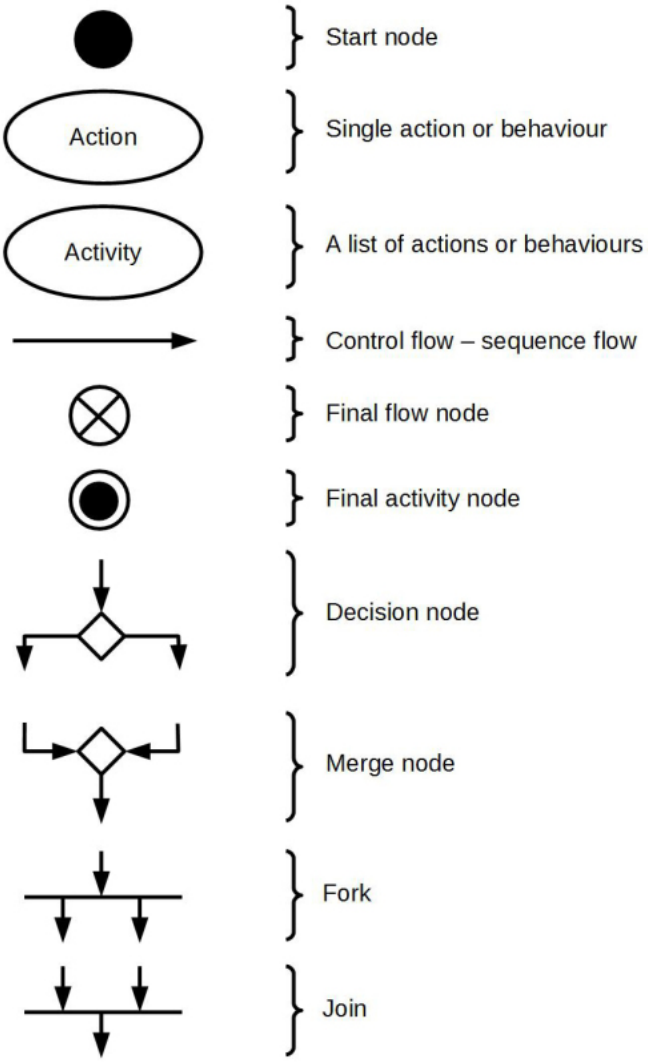
UML DIAGRAM FOR DEALER

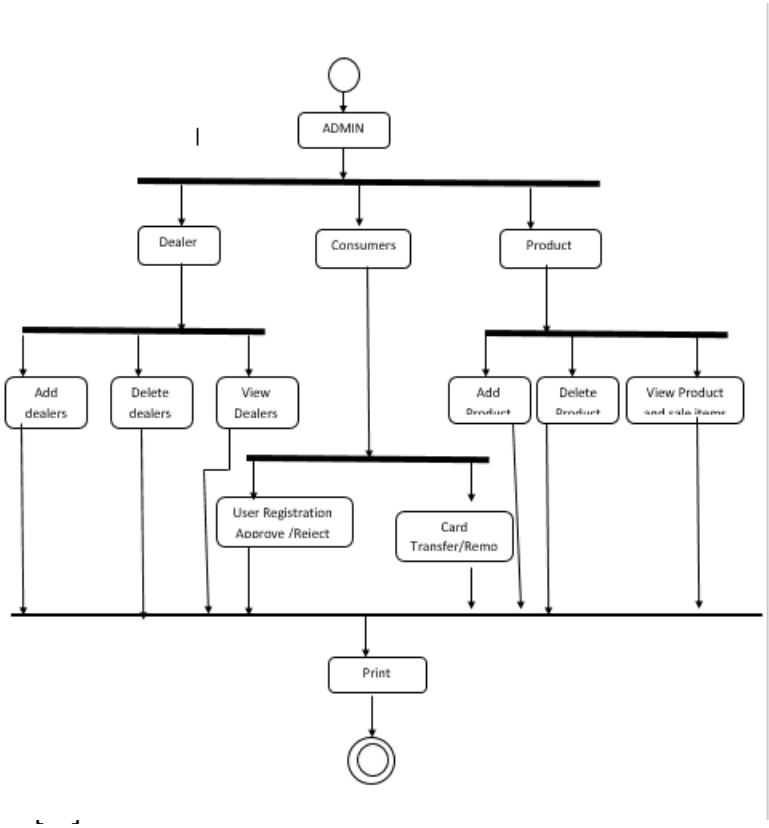
Although UML sequence diagrams are typically used to describe object-oriented software systems, they are also extremely useful as system engineering tools to design system architectures in business process, as message sequence charts and call ows for telecoms or wireless system design, and for protocol stack design and analysis. A sequence diagram is an interaction diagram that shows how objects operate with one another and in what order. It is a construct of a message sequence chart. A sequence diagram shows object interactions arranged in time sequence. It depicts the objects and classes involved in the scenario and the sequence of messages exchanged between the objects needed to carry out the functionality of the scenario. Sequence Diagrams are typically associated with use case realizations in the logical View of the system under development. Sequence diagrams are sometimes called event diagrams or event scenarios.

A sequence diagram shows, as parallel vertical lines (lifelines), different processes or objects that live simultaneously, and, as horizontal arrows, the messages exchanged between them, in the order in which they occur. This allows the specication of simple runtime scenarios in a graphical manner.

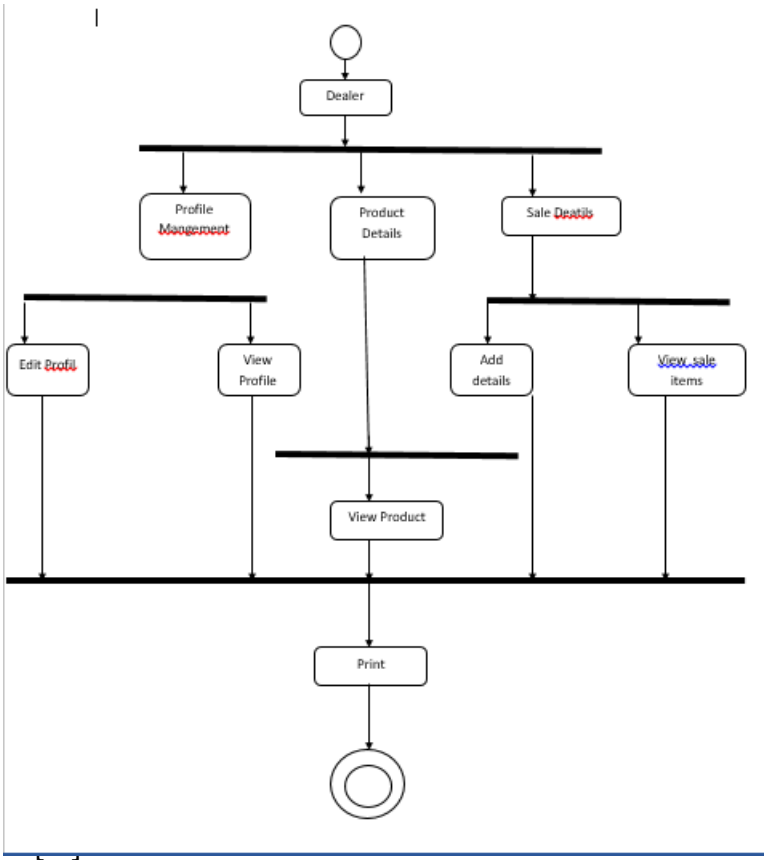
3.4.1 Activity Diagram

Activity diagrams are graphical representations of workflows of stepwise activities and actions with support for choice, iteration and concurrency. In the Unified Modeling Language, activity diagrams are intended to model both computational and organizational processes (i.e., workflows), as well as the data flows intersecting with the related activities. Although activity diagrams primarily show the overall flow of control, they can also include elements showing the flow of data between activities through one or more data stores.

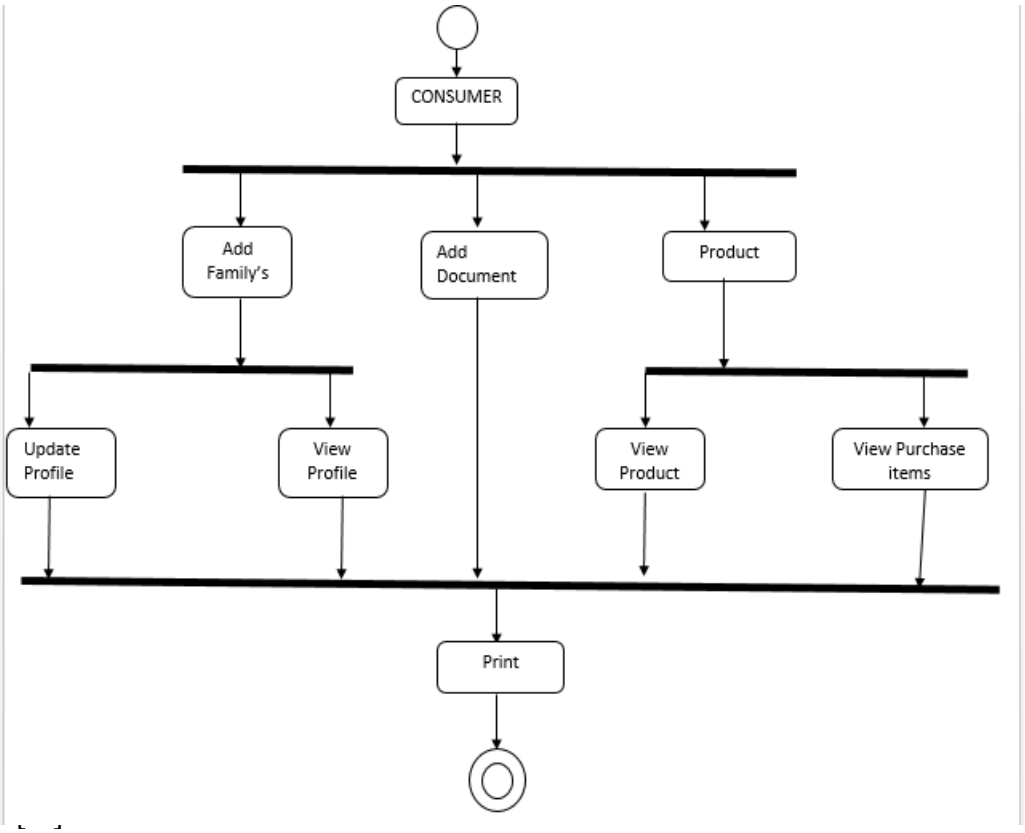




ACTIVITY DIAGRAM FOR ADMIN



ACTIVITY DIAGRAM FOR DEALER

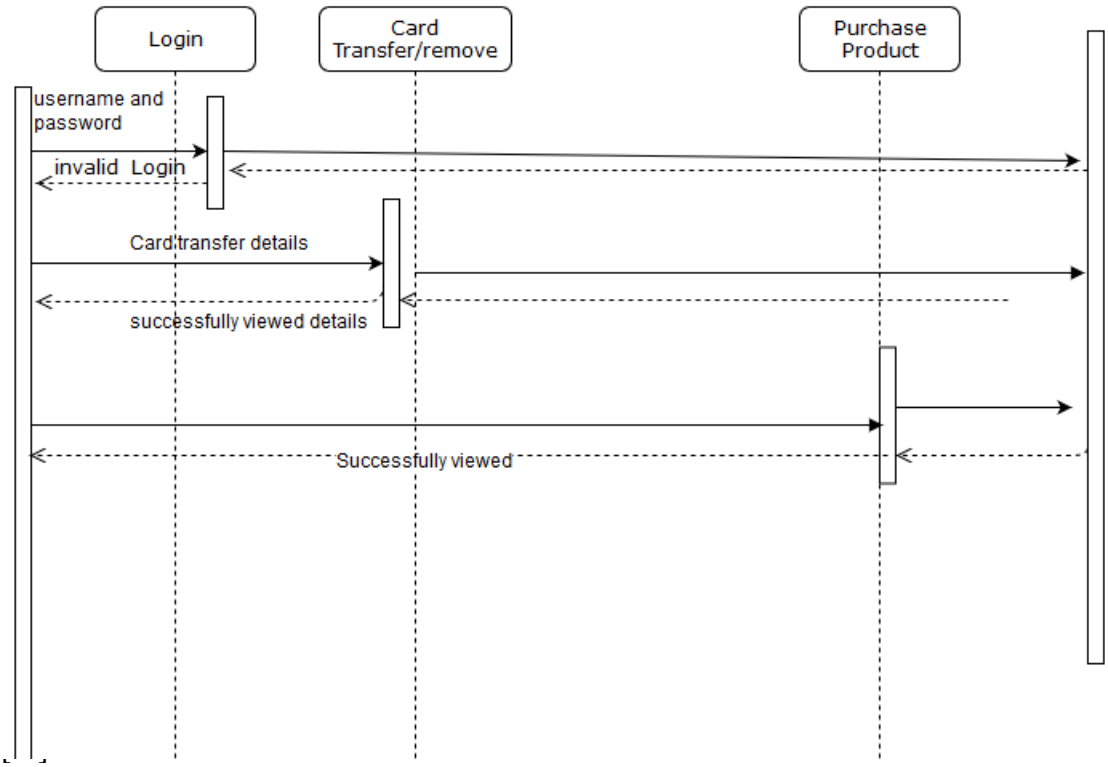


ACTIVITY DIAGRAM FOR CONSUMER

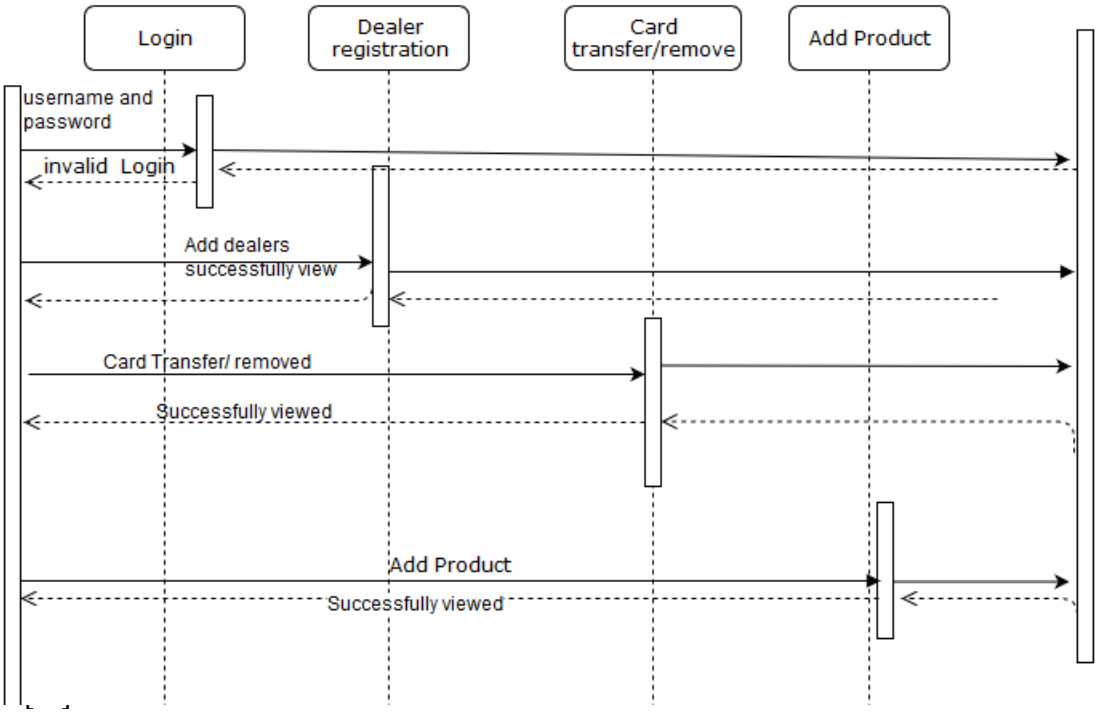
3.4.2 Sequence Diagram

A sequence diagram shows object interactions arranged in time sequence. It depicts the objects and classes involved in the scenario and the sequence of messages e xchanged between the objects needed to carry out the functionality of the scenario. Sequence diagrams are typically associated with use case realizations in the Logical View of the system under development. Sequence diagrams are sometimes called event diagrams or event scenarios.

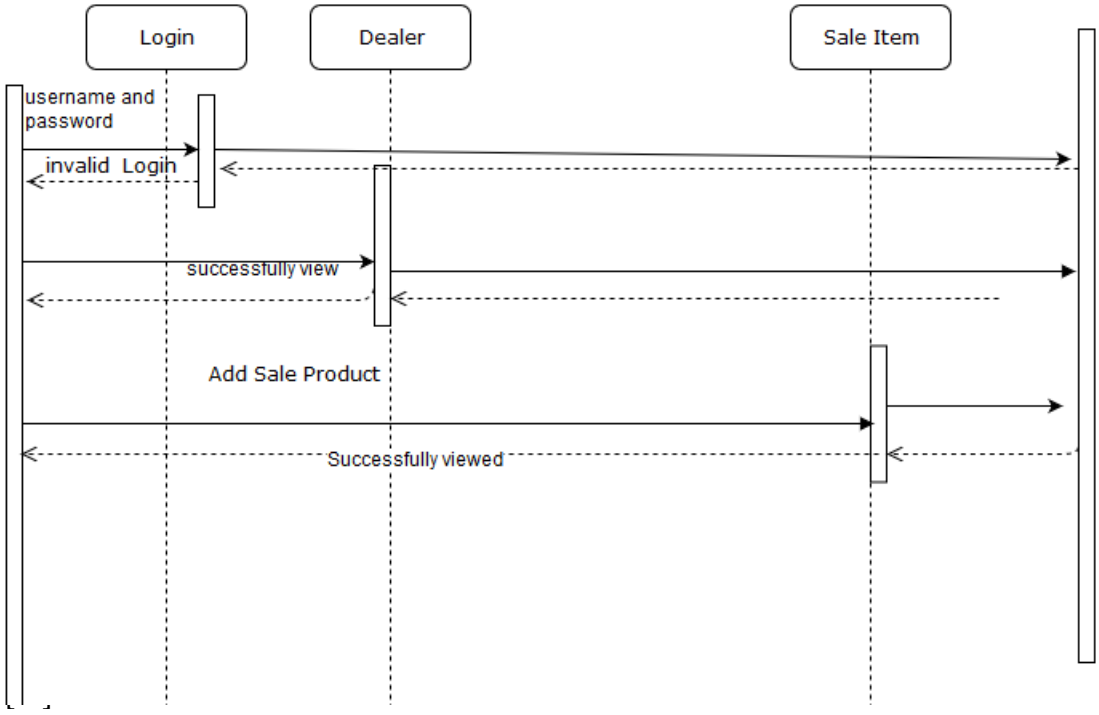
A sequence diagram shows, as parallel vertical lines (lifelines), different processes or objects that live simultaneously, and, as horizontal arrows, the messages exchanged between them, in the order in which they occur. This allows the specification of simple runtime scenarios in a graphical manner.



SEQUENCE DIAGRAM FOR CONSUMER



SEQUENCE DIAGRAM FOR ADMIN



SEQUENCE DIAGRAM FOR DEALER

CHAPTER 4

SYSTEM DESIGN

4.1 Introduction

Database design is the organisation of data according to a database model. The designer determines what data must be stored and how the data elements interrelate. With this information, they can begin to fit the data to the database model.

- Determining data to be stored : This process is one which is generally considered part of requirements analysis, and requires skill on the part of the database designer to elicit the needed information from those with the domain knowledge.

- Determining data relationships : Once a database designer is aware of the data which is to be stored within the database, they must then determine where dependency is within the data.

- Logically structuring data :Arrange the data into a logical structure which can then be mapped into the storage objects supported by the database management system. In the case of relational databases the storage objects are tables which store data in rows and columns.

- Normalization :Normalization is a systematic way of ensuring that a database structure is suitable for general-purpose querying and free of certain undesirable characteristics insertion, update, and deletion anomalies that could lead to loss

of data integrity.The Civil Supply Distribution System database is normalized to 3NF.

The first step is to determine how the output is to be produced and in what format the input and the database have to be designed to meet the requirements of proposed output. The database tables are designed by using the entire necessary field in a compact and correct manner. Care has been taken to be avoiding redundant and duplicated data field. The importance of the software design can be started with word quality. Design is place where quality is fostered in software development. Design is the only way where requirements are actually translated in to a finished software product or system.

Program specification comes next. Here we specify various aspects of the program and also will in detail the major components used in the program. The overall process flow is also explained in much detail. Validation rules and checks come next. Several degrees of validation rules and checks come next. Several degrees of validation have to be applied to all inputs and various other operations made on the system .Deviation, if any, have to be checked from these validation rules. Security checks refer to avoiding unnecessary access to data.

Inputs and outputs have to be designed as per predefined guidelines. Effective meaningful navigation has to be applied. In the input design, the user-oriented inputs are converted into computer- based formats whereas in the output design, the emphasis is also of much importance. It directly refers to various codes used in the programs and their usage specification. The category to which these codes belong should also be specified.

Elements of Design The components of information are described during requirements. Analysis is the focal point in system design. The analyst must design

the following elements:

- Data Flows: The movement of data in and out of the system. The data flow diagram explicitly specifies the process flow.
- Data Stores: Temporary or permanent collections of data. Table design is one the major step. Extreme care has to take here and several concepts of normalization have to be applied at many levels.
- Processes: Activities to accept manipulate and deliver data and information.
- Procedures: Methods and routines for using the information system to achieve the intended results.
- Controls: Standards and guidelines for determining whether activities are occurring in the anticipated or accepted manner.
- Roles: The responsibilities of all people involved with the new system, including end-users, computer operators and support personnel.

Inputs and outputs have to be designed as per predefined guidelines. Effective and meaningful navigation has to be applied. In the input design, the user-oriented inputs are converted into computer- based formats whereas in the output design, the emphasis is on producing user desired outputs. It directly refers to various codes used in the programs and their usage specification. The category to which these codes belong should also be specified.

4.1.1 Input Design

User interface design is very important for any application. The interface design describes how the software communicates within itself, to system that interpreted with

it and with humans who use it. The input design is the process of converting the user-oriented inputs into the computer based format.

Input facilitates the entry of data into the computer system. Input design involves the selection of the best strategy for getting data into the computer system at the right time and as accurately as possible. This is because the most difficult aspect of input design is accuracy. The use of well-defined design can encourage users to record data accurately without omission. In CIVIL SUPPLY DISTRIBUTION SYSTEM input is designed in such a way that user of the system can easily enter the data without errors. For example, $\text{admin}_id, state_id, dist_id, aregeneratedautomaticallysothaterrorsarereducedanduserconvenienceisincreas$

4.1.2 Output Design

Outputs from computer systems are required primarily to communicate the results of processing to users. They are also used to provide a permanent copy of the results for later consultation. Intelligent output designs will improve systems relationships with the user and help much in decision making. Various onscreen messages are also displayed for effective communication with the user. The output design is simple and easy to understand.

4.2 Database Design

A database is a collection of interrelated data stored with minimum redundancy to serve many users quickly and efficiently. The general way is to make information as easy, quick, inexpensive and flexible for the user. In the database design several specific objectives are considered. Controlling the redundancy, ease of learning and use, data dependent, more information at low cost, accuracy and integrity are some of them.

4.2.1 Tables

A table is a collection of data about a specific topic. It makes the data more efficient and reduces data entry errors. In our project we use several tables.

Table 4.1. tbl_Login

FIELD NAME	DATA TYPE	CONSTRAINTS	DESCRIPTION
username	varchar(20)	Primary Key	Username of the user
password	varchar(20)		Password of the user
logtype	varchar(8)		Type of user

Table 4.2. tbl_reg_user

FIELD NAME	DATA TYPE	CONSTRAINTS	DESCRIPTION
user_id	int	Primary Key	Id of the Employee
fullname	varchar(20)		Name of Employee
aadhaar$_n$*umber*	bigint		aadhar Number of Consumer
age	int		phone
gender	varchar(20)		Gender
occupation	varchar(10)		Occupation of the family header
mob_no	int		Mobile Number
housename	varchar(20)		Housename
place	varchar(20)		Place
district	varchar(20)		Districrt
pin	int		Pincode
no_of_member	int		Number of Members in the family
no_of_employee	int		Number of employees in the family
no_of_vehicle	int		Number of Vehicle
annul_income	int		Annual Income
sqft	int		property
username	varchar(20)		Username of the user
password	varchar(20)		Password
retype_password	varchar(20)		Re-type Password
card_type	varchar(20)		Card Type
status	varchar(20)		Status of the Application

Table 4.3. tbl_document

FIELD NAME	DATA TYPE	CONSTRAINTS	DESCRIPTION
id	int	primary key	id of the user
uname	varchar(20)		username of the account
image	file		Profile picture
pdf	file		Document

Table 4.4. tbl _family_details

FIELD NAME	DATA TYPE	CONSTRAINTS	DESCRIPTION
family_id	int	primary key	Family id
user_id	int	primary key	Username
fullname	varchar(20)		Fullname of the members
age	int		Age
gender	varchar(20)		Gender
aadhar_number	bigint		Aadhaar Number
occupation	varchar(20)		Occupation
relation	varchar(20)		Relation between the family header

Table 4.5. tbl_reg_dealer

FIELD NAME	DATA TYPE	CONSTRAINTS	DESCRIPTION
licence	int	primary key	Licence number for the shop
shop_no	int	primar key	Shop number
fullname	varchar(20)		Fullname
aadhaar_number	bigint		Aadhaar number
district	varachar(20)		District
taluk	varchar(20)		Taluk
mob_no	int		Mobile Numebr
username	varchar(20)		Username
password	varchar(20)		Password

Table 4.6. tbl_sale_product

FIELD NAME	DATA TYPE	CONSTRAINTS	DESCRIPTION
card_number	bigint	Primary Key	card number of the cardholder
saleproduct_name	Varchar(20)		Product name
product_quantity	int		Quantities
product_amount	int		Amount of the product

Table 4.7. tbl_productinsert

FIELD NAME	DATA TYPE	CONSTRAINTS	DESCRIPTION
product_id	Integer	Primary Key	Product ID
product_name	Varchar(20)		Name of Product
quantity	int		Product Quantity
original_price	Integer		Product Original price
card_type	varchar(20)		Card Type
amount	int		A mount of the product
date_from	date	NOT NULL	Date From
date_to	date	NOT NULL	Date To

Table 4.8. tbl_application_card

FIELD NAME	DATA TYPE	CONSTRAINTS	DESCRIPTION
card_number	Integer	Primary Key	Card Number
fullname	varchar(20)		Full name
age	int		Age
aadhaar_number	bigint		Aadhaar Number
gender	varchar(20)		Gender
occupation	varchar(20)		Occupation
housename	varchar(20)		House Name
place	varchar(20)		place
district	varchar(20)		district
transfer_remove	Varchar(20)		Transfer Remove
status	varchar(20)	NOT NULL	Status field

4.3 User-Interface Design

User interface is the front-end application view to which user interacts in order to use the software. User can manipulate and control the software as well as hardware by means of user interface. Today, user interface is found at almost every place where digital technology exists, right from computers, mobile phones, cars, music players, airplanes, ships etc.

User interface is part of software and is designed such a way that it is expected to provide the user insight of the software. UI provides fundamental platform for human-computer interaction.

UI can be graphical, text-based, audio-video based, depending upon the underlying hardware and software combination. UI can be hardware or software or a combination of both.

The software becomes more popular if its user interface is:

- Attractive
- Simple to use
- Responsive in short time
- Clear to understand
- Consistent on all interfacing screens

4.3.1 The UI Screen shots

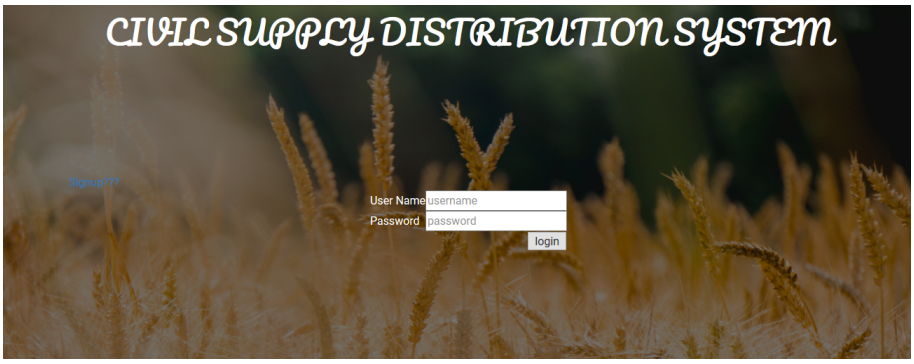


Fig. 4.1. LOGIN

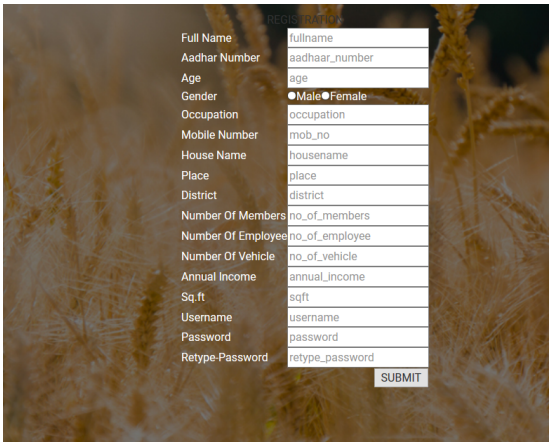


Fig. 4.2. USER REGISTRATION

NAME	AGE	GENDER	AADHAAR NUMBER	OCCUPATION	RELATION
Sujith c nair	27	Male	659878451278	pvt. job	son
Vijayalakshmi	26	Female	854578964512	Prf.	daughter-in-law
Arya C Nair	23	Female	254578457458	Student	daughter
Vaiga S Nair	1	Female	457812968578	Nill	grand daughter

Fig. 4.3. ADD FAMILY DETAILS

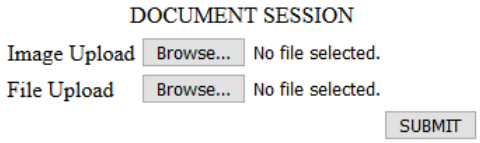


Fig. 4.4. ADD DOCUMENT

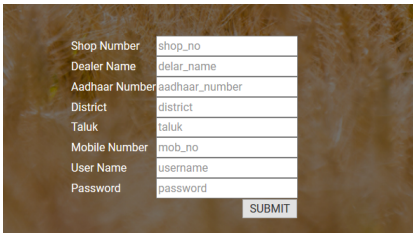


Fig. 4.5. REGISTRATION FOR DEALER

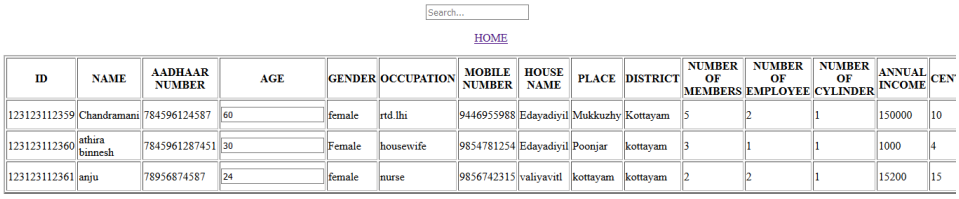


Fig. 4.6. USER APPROVAL/REJECT

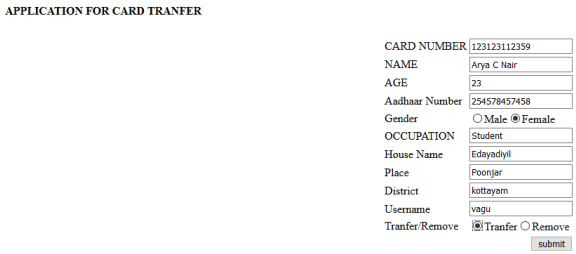


Fig. 4.7. CARD TRANSFER

Fig. 4.8. ADD PRODUCT

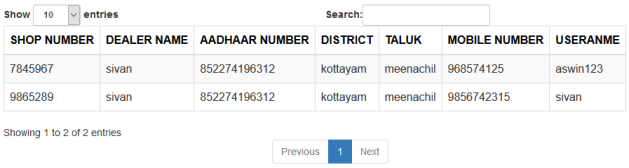


Fig. 4.9. DEALERS DETAILS

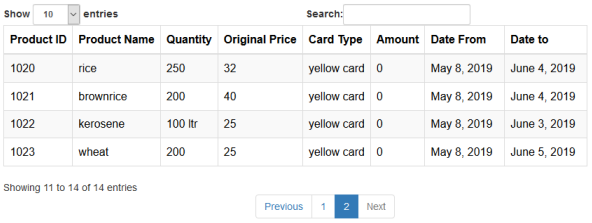


Fig. 4.10. PRODUCT DETAILS

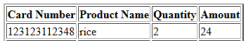


Fig. 4.11. PURCHASE DETAILS

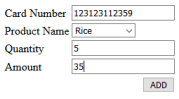


Fig. 4.12. SALE PRODUCT

HOME

CARD NUMBER	NAME	AGE	Aadhaar Number	GENDER	OOCUPATION	HOUSE NAME	PLACE	DISTRICT	TRANSFER/REMOVE			STATUS	
2147483647	Arya C Nai	23	254578457458	Female	Student	Edayadiyil	Poonjar	kottayam	Tranfer	ADD	REMOVE	Y	APPROVED

Fig. 4.13. VIEW CARD TRANSFER

CHAPTER 5

SYSTEM TESTING

5.1 Introduction

After design and development of the web application,it is relevant to test with the real data to pullout the errors,mistakes and problems hidden with the website.Outcomes of the website are evaluated and compared with the target outputs.While testing system,a clear picture about how the application is going to be used and what kind of issues it can face in real time can be really helpful and able rectify problems so it can implement properly.The entire testing can be divided into 3 phases.

5.2 Unit Testing

Unit testing focuses verification efforts on the smallest of software design,the module.This is also known as module testing.The four modules Login, Employee,Notification, Task and Reports are tested separately.These testing are carried out during programming stage itself.The outcomes are compared with the requirements and was found satisfactory.This,it is possible to conclude that every program in the software was functioning correctly such as data correctly stored in the database,proper working of mail function,working of combo boxes,proper working of navigation through links,proper generation of pdf documents etc.I followed a sequential order in the unit testing process.Whenever a function implemented ,it must be verified and only

that move on to the next task.Also whenever a module completed,its all individual functions tested separately.Functions of user interface design tested at last iteration.

5.3 Integration Testing

In integration testing systems ability to maintain data integrity and operation in co-ordination with other systems in same and different environment is being checked. Some are: the website opens properly with all the relevant pages and images, checks login properly, whether the number of users can access the website simultaneously, if the website works properly in all the major browsers and their latest versions, if the process are being done on the website via specific user are secure enough, if the content of pages are properly aligned, and well managed if session is implemented and working as expected.

5.4 Acceptance Testing

User acceptance testing is a key factor that counts the success of the system. Web apps are now very familiar to majority of users. So its acceptance were tested by admin at the time of developing and making changes whenever required. This done with regard to the following points.

- Input and output screen design
- Speed and accuracy
- Simplicity.
- Menu driven system.

All these have been successfully accepted by the users, because system itself keep the format and navigation of the requirement of user.

5.4.0.1 Test Cases

Table 5.1. Test case:1

.

Name of control	Validation	Inputs	Response
text box(User name)	It should be username	admin@123	success
		abc	Invalid Entry
text box(Password)	Same as register	admin@123	success
		aaa	Invalid Entry

Table 5.2. Test case 2: Add Dealer Form

Name of Control	Validation	Input	Response
Text Box(Shop number)	Numbers only	***	Not a valid name
		78459	Success
Text Box(Name)	Alphabets only	***	Not a valid name
		Arya	Success
Text Box(Aadhaar Number)	Unique	7845961258745	Already Exist
	Numbers only	78459612	Not a valid format
		784594581236	Success
Text Box(district) abc123	Must be enter Not a valid	4577	Only Alphabets
		edayadiyil	Success
Text Box(Taluk)	Must enter a location	null	Mandatory
		kanjirappali	Success
Text Box(Mobile number)	Must select a number	null	Mandatory
		8956784521	Success
Text Box(username)	Must select a alphabets	null	Mandatory
		sivan	Success
Text Box(Password)	Must select a enter	null	Mandatory
		sivan	Success

Table 5.3. Test case 3: Add Family Details

Name of Control	Validation	Input	Response
Text Box(File)	image only	***	Not a valid name
			Success
Text Box(File)	pdf only	***	Not a valid name
		Arya.pdf	Success

Table 5.4. Test case 4: Add Product Form

Name of Control	Validation	Input	Response
Text Box(product Name)	Alphabets only	***	Not a valid name
		Arya	Success
Text Box(Quantity)	Alphabets Only	aaa	Invalid Entery
	Numbers only	7g	Not a valid format
	45	Success	
Text Box(amount)	Must be enter	45 aa	Only numbers
abc123	Not a valid		
		47	Success
Text Box(Original Price)	Must enter	null	Mandatory
		50	Success

CHAPTER 6

SYSTEM IMPLEMENTATION

6.1 Implementation Methods

Implementation is the stage in the project where the theoretical design is turned into a working system and is giving confidence on the new system for the users that it will work efficiently and effectively. Web hosting simply means making a website available on the world wide web such that people are able to view the content you have on your website. A web site can be developed on any computer including your personal computer if you install and configure the right software. However, that will not make a website available via the internet. Therefore, to make it available via the internet, the files that make up the website must be uploaded or copied to a special type of computer called a web server. Once this is done, the website will be available via the internet and is called web hosting. The first thing to consider when starting a website is to choose a web hosting provider (Eg. Go daddy.com,HostGator etc). The web hosting provider provides the web space (i.e. special computers called web servers) where your website files are stored, as well as the technologies and services needed for your website to be viewed on the Internet.

6.2 Implementation Plan

The implementation process begins with preparing a plan for the implementation of the system. According to this plan, the activities are to be carried out, discus-

sions made regarding the equipment and resources and the additional equipment has to be acquired to implement the new system. In network backup system no additional resources are needed. Implementation is the final and the most important phase. The most critical stage in achieving a successful new system is giving the users confidence that the new system will work and be effective. The system can be implemented only after thorough testing is done and if it is found to be working according to the specification. This method also offers the greatest security since the old system can take over if the errors are found or inability to handle certain type of transactions while using the new system.The implementation process consist of the following steps:

- List all files required for implementation
- Identify all data required to build new files
- List all documents and procedures that go in to the new system.

CHAPTER 7

CONCLUSION AND FUTURE SCOPE

In the existing system having two draw backs, rst one is that the weight of the material may be not correct due to human mistakes and the other drawback is that, if consumers do not purchase the materials at end of the month, they will sell these items to others people which are not actually the real customers of that items without any proof provided to the government and customers. The above drawbacks are removed by this method. In this system, ration Materials (sugar, rice, oil, kerosene, etc.) is available by software through automatic mechanism without any help of humans. . This system is very accurate, which is used for the real time applications. Thus, on the basis of literature survey and by analyzing the existing system, we have came to a conclusion that the proposed system will not only aid the government agencies but will also help to digitize the system and in turn help to deploy resources eciently to the citizens.

Thus the project Civil Supply Distribution System is a smart way for monitoring the supply and distribution of food grains and is focused on to bring out cost-effective, corruption free and transparent system of PDS throughout the Nation. Data redundancy is reduced hence increase in consistency. Data security is also obtained. Every application has its own merits and demerits; the project has covered almost all the requirements. The project if implemented shall also reduce the time consuming for the distribution.

The main motto of the project is Government distributes rations at a subsidized price to the poor. Usually these are known as ”Ration shops” and chiefly sell wheat, rice, kerosene and sugar at a price lower than that of market price. Now other essential commodities are also sold. To buy these items one must have a ration card. The items from these shops are much cheaper but are of poor quality. Ration shops are now present in most localities in villages, towns and cities. All activities of this shop are done manually. They keep all records in big paper file. Government provides Register Book, Issue Book, Bill book, through the Supply Office to the Ration Shop dealers. The Dealers must keep and maintain these three books with proper entry of data.

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