A DESIGN REPORT ON

EBA- Electricity Board Application

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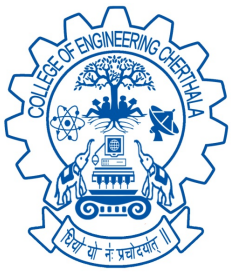

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INTRODUCTION

This system reduces the complexities that are occur during the interaction with the Electricity Board. We know that the power cuts are more in the recent times and we are much irritated, though the information about these power cuts are published in the dailies, people wont spot the news efficiently, by using this application, people gets information about this data to their application installed on the phone. Consumers get notification about their pay date for the bill, until they have paid the bill. Consumers even have the facility to know about their former bill payments. Consumers can even pay the bill online through this application. People can also apply for a new connection through this application and thus avoiding too much offline steps.

1.1 PRODUCT SCOPE

Today in this digital world, people are fed up with the problems and delay in the functioning of Electricity Board. By the implementation of this application all the problems that are associated with the existing system will be reduced. In the Electricity Board Application there are number of features to help people to know about the information regarding time schedule for power cuts, last date for bill payment and previous meter reading histories facility to pay bill online, application for new connection.

Chapter 2

OVERALL DESCRIPTION

2.1 PRODUCT PERSPECTIVE

2.1.1 EXISTING SYSTEM

In the existing system people are suffering a lot because of the irregularities while interacting with the electricity board. By the implementation of this application all the problems that are associated with the existing system will be reduced.

2.1.2 PROPOSED SYSTEM

In the Proposed system there are number of features to help people to know about the information regarding time schedule for power cuts, last date for bill payment and previous meter reading histories facility to pay bill online, application for new connection.

2.1.3 PRODUCT FUNCTIONS

The major functions of the product are:

- Verified consumer accounts.
- Online Bill payment.
- Alert about the last date for the bill to be paid.
- Previous Bill payment details.

- Notification about power cuts.
- Apply for new connection.
- Consumer complaints.

Chapter 3

PROJECT REQUIREMENTS

3.1 HARDWARE SPECIFICATION

The minimum hardware specifications are:

- RAM: 256MB
- Internal memory: 500MB
- Operating System: Android kitkat or above.
- Internet connection: 2G or above.

3.2 SOFTWARE SPECIFICATION

- Front End: JAVA,ANDROID,PHP
- Back End: MySQL

Chapter 4

SYSTEM DESIGN

4.1 MODULES

Based upon the level of the product, project had been divided into 5 modules.

4.1.1 LOGIN INTERFACE MODULE

This feature will give the user a secure and simple login screen. The user will be provided with a username and password by the administrator after verifying the consumer number.

4.1.2 BILL PAYMENT MODULE

This feature will allow the user to pay bill online. Alerts about the last date for the bill to be paid and previous bill payment details.

4.1.3 NEW CONNECTION MODULE

This feature will allow the user to apply new current connection and to do other things that are related to the current connection.

4.1.4 COMPLAINT MODULE

This feature will allow the user to register their complaints that are related with the current connection.

4.1.5 NOTIFICATION MODULE

This module will provide notifications about current connection such as power cuts, offers from the electricity board etc.

4.2 GANTT CHART

Gantt chart is a graphical representation of allocation of resources to the activities. Here our resource is time.

4.3 DATA FLOW DIAGRAM

The data ow diagram (DFD) is used for classifying system requirements to major transformation that will become programs in system design. This is starting point of the design phase that functionally decomposes the required specifications down to the lower level of details. It consists of a series of bubbles joint together by lines. Bubbles: Represent the data transformations. Lines: Represent the logic ow of data. Data can trigger events and can be processed to useful information. Systems analysis recognizes the central goal of data in organizations. This data ow analysis tells a great deal about how organization objectives are accomplished.

4.3.1 DESCRIPTION

- Process : Describes how each input data is converted to output data.
- Data Store : Describes the repositories of data in a system.
- Data Flow : Describes the data owing between Processes, Data stores, Entities.
- Entity : An external entity causing the origin of data.

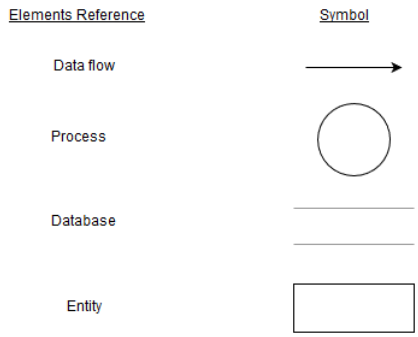

Fig. 4.1: Notations used in DFD

4.3.2 LEVEL 0 DFD

User can request to Electricity Board Application, it will respond to the user.

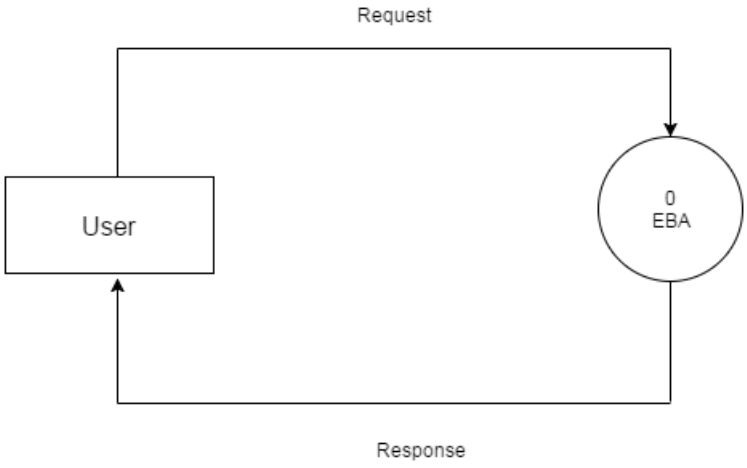

Fig. 4.2: Level 0 DFD

4.3.3 LEVEL 1 DFD

User can login to the website using user name and password. After successful login user can request for bill payment, new connection, complaint registration and notification. Then EBA will respond to the request asked by the user.

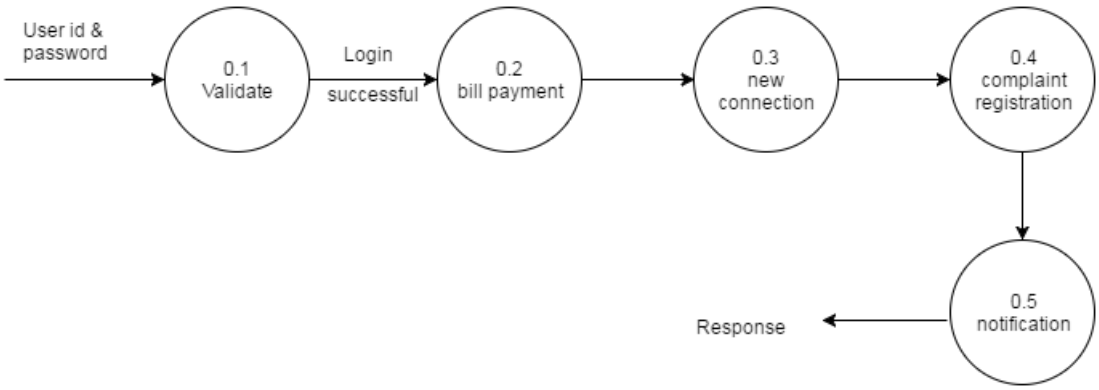

Fig. 4.3: Level 1 DFD

4.3.4 LEVEL 2 DFD

When the user request an option, then EBA will process the request with the help of database if necessary, where the data are stored. By using the appropriate data from the database EBA perform the task asked by user.

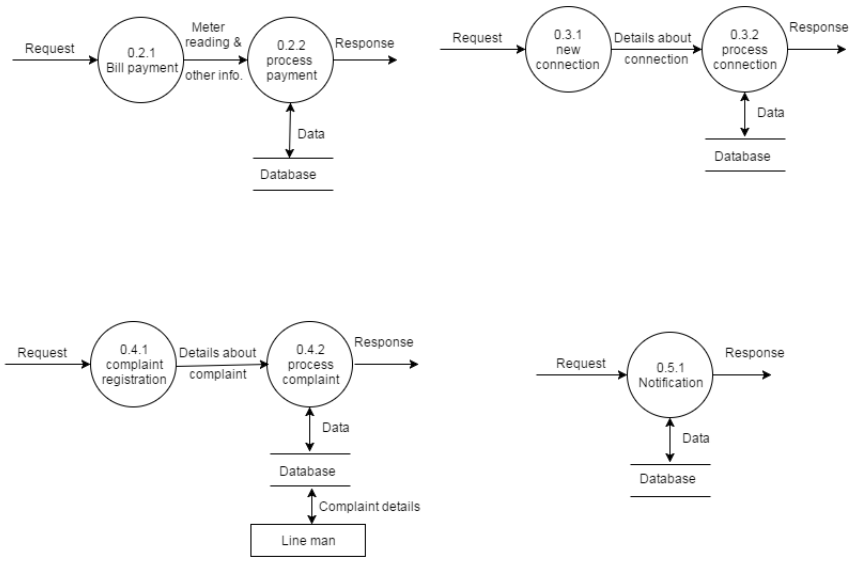

Fig. 4.4: Level 2 DFD

4.4 USE CASE DIAGRAM

Use case diagram in the Unied Modeling language (UML) is a type of behavioral diagram. Its purpose is to represent the graphical overview of the functionality provided by a system in terms of actors, their goals (represented use cases), and any dependencies between those use cases. The main purpose of a use case diagram is to show what system functions are performed for which actor. Role of the actors in the system can be depicted.

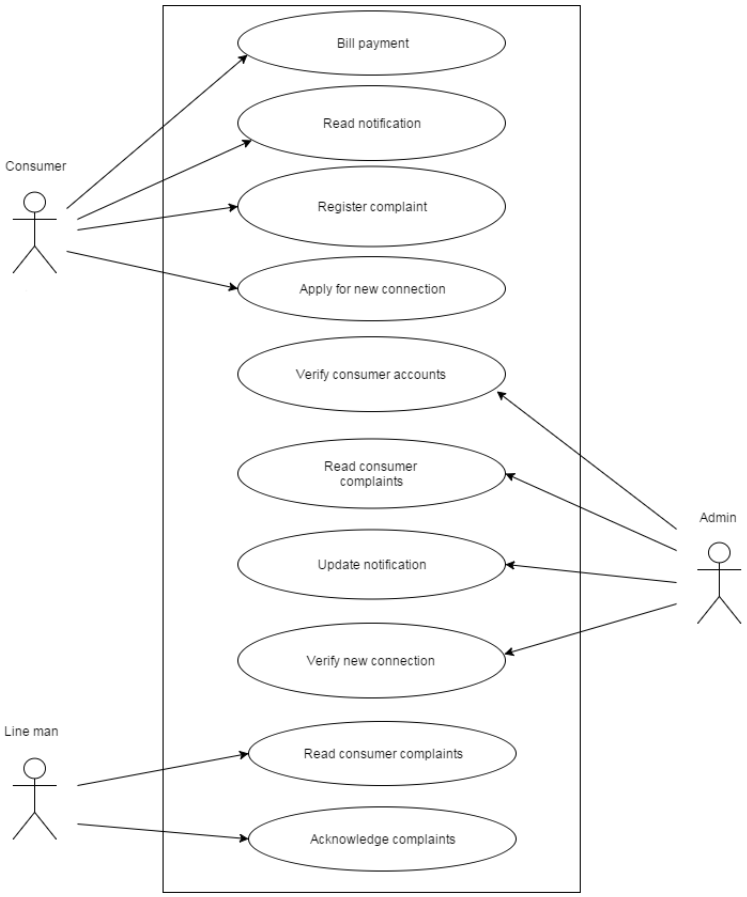

Fig. 4.5: Use case Diagram

4.5 SEQUENCE DIAGRAM

A Sequence diagram depicts the sequence of actions that occur in a system. It portrays the different perspectives of behavior of the system and different types of inferences can be drawn from them. The invocation of methods in each object, and the order in which the invocation occurs is captured in a Sequence diagram. This makes the Sequence diagram a very useful tool to easily represent the dynamic behavior of a system.

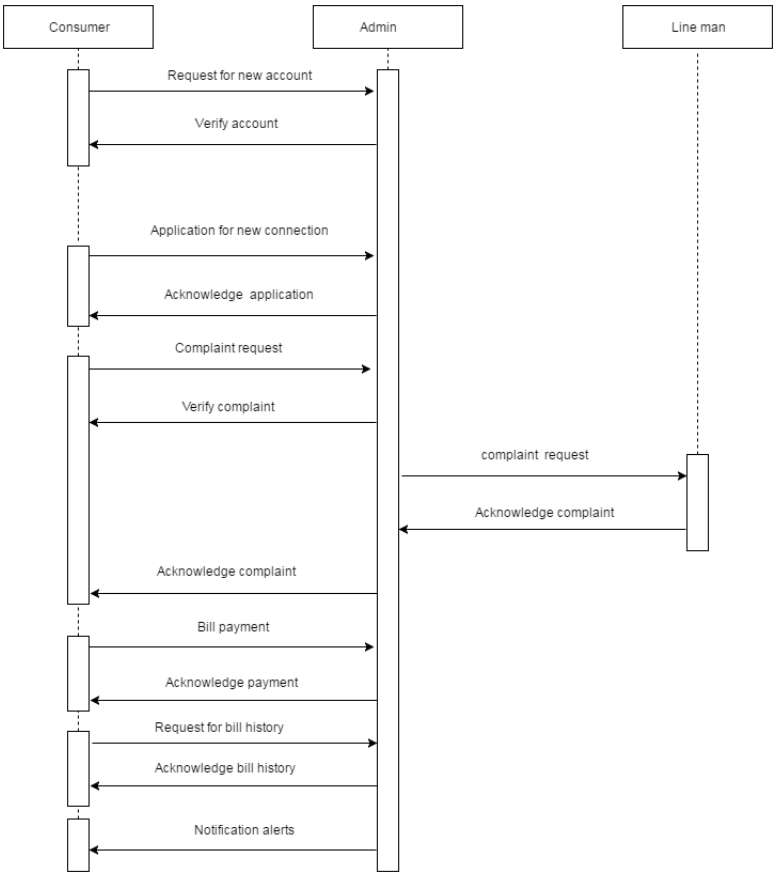

Fig. 4.6: Sequance Diagram

4.6 ACTIVITY DIAGRAM

Activity diagram is an important diagram in UML to describe dynamic aspects of the system. Activity diagram is basically a ow chart to represent the ow form one activity to another activity. The activity can be described as an operation of the system. So the control ow is drawn from one operation to another. This ow can be sequential, branched or concurrent. Activity diagrams deals with all type of ow control by using different elements like fork, join etc.

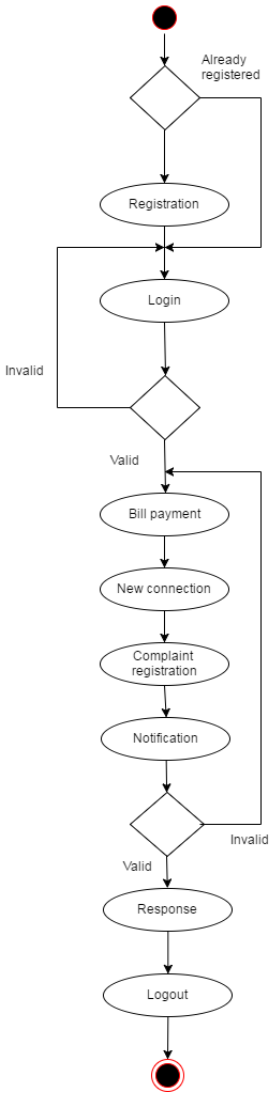

Fig. 4.7: Activity Diagram

4.7 E R DIAGRAM

An entity relationship model (ER model) is a data model for describing the data or information aspects of a domain or its process requirements, in an abstract way that lends itself to ultimately being implemented in a database such as a relational database. The process is modeled as entities that are linked with each other by relationships that express the dependencies and requirements between them. The main components of ER models are entities and the relationships that can exist among them, and databases. Entities may have various properties (attributes) that characterize them. Diagrams created to represent these entities, attributes, and relationships graphically are called entityrelationship diagrams.

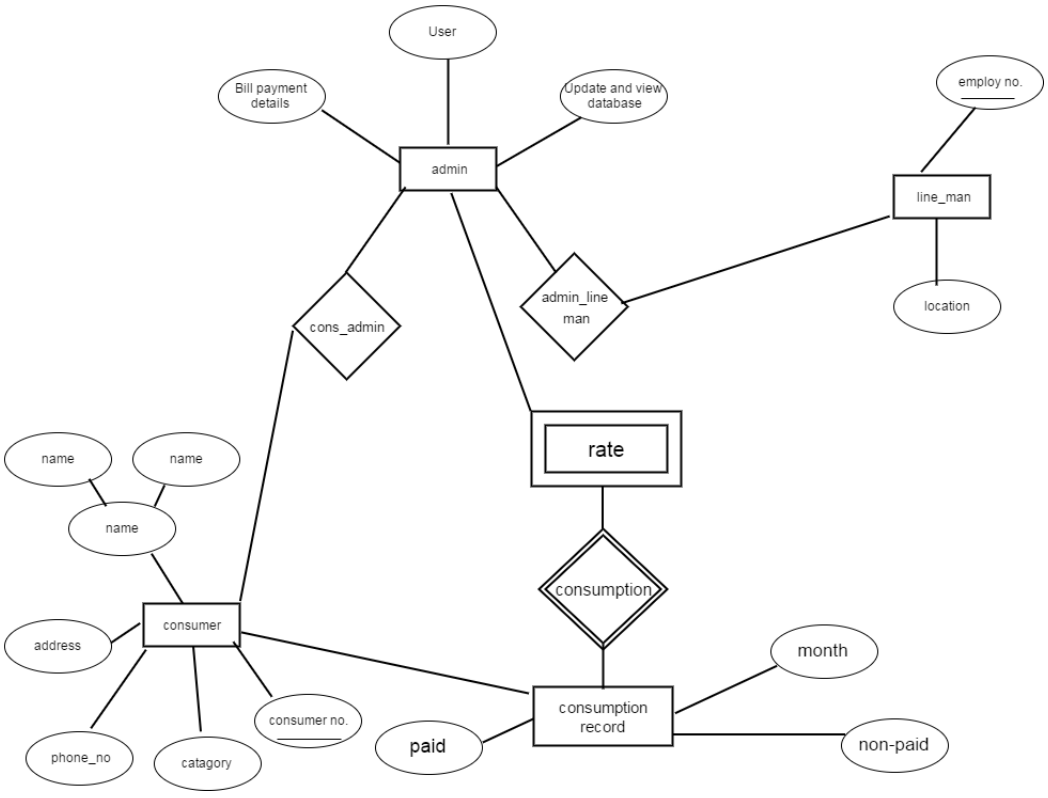

Fig. 4.8: ER Diagram

Chapter 5

IMPLEMENTATION

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 users that it will work effectively. It involves careful planning, investigation of the current system and it constraints on implementation, design of achieve the changeover, an evolution of change over method. The application is developed in android environment. The tools used for the development are JAVA,PHP,ANDROID and MySQL for the database.

5.1 LANGUAGES AND PLATFORM USED

This application will be developed on android environment.

5.1.1 PHP

PHP is a server-side scripting language designed primarily for web development but is also used as a general-purpose programming language. PHP code may be embedded into HTML code, or it can be used in combination with various web template systems, web content management systems and web frameworks. Many fatal- or recoverable-level legacy PHP error mechanisms were replaced with modern object-oriented exceptions. In terms of keywords and language syntax, PHP is similar to the C style syntax. If conditions, for and while loops, and function returns are similar in syntax to languages such as C, C++,Java and Perl.

5.1.2 JAVA

Java is a general-purpose computer programming language that is concurrent, class-based, object-oriented, and specifically designed to have as few implementation dependencies as possible. Java applications are typically compiled to byte code that can run on any Java virtual machine (JVM) regardless of computer architecture. The syntax of Java is largely influenced by C++. Unlike C++, which combines the syntax for structured, generic, and object-oriented programming, Java was built almost exclusively as an object-oriented languages. All code is written inside classes, and every data item is an object, with the exception of the primitive data types, i.e. integers, floating-point numbers, boolean values, and characters, which are not objects for performance reasons.

5.1.3 ANDROID

Android is a mobile operating system developed by Google, based on the Linux kernel and designed primarily for touchscreen mobile devices such as smart phones and tablets. Android's user interface is mainly based on direct manipulation, using touch gestures that loosely correspond to real-world actions, such as swiping, tapping and pinching, to manipulate on-screen objects, along with a virtual keyboard for text input. In addition to touchscreen devices, Google has further developed Android TV for televisions, Android Auto for cars, and Android Wear for wrist watches, each with a specialized user interface. Variants of Android are also used on notebooks, game consoles, digital cameras, and other electronics.

Chapter 6

CONCLUSION

In the existing system people are suffering a lot because of the irregularities while interacting with the electricity board. Proposed system is more user friendly. So user can easily interact with the electricity board without any difficulties. In the Proposed system there are number of features to help people to know about the information regarding time schedule for power cuts, last date for bill payment and previous meter reading histories facility to pay bill online, application for new connection. User will get informations about his/her current connection. We know that the power cuts are more in the recent times and we are much irritated, though the information about these power cuts are published in the dailies, people wont spot the news efficiently, by using this application, people gets information about this data to their application installed on the phone. so user can schedule their daily life programs according to the informations. Also user can pay bill easily. There is another exciting option for user, that is, user can pay their current bills through online. And also user can report their issues related to current connection by online. Through which user will get efficient and fast service. Moreover, all the services associated with the electricity board is collaborated into a single device.

Chapter 7

GLOSSARY

- **EBA**: Electricity Board Application.
- **RAM**: Random Access Memory.
- **GUI**: Graphical User Interface.