

# ONLINE BANKING SYSTEM

Project Report submitted in partial fulfillment of the requirement for the degree  
of Bachelor of Technology

In

**Information Technology**

By

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Under the supervision of

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To



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**Himachal Pradesh**

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## Declaration by Candidate

I hereby declare that the work presented in this report entitled “**Online Banking System**” in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology in Information Technology** submitted in the department of Computer Science & Engineering and Information Technology, Jaypee University of Information Technology, Waknaghat in an authentic record of my own work carried out over a period from January 2021 to May 2021 under the supervision of **Mr. Rizwan Ur Rehman** (Assistant Professor(Grade-II), Computer Science & Engineering and Information Technology).

The matter embodied in the report has not been submitted for the award of any other degree or diploma.



**Amit Verma (171454)**



**Abhinav Mishra (171460)**

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



**Mr. Rizwan Ur Rehman**

Assistant Professor (Grade-II)

Computer Science & Engineering and Information Technology

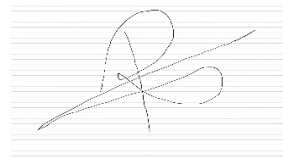
Dated: 26<sup>th</sup> May, 2021

## Certification by Supervisor

This is to certify that the work which is being presented in this project report title “**Online Banking System**” for partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology in Information Technology** and submitted to the department of **Computer Science & Engineering and Information Technology**, Jaypee University of Information Technology, Waknaghat is an authentic record of work carried out by **Amit Verma (171454)** and **Abhinav Mishra (171460)** during a period of January 2021 – May 2021 under the supervision of **Mr. Rizwan Ur Rehman** (Assistant Professor (Grade-II) , Department of Computer Science Engineering & IT) , Jaypee University of Information Technology, Waknaghat .

The above statement is made correct to the best of our knowledge.

Date: 26<sup>th</sup> May, 2021

A handwritten signature in blue ink, appearing to be 'Rizwan Ur Rehman', is written over a set of horizontal blue lines. The signature is stylized and cursive.

**Mr. Rizwan Ur Rehman**

Assistant Professor (Grade-II)

Department of Computer Science Engineering & IT

JUIT, Waknaghat

## Acknowledgement

We would like to express our deep gratitude to **Professor Rizwan Ur Rehman**, our project supervisor for his patient guidance, enthusiastic encouragement and useful critiques of this project. We would also like to thank our Professor for his advice and assistance in keeping our progress on schedule.

We would also like to extend our thanks to the technicians of the laboratory of the Computer Science & Engineering department for their help in offering me the resources in running the project.

## **Abstract**

This challenge is for fostering online banking for our customers. The framework is an online application that can also be obtained externally through the association using legal login.

This work wanted to have the capacity of the information infrastructure and a perspective for proper design. An application for information capacity has been prepared. Leveraging the build of Oracle 10g, all UIs were planned using JAVA. Data set networks are deployed using "data set" technology. Guidance on safety and information protection systems has received a major decision for its proper use. This application handles various modules and related reports. This report is created in accordance with the appropriate systems and principles sent by regulatory staff.

The full task was written with a top priority for decentralized customer workers registering innovations. The details are standardized down to 3NF to handle a number of anomalies that can arise for information-based exchanges performed by clients as a whole and in hierarchical organizations. UI is an explicit program to provide widespread openness to common frameworks. The internal data set is selected as Oracle10g. Tablespaces, bunches and stockpiles of basic build information of records are being exploited to provide higher consistency and reliability. Oracle 10g was a decision to develop a significant level of stability and security. The overall front end was determined using HTML 5. At all appropriate levels, high consideration was required to watch the framework handle legitimate business rules or approvals and the integrity of the information. The availability of the data set has been tuned using the latest "database connectivity" innovations provided by Oracle. Review and approval were cross-checked at all critical steps. Availability at the client level, specifically limited in two areas.



## Project Report Undertaking

We Mr. Amit Verma, Roll No. 171454 and Mr. Abhinav Mishra, Roll No. 171460, Branch Information Technology, are doing our internship with Cognizant from 6<sup>th</sup> March, 2021 to 16<sup>th</sup> August, 2021.

As per procedure we have to submit our project report to the university related to our work that we have done during this internship.

We have compiled our project report. But due to COVID - 19 situation, our project mentor in the company is not able to sign our project report.

So, we hereby declare that the project report is fully designed/developed by us and no part of the work is borrowed or purchased from any agency. And we'll produce a certificate/document of our internship completion with the company to TnP Cell whenever COVID - 19 situation gets normal.

Signature:



Name: Amit Verma

Roll No.: 171454

Date: 25<sup>th</sup> May, 2021

Signature:



Name: Abhinav Mishra

Roll No.: 171460

Date: 25<sup>th</sup> May, 2021

# **Chapter - 1**

## **INTRODUCTION**

### **1.1 About the Organization and Internship**

At the end of 7th semester, various companies visited our college for the placement of students, one such company was Cognizant. Due to our good fortune, we were selected for Gen - C profile. After getting selected for Gen-C, we were offered an internship program by Cognizant before joining the full-time role and completing internship is necessary for the full-time role as a part of the program. The internship consists of around 19 weeks containing various sessions, webinars, online Udemy courses, assessments and project.

Cognizant is one of the top IT companies in India, and major IT company in US. Cognizant employees are around 3 lakhs in number and recruits around 20 thousand fresh people every year from India. Cognizant also hires from different country across the globe.

Cognizant offers various role in the company like Developer, Designer, Tester and Manager in the company, but, before becoming the associate every person should complete the intern period and after the intern period there is one year of probation period in the company for the associate to join the company.

As a part of the program, during the first week we were taught about Functional Testing where we learnt the designing part in which we have to test the applications. In the following weeks, we were taught Core and Advanced Java which included JDBC as well. After that, we were introduced to Web, UI and Data Source in which we learnt about HTML, XML, JavaScript, Bootstrap and SQL.

## **1.2 About the Project**

Web Banking is tied in with realizing our client require and furnish them with perfect help at the perfect moment via correct channel 24 x 7 days. To being "electronic", it's not just furnishes its clients with quicker and better offices, it also decreases the self-overhead of records upkeep.

The Online Banking suite gives a worldwide bookkeeping establishment that furnishes the all-private saves money with electronic financial offices. It permits customer of private banks to complete their everyday financial exchanges.

The Online Banking is broadly pertinent with Non-Govt. banks. It can also be utilized in enterprises for their own exchanges.

## **1.3 Practical mechanisms of the Project**

The practical requirements of the project are:

1. Client should have a legitimate client ID and secret word to get access to the framework.
2. After the legitimate client signs in, the framework displays the current equilibrium in current specific record number.
3. Client can achieve exchanges like store and extraction from his record.
4. Appropriate assistance to be given as and when mentioned by the clients.

## **Chapter - 2**

# **SYSTEM ANALYSIS**

### **2.1 Existing System**

The created framework is an advancement in the space of private banking. In the current framework the number of employees needed for finishing the task is more, On the other hand the new framework requires few staffs for the most part.

Communication measures require paper information and at the same time are entered into the application by administrators. Information section managers need to repeatedly investigate the treatise and, as a result, investigate the inaccuracy of the increase in constituents. Similarly, cycles include higher shipping costs, extended cost processing, additional time delays, low precision, and more utilization of assets such as registries, books, paper, etc.

### **2.2 Planned System**

#### **Why do you make a private banking system automatically?**

- About 60% of the current information is still on paper.
- 30% per hour Office serves to search for records.
- Typical options for managing a single record are twelve minutes, nine minutes to accept and quantify three minutes.

In this way, demand is to promote a limited system that includes each of these costs, while providing the most limited income to the club.

The justification the assignment is to make a completely mechanized financial system that consolidates keeping of entirety, withdrawal of total and exchanging the outcome back to the customer while considering all of the devices and workplaces than a client may require for useful and incredible yield.

### **2.3 System Benefits**

- Speedy, confirmed admittance to accounts through the work area.
- Simply adaptable to develop with varying framework necessity.
- Enterprise-wide admittance to data.
- Enhanced data security, limiting unapproved access.
- Decreases the storage.

In manual framework, much extra room for information documents is needed so to conquer this issue, on computerized all around oversight data set is created for saving extra room. This software saves space and stores data effectively. It closes the weight of having enormous manual recording stockpiling framework.

#### **Banking Framework can be used broadly for**

- Withdrawal of sum by the customer.
- Deposition of sum by the customer.
- Quicker Balance Details.

## **Chapter - 3**

# **FEASIBILITY REPORT**

### **3.1 Understanding Possibility**

Practicality study implies the investigation of issue to decide whether It can be tackled viably. At the end of the day, it is the investigation of the potential outcomes of the proposed framework it contemplates the work capacity, sway on the association capacity to address client's issue and effective utilization of assets.

Three viewpoints in which the framework must be practical are:

### **3.2 Cost-Effective Feasibility**

Conservative investigations confirm critical inferences that have arisen in the framework. Evaluate the proposed "Banking Project" improvements and running costs. The software used for development can be accessed effectively at low cost, and the applied dataset can be accessed indefinitely, so minimal cost execution is possible.

### **3.3 Technical Feasibility**

This angle focuses on the idea of leveraging the meaning of a computer named "power" in human work. The placement of robots along these lines inspires requirements for professional habitability research. The focus of the step leveraged the information base management and users of the software.

The proposed framework is specialized from top to bottom and does not require any information, as it is basically easy to improve the framework. The software used (VB.NET) makes the framework easier to understand (GUI). The results obtained must be used on a continuous basis.

### **3.4 Behavioral Feasibility**

The validity of the behavior manages the S/W runtime execution, and the framework of the future should be less than the present in social studies. S/W puts the end customer first when planning the framework, and the software engineer needs to know about conditions such as the client's knowledge input and yield estimate.

The software contains only a basic number of bugs. You need to take extra care to avoid the catch and how it doesn't work.

## **Chapter - 4**

# **SOFTWARE REQUIREMENT & SPECIFICATION**

### **4.1 Programming Required**

These efforts are run on Core Java to provide the execution of the Socket and Server Socket classes used to connect undeniable applications. The items necessary for the formation and implementation of the subsequent coping are J2SDK1.7 or Eclipse. Most likely you know that Java is a step-free language, so this item corresponds to the JRE environment in any ideal arena: Linux, Windows 9x, XP, 2000, or even a working framework.

### **4.2 Equipment Required**

Allocations are excluded from the database, so the need for those gears is not important. Enough for any framework with a Pentium P2 or higher processor, 32 MB of RAM, 1 GB hard disk, LAN card and CDROM. Its connection-based programming is suitable for its essence in a PC for all kinds of modes (far related to LAN, etc.). It can also be run on one machine for demonstration purposes. It can run operators on any mechanism and is ideal for research centers where multiple clients can use it simultaneously. Acquisition must be valid under the conditions in progress.



## 4.3 Programming Investigation Report

### About Java: Features of JDK 1.7

#### Stage Independent:

The idea of WORA (called Machine free) is one of the key and important components of Java that styles java in the most impressive languages. Java in which the lone language of this component is not disabled is in this element. A project that consists of a single step can be run at other stages, and the steps include the JVM.

#### Straightforward:

There are some key points that make Java the base language. It's not difficult to create and repair a project based on why Java doesn't explicitly use pointers. It's very difficult to write a program that can change the framework, but I can't say any other dialect. Due to its powerful execution memory, Java provides a non-threat (error-free) framework. There is also a framework for programming memory allocation and reallocation.

#### Object Oriented:

The language must include four attributes to be an Object-Oriented Language which are

- Inheritance: the way toward making the fresh classes and utilizing the conduct of the current classes by covering (by using extends) them just to salvage the current code and increasing the extra highlights depending on the situation.
- Encapsulation: the component of joining the data and giving the deliberation.

- Polymorphism: As the name recommend one name various structure, Polymorphism is the method of giving the diverse usefulness by the functions having a similar name dependent on the marks of the techniques.
- Abstraction: Abstraction implies utilizing straightforward things to address complexity. We as a whole expertise to turn the TV on, yet we don't have to know how it functions to appreciate it. In Java, abstraction implies basic things like objects, classes, and variables address more complex fundamental code and information. This is significant in light of the fact that it lets try not to rehash a similar work on numerous occasions.

### **Dynamic binding:**

Occasionally when writing code, we don't have information about a particular type of object. It is the most useful method for programs in a specific order at run time.

C++ dialects like C are not exactly the opposite of the dialects arranged because they are structured like dialects of item location to satisfy more than four properties. However, when the Java outbreak occurs, it is a completely object-oriented language because the objects are generally at the external level of the information structure in Java. Java has no independent strategies, constants, or elements. Everything in Java is an object. In addition, crude information types can be changed to objects using covering classes.

### **Strong:**

Java has a definite memory allocation and an assortment of programmed garbage components. In contrast to other programming dialects, it gives amazing immunity to handling and type checking systems. The compiler checks for errors in the program, the mediator checks for runtime errors and protects the framework from crashes. All of the above highlights make the Java language powerful.

**Disseminated:**

Commonly used rules like HTTP and FTP are written in Java. Web software engineers can allow capacity based on current rules, and nearby frameworks allow documents to be accessed away from the web's computer instead of writing code.

**Versatile:**

WORA elements diversify the Java language, given that the framework needs to include converters for the JVM. Java has a standard size of information, regardless of the framework or processor of similar operations. These highlights create Java in a convenient language.

**Dynamic:**

While running a Java program, the client simply connects to the internet, and can step by step from a nearby drive or PC to the required records from miles away from the client.

**Secure:**

Java does not explicitly use pointers to memory. All Java projects run in a space called a sandbox. The security manager makes decisions about class openness, such as carefully reading the records on nearby plates. Java uses a public key cryptography framework to allow Java applications to communicate over the web in a protected scrambled structure. Bytecode validation validates the class as a result of the stack.

**Execution:**

Java takes advantage of the use of local code and a lightweight cycle called threads. The development adaptation of the JVM, which gave a proper presentation in the first translation of bytecode, spares no effort in accumulating procedures to improve the exhibition and is versatile.

**Multi-threaded:**

Java is also a multithreaded programming language. Multithreading means the only program in which various strings are freely executed at the same time. A large number of strings execute instructions as shown in the interaction or program code of the program. Multithreading works in a similar way because many cycles are executed on one PC.

Creating a multithreaded computer program is an interesting idea related to Java. In multithreaded programs, a single string is not enough to interrupt execution of another string. The string is taken from an accessible pool prepared to execute the string and executed on the framework CPU. This is how it functions as multithreaded Java, and it will become subtly understandable later on.

**Deciphered:**

We all know that Java is a deciphered language. Using a decrypted language such as Java allows the program to execute the source code directly. The

arbitration program peruses the source code and immediately interprets it into calculations. Java, the language decrypted in this way, depends on the translation program. With the adaptability of stage autonomy, Java leaves in other dialects. The generated and assigned source code is stage autonomous.

Another advantage of Java as a decrypted language is the fault of the quality of problem solving. Therefore, any failures in the program are traced. This is a variety of ways to manipulate Java.

**Design Neutral:**

The term building impartial is by all accounts strange, however yes Java is a structural unbiased language too. The developing notoriety of organizations makes designers think circulated. In the realm of organization, it is fundamental that the applications should have the option to relocate effectively to various PC frameworks. Not exclusively to PC frameworks however to a wide assortment of equipment design and working framework models as well. The Java compiler

creates the direction of bytecode so that it can be effectively deciphered on all systems and quickly converted to local machine code. The compiler creates a nonpartisan article record organization designed so that Java applications can be run from anywhere in the organization, and the code collected later runs on a number of mainframes if there is a JRE. As a result, Java is meant to support network applications. This element of Java's prosperous programming language.

## **Introduction to JDK:**

Sun Microsystem has a product called the Java Development Kit (JDK) focused on Java engineers. Since the release of Java, this has long been the most commonly used JavaSDK. On November 17, 2006, Sun declared that it was delivered under the GNU General Public License (GPL) and, as a result, it was programmed free of charge. This was mainly added to the source code OpenJDK, which occurred on May 8th, 2007. An important part of JDK is the selection of programming devices such as:

Java - Java application loader. This device is a converter and can read class records generated by the javac compiler. Currently, standalone is being used for both a series of events and organizations. The old send launcher, JRE, currently doesn't offer it.

- javac- A compiler that converts source code to Java bytecode
- jar- archive of single JAR history bundles with related class libraries. This device also monitors JAR documents.
- javadoc- a document generator that naturally generates documentation from source code comments
- jdb- debugger
- javap- class record disassembler

- appletviewer- This device can be used to run and investigate Java applets without an internet browser.
- javah-C header and stub generator used for configuration of local technology.
- extcheck-This utility can check for conflicts in JAR documents.
- apt- comment preparation unit
- jhat- (experimental) Java stack checker
- jstack- (experimental) This utility outputs Java stack tips of Java strings.
- jstat- (for testing) Java Virtual Machine insight tester
- jstatd- (for testing) jstat daemon
- jinfo- (for testing) This utility provides configuration data for running Java cycles or crash dumps. Capture Get it.
- jmap-(Experimental) This utility can create memory maps for Java, print shared article memory guides, and create subtle stack memory for specified interactions or center dumps. I will.
- idlj --IDL-to-Java compiler. This utility creates a Java connection to the document in the specified IDL.
- Policy Tool-Batch Creation and Execution Instrument
- VisualVM-Java runtime strategy to determine access to code from different sources and memory coordination with multiple order line JDK instruments and optical execution visual device profiling capabilities

JDK A complete Java runtime environment, usually called a dedicated runtime. It consists of a Java virtual machine and a complete library of classes that can be used in production environments. This corresponds to additional libraries that support designers, such as internationalization libraries or IDL libraries.

Likewise contains various decisions of the model project representing the use of almost all parts of the Java API.

#### **4.4 System and API Requirement:**

**IDE:** Eclipse

**Front End:** JSP, JDBC, JavaScript, AJAX

**Programming Language:** Java

**Back End:** Oracle

## **Chapter - 5**

# **SYSTEM DESIGN**

### **5.1 Introduction**

The composition of the program is placed in a special part of the program interaction and applied with little attention to the worldview and space used for improvement. Composition is an early stage in the development of a designed item or framework. Planners can provide element models or depictions that are created later. First of all, when the need for a framework appears and is reviewed, the composition of the framework is the first of three specialized exercises: planning, code and testing required for programming assembly and verification.

The meaning can be expressed in a word "quality". It is a place where quality accumulates in improving the composition program. Depending on the configuration, you can get a description of the program that allows you to investigate its quality. Configuration is a way to allow the client view to be accurately interpreted as a complete programming item or framework. The program configuration is entered into the establishment of all subsequent stages of computer programming. Without a good plan, you risk assembling an unstable framework. It is a framework that is difficult to test, and the quality cannot be assessed until the final stage.

Subtle reformist improvements in planned information structures, program structures and procedures are explored and retained. The framework configuration can be viewed in one or another specialty or operation from an executive perspective. From a professional point of view, planning includes four exercises: engineering planning, information structure planning, interface planning and procedural planning.



## 5.2 Normalization

This is the cycle of converting the connection to a standard structure. This cycle is used to solve problems that may arise due to repetition of information, such as redundancy of information in a data set, and to solve problems that may be due to irregularities in receive, update or delete while maintaining the reliability of the information. Collapse is a method of breaking up relationships into various relationships to eliminate contradictions, maintain ideals, and maintain information accuracy. To do this, we use the general structure or rules that make up the connection.

Inclusion mismatch: Cannot add information to the dataset because no other information exists.

Specificity of cancellation: Unintended loss of information due to deletion of other information.

Update: The weirdness of the irregularities in the data caused by repetition of information and updates in the middle.

General Format: These are guidelines for cleaning up relationships by eliminating specificities.

### First Normal Form

The characteristics of the connection are the keys to each property of the connection, and the connection should be the first general structure. This means that we cannot have a swarm that has been re-hashed for occasional delivery, without the value of quality becoming many qualities.

### Second Normal Form

The connection is the first normal structure, and if one of the relevant guidelines must be met, it is considered the second normal structure.

1. The primary key does not have a composite required key.
2. No credit other than the key is allowed.

3. All non-key attributes are subject to practically the entire batch of required keys.

### **Third Normal Form**

If the transitional conditions are not deviated, the connection is considered to be the third general structure.

Transfer Dependencies: If the credits of all non-keys depend on each other, such as the required key, they must rely on transfer.

The above standard has been applied to degrade the information in many tables so that the information remains reliable.

## **5.3 E – R Diagrams**

It is a structure through an E-R diagram connected to the framework. It shows in detail the standard relationships in which the framework exists and the elements of existence, as well as the essential importance in advance of the state of the framework.

Entity Relevance Diagram (ERD) represents the connections between informational objects. ERD is a document used to guide the work of data marking, and the quality of any information object mentioned can be described by leaving a description of the information object. The significant subsets distinguished by the

ERD are:

Information Objects - Relationships

Quality - Pointers of Different Kinds

The main role of the ERD is to cope with the information objects and their connections.

## 5.4 Data Flow Diagrams

Diagram of the information flow or data stream is a graphical device used to describe and study information development through a frame. These are focal points and premises, of which different parts are created. Changing information by contributing to productivity through the handling can be intelligently described by handling and autonomous actual segments relating to frames. They are referred to as legal information flow diagrams. The actual flowcharts show that information between individuals, parts and workstations actually implement and develop. A complete description of a real frame contains a range of information flow diagrams. Use two natural documents to facilitate Yourdon, Gane and Sarson information transmitter diagrams. Each segment of the DFD is named with an enlightened name. The cycle added to some added cycle is used to distinguish the assessment reason. The progress of the DFD takes place on a few levels. Each interaction in child charts can be disconnected at a higher level under the DFD score at a higher level. The trim stage diagram is often referred to as the installation sketch. It contains a single interactive cycle that takes an important part of the check of the current frame. The interaction in the outline of the installation level is detonated at the main level of DFD to another cycle.

Think about the explosion of interactions in many cycles instead of understanding at a level of flowering details in more conspicuous details at a higher level. This happens until an additional explosion is very important and a satisfactory measure of the details described for the investigator to understand the cycle.

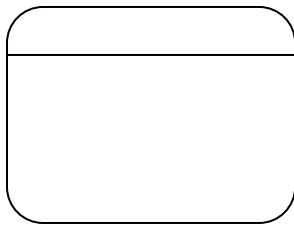
Larry Constantin previously has DFD as a method of communicating substantially the frame in a graphical graphic that has since leads to a specific plan.

The DFD has also returned to the "Bubble Chart" with an incentive to explain the requirements and recognize significant changes in the program of the framework package. Therefore, it is an early stage of planning to reduce the most detailed levels. DFD involves the development of airbags associated with information in the context of the framework.

## DFD Symbols

The DFD has four images:

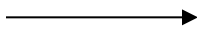
1. Squares characterize the source (source character) or goal of framework information.
2. Volt recognizes the information stream. The pipeline in which the data is streamed.
3. One or Air Pocket handles the interaction that changes the accessing information stream to the active information stream.
4. Open Square is a very static or temporary information store information repository.



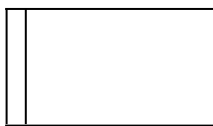
Process that transforms data flow.



Source or Destination of data



Data flow



Data Store

## Constructing a DFD

An overview of an information stream is a graphical means used to describe and investigate the development of information through the framework. These are based on the assumption that a focusing device and various segments are created. Change of information on yield by contribution is a reliable guideline used when drawing DFD`s through processing.

1. The process should be given a name and number for simplicity of reference. Each name should describe the interaction.
2. The title of the stream passes from left to right. Despite the potential to flow back to the source of information, they are usually streamed from source to target. One way to prove this is to cancel long stream lines. The path of the option is to hash the source image back to the destination. It is used multiple times in DFD, so it is separated by a short diagonal line.
3. Numbered when interactions subtly explode at lower levels.
4. Information store and objection names are written in uppercase. Cycle and data flow names have default characters for each promoted task.

The DFD periodically displays the basic elements of the information store. Every information store must contain components of all the information that goes in and out.

The survey contains all the information components that go in and out of the stream. Interviews, such as missing interface duplicates, will be shown regularly.

### **Prominent Features of DFDS**

1. DFD checks the control circle, not the stream of information, and the choice indicates that the controlled speculation is not displayed in DFD
2. DFD data flows do not show time counts for interactions whether they occur daily, weekly, monthly or yearly.
3. Opportunity placement is not provided with DFD.

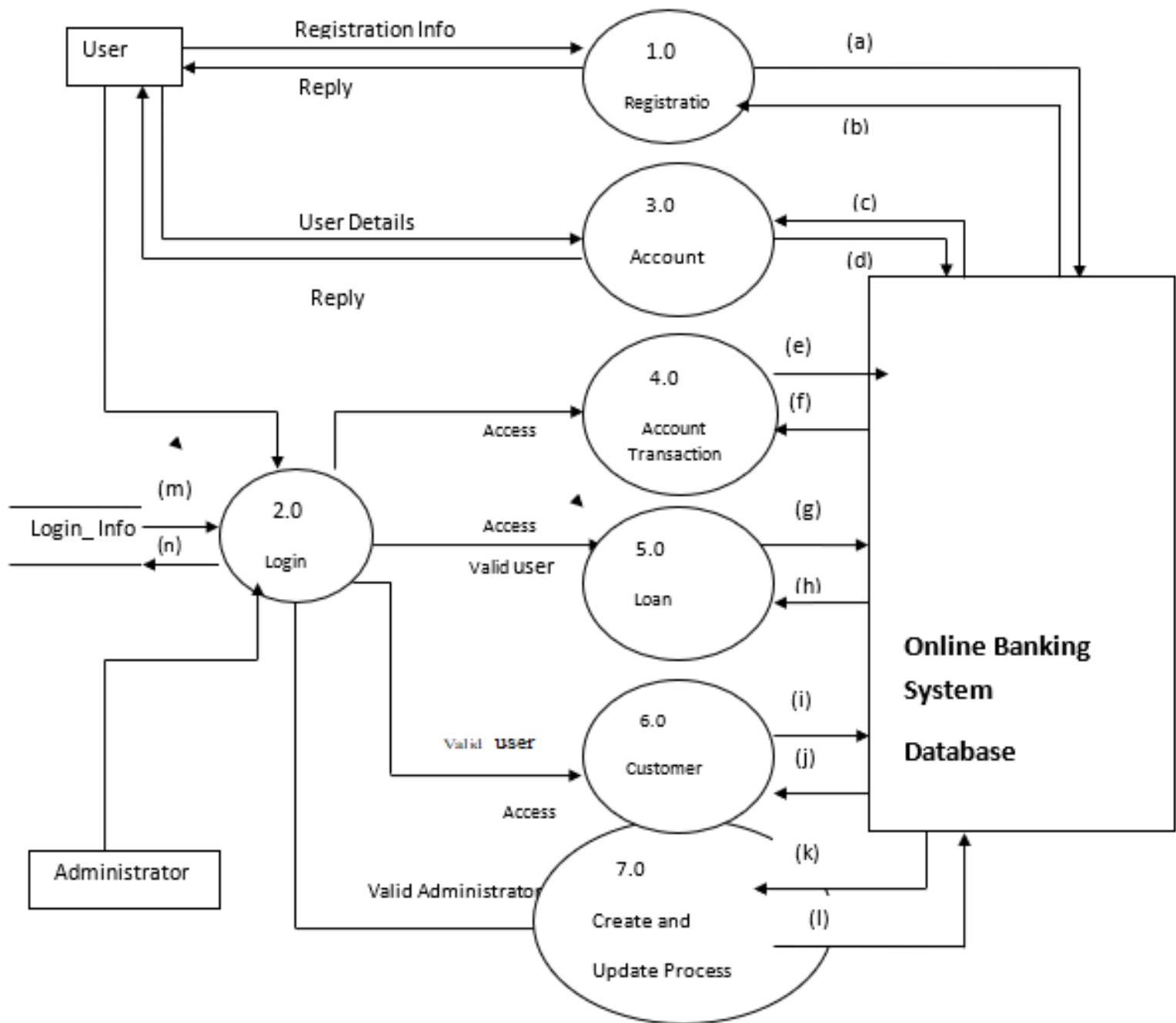


Fig. 1: Level 1 DFD

- (a): User Details
- (b): Response
- (c): Personal details
- (d): Reply
- (e): Account Transaction entry
- (f): Transaction Details
- (g): Loan Application
- (h): Response
- (i): Feedback
- (j): Reply
- (k): Create, Update, Reply
- (l): User data
- (m): Login Info
- (n): Invalid login

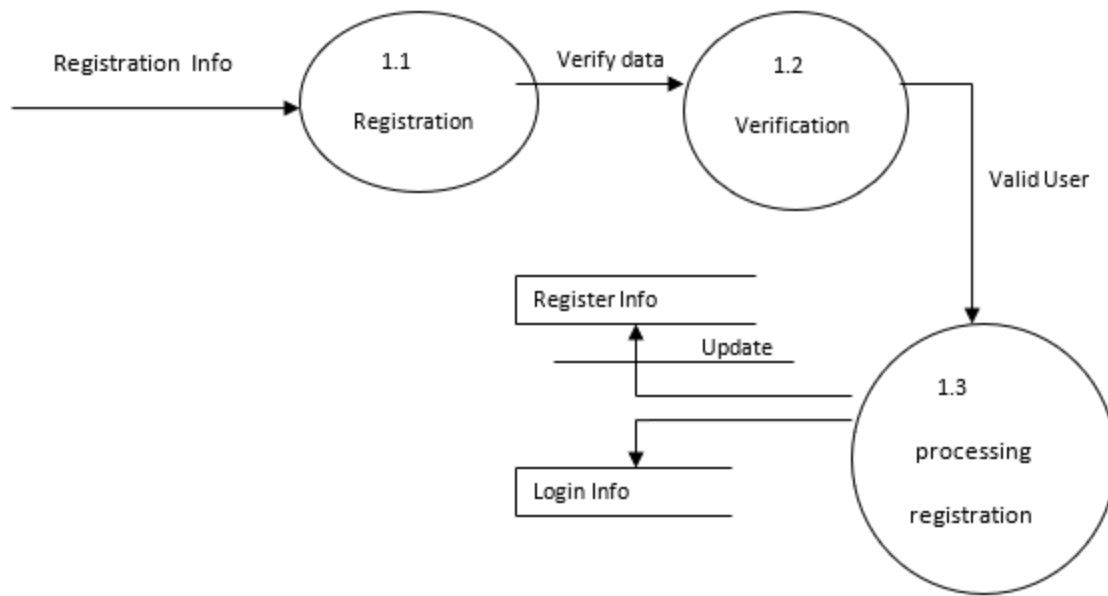


Fig. 2: Level 2 DFD Process - 1



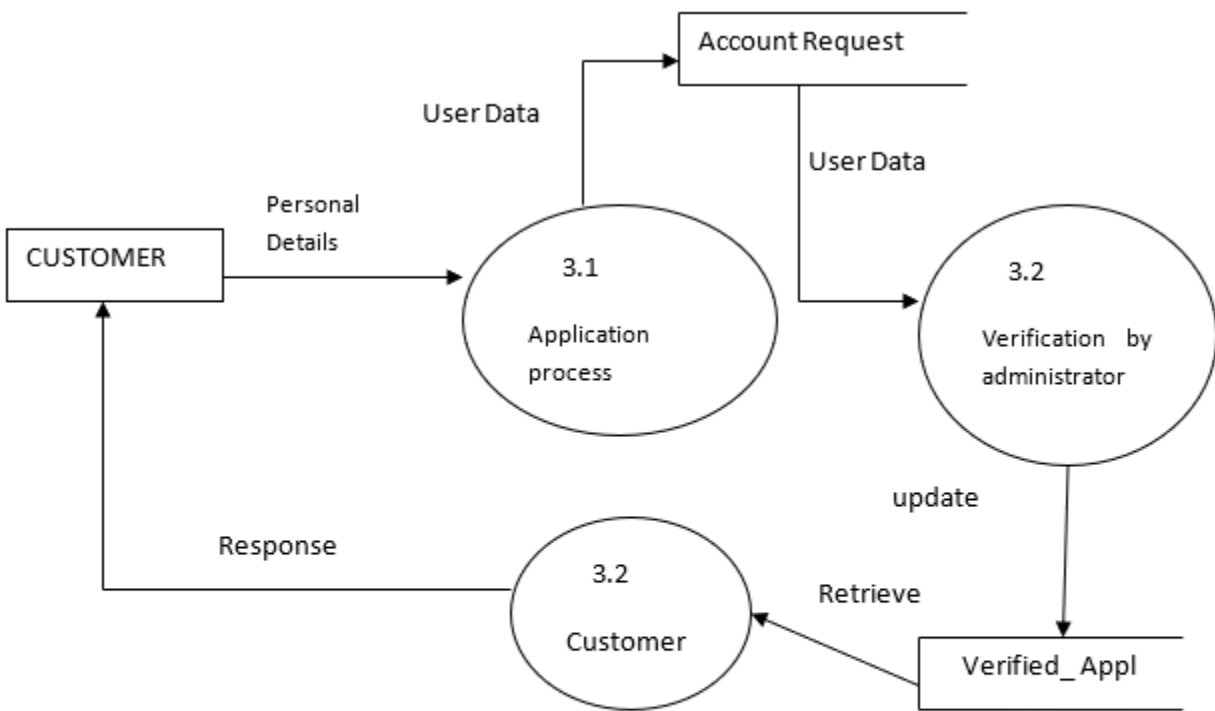


Fig. 3: Level 2 DFD Process - 2

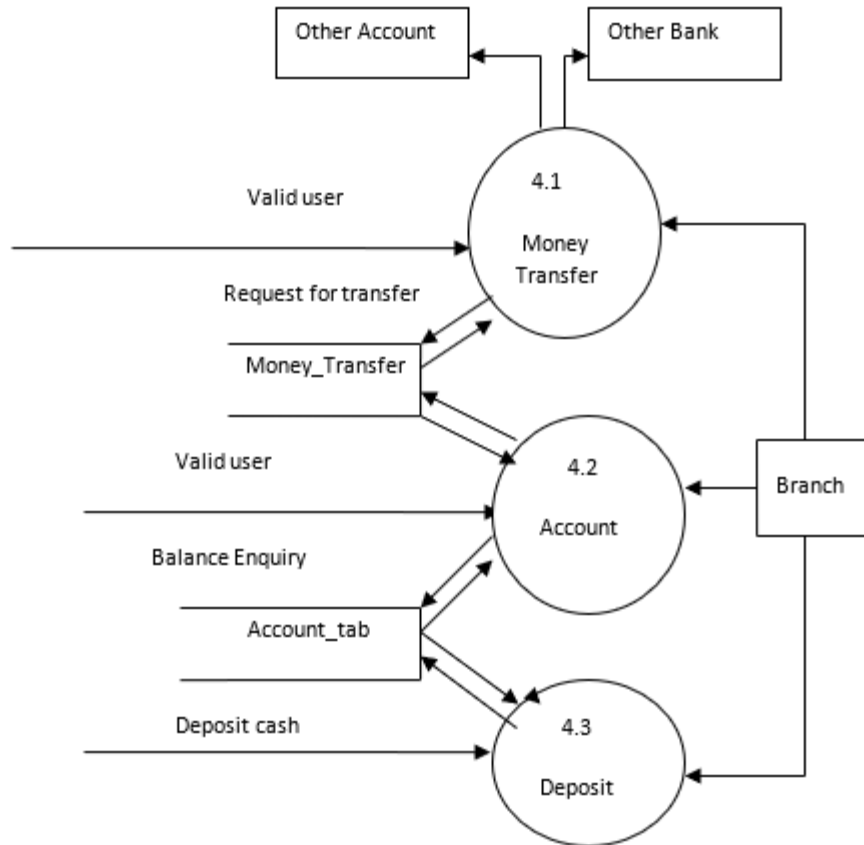


Fig. 4: Level 2 DFD Process - 3

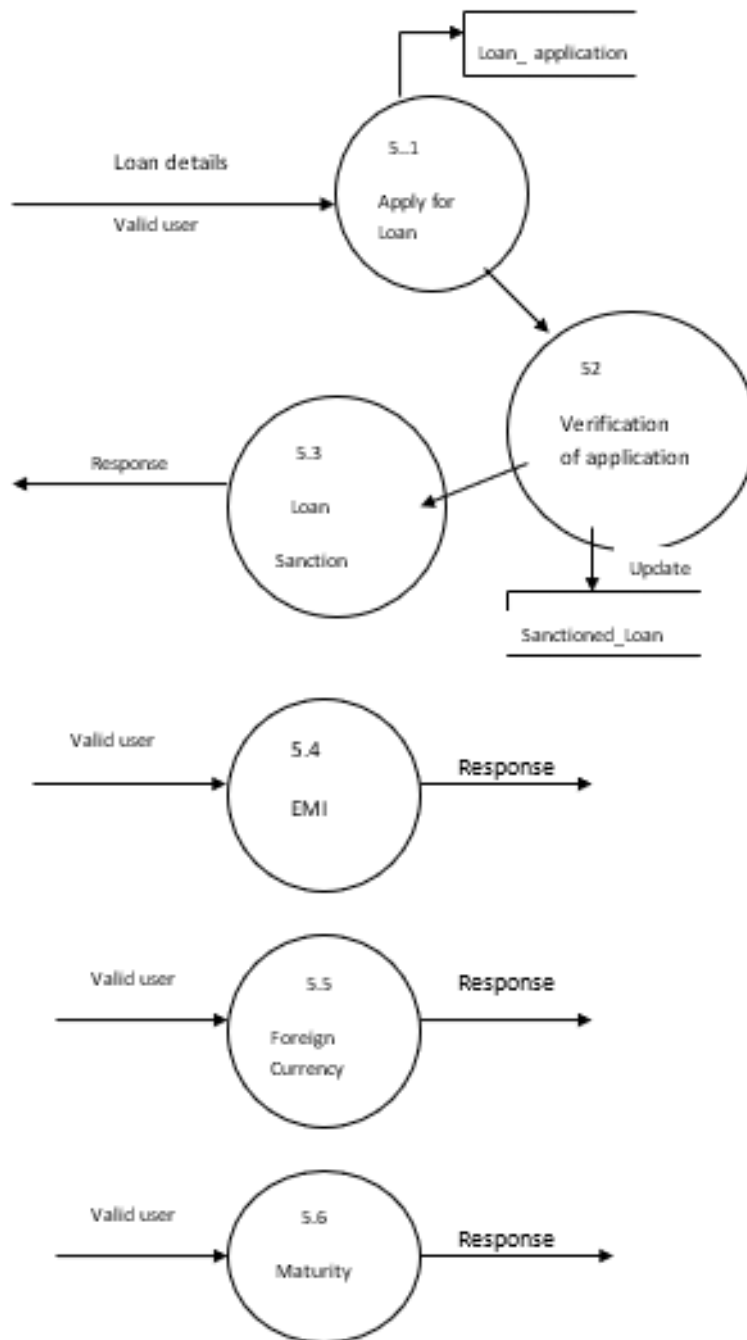


Fig. 5: Level 2 DFD Process - 4

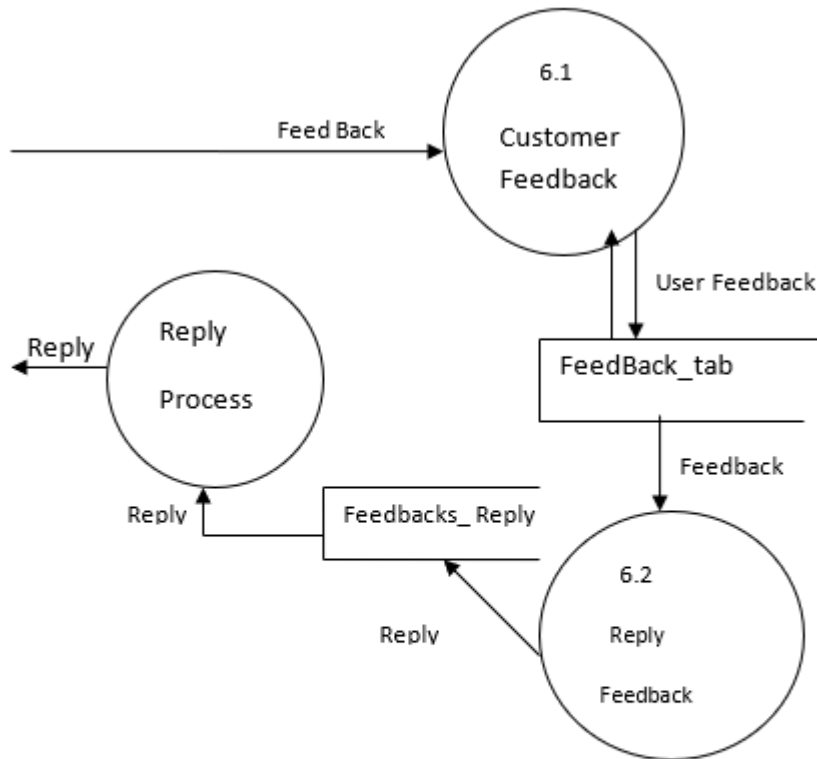


Fig. 6: Level 2 DFD Process - 5

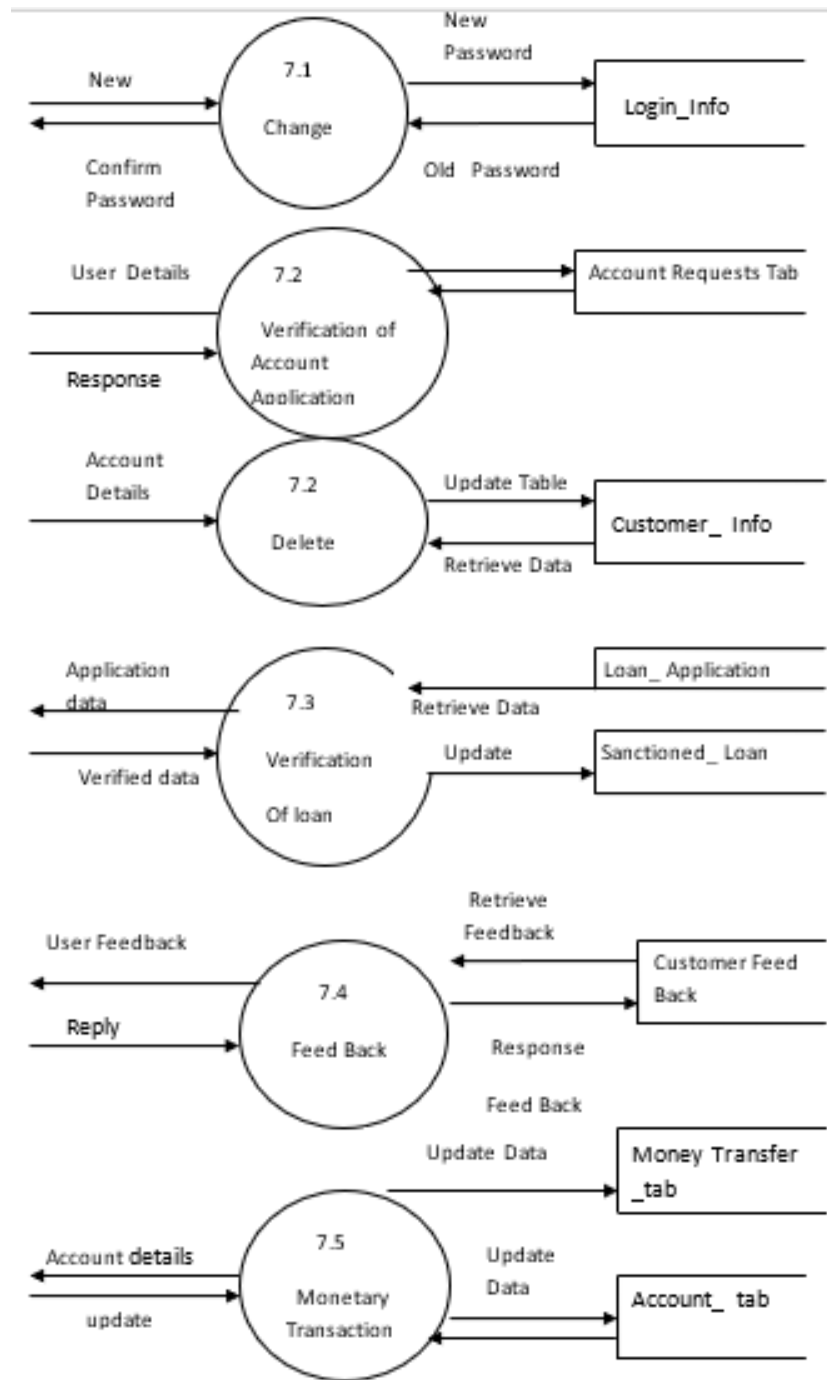


Fig. 7: Level 2 DFD Process - 6

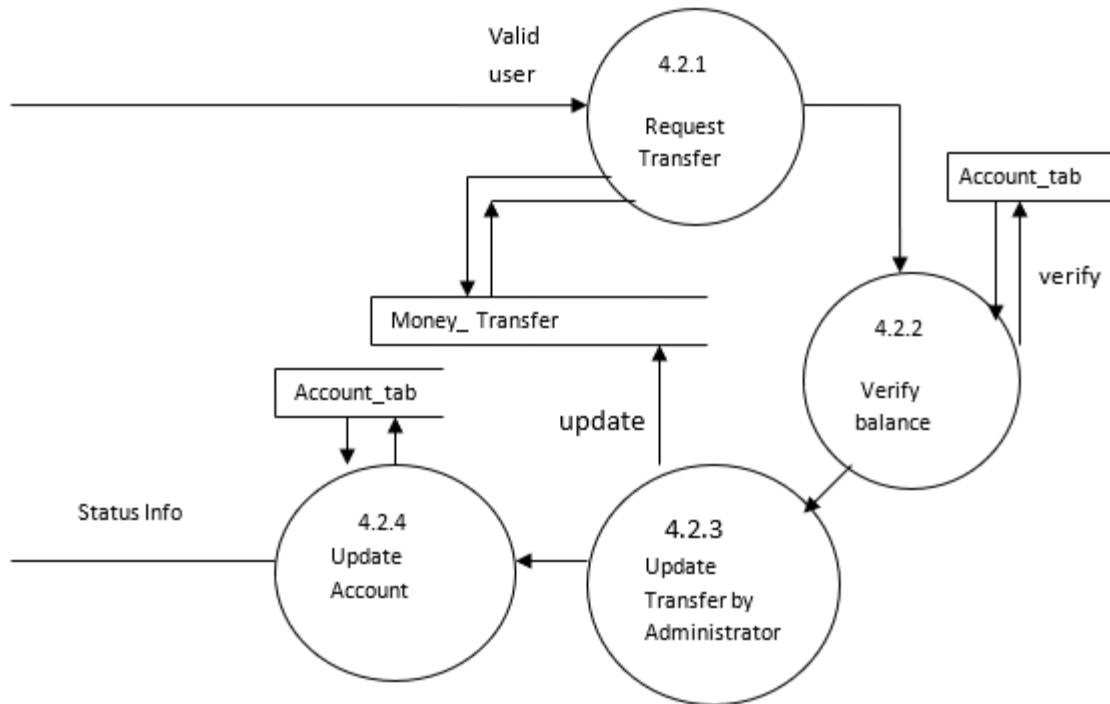


Fig. 8: Level 3 DFD

**5.5 Database Table**

<b>Column name</b>	<b>Data type</b>	<b>Nullable</b>	<b>Primary key</b>
ACCOUNTINFO	Number	No	Yes
USERNAME	Varchar2	Yes	No
PASSWORD	Varchar2	Yes	No
AMOUNT	Varchar2	Yes	No
ADDRESS	Varchar2	Yes	No
PHONE	Varchar2	Yes	No

## Chapter – 6

# OUTPUT SCREENS



Fig. 9: System UI





UNITED BANK

Enter Name:  
Enter opening credit:  
Enter desired PIN:  
Submit

Fig. 10: Create New Account



UNITED BANK

Enter Name:  
Amit Abhinav  
Enter account number:  
63710015010  
Enter your PIN:  
\*\*\*  
Submit  
HOME

Fig. 11: Login Page

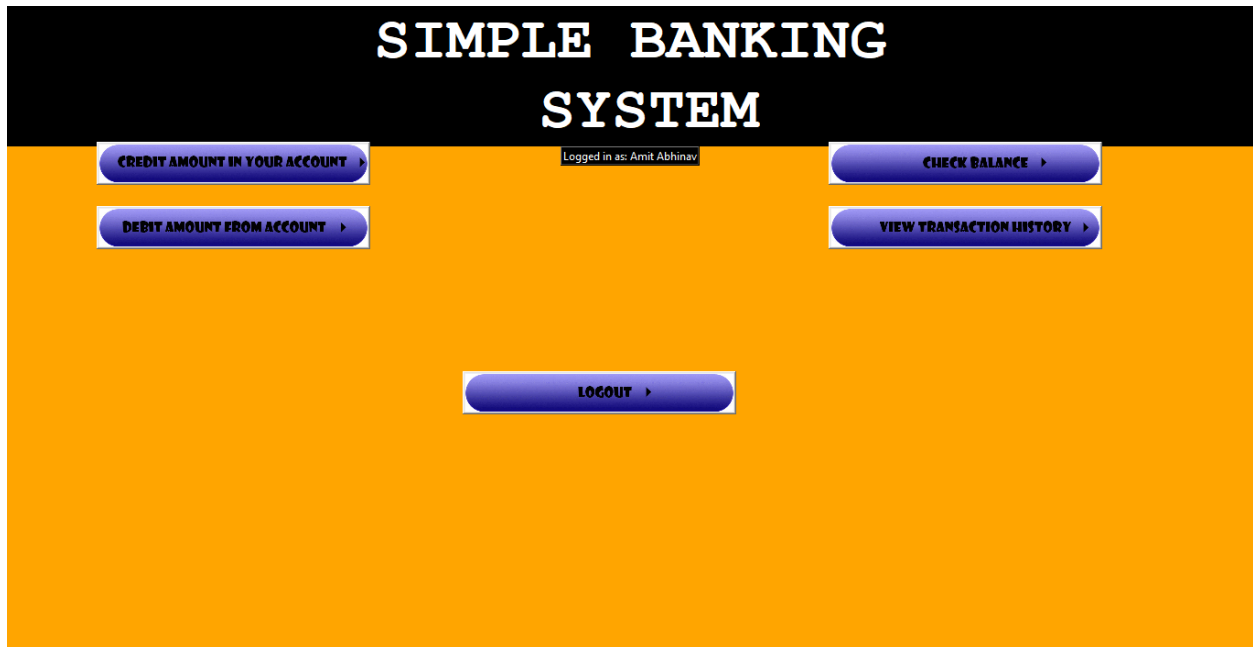


Fig. 12: Customer Homepage



Fig. 13: Credit money to account



Fig. 14: Debit money from account

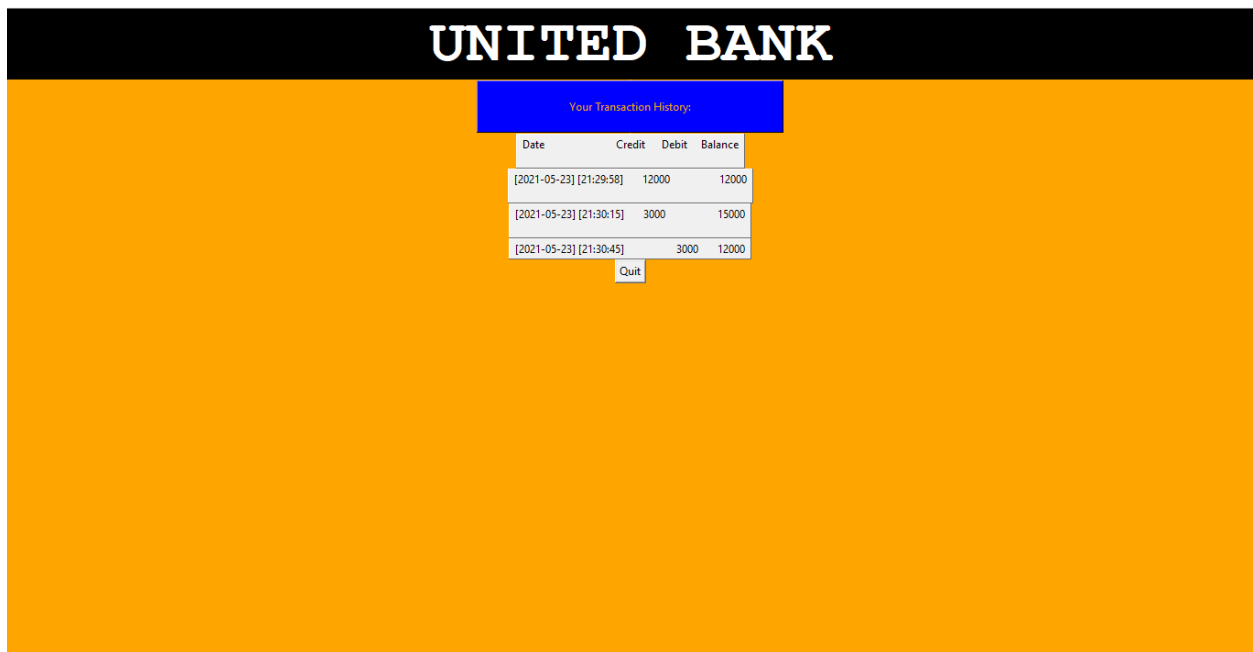


Fig. 15: Transaction History

## **Chapter - 7**

# **SYSTEM TESTING AND IMPLEMENTATION**

### **7.1 Introduction**

Programming tests is a fundamental component of the programming quality confirmation and definitely triggers a detailed audit, a package and a definitive encoding. In fact, testing in the programming cycle is a stage that can be ruined due to efficiency.

A method of programming coordinates program experimental planning techniques into a sorted arrangement many steps that bring the efficiency development of programming. The examination is an arrangement of exercises that can be effectively planned before the deadline and instructions. The basic inspiration of program tests is a programming quality certification with financially applied techniques and sufficient for large and limited framework conditions.

### **7.2 Strategic Approach to Software Testing**

The interaction of programming can be seen as a twist. First, the design of the framework calls for the investigation of the program's need for programming data area capacity, implementation, execution order and approval rules are established, characterized by programming tasks. You will move inside according to the winding and finally plan the coding. To facilitate PC programming, we mitigate the deterioration of the reflection on each turn. As for the

winding, the programming test methodology can be seen as well. Unit tests start at the apex of the twist and focus on all units of the product running from the source code. Move outwards along a mixed test that pays attention to product design planning and development to run the test. Speaking

again about windings, you will experience approved approval testing of the developed product with the prerequisites set as a component of the investigation of programming essentials.

Eventually we will see in the framework testing trying all the elements that make up the product and other frameworks.

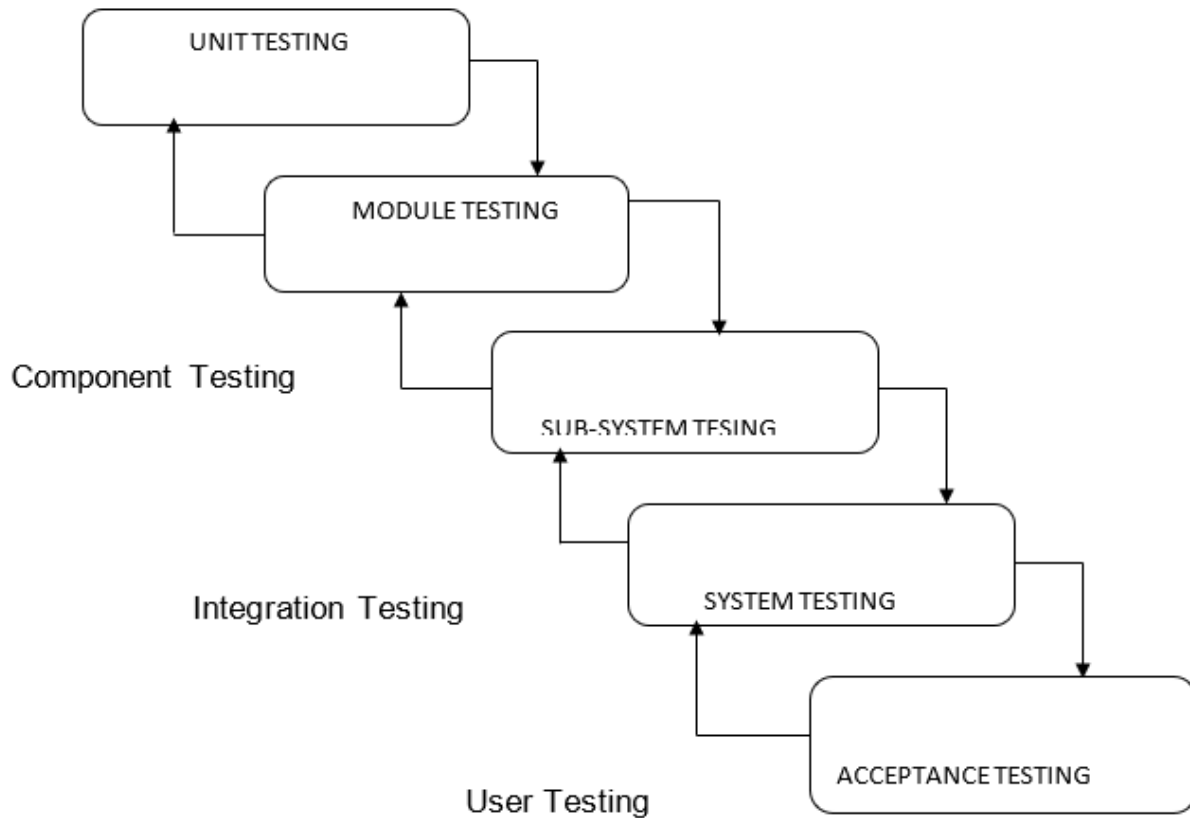


Fig. 16: Software Testing

## 7.3 Unit Testing

The unit test center confirms the efforts of the module, which is the smallest unit of programming planning. Unit tests are an array of white boxes, with several modules connected in the same way.

### 1. White Box Testing

These tests are guaranteed to be:

- All methods of self-sufficiency are sophisticated at first glance anyway.
- Every wise decision has been dug in terms of both real and counterfeit.
- All circles run within the cutoff point and the working cutoff point.
- All internal data structures are drilled to ensure their reliability. I tried each design to comply with the white box test.

We have publicly confirmed that the flow of information is accurate, all conditions are in place to verify authenticity, and all circles run at cutoff points.

### 2. Basic Path Testing

The technique of setting a circular complex flow diagram was used to determine the test for all limits. The main work of the estimation test is as follows.

- Draws a journalist stream diagram using a code array.
- Use conditions to determine the circular complexity of the result stream diagram.

$$V(G) = EN + 2 \text{ or}$$

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

$$V(G) = \text{Locale can be}$$

where  $V(G)$  is Cyclomatic intricacy,

$E$  is the number of edges,

$N$  is the amount of stream diagram herbs,

$P$  is the quantity of predicate hubs.

Determine the premise of the direct free method.

### **3. Conditional Testing**

This test was attempted in all conditions, both from a practical point of view and from a false point of view. And tried all those methods. In this way, it reveals any errors that may occur under explicit conditions, depending on any method that can be done.

### **4. Data Flow Testing**

These tests choose the method of the program according to the definition of the component and the space used. These tests were used precisely when several nearby factors became apparent. These tests used a chain methodology of definition and use. These were particularly important in the resolved explanation.

### **5. Loop Testing**

In these tests, all clubs are tried to remove all possible focus. What causes action was accepted in all circles:

- All circles were essentially attempted as a focus to remove them from above and below.
- Once all clubs have been resolved.
- For a calm circle, first test the innermost circle, then work outward.

- In the case of a connected circle, the potential benefit of the word circle was established with the help of the related circle.
- Unstructured prototypes attempted as above, settling on settling prototypes or related prototypes.

Each unit is autonomously implemented by the group itself and supports all information.



# Chapter - 8

## SYSTEM SECURITY

### 8.1 About System Security

Checking for PC-based resources that counter-combine equipment, programming, data, strategies and people against unauthorized use and cataclysms is called system security. The security of the framework can be divided into four related issues:

- Protection
- Veracity
- Personal Information Protection
- Confidentiality

Professional developments and methodologies applied to equipment and activity frameworks to protect systems and system security awareness and accidental damage. Means From a characteristic danger.

Data security protects your data from adversity, disclosure, modification, and destruction. The

SYSTEM INTEGRITY offers true security and prosperity against external risks such as tuning and tapping, suggesting powerful equipment and business capabilities.

PRIVACY describes the benefits of customers and relationships, categorizes the information that customers give or recognize to others, and does not disappoint or lose inappropriate or unnecessary information. I will explain how you can guarantee that.

CONFIDENTIALITY is a unique state given to data in a dataset to control the likelihood of a security attack. It is the nature of information on positive prerequisites.

## 8.2 Security in Software

System security implies various approvals of some kind of check and control data to prevent the structure from crashing or burning. It is certainly fundamental to ensure that considerable practice is run on the structure in which a single real data is entered. The system has 2 types of inspection and control.

### CSV (Client-Side Verification)

Verifies that exclusive genuine data is entered on the client side using various client authentications. With client-side approval, it saves time and weight for experts to manage erroneous data. Some of the tests that are constrained are:

- VBScript is used to ensure that these important fields are stacked with appropriate data and conversation. Most design field limit lengths are well documented.
- You can't submit the form except for the required data, so you can classify the manual mistakes of submitting the required empty fields on the client side, saving the worker time and weight. ..
- Tabs-Set based on what you think is necessary for customer simplicity while working with the file structure.

### SSV (Server-Side Validation)

Some drafts are not applicable on the customer side. The worker's draft is important to protect the framework from turmoil and to suggest to clients that some invalid activity has been performed or that the activity performed has been restricted. Some of the worker-side inspections are:

- Server-side commands were forced to draft the legality of required and unfamiliar keys. Required key values cannot be copied. Efforts to copy the results of the essential value to the message suggesting these qualities to the customer through a mechanism that leverages unfamiliar keys can be a unique update of the current unfamiliar key qualities.

- The user implies through appropriate messages in effective activities or special cases that occur on the part of the worker.
- Many access control mechanisms have been collected to prevent one customer from burdening other customers. Access agrees that various kinds of customers are limited by definitive development. Authorized customers can log on to the rescue and access according to their group. Customer name and password consent is managed by the worker side.
- Requirements for some restricted activities apply using worker's approval.

## **Chapter - 9**

# **CONCLUSION & SCOPE FOR FUTURE DEVELOPMENT**

### **9.1 Conclusion**

This mission is created, which is involved in each of the exercises involved in the inspection of local areas. This gives all the important information to the organization similar to the customer using this system; Customers can sit essentially in front of the structure and show all activities without the true progress of the records. Guides can keep the best customer requirements on time.

The structure offers fast and great information. These modules are active for the excellent use of organizations in the future and the current needs.

### **9.2 Future Development Process**

The framework can be intended for additional improvement. This could likewise be created by the developing requirements of the client.

You can add the following features to improve your project.

- Create a new module for various records including account, current account storage, etc. to work with new clients.

- The use of electronic media "computerized sign" on the card can be provided to the client to make it safe and skilled.

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