A Project

on

Banking Portal using java Technology

Submitted in partial fulfillment of the
requirement for the award of the degree of

Bachelors of Technology in Computer Science Engineering

GALGOTIAS UNIVERSITY

(Established under Galgotias University Uttar Pradesh Act No. 14 of 2011)

Under The Supervision of
Padmanabhan P.
Assistant Professor

Submitted By

Mayank Raj (18021011408 / 18SCSE1010161)
Pratik Chandra Tripathi (18021011407 / 18SCSE1010159)

SCHOOL OF COMPUTING SCIENCE AND ENGINEERING
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
GALGOTIAS UNIVERSITY, GREATER NOIDA
INDIA
December, 2021

SCHOOL OF COMPUTING SCIENCE AND ENGINEERING
GALGOTIAS UNIVERSITY, GREATER NOIDA

CANDIDATE'S DECLARATION

I/We hereby certify that the work which is being presented in the thesis/project/dissertation, entitled **"<u>Banking Portal using Java.</u>"** in partial fulfillment of the requirements for the award of the "**<u>Bachelor of Technology</u>**" submitted in the School of Computing Science and Engineering of Galgotias University, Greater Noida, is an original work carried out during the period of month, Year to Month and Year, under the supervision of **Padmanabhan P.**(Assistant Professor) Department of Computer Science and Engineering/Computer Application and Information and Science, of School of Computing Science and Engineering , Galgotias University, Greater Noida

The matter presented in the thesis/project/dissertation has not been submitted by me/us for the award of any other degree of this or any other places.

Mayank Raj,18SCSE1010161

Pratik Chandra Tripathi, 18SCSE1010159

This is to certify that the above statement made by the candidates is correct to the best of my knowledge.

Padmanabhan P.

Assistant Professor

CERTIFICATE

The Final Thesis/Project/ Dissertation Viva-Voce examination of <u>Mayank Raj</u> and <u>Pratik Chandra</u> <u>Tripathi</u> has been held on _18/12/2021__ and his/her work is recommended for the award of Bachelor of Technology (CSE).

Signature of Examiner(s)   **Signature of Supervisor(s)**

Signature of Project Coordinator   **Signature of Dean**

Date: December, 2021

Place: Greater Noida

Acknowledgement

We cannot express enough thanks to my committee for their continued support and encouragement: **Mr. Padmanabhan P.** (Project Mentor) and **Mr. Sreenarayanan NM** (Project Reviewer). We offer my sincere appreciation for the learning opportunities provided by my committee.

Our completion of this project could not have been accomplished without the support of our project partners. This wouldn't have been possible if you people wouldn't have had my back at stressful times.

Finally, to our caring parents who took great care of us in these tough times. Your encouragement when the times got rough are much appreciated and duly noted. It was a great comfort and relief to know that you were willing to provide management of our household activities while We completed our work.

My heartfelt thanks!

Mayank Raj

Pratik Chandra Tripathi

Abstract

Transferring funds from one bank account to another, processing payments, calculating interest costs on home loan options, and managing mutual fund investments -- these are the kind of real-life, typical tasks that millions of people do at banks each day. And odds are there is now a Java applet or application running live at a bank somewhere in the world that does just what you need, with the growth curve ready to rise.

Traditionally, the banking industry is among the most conservative when it comes to deploying information technology. Reliability, security, and overall performance have to be proven, and the benefits have to be demonstrable, before professionals in banking will consider a new technical strategy.

Internet is significant for redefining and reshaping the various concepts in all spheres of life. To acquire ease, swiftness and downsizing, have a forceful edge over the competitors, homogenize qualitative services, swell market share, and on the whole, to get better eminence, Internet has become an appropriate pedestal for banking sector as well. In recent years, the banking industry around the world has been undergoing a rapid transformation. In India banking sector is growing rapidly with the various banks such as Private Sector, Public Sector and Foreign banks. The deepening of information technology has facilitated better tracking and fulfillment of commitments, multiple delivery channels to the online customers and faster resolution of issues through various modes.

E-banking is a service that enables a bank client to handle his accounts from a computer from a place selected in advance, at home or in the office. The main features of E-banking systems are the high level of security, comfort, simplicity of use, openness of the system, wide communication possibilities, networking, definition of users and their rights, automated data transmission and the option to define a combined signature specimen.

Apparently, Java technology has broken through this barrier. The Java technology banking solutions discussed here are just a small subset of the implementations now underway in real-world financial services institutions across the globe. Clearly the Java platform is in the front lines of a financial services revolution.

This project is aimed at developing an Online Banking for customer. The system is an online application that can be accessed throughout the organization and outside as well with proper login provided.

By implementing this project, we are trying to build a multi banking system which makes it easier to access different bank portals at one place and also increases the security. This will be very useful for customer as well as banks to manage accounts using this portal.

We can also implement more features in this project in future to increase interactivity with user and improve the security by best encryption techniques. Thus the Banking portal may be a useful product in the field of online banking.

Contents

List of Figures

Acronyms

IDE	Integrated Development Environment
PSP	Payment Service Provider
JDBC	Java Database Connectivity
AJAX	Asynchronous javascript and XML
SOA	Service Oriented Architechture
JSP	Java Server Pages

CHAPTER-1
Introduction

1.1 Introduction

Technologies have altered the industry from paper and traditional approach to digital approach. At present high-speed internets are available at cheaper rates broadband connection is reasonable and it makes data transfer easy and quick.

The main purpose that banks are serving since their inception is keeping our money safe for us. While keeping our money safe, they also allow us to earn a specific amount of interest on the cash deposited with them, Traditional banks are doing this, and internet banks continue the identical function. the sole difference is within the way the transactions are made all of them understand internet banking and most people use it very often also, but few folks actually understand about the history of internet banking and the way it all came out. Knowing the history of internet banking may be incredibly useful, especially since it'll allow us to possess more respect for the small things that we reckon granted.

Banking is defined as the business activity of accepting and safeguarding money owned by other individuals and entities, and then lending out this money in order to conduct economic activities such as making profit or simply covering operating expenses.

A bank is a financial institution licensed to receive deposits and make loans. Two of the most common types of banks are commercial/retail and investment banks. Depending on type, a bank may also provide various financial services ranging from providing safe deposit boxes and currency exchange to retirement and wealth management.

Modern **banking in India** originated in the last decade of the 18th century. Among the first banks were the <u>Bank of Hindustan</u>, which was established in 1770 and liquidated in 1829–32; and the <u>General Bank of India</u>, established in 1786 but failed in 1791.

Modern banking in India originated in the last decade of the 18th century. Among the first banks were the <u>Bank of Hindustan</u>, which was established in 1770 and liquidated in 1829–32; and the <u>General Bank of India</u>, established in 1786 but failed in 1791.

The banking industry is one of the fastest sectors realizing the developments and changes in the field of technology innovation. Demand on web-based banking products increased as a result of expanding customer focused service understanding, decreasing attainability cost, its competitive market structure and consumers' wish to reach banking products fast, effective, productive way. Electronic banking provides an important competition advantage to the banks in terms of time, location and cost. Recently, it is concentrated on the advance technologies that are the source of the electronic banking in the interbank competition. On the other hand, internet banking is the most important element of the electronic banking.

The developments in the information technology make the changes of the banking sector in the international competition environment necessary indeed (Sohail and Shanmugham, 2003). Electronic banking provides an important competition advantage to the banks in terms of time, location and cost. Recently, it is concentrated on the advance technologies that are the source of the electronic banking in the interbank competition.

On the other hand, internet banking is the most important element of the electronic banking. In the financial services sector where the new technologies have been easily and rapidly applied, when the computers that have previously used in the inter-office banking processes started in the automation of the banking services, internet banking have been rapidly developed particularly since 1990.

When approaching to 2000s, the banking sector that closely monitors the new technologic developments has directed to the applications where the customer oriented, speed, time and cost advantage are highly considered due to the fact that competitive marketing structure has strengthened and profile rates have decreased. In this scope, the internet banking is intended to provide service to the large mass by concentrating on the activities to use the internet banking efficiently, solving the security problem and diversifying the banking products.

While internet banking has been increasing the efficiency and effectiveness in the banking sector, it also increases the consumer satisfaction. Thanks to the new technologies and internet development, new product and distribution channels in the electronic banking have been appeared. Today, due to the ATMs, telephone banking and internet banking services, POS machines, Electronic Fund Transfer

(EFT) processes, credit cards, kiosk banks, WAP banking, Palm banking and other new product and distribution channels that have been alternatively developed in the branch banking. The consumers could perform their processes and banking activities without going to the bank except the drawing cash.

This project is aimed at developing an Online Banking for customer. The system is an online application that can be accessed throughout the organization and outside as well with proper login provided. This project is aimed at developing an Online Banking for customer. The system is an online application that can be accessed throughout the organization and outside as well with proper login provided.

The multi banking system interface is targeted to the future banking solution for the users who have multiple bank accounts in different banks. This Interface integrates all existing banks and provides business solutions for both retail and corporate.

This system provides fast, efficient, reliable and User-friendly interfaces in banking and has no chance of losing customer account transactions data. This software provides an honest interface such a user of basic computer knowledge can operate the applying. It also reduces accountant effort, also reduces the load of real time computation. This software enables faster transaction like new account creation, withdrawal of money from the account, deposit of money to the account, bank account balance of the account holder whether or not there are great deal of knowledge within the system database.

1.2 Formulation of Problem

Project risk management primarily identifies, assesses, and controls the risks of projects. Moreover, due to the existence of different stakeholders with varying criteria for assessing the success of the project, measuring the success of the project is challenging. Identifying risks as the first step in the risk management is essential for the successful implementation of projects.

In the second step, the identified risks associated with PSPs' banking projects are assessed and prioritized. Identifying and prioritizing these risks will significantly help PSPs to identify key risk factors and prioritize them to satisfy their current customers and sign new contracts with new banks. This study employs the Delphi method for the risk identification process; the risks affecting the loss of banking projects in PSPs are identified, and the impacts of these risks on each other are determined.

1.2.1 Functional requirements:
- customers can request details of the last 'n' number of transactions he has performed on any account.
- customer can make funds transfer to another account in the same bank.
- customer can request for checkbook customer can view his monthly. she/he can also take out of the same.
- customers can make EFT's to the accounts at their and other banks the system is providing balance inquiry facility
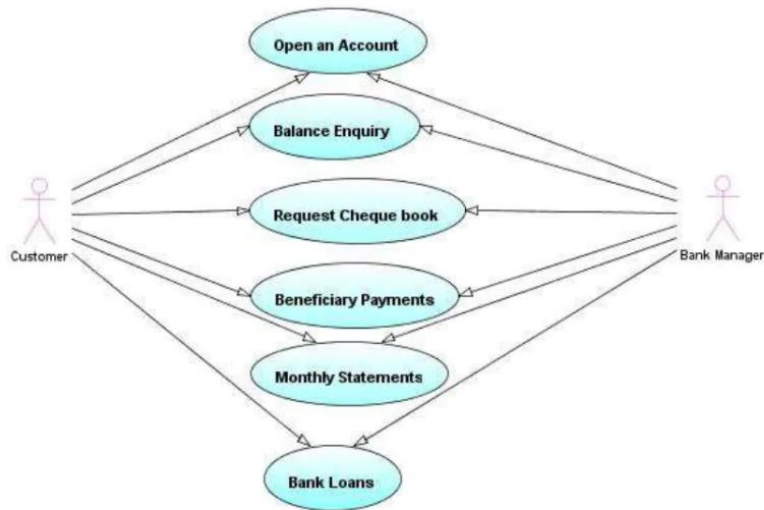
Use case Diagram

1.2.2 Tool and Technology Used

1. Use any IDE to develop the project. It may be MyEclipse / Eclipse / NetBeans.

2. Oracle 10g for the database.

3. Server: Apache Tomcat/JBoss/Glassfish/WebLogic/WebSphere.

4. Front End: JSP, JDBC, JavaScript, AJAX

5. Back End: Oracle

J2EE applications are made up of components. A J2EE component is a self - contained functional software unit that is assembled into a j2EE application with its related classes and files and that communicates with another components. the J2EE specification defines the following J2EE components:

application clients and applets are components that run on the client.

A Servlet is a Java programming language class that is used to extend the capabilities of servers that host applications access via request response programming model although servlet can respond to any type of request, they are commonly used to extend the applications hosted by web servers.

Java server pages (JSP) technology allows you to easily create web content that has both static and dynamic components. JSP technology makes available all the dynamic capabilities of Java servlet technology but provides a more natural approach to creating static content.

This interface integrates all existing banks and provides business solutions for both three letters and corporate.

This system acts as standard interface between the clients and the banks.

Users who have accounts in various banks can login here and can hear any kind of transactions.

CHAPTER-2
Literature Survey

This report focus on the customers' expectations and the customer need fulfilled with various aspects such as quality, reliability, performance of the online service provided by the banks to the customers which leads to customer satisfaction or not. A number of studies have been undertaken to analyze the awareness and satisfaction level of Internet banking users.

Daniel (1999) reported that demographic factors have a great impact on consumers' perceptions and intentions towards Internet banking.

Balachandher and Balachandran (2001), in their study, found that there were greater promotional efforts on the part of banks to create greater awareness of Internet banking and its benefits were important for the success of Internet banking services patronage.

Soni Chawla and Ritu Sehgal in their study, found that there the satisfaction level can be improved with some more efforts of the banks by providing Internet banking services as per the users' expectations.

Pooja Malhotra & Balwinder Singh (2007) in their study on Determinants of Internet banking adoption by banks in India, found that that the larger banks, banks with younger age, private ownership, higher expenses for fixed assets, higher deposits and lower branch intensity evidence a higher probability of adoption of this new technology.

Raed Awamleh & Cedwyn Fernandes (2005), brought out the, determinants of customer satisfaction parameters in internet banking in Dubai in their paper `Internet Banking: An empirical investigation into the extent of adoption by banks and the determinants of customer satisfaction in the United Arab Emirates'.

Divya Singhal & V. Padmanabhan, (2008) in their paper `A Study on Customer Perception towards Internet Banking' talks about the factors responsible for internet banking. It is difficult to infer whether the internet tool has been applied for convenience of bankers or for the customers' convenience. But ultimately it contributes in increasing the efficiency of the banking operation as well providing more convenience to customers.

Dr. P Malyadri (2009) in his paper on "impact of IT on Customer Services in commercial Banks in Andhra Pradesh" finds that customers are becoming very demanding and it is the extensive use of technology that will enable banks to satisfy the requirements of customers adequately.

Anju Dagar discussed about importance, advantages, various online services and issues pertaining in online banking.

Muhammad Abdus Sattar Titu and Md. Azizur Rahman explained adoption, major components, major online banking services, customer satisfaction and major problems encountered in online banking services in Bangladesh banks.

D. Amutha conducted a study from 90 respondents in Tuticorin district to understand the awareness and satisfaction related parameters in E-banking.

we studied related to the SOA architecture to know how we use to implementation process in our project using Service Oriented Architectures (SOA). we also referred the paper who give the case study information about Scandinavian bank and a Swiss bank These two banks are working on the basis of service-oriented architecture for providing the service for the customer. SOA provides potential for greater organizational agility (and thereby competitiveness).

We learned which type of problems are created in banking system during the different types of transactions. Here discuss about if any region the transaction may be fail then how to avoid it and fixed it.

In banking sector, the security also must and when we talk about money or property this case is more sensational then we found the security is the major thing to do in banking system. In our project we provide the security questions when customer login with account to prevent the fraud and provide the best security in the bank management system.

CHAPTER-3

Functionality/Working of Project

This project is aimed at developing an Online Banking for customer. The system is an online application that can be accessed throughout the organization and outside as well with proper login provided.

The project has been planned to be having the view of distributed architecture, with centralized storage of the database. The application for the storage of the data has been planned. Using the constructs of Oracle 10g and all the user interfaces have been designed using the JAVA. The database connectivity is planned using the "Database" methodology. The standards of security and data protective mechanism have been given a big choice for proper usage.
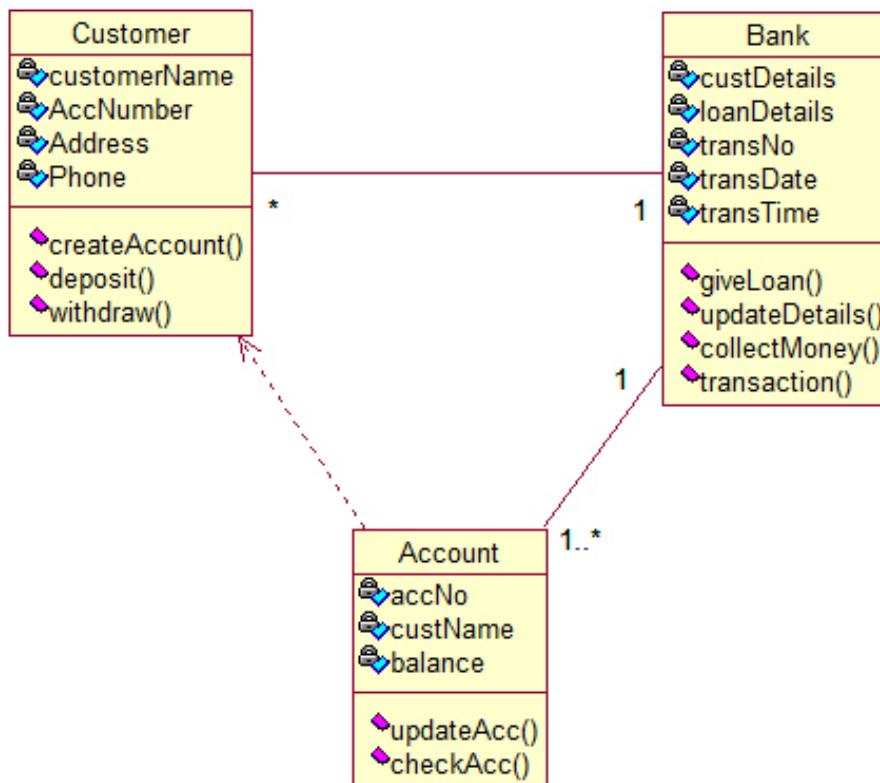
Class Diagram
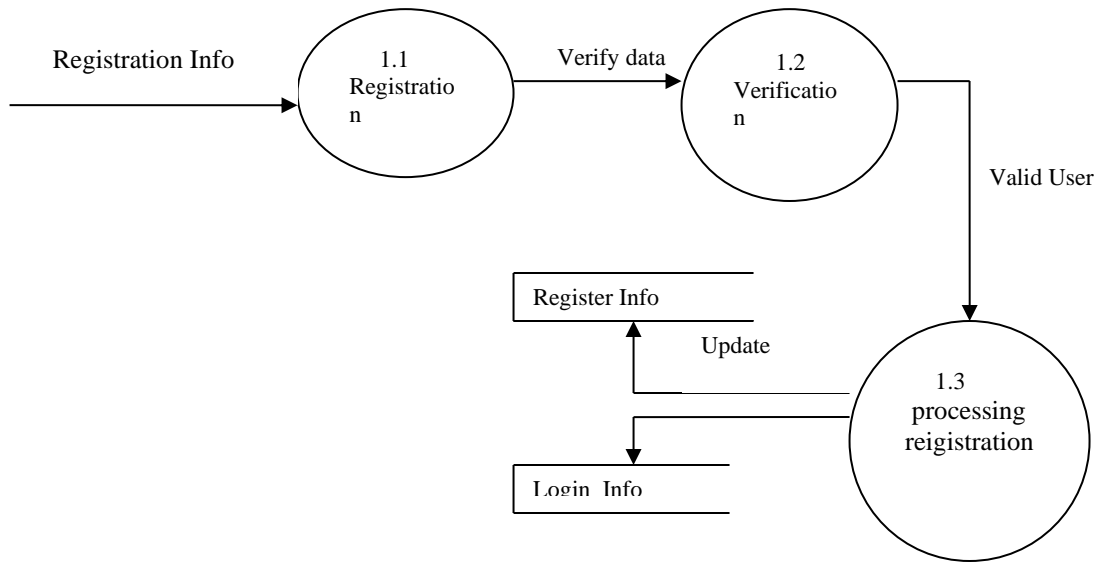
The user interfaces are browser specific to give distributed accessibility for the overall system. The internal database has been selected as Oracle 10g.The basic constructs of table spaces, clusters and indexes have been exploited to provide higher consistency and reliability for the data storage. The Oracle 10g was a choice as it provides the constructs of high-level reliability and security. The total front end was dominated using the HTML 5.
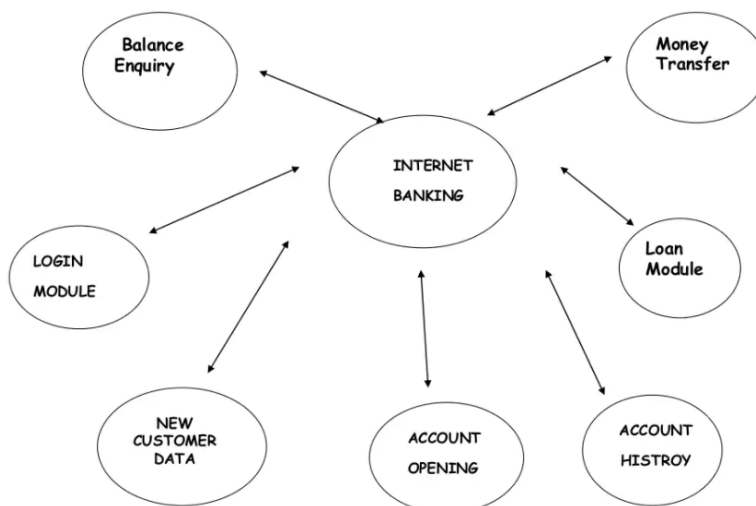
Data Flow Diagram

Nowadays a lot of research is going on in the online banking system and many banks provide online services. But it has certain drawbacks, if for e.g., there are many members in a family, to know their transaction and account details requires visiting multiple websites which is time consuming and it also requires remembering the login credentials of many accounts. In this proposed system the user is provided an interface in which the user has to remember single login id and password and can access the integrated system. Using this credential, the user can avail the banking facilities.

This proposed system also has two other users i.e., the admin of the system and the branch managers. The admin has certain privileges such as adding new banks and corresponding branches, viewing the details of the branch managers and approving/rejecting new manager registrations. The branch managers can register themselves and if approved by the admin they can view their respective approved branch customers.
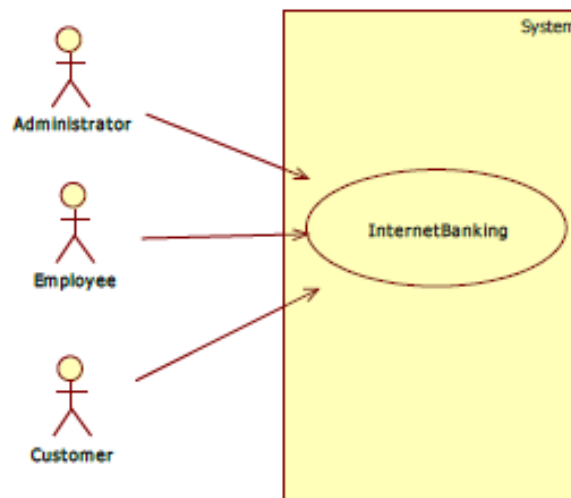
System use case Diagram

Process involved in proposed system

Step 1: The user needs to register with the system to use the banking facilities. He/she has to provide the required details such as email id, password, account number, address etc. User has to select the bank and its respective branch.

Step2: The request is sent to the Branch Manager for approval. The Branch Manager can approve or disapprove the request.

Step 3: The Branch Manager can the request by sending the confirmation message on the customer's email id.

Step 4: For the login process the verification code (OTP) is automatically sent to the respective user via email.

Step 5: Now using that email id, password and verification code (OTP) the user can enter into integrated system. The password is first decrypted from the database and then verified.

Step 6: After entering into the System user can perform the following operation:

     A. Account Summary: Here the customer can see his account details such as the balance of a particular bank and its respective branch.

     B. Transaction History: Here the customer can see all the transactions made by him by entering his email id.

     C. View Profile: Here the customer can view his profile details entered by him during registration.

Step 7: The customer can also update his account profile and make transaction from one account to other.
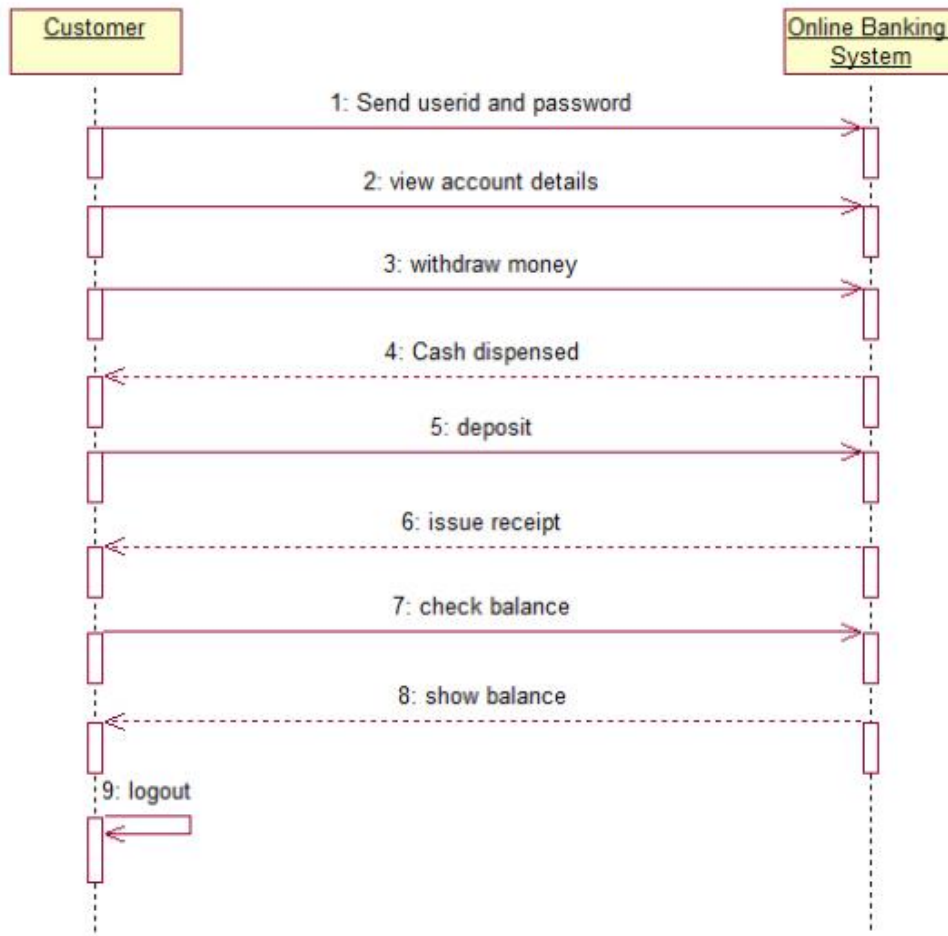
Sequence Diagram

IMPLEMENTATION

Implementation part is divided into two phases

    1. Registration phase

    2. Integrated system

Registration Phase

The registration phase consists of two processes i.e. Registration process and the administrator process. In registration process the client registers and selects the required banks. The aim of the registration process is to add the client to the integrated banking solution.

The new users, who is having account in various banks has to register. In the registration process users have to give their personal details like full name, date of birth, e-mail address, password, phone number etc.
Also, the users have to select the banks in which they have an account. These details will be saved in the database temporarily and then the approval request is sent to the respective branch manager. The password entered by the customer will be encrypted using base64 string and stored in database.

In the administration phase the details are verified by the branch manager and the account request is accepted by sending confirmation mail on the customers email id and all the details are stored in the database. The same process is used for new branch manager registration in which the admin can approve/disapprove manager's registration.

Integrated System

In this phase after approving the details the user is integrated with the system and can perform various functions based on his needs. User can view the balance, Transaction history on a single page. The user can use single id and password to use the integrated system. The user can use the web service to carry out transaction.

The functions provided by the integrated system are:

1. Account details: The account details function gives the detail about the email id, bank, branch, account number and the balance. The user can view all the details on a single page.
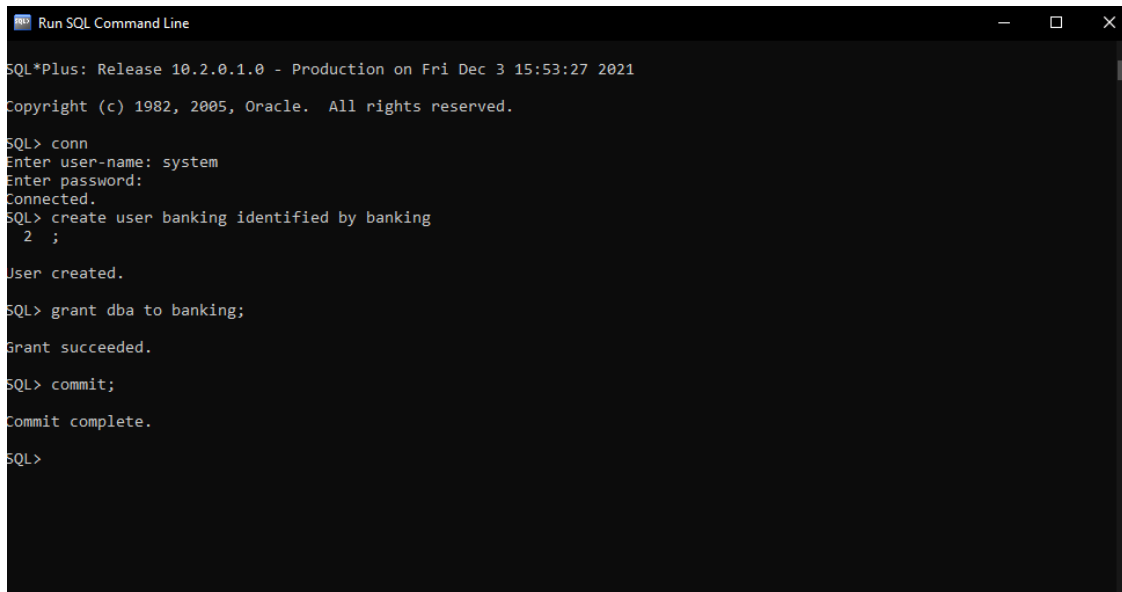
2. Transactions: Transaction function uses the parameter like the account number of the sender, receiver, and amount to be transferred and the email id of the sender.it is basically a web service which is over the internet to transfer the funds between two banks.

3. Transaction History: This function is used by the user to see his transaction history.it gives the information like bank names between which the amount is transferred, account number, email id and the amount of fund transferred between two banks.

4. View profile: Here customer can view his profile. The profile includes the details which is given by him/her at the time of registration such as name, address, email id, password, bank, branch etc.

5. Update Profile: Here the customer can update his/her profile such as email id, password, bank name its respective branch and the balance after logging into the system for the first time after his/her request has been approved by the branch manager.

Creating User in oracle:

```
Run SQL Command Line                                                    —  □  ×

SQL*Plus: Release 10.2.0.1.0 - Production on Fri Dec 3 15:53:27 2021

Copyright (c) 1982, 2005, Oracle.  All rights reserved.

SQL> conn
Enter user-name: system
Enter password:
Connected.
SQL> create user banking identified by banking
  2  ;

User created.

SQL> grant dba to banking;

Grant succeeded.

SQL> commit;

Commit complete.

SQL>
```

Admin: After logging into the system the admin can add banks and branches into the integrated system. The admin can also do the mapping of branches and banks. He/she can view new branch manager registration requests and accept/reject the same. The acceptance confirmation mail will be sent to the branch manager on his/her email. The admin can also view the details of the branch managers registered with the system.

Customer: The customer also has to register himself. The customer is supposed to enter all his bank details along with his personal information ,email id and password. On acceptance of his request by the branch manager a confirmation mail is sent to the customer. The customer can now login into the system using his email id and password and verification code. After the email id and password is entered it is verified in the database.

If the credentials exist in the database, it means the customer is a registered customer. Now after validating the credentials the option to generate the OTP is enabled. The generated OTP is sent to customer on his/her mail id which is registered in system and at same time OTP is stored in the database. Only after entering the correct OTP the customers is given access to the system.

After successful login the customer can perform the operations mentioned earlier At all proper levels high care was taken to check that the system manages the data consistency with proper business rules or validations. The database connectivity was planned using the latest "Database connection" technology provided by Oracle. The authentication and authorization was crosschecked at all the relevant stages.
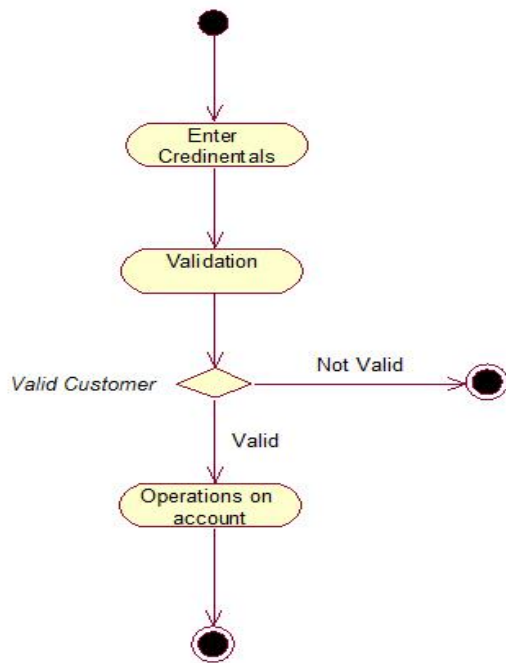
Activity Diagram

Advantage of banking portal goes past the comfort of having every one of your records in a single screen. What it at last does is assist individuals with seeing the full picture, rather than only each piece of the riddle in turn.

This assists individuals with having a more noteworthy arrangement and command over their individual budgets.

The protection of computer-based resources that includes hardware, software, data, procedures and people against unauthorized use or natural

Disaster is known as System Security.

System Security can be divided into four related issues:

- Security
- Integrity
- Privacy
- Confidentiality

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

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

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

PRIVACY defines the rights of the user or organizations to determine what information they are willing to share with or accept from others and how the

organization can be protected against unwelcome, unfair or excessive dissemination of information about it.

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

TECHNICAL FEASIBILITY:

Evaluating the technical feasibility is the trickiest part of a feasibility study. This is because, at this point in time, not too many detailed design of the system, making it difficult to access issues like performance, costs on (on account of the kind of technology to be deployed) etc. A number of issues have to be considered while doing a technical analysis.

i) Understand the different technologies involved in the proposed system:

Before commencing the project, we have to be very clear about what are the technologies that are to be required for the development of thenew system.

ii) Find out whether the organization currently possesses the required technologies:

- Is the required technology available with the organization?
- If so is the capacity sufficient?

For instance –"Will the current printer be able to handle the new reports and forms required for the new system?"

Operational Feasibility:

Proposed project is beneficial only if it can be turned into information systems that will meet the organizations operating requirements. Simply stated, this test of feasibility asks if the system will work when it is developed and installed. Are there major barriers to Implementation?

Here are questions that will help test the operational feasibility of a project: Is there sufficient support for the project from management from users? If the current system is well liked and used to the extent that persons will not be able to see reasons for change, there may be resistance.

Are the current business methods acceptable to the user? If they are not, Users may welcome a change that will bring about a more operational and useful systems.

Have the user been involved in the planning and development of the project?

Early involvement reduces the chances of resistance to the system and in general and increases the likelihood of successful project.

Since the proposed system was to help reduce the hardships encountered. In the existing manual system, the new system was considered to be operational feasible.

Economic Feasibility:

Economic feasibility attempts 2 weigh the costs of developing and implementing a new system, against the benefits that would accrue from having the new system in place. This feasibility study gives the top management the economic justification for the new system.

A simple economic analysis which gives the actual comparison of costs and benefits are much more meaningful in this case. In addition, this proves to be a useful point of reference to compare actual costs as the project progresses. There could be various types of intangible benefits on account of automation. These could include increased customer satisfaction, improvement in product quality better decision-making timeliness of information, expediting activities, improved accuracy of operations, better documentation and record keeping, faster retrieval of information, better employee morale.

CHAPTER-4

Results and Discussions

1.Index page of Banking portal: This is the first page that comes to the user with different options to navigate around.
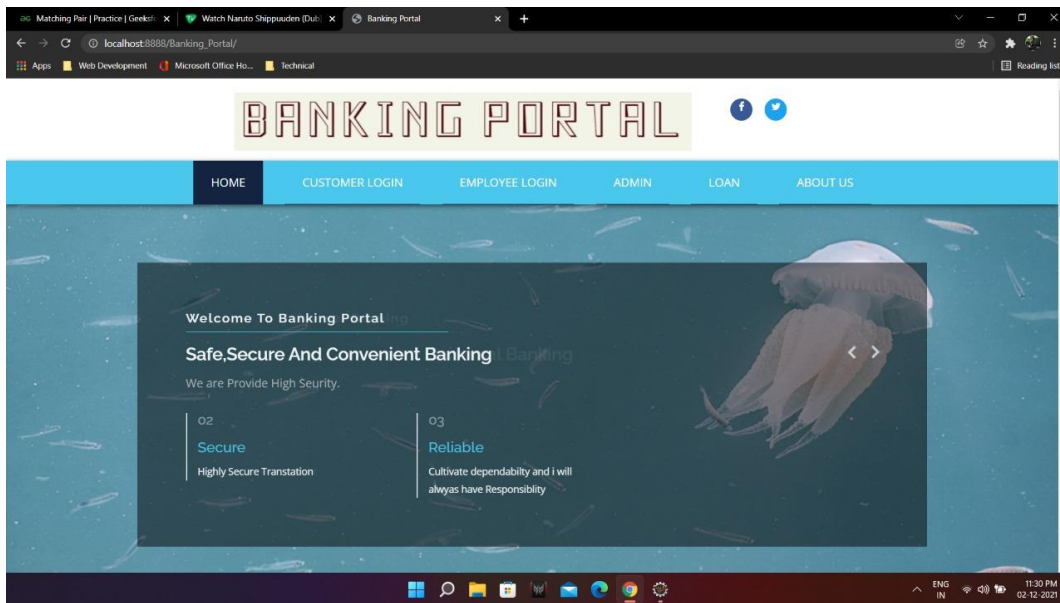
2.New Customer Registration Page: allows the customer to create account by providing customer id and password.
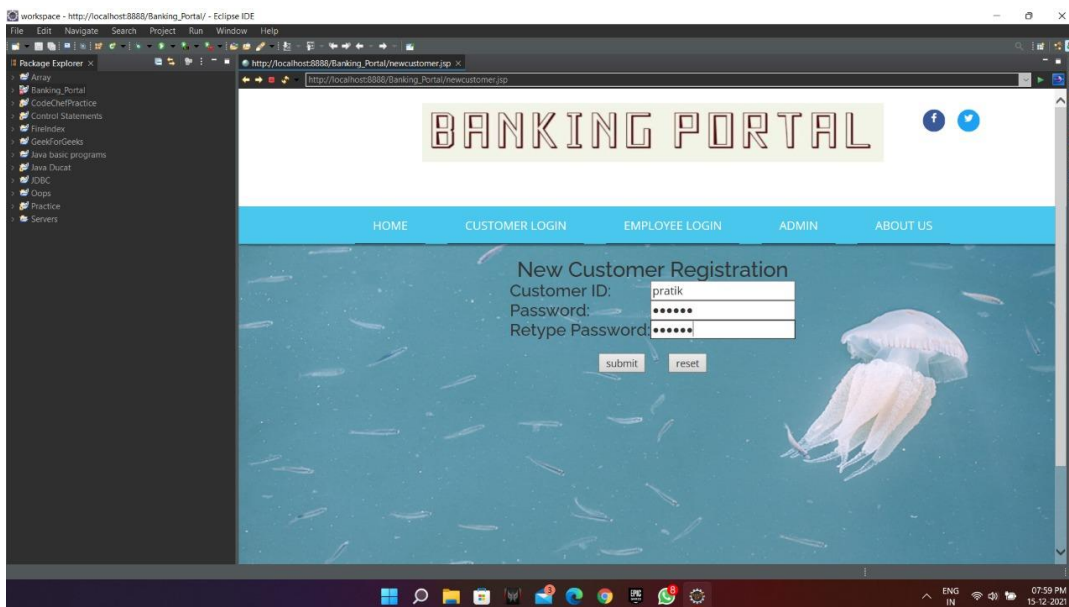
3. Customer Login Page: allows the customer to log-in to their account and also manage their bank's account.
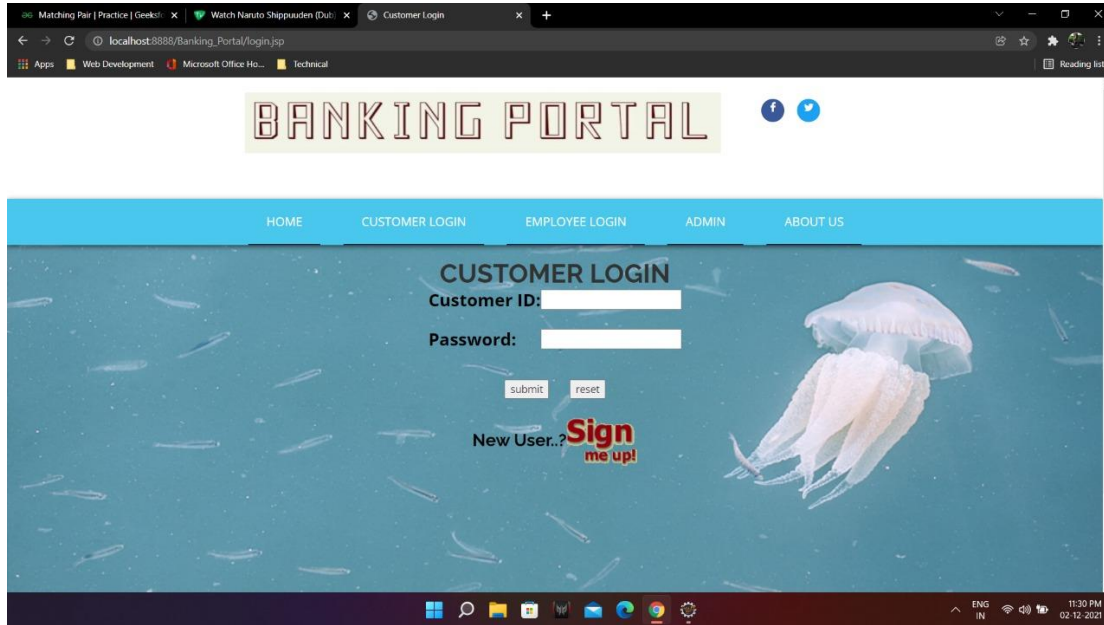
4. New Employee Registration Page: allows the Bank Employees to create account by providing User id, password and Bank details.
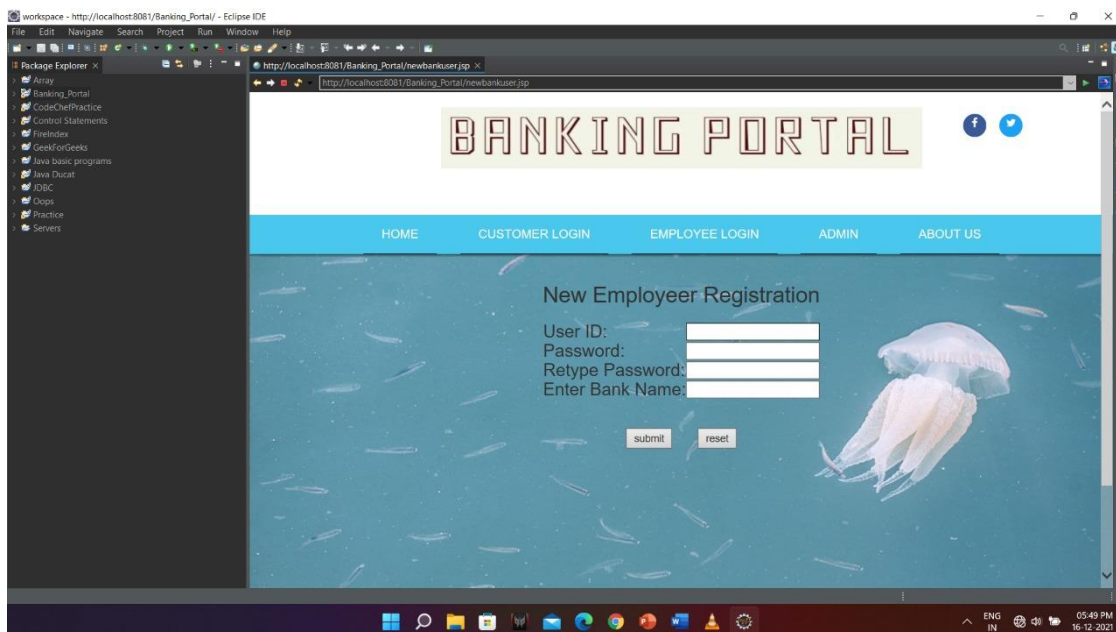
5. Employee Login Page: allows the Bank employees to log-in to their account and also perform bank's tasks signing in
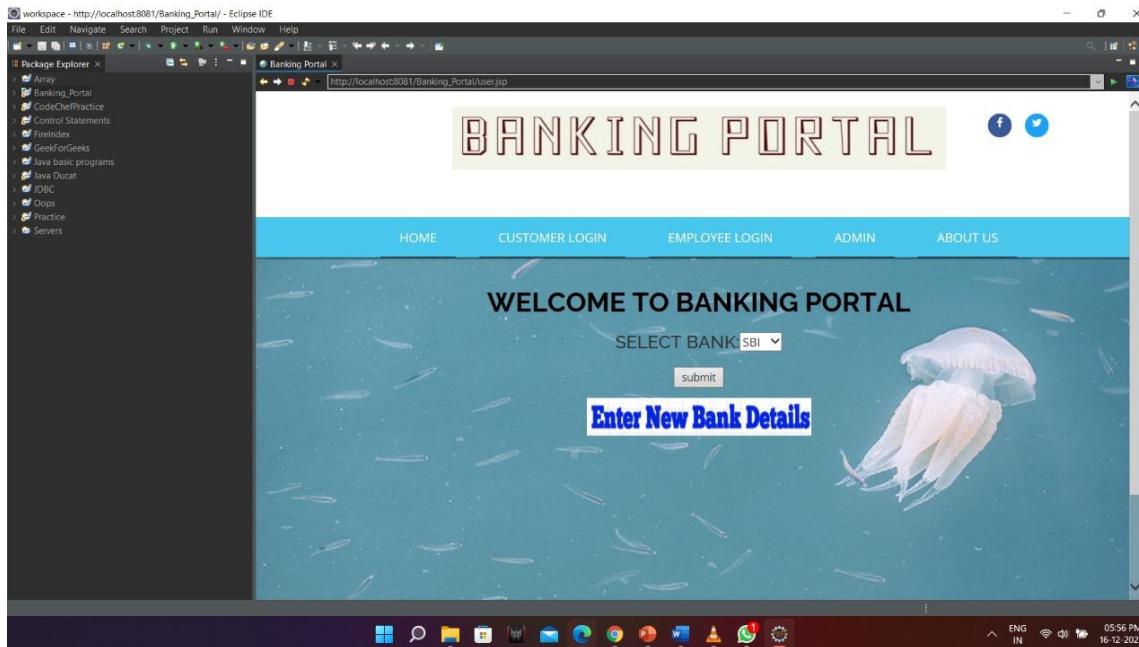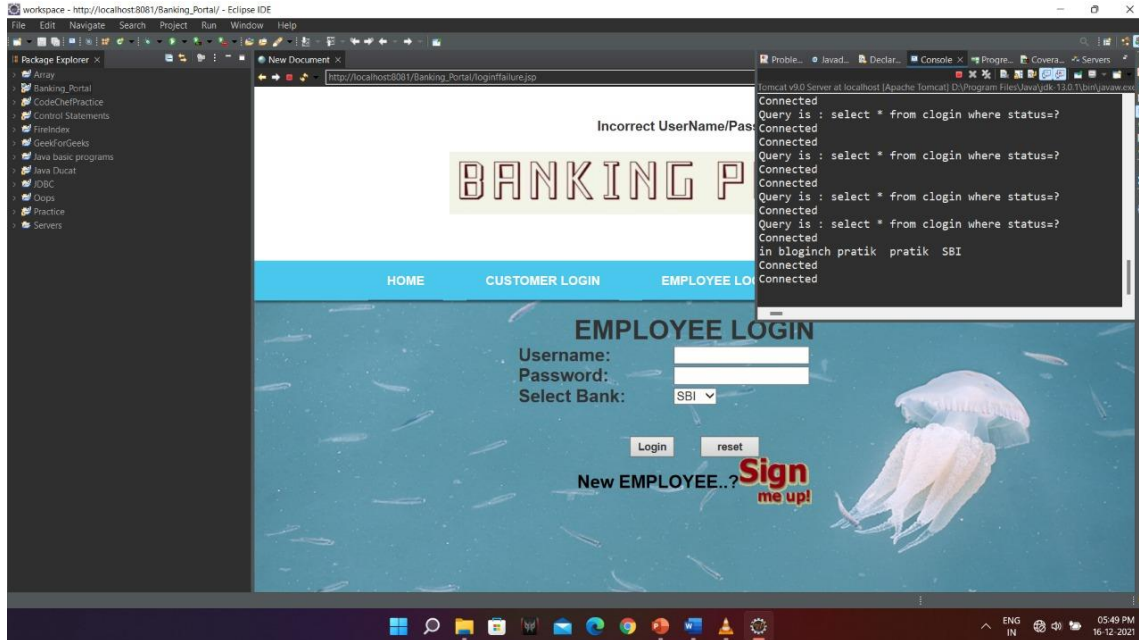
6. Admin Login Page: allows the admin to login and manage the customers and their accounts.
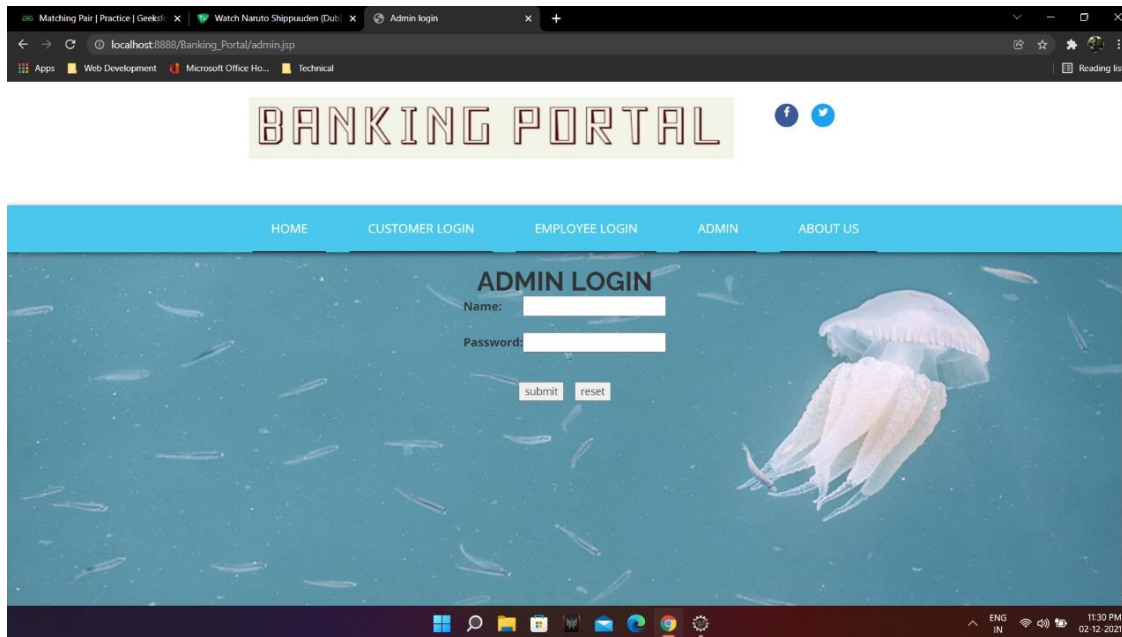
7. User approval Page: The admin can allow the new registered users after validating their accounts.
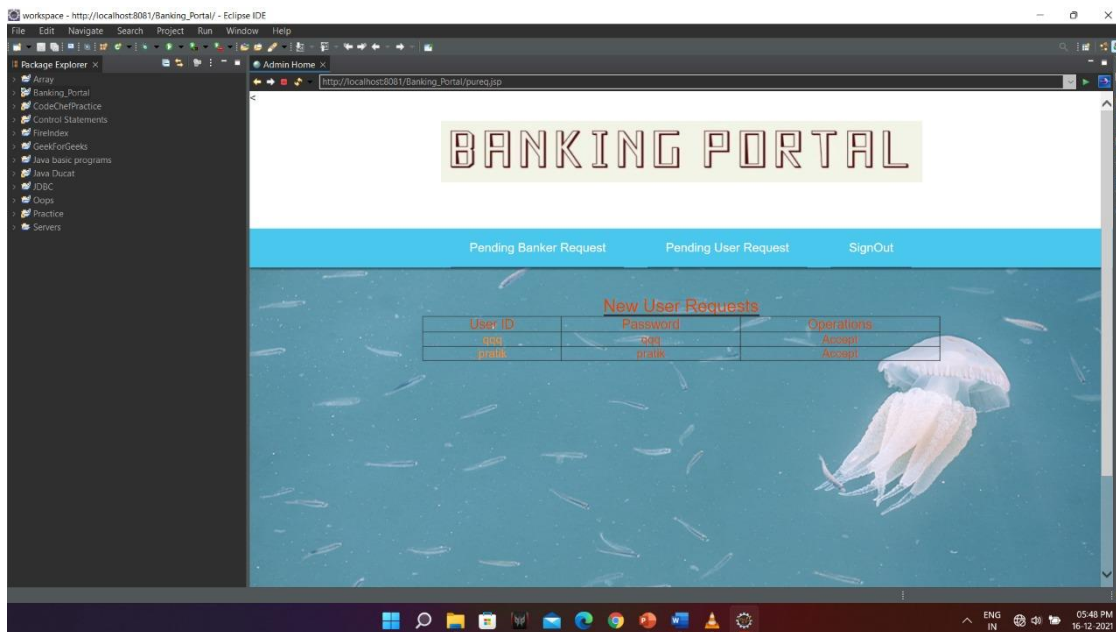
8. Bank Details Page: Allows the user to provide their Bank Details To the Portal.
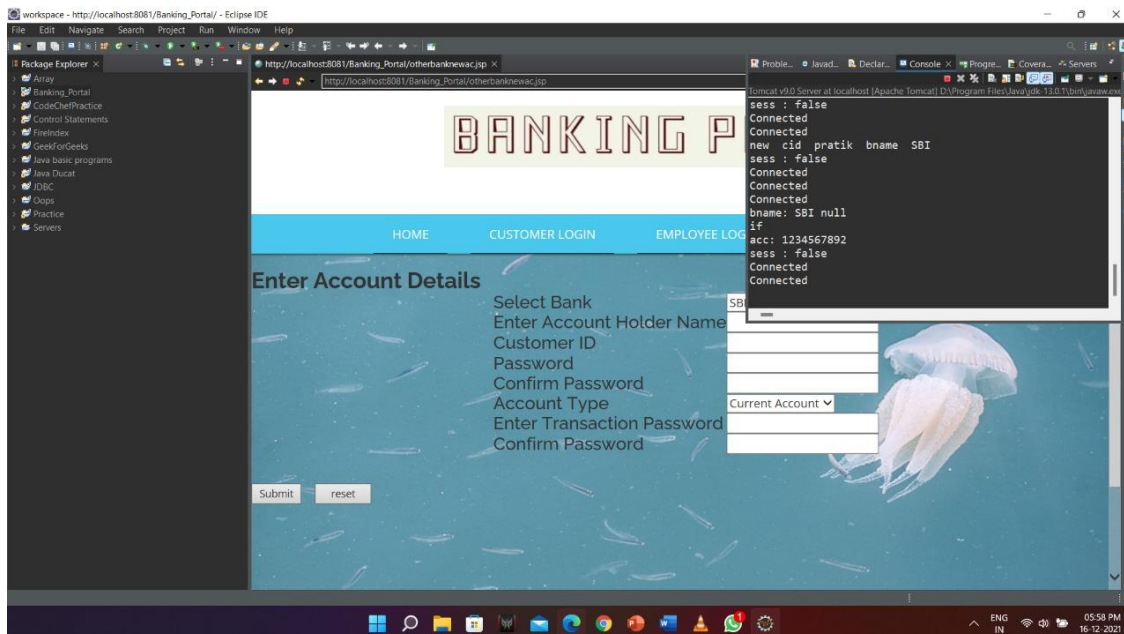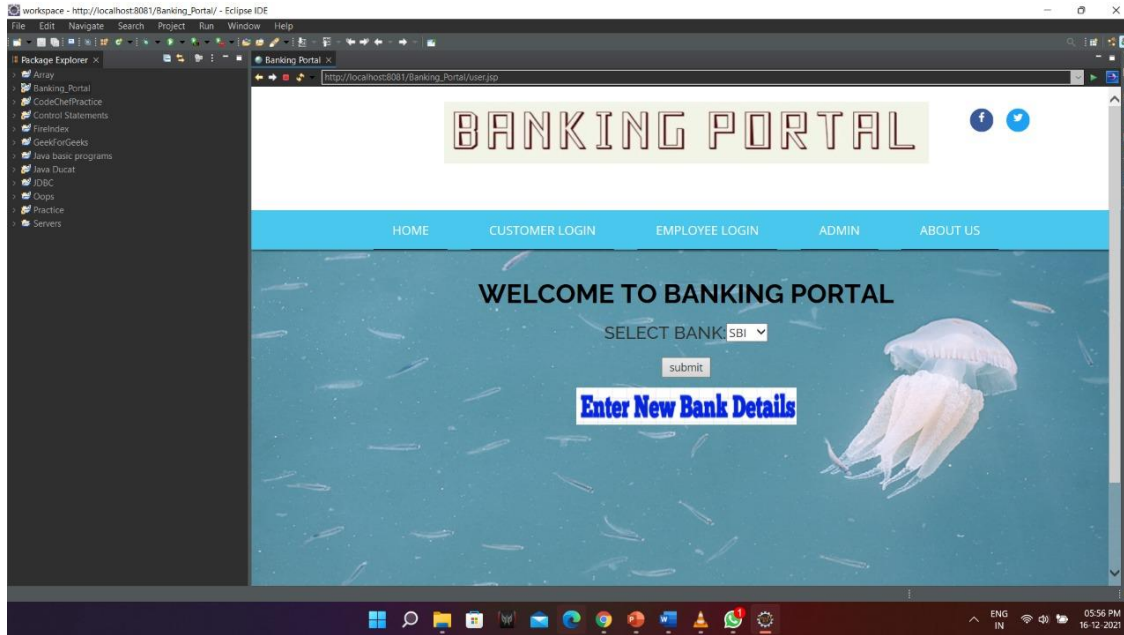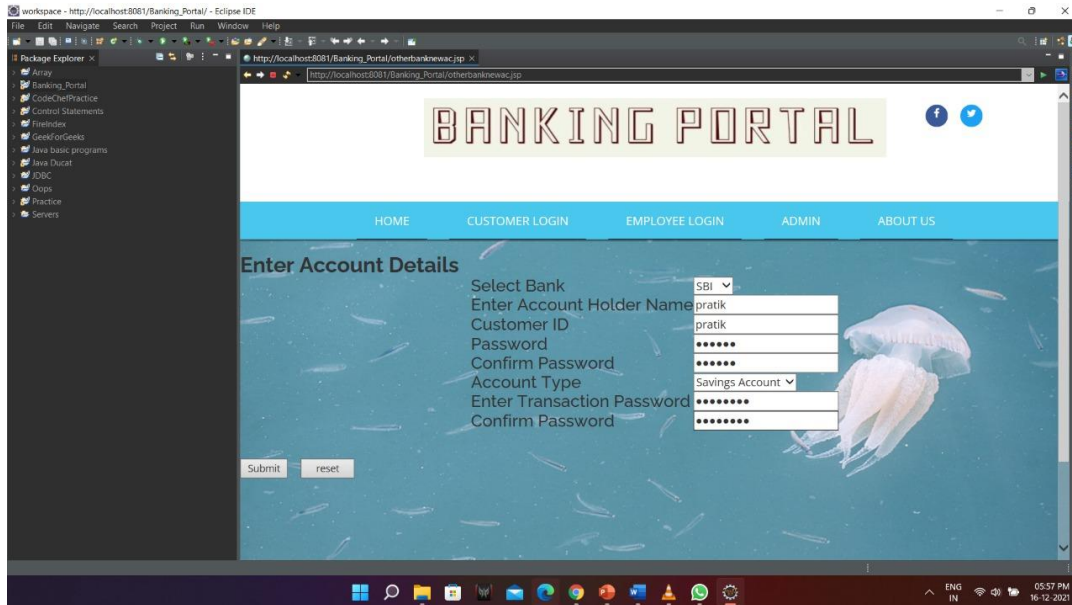
Customer List: Shows list of registered customers to bank employees
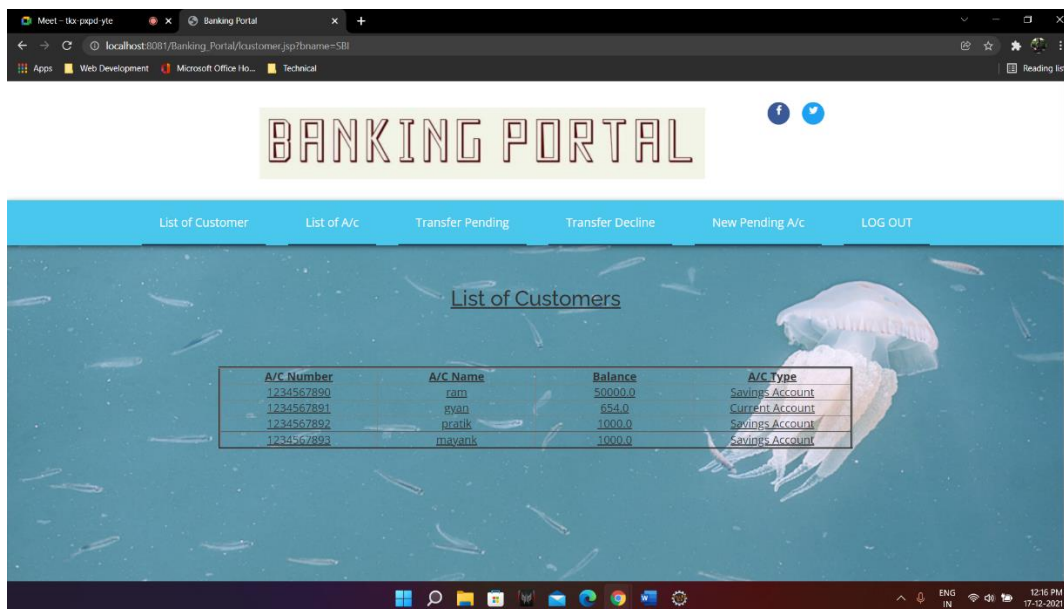
Account List: Shows list of customers according to account type to the employee

List of pending transactions: Shows list of customers with pending transaction
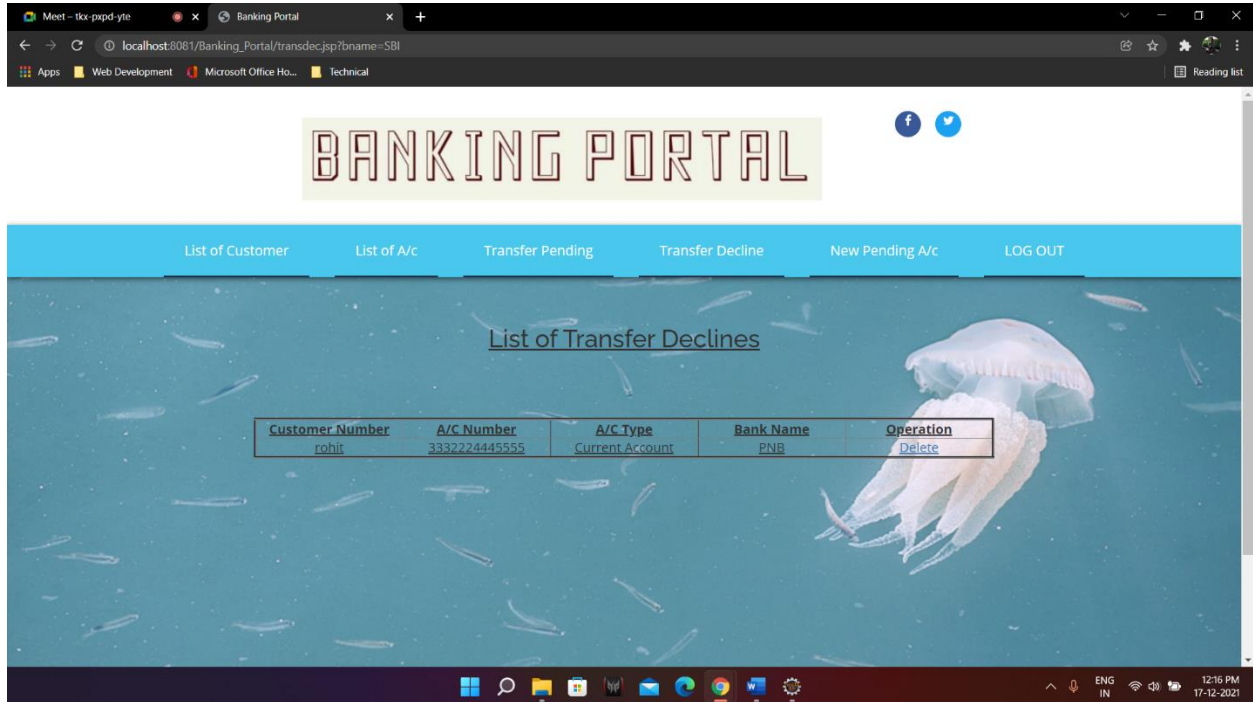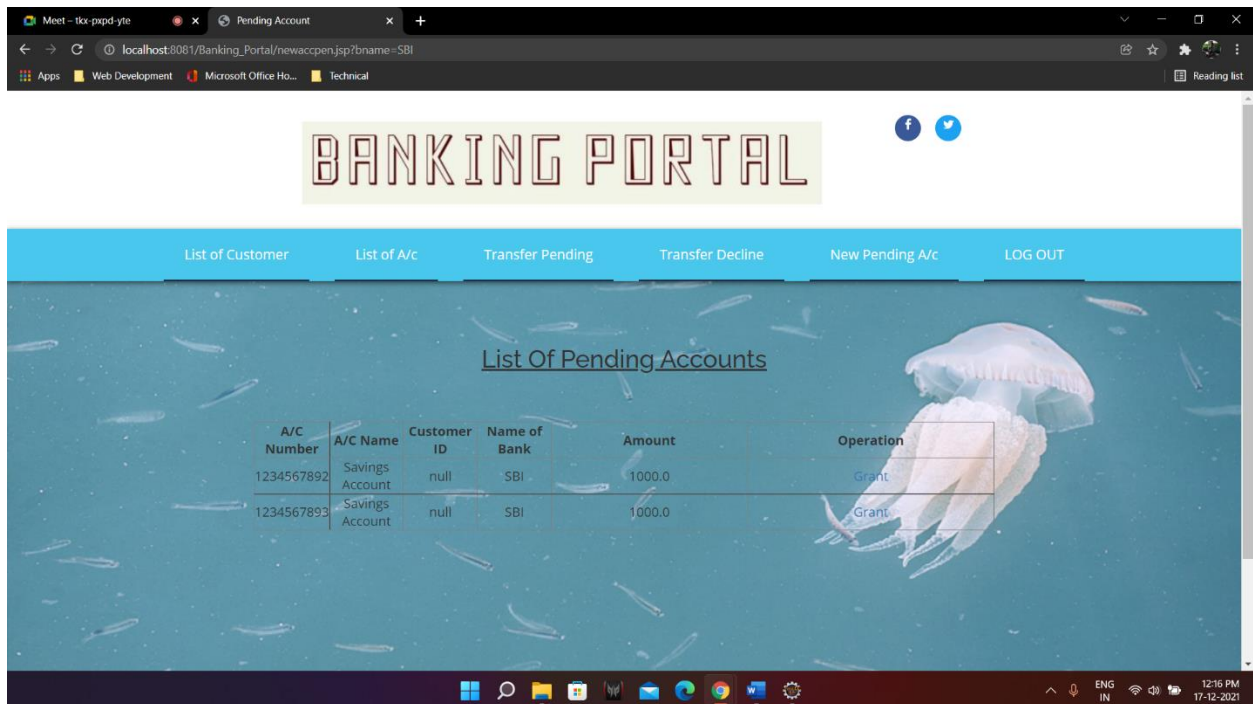
Transaction Declines: Shows list of transaction declines to employee

Pending Accounts: Shows pending user accounts to the employee

Loan section: Shows type of loans bank provides
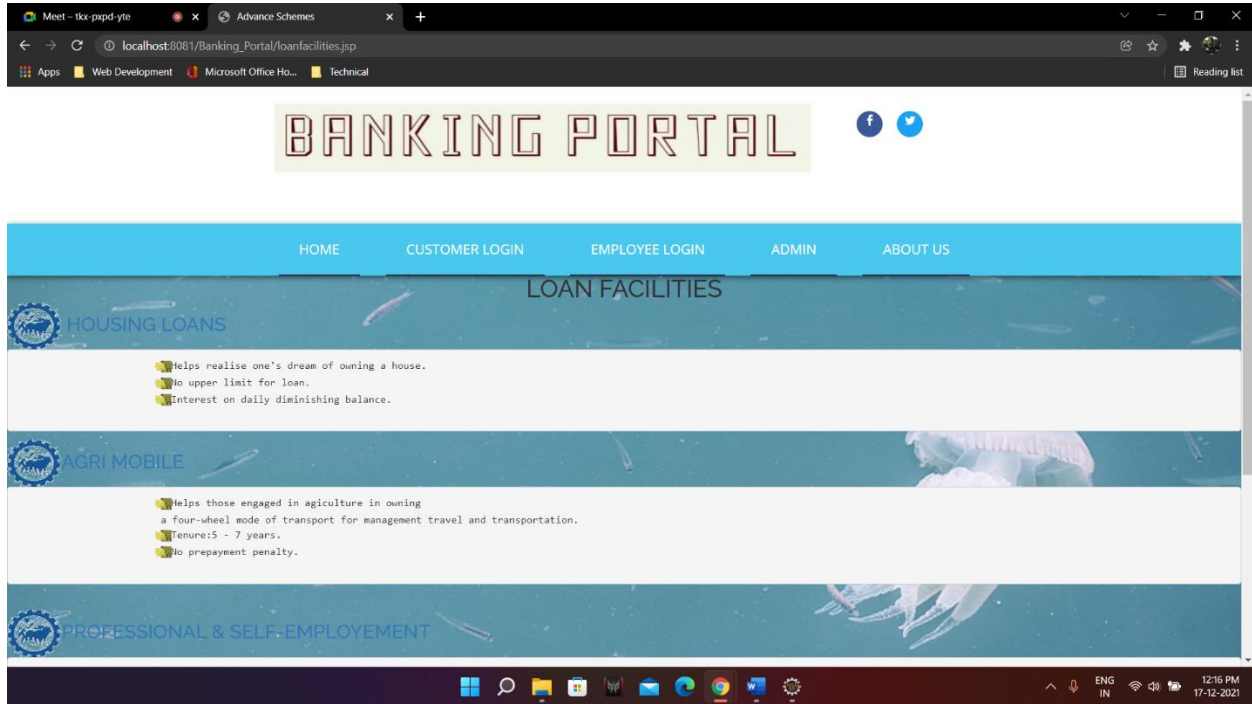
Interests: Shows interests for different type of loans for different banks
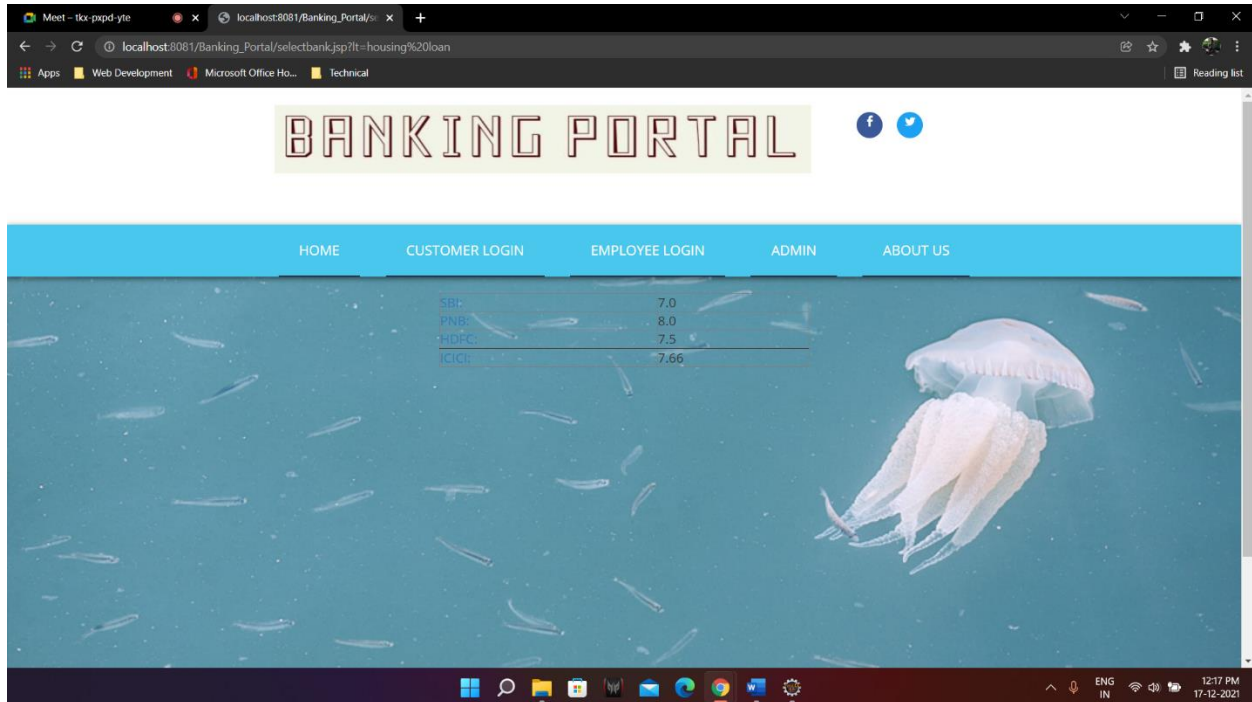
CHAPTER-5
Conclusion and Future Scope

Internet banking is future mode of banking as more and more customers are adapting to the internet banking mode because of the ease, convenience, quickness and its availability around the clock from the comfort of home or office. Though still it's in nascent phase looking at technology for internet banking seems to be far away for the banks.

This Banking Portal is a multi-banking System that helps the user to manage and access their accounts of different Banks. This will increase the security and accessibility for the users as well as the Bank employees. User's account can only be verified by authorized admin. This brings the whole Bank system at one mouse click.

The basis for the project is to develop a fully automated banking system that includes depositing of amount, withdrawal of amount and exporting the outcome back to the client while considering all the tools and facilities than a client may need for efficient and effective output.

Benefits of the system:

- Quick, authenticated access to accounts via the desktop.
- Easily scalable to grow with changing system requirement.
- Enterprise-wide access to information.
- Improved information security, restricting unauthorized access.
- Minimize Storage Space.

It provides all necessary information to the management as well as the customer with the use of this system; the user can simply sit in front of the system and monitor all the activities without any physical movement of the file. Management can service the customer's request best in time. The system provides quickly and valuable information. These modules have been integrated for effective use of the management for future forecasting and for the current need.

Limitations of the system:

- Only the permanent employees can access the system.
- System works in all platforms and its compatible environments.
- Advanced techniques are not used to check the authorization.

Future Scope

It is not possible to develop a system that makes all the requirements of the user. User requirements keep changing as the system is being used. Some of the future enhancements that can be done to this system are:

- As the technology emerges, it is possible to upgrade the system and can be adaptable to desired environment.
- Because it is based on object-oriented design, any further changes can be easily adaptable.
- Based on the future security issues, security can be improved using emerging technologies.
- sub admin module can be added.

References

1.) https://psu.instructure.com/courses/1806581/pages/introduction-what-is-banking-and-why-is-it-important?module_item_id=26004136

2.) Chong A., Ooi K., Lin B. & Tan, B. (2010). "Online Banking Adoption: An Ampirical Analysis", International Journal of Bank Marketing, 28(4), http://www.academia.edu/, (03.03.2015), 267-287

3.) Flavian, C., Guinaliu, M., & Torres, E. (2006). "How Bricks and Mortar Attributes Affect Online Banking Adoption", International Journal of Bank Marketing,

4.) https://www.javatpoint.com/online-banking-project

5.) https://www.slideshare.net/vishnukuntal/java-project-report-online-banking-system

6.) Hoggson, N. F. (1926) Banking Through the Ages, New York, Dodd, Mead & Company.