

# ***Interest Calculation System for Retail Banking***

*A Project Report Submitted to the Acharya Nagarjuna University, Guntur*



*For the partial fulfillment of requirements for the Award of the Graduation*

*Bachelor of Science*

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**CERTIFICATE**

This is to certify that it is a bonifide work entitles **“INTEREST  
CALCULATION SYSTEM FOR RETAIL BANKING”** have done by  
**“ T. DEEPTHI (Y193016090) ”**, In the academic year 2021 – 2022 in partial  
fulfillment of the requirements for the award of degree of **Bachelor of Sciences** in the  
Department of **Computer Science**.

  
**P. Mabu Johny**  
Project Guide

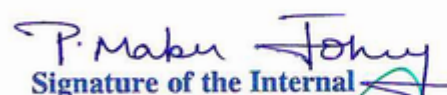
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This Project is a proud presentation of my work to the greatness of our professors and friends who have encouraged me all through the duration of project.

**T. DEEPTHI (Y193016090)**

## **DECLARATION**

This is to state that the dissertation titled **“INTEREST CALCULATION SYSTEM FOR RETAIL BANKING”** carried out at the Department of Computer Science, **Y.A. Govt. Degree College for Women, Chirala** is based on the original work carried by me under the guidance of **Sri. P. MABU JOHNY Asst. Professor** towards the partial fulfillment of requirements for award of **B.Sc.** This Project work has not been submitted to any other University or Institution either in part or full towards any other degree up to my knowledge and belief.

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**Place:**

**Project Associates:**  
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## **ABSTRACT**

Gramina bank located in Hyderabad. The bank has large number of customers doing transactions daily. The transaction may include depositing the amount, withdrawing the amount and etc. As the customer has amount in his account, the bank has to provide interest to the customer. Presently the employees of the bank are using the simple excel sheet to calculate the interest for each customer based on the amount available in the account. The employees are facing lot of problems to do the aforesaid and it is leading to enormous errors. To overcome this problem the bank has planned to have their own package. The task of developing the package to the bank has been entrusted to VERVE SOFTWARE SOLUTIONS.

The VERVE SOFTWARE SOLUTIONS includes the following tasks to be done

- Creating new account to the costumer
- Facility to deposit & withdraw the amount from the account.
- Daily calculating the interest for each customer based on the amount available in the account and account type and maintaining it separately.
- Generating various number of reports as per the requirement of the bank.

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## CHAPTER -1

### INTRODUCTION

#### 1.1 Background

Gramina bank located in Hyderabad. The bank has large number of customers doing transactions daily. The transaction may include depositing the amount, withdrawing the amount and etc. As the customer has amount in his account, the bank has to provide interest to the customer. Presently the employees of the bank are using the simple excel sheet to calculate the interest for each customer based on the amount available in the account. The employees are facing lot of problems to do the aforesaid and it is leading to enormous errors. To overcome this problem the bank has planned to have their own package. The task of developing the package to the bank has been entrusted to VERVE SOFTWARE SOLUTIONS.

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- Creating new account to the customer
- Facility to deposit & withdraw the amount from the account.
- sin the account and account type and maintaining it separately.
- Generating various number of reports as per the requirement of the bank.

#### **Overview of Verve Software Solutions:**

Verve Software Solutions is an IT solution provider for a dynamic environment where business and technology strategies converge. Their approach focuses on new ways of business combining IT innovation and adoption while also leveraging an organization's current IT assets. Their work with large global corporations and new products or services and to implement prudent business and technology strategies in today's environment.

#### **VERVE'S RANGE OF EXPERTISE INCLUDES:**

- Software Development Services
- Engineering Services
- Systems Integration
- Customer Relationship Management
- Product Development
- Electronic Commerce
- Consulting
- IT Outsourcing

# INTEREST CALCULATION SYSTEM FOR RETAIL BANKING

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## 1.2 Existing System

The existing interest calculating system for retail banks provides limited options for employees of the bank department but there is a limit to calculate complete interest calculation for number of accounts. In this system all the data is maintained mostly manual and in Excel sheets.

Limitations in the existing System

- Maintaining the data in excel sheets and files is very hard to remember the file names in which the required data is feed.
- No easy access to the required queries.
- Data redundancy, inconsistency, lot of human work need to be done in order analyze the details present in the excel sheets. It leads to wastage of time.
- The data security and data accessing is very slow.

## 1.3 Proposed System

The system developed should calculate interest daily for each account having balance more than zero at the correct interest rate. This interest calculated will be cumulatively stored in a table which will be updated every day. Remember that the balance on which interest is calculated daily will change because the customer may deposit or withdraw money. This overcomes the limitations which are there in the existing system.

## 1.4 Team Setup

The organization has formed a group of programmers with one project manager, one senior programmer and a trainee to solve the problem. I have taken part in some aspects of the project i.e. designing and coding few interfaces including documentation and preparing user manuals.

## CHAPTER -2

### SYSTEM ANALYSIS

#### 2.1 Conversion of the statement of problem to the computerized solutions:

To manage the Operations in Interest calculating panel and maintain the data of the process is a big deal. Find out the daily transactions and calculate daily as well as monthly interest for particular account. Maintain complete information of accounts reports and selected accounts reports.

#### Modules:

**Admin users** - Has full access to all the modules of this system. Responsible for the accounting of all cash collections and remittances. Prepares and submits also Daily Deposit Reports, petty cash replenishment, and Cashier's Accountability Report.

#### 2.2. Development Environment:

##### 2.2.1. Hardware Specification:

- Processor Intel Pentium III or higher
- 128 MB RAM or more
- 20 GB Hard Disk or more
- Monitor
- 104 Keyboard
- Logitech Mouse
- Floppy Disk Drive 1.44 MB

##### 2.2.2. Software Specifications:

<b>Operating System</b>	:	Linux or Windows-XP
<b>GUI</b>	:	JSP and HTML.
<b>Database Server</b>	:	Oracle 8i.

#### 2.3. Execution Environment:

##### CLIENT SIDE:

<b>Operating System</b>	:	Linux or Windows-XP
<b>Web Client</b>	:	Internet explorer 6.0

##### SERVER SIDE:

<b>Operating System</b>	:	Linux or Windows-XP
<b>Web Server</b>	:	Apache Tomcat 5.0 and Above.
<b>Back-End</b>	:	ORACLE 8i

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## 2.4 Diagrams:

### Unified Modeling Language:

The Unified Modeling Language allows the software engineer to express an analysis model using the modeling notation that is governed by a set of syntactic semantic and pragmatic rules.

A UML system is represented using five different views that describe the system from distinctly different perspective. Each view is defined by a set of diagram, which is as follows.

- User Model View
  1. This view represents the system from the users perspective.
  2. The analysis representation describes a usage scenario from the end-users perspective.
  3. Structural model view
  4. In this model the data and functionality are arrived from inside the system.
  5. This model view models the static structures.
  6. Behavioral Model View

It represents the dynamic of behavioral as parts of the system, depicting the interactions of collection between various structural elements described in the user model and structural model view.

- Implementation Model View

In this the structural and behavioral as parts of the system are represented as they are to be built.

- Environmental Model View

In this the structural and behavioral aspects of the environment in which the system is to be implemented are represented.

UML is specifically constructed through two different domains they are:

- UML Analysis modeling, this focuses on the user model and structural model views

## INTEREST CALCULATION SYSTEM FOR RETAIL BANKING

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of the system.

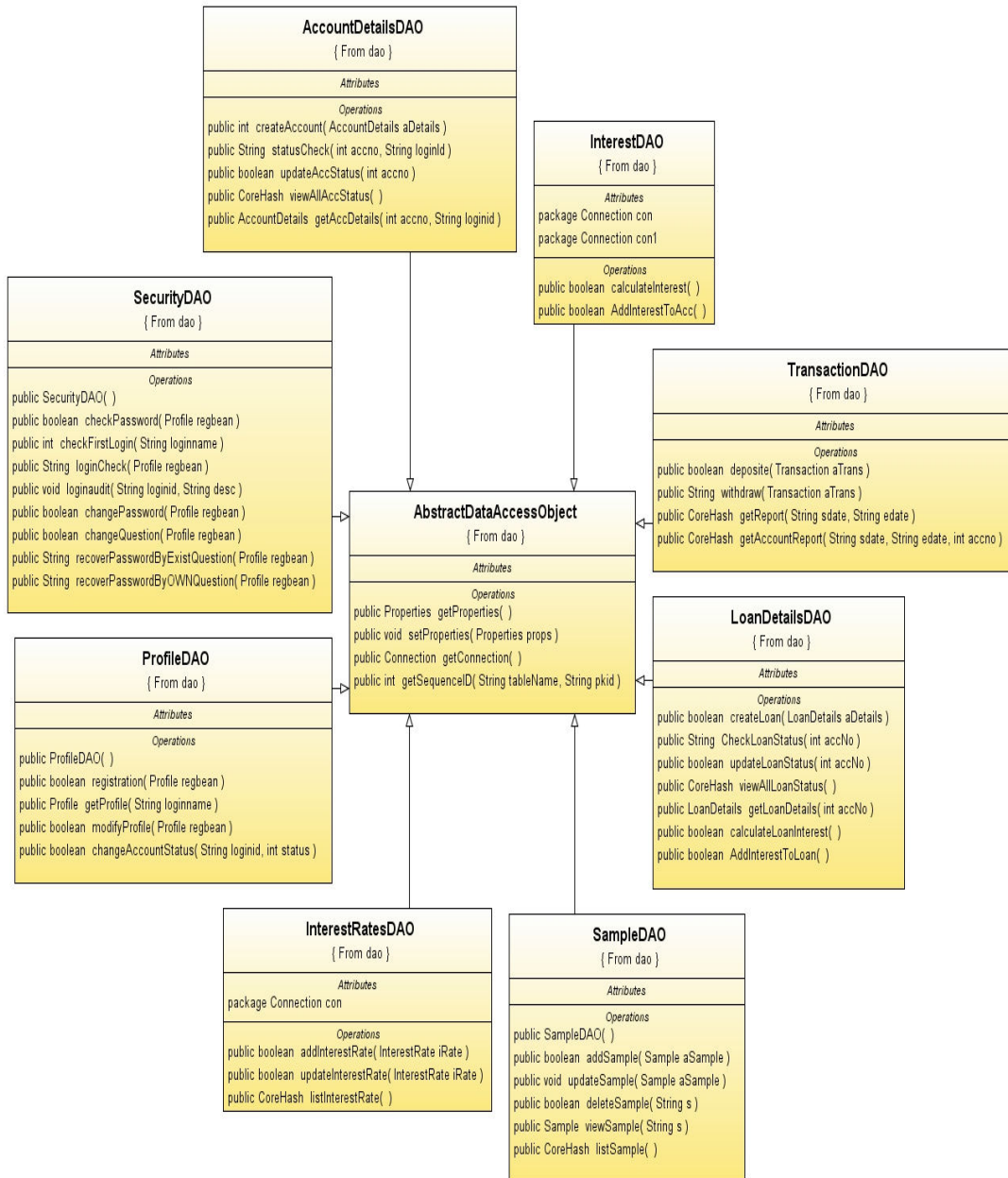
- UML design modeling, which focuses on the behavioral modeling, implementation modeling and environmental model views.

Use case Diagrams represent the functionality of the system from a user's point of view. Use cases are used during requirements elicitation and analysis to represent the functionality of the system. Use cases focus on the behavior of the system from external point of view.

Actors are external entities that interact with the system. Examples of actors include users like administrator, bank customer ...etc., or another system like central database.

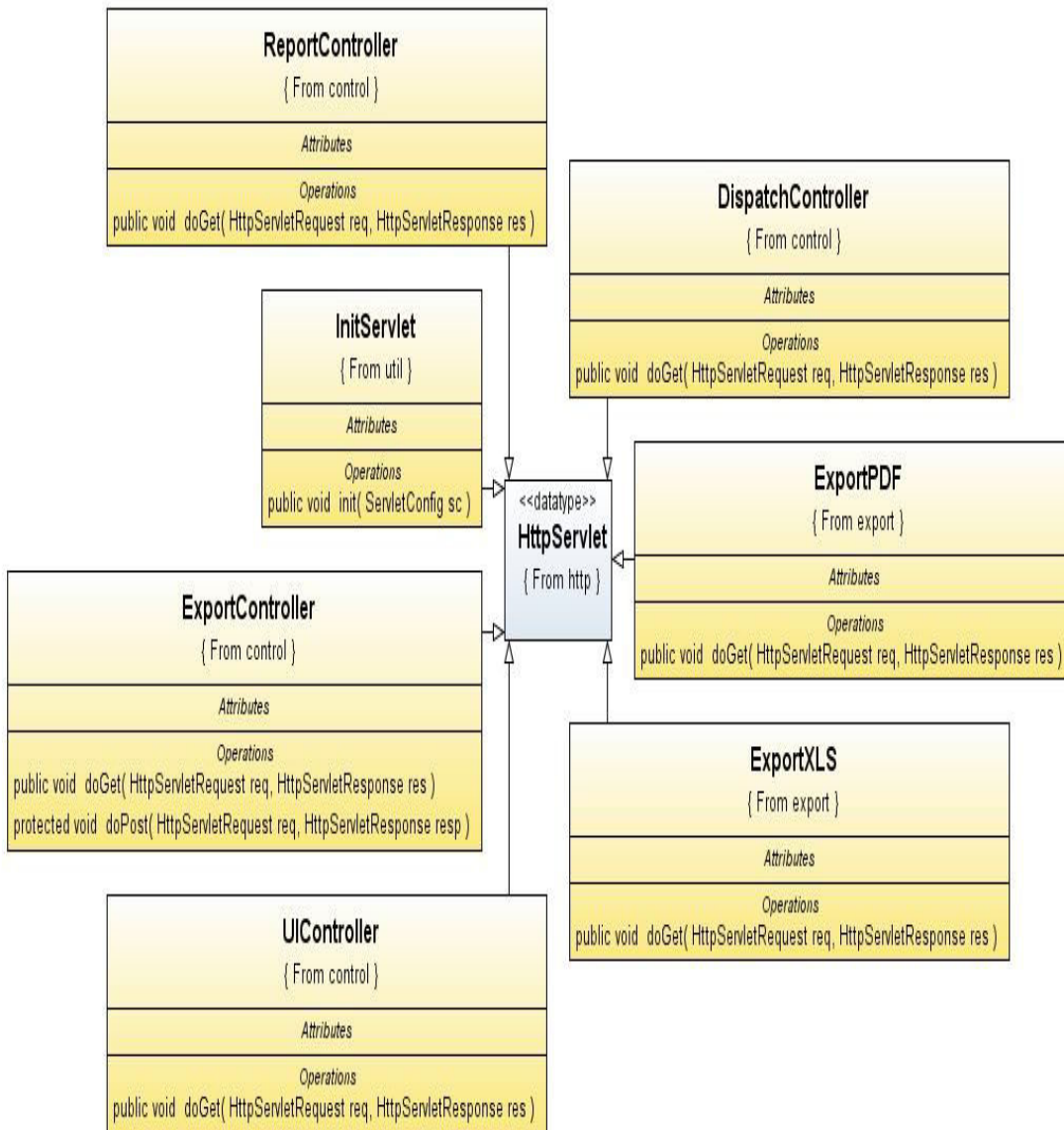
# INTEREST CALCULATION SYSTEM FOR RETAIL BANKING

## Class Diagram



2.4.1. Class diagram1for program

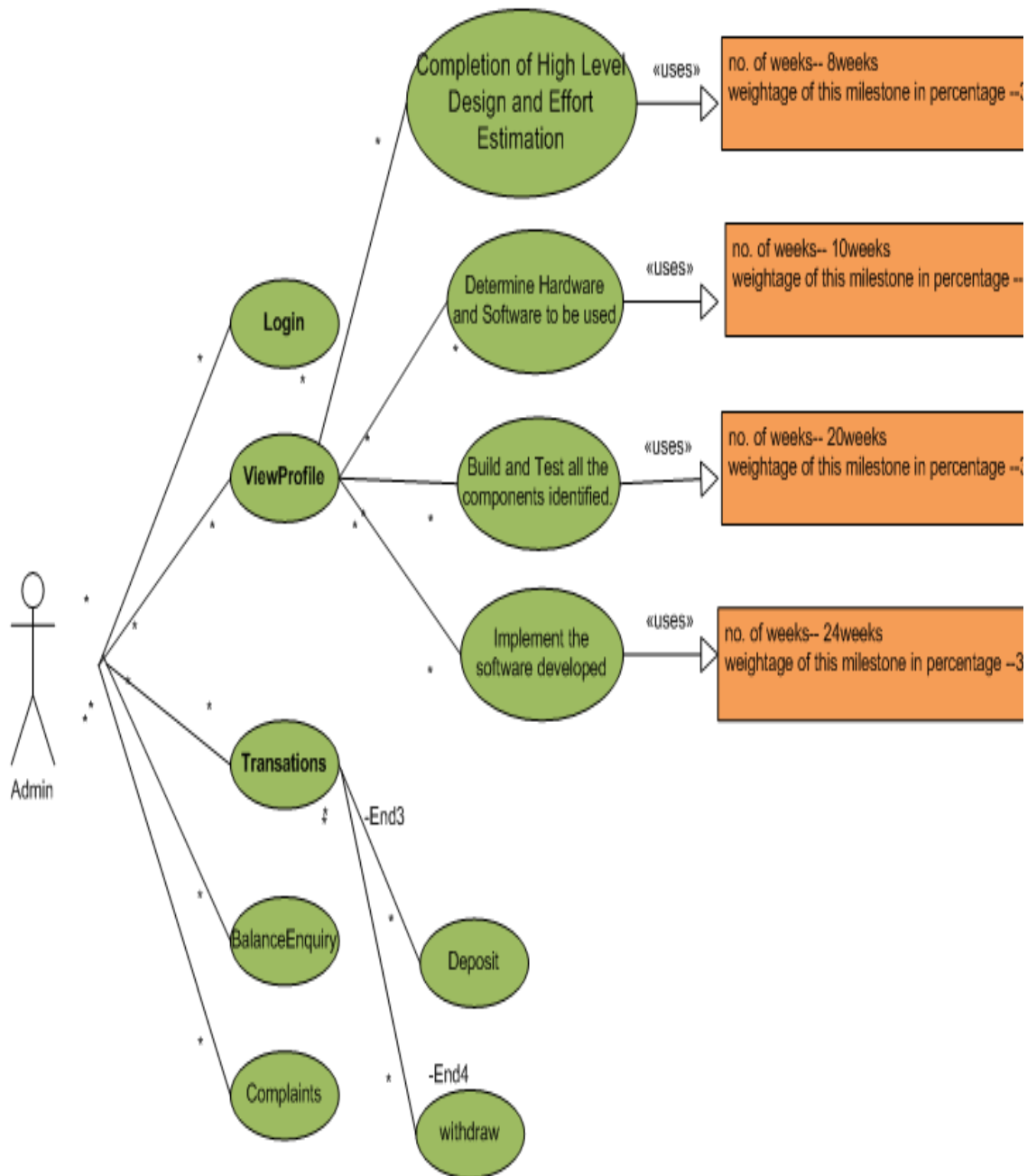
# INTEREST CALCULATION SYSTEM FOR RETAIL BANKING



2.4.2. Class diagram2 for program

# INTEREST CALCULATION SYSTEM FOR RETAIL BANKING

## Use-case Diagram



2.4.3. Use - Case diagram

# INTEREST CALCULATION SYSTEM FOR RETAIL BANKING

## 2.5.Data Dictionary

Account Details:

ColumnName	DataType	Size	Constraint
AccNo	AutoNumber	255	Pk
AccType	Text	255	fk
loginId	Text	255	Null
accStatus	Text	255	Null
Balance	Number	255	Null
tdate	Date/time	255	Null

Table 2. 5. 1. To Maintain Account Details.

Deposit:

ColumnName	DataType	Size	Constraint
AccNo	AutoNumber	255	Fk
Acctype	text	255	Fk
Amount	text	255	Null
Trdate	date/time	255	Null

Table 2.5.2. To Maintain Money Deposit Details.

Interest:

ColumnName	DataType	Size	Constraint
AccNo	number	255	Pk
AccType	Text	255	fk
intAmt	Number	255	Null
iDate	date/time	255	Null

Table 2.5.3. To Maintain Interest Details.

Interestaudit:

ColumnName	DataType	Size	Constraint
AccNo	Number	255	Fk
intAmtBefore	Number	255	Null
intPresent	Number	255	Null
Bal	Number	255	Null
intDate	Date/time	255	Null

Table 2.5.4. To Maintain Interest Audit Details.

Interest Rates:

ColumnName	DataType	Size	Constraint
Acctype	text	255	Pk
intRate	Number	255	Null

Table 2.5.6. To Maintain Interest Rates.

## INTEREST CALCULATION SYSTEM FOR RETAIL BANKING

### Loan Details:

ColumnName	DataType	Size	Constraint
AccNo	number	255	Fk
LoanType	text	255	Null
status	text	255	Null
LoanAmount	text	255	Null
LoanDate	date/time	255	Null

Table 2.5.7. To Maintain Loan Details.

### Loan Interest:

ColumnName	DataType	Size	Constraint
Accno	number	255	Pk
LoanType	text	255	Null
LoanInterest	text	255	Null
Idate	date/time	255	Null

Table 2.5.8 To Maintain Loan Interest Details.

### Login Audit:

ColumnName	DataType	Size	Constraint
loginid	text	255	Null
logindate	date/time	255	Null
logindesc	text	255	Null

Table 2.5.9. To Maintain Login Audit Details.

### Login Details:

ColumnName	DataType	Size	Constraint
Login Name	text	255	Pk
Password	text	255	Null
First name	text	255	Null
last name	text	255	Null
Login Type	text	255	Null
login status	number	255	Null
regdate	date/time	255	Null
squestionId	number	255	Null
sanswer	text	255	Null
first login	number	255	Null
passmodifieddate	date/time	255	Null

Table 2.5.10. To Maintain Login Details

# INTEREST CALCULATION SYSTEM FOR RETAIL BANKING

## Login Profile:

ColumnName	DataType	Size	Constraint
loginid	text	255	Null
birth date	text	255	Null
hno	text	255	Null
street	text	255	Null
city	text	255	Null
state	text	255	Null
country	text	255	Null
pin	text	255	Null
phno	text	255	Null
email	text	255	Null
locale	text	255	Null
profilemodifieddate	Text	10	Null

Table 2.5.11 To Maintain Login Profile Details

## Question Base:

ColumnName	DataType	Size	Constraint
questionid	text	255	Pk
questiondetail	text	255	Null

Table 2.5.12. To maintain question base details

## Transactionaudit:

ColumnName	DataType	Size	Constraint
AccNo	number	20	Fk
TransType	text	255	Null
TracDate	Date/time	20	null

Table 2.5.13 To Maintain Transaction Audit

## Withdraw:

ColumnName	DataType	Size	Constraint
AccNo	number	20	Fk
Acctype	Text	255	Fk
Amount	Text	255	Null
Trdate	date/time	20	Null

Table 2.5.14. To Maintain Withdraw Details

# INTEREST CALCULATION SYSTEM FOR RETAIL BANKING

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## 2.6. Description of the Interfaces

### General Description:

#### Product perspective

The scientific certification system keeps track of all the information of organizations received and verifies and certifies them and provides ranking to the companies .

#### Software Interfaces

Scientific certification system is a web-based application developed using software interfaces used as JSP, HTML. Through JDBC there is a possibility to communicate with the database application.

#### Hardware Interfaces

This describes the hardware configuration on which our Application is being built. The hardware interfaces used are-

Hard Disk	:	80GB
RAM	:	512
Processor	:	Pentium-III 800 GHz or more
Monitor	:	15inches LG

Optical Mouse

#### Communication Interfaces

Through JDBC drivers our Application communicates with the Database.

#### User Interfaces

Admin has the authentication to add details of company, product, project etc and can know the information about company details and view details in the form of reports.

The STPI admin provides certification to the organizations.

CHAPTER – 3  
DESIGN ASPECTS

3.1 Walkthrough diagram:

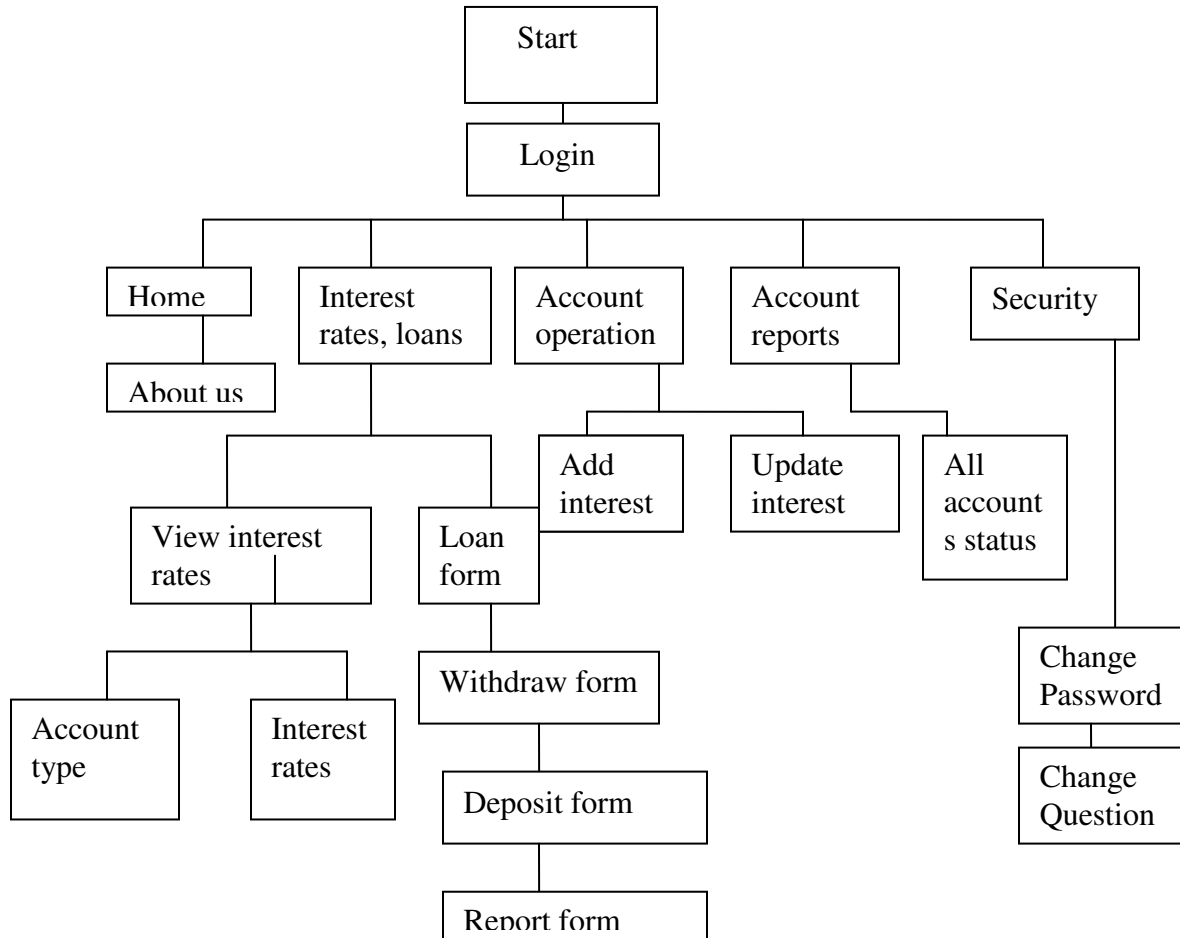


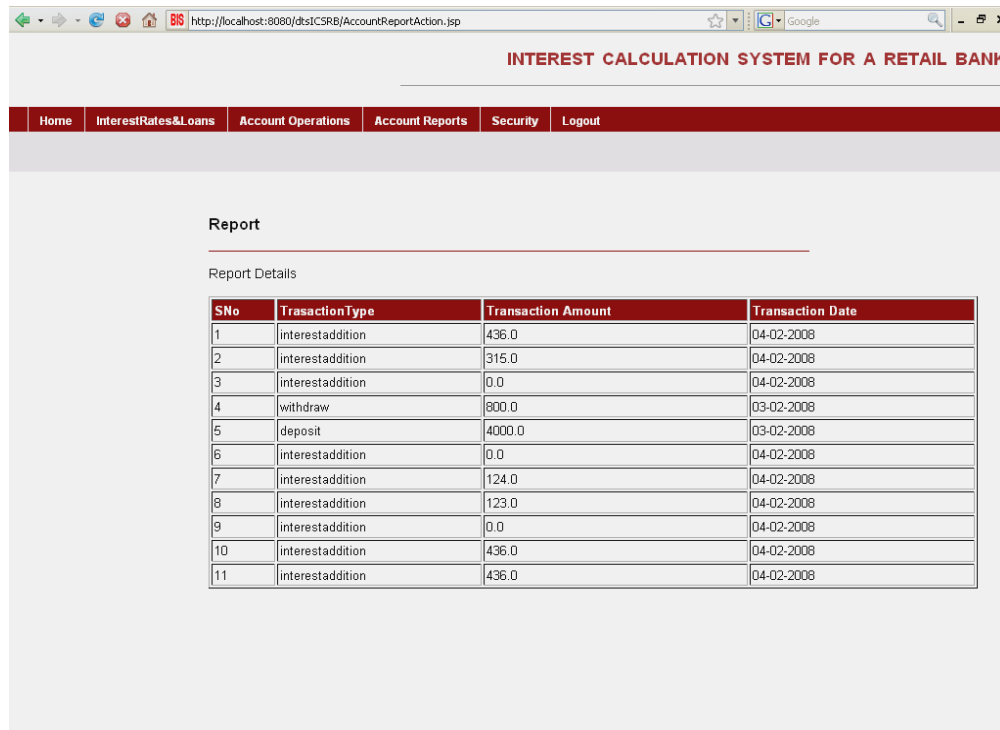
Figure 3.1 Hierarchy Diagram

# INTEREST CALCULATION SYSTEM FOR RETAIL BANKING

## 3.2 MODULES:

**Admin users** - Has full access to all the modules of this system. Responsible for the accounting of all cash collections and remittances. Prepares and submits also Daily Deposit Reports, petty cash replenishment, and Cashier's Accountability Report

## 3.3. SAMPLE DATA:



SNo	TrasactionType	Transaction Amount	Transaction Date
1	interestaddition	436.0	04-02-2008
2	interestaddition	315.0	04-02-2008
3	interestaddition	0.0	04-02-2008
4	withdraw	800.0	03-02-2008
5	deposit	4000.0	03-02-2008
6	interestaddition	0.0	04-02-2008
7	interestaddition	124.0	04-02-2008
8	interestaddition	123.0	04-02-2008
9	interestaddition	0.0	04-02-2008
10	interestaddition	436.0	04-02-2008
11	interestaddition	436.0	04-02-2008

**SCREEN 3.3.1**

This figure shows a sample data for the account

# INTEREST CALCULATION SYSTEM FOR RETAIL BANKING

Balance

Balance Details

AccNo	AccountType	Balance Amount	Date
4	Saving Account	10779.0	07-02-2008

**SCREEN 3.3.2**

This figure shows a balance details of the account

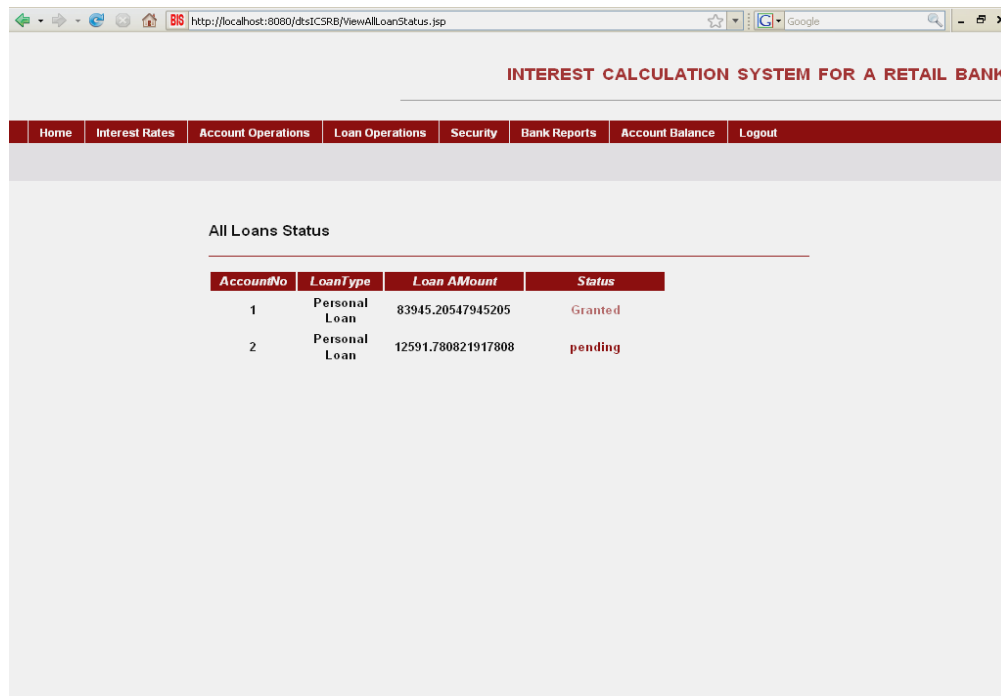
All Accounts Status

AccountNo	LoginName	AccountType	Balance	AccStatus
8	adi	Saving Account	7056.0	pending
7	dashi	Saving Account	7056.0	opened
6	ramdev	Saving Account	7649.0	opened
5	sardar	Current	7337.0	pending
4	share	Saving Account	10779.0	opened
3	srinu	Joint Account	6991.0	pending
2	pratap	Saving Account	15727.0	opened
1	areef	Joint Account	10031.0	opened

**SCREEN 3.3.3**

This figure shows data for all accounts details

# INTEREST CALCULATION SYSTEM FOR RETAIL BANKING



The screenshot shows a web browser window with the URL `http://localhost:8080/dts1CSR/ViewAllLoanStatus.jsp`. The page title is "INTEREST CALCULATION SYSTEM FOR A RETAIL BANK". A navigation menu includes: Home, Interest Rates, Account Operations, Loan Operations, Security, Bank Reports, Account Balance, and Logout. The main content area is titled "All Loans Status" and contains a table with the following data:

AccountNo	LoanType	Loan Amount	Status
1	Personal Loan	83945.20547945205	Granted
2	Personal Loan	12591.780821917808	pending

**SCREEN 3.3.4**

**This figure shows a all loans status**

## 3.4 TESTING

The tester attempts Software Testing is the process used to help identify the correctness, completeness, security, and quality of developed computer software. Testing is a process of technical investigation, performed on behalf of stakeholders, that is intended to reveal quality-related information about the product with respect to the context in which it is intended to operate. This includes, but is not limited to, the process of executing a program or application with the intent of finding errors. Quality is not an absolute; it is value to some person. With that in mind, testing can never completely establish the correctness of arbitrary computer software; testing furnishes a criticism or comparison that compares the state and behavior of the product against a specification. An important point is that software testing should be distinguished from the separate discipline of Software Quality Assurance (SQA), which encompasses all business process areas, not just testing.

There are many approaches to software testing, but effective testing of complex products is essentially a process of investigation, not merely a matter of creating and following routine procedure. One definition of testing is "the process of questioning a product in order to evaluate it", where the "questions" are operations thto execute with the product, and the product answers with its behavior in reaction to the probing of the tester[citation needed]. Although most of the intellectual processes of testing are nearly identical to that of review or inspection, the word testing is connoted to mean the dynamic analysis of the product—putting the product through its paces. Some of the common quality attributes include capability, reliability, efficiency, portability, maintainability, compatibility and usability. A good test is sometimes described as one which reveals an error; however, more recent thinking suggests that a good test is one which reveals information of interest to someone who matters within the project community.

### **Introduction**

In general, software engineers distinguish software faults from software failures. In case of a failure, the software does not do what the user expects. A fault is a programming error that may or may not actually manifest as a failure. A fault can also be described as an error in the correctness of the semantic of a computer program. A fault will become a failure if the exact computation conditions are met, one of them being that the faulty portion of computer software executes on the CPU. A fault can also turn into a failure when the software is ported to a different hardware platform or a different compiler, or when the software gets extended.

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Software testing is the technical investigation of the product under test to provide stakeholders with quality related information.

Software testing may be viewed as a sub-field of Software Quality Assurance but typically exists independently (and there may be no SQA areas in some companies). In SQA, software process specialists and auditors take a broader view on software and its development. They examine and change the software engineering process itself to reduce the amount of faults that end up in the code or deliver faster.

Regardless of the methods used or level of formality involved the desired result of testing is a level of confidence in the software so that the organization is confident that the software has an acceptable defect rate. What constitutes an acceptable defect rate depends on the nature of the software. An arcade video game designed to simulate flying an airplane would presumably have a much higher tolerance for defects than software used to control an actual airliner.

A problem with software testing is that the number of defects in a software product can be very large, and the number of configurations of the product larger still. Bugs that occur infrequently are difficult to find in testing. A rule of thumb is that a system that is expected to function without faults for a certain length of time must have already been tested for at least that length of time. This has severe consequences for projects to write long-lived reliable software.

A common practice of software testing is that it is performed by an independent group of testers after the functionality is developed but before it is shipped to the customer. This practice often results in the testing phase being used as project buffer to compensate for project delays. Another practice is to start software testing at the same moment the project starts and it is a continuous process until the project finishes.

Another common practice is for test suites to be developed during technical support escalation procedures. Such tests are then maintained in regression testing suites to ensure that future updates to the software don't repeat any of the known mistakes.

It is commonly believed that the earlier a defect is found the cheaper it is to fix it.

## INTEREST CALCULATION SYSTEM FOR RETAIL BANKING

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<u>Time Introduced</u>	<u>Time Detected</u>				
	<u>Requirements</u>	<u>Architecture</u>	<u>Construction</u>	<u>System Test</u>	<u>Post-Release</u>
Requirements	1	3	5-10	10	10-100
Architecture	-	1	10	15	25-100
Construction	-	-	1	10	10-25

In counterpoint, some emerging software disciplines such as extreme programming and the agile software development movement, adhere to a "test-driven software development" model. In this process unit tests are written first, by the programmers (often with pair programming in the extreme programming methodology). Of course these tests fail initially; as they are expected to. Then as code is written it passes incrementally larger portions of the test suites. The test suites are continuously updated as new failure conditions and corner cases are discovered, and they are integrated with any regression tests that are developed. Unit tests are maintained along with the rest of the software source code and generally integrated into the build process (with inherently interactive tests being relegated to a partially manual build acceptance process). The software, tools, samples of data input and output, and configurations are all referred to collectively as a test harness.

### **White-box and black-box testing:**

To meet Wikipedia's quality standards, this section may require cleanup. Please discuss this issue on the talk page, and/or replace this tag with a more specific message.

White box and black box testing are terms used to describe the point of view a test engineer takes when designing test cases. Black box being an external view of the test object and white box being an internal view. Software testing is partly intuitive, but largely systematic. Good testing involves much more than just running the program a few times to see whether it works. Thorough analysis of the program under test, backed by a broad knowledge of testing techniques and tools are prerequisites to systematic testing.

Software Testing is the process of executing software in a controlled manner; in order to answer the question "Does this software behave as specified?" Software testing is used in association with Verification and Validation. Verification is the checking of or testing of items, including software, for conformance and consistency with an associated specification. Software

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testing is just one kind of verification, which also uses techniques as reviews, inspections, walk-through. Validation is the process of checking what has been specified is what the user actually wanted.

- Validation: Are we doing the right job?
- Verification: Are we doing the job right?

In order to achieve consistency in the Testing style, it is imperative to have and follow a set of testing principles. This enhances the efficiency of testing within SQA team members and thus contributes to increased productivity. The purpose of this document is to provide overview of the testing, plus the techniques.

At SDEI, 3 levels of software testing is done at various SDLC phases

- Unit Testing: in which each unit (basic component) of the software is tested to verify that the detailed design for the unit has been correctly implemented
- Integration testing: in which progressively larger groups of tested software components corresponding to elements of the architectural design are integrated and tested until the software works as a whole.
- System testing: in which the software is integrated to the overall product and tested to show that all requirements are met

A further level of testing is also done, in accordance with requirements:

- Acceptance testing: upon which the acceptance of the complete software is based. The clients often do this.
- Regression testing: is used to refer the repetition of the earlier successful tests to ensure that changes made in the software have not introduced new bugs/side effects.

In recent years the term grey box testing has come into common usage. The typical grey box tester is permitted to set up or manipulate the testing environment, like seeding a database, and can view the state of the product after his actions, like performing a SQL query on the database to be certain of the values of columns. It is used almost exclusively of client-server testers or

# INTEREST CALCULATION SYSTEM FOR RETAIL BANKING

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others who use a database as a repository of information, but can also apply to a tester who has to manipulate XML files (DTD or an actual XML file) or configuration files directly. It can also be used of testers who know the internal workings or algorithm of the software under test and can write tests specifically for the anticipated results. For example, testing a data warehouse implementation involves loading the target database with information, and verifying the correctness of data population and loading of data into the correct tables.

## Test levels

- Unit testing tests the minimal software component and sub-component or modules by the programmers.
- Integration testing exposes defects in the interfaces and interaction between integrated components (modules).
- Functional testing tests the product according to programmable work.
- System testing tests an integrated system to verify/validate that it meets its requirements.
- Acceptance testing testing can be conducted by the client. It allows the end-user or customer or client to decide whether or not to accept the product. Acceptance testing may be performed after the testing and before the implementation phase. See also Development stage

Alpha testing is simulated or actual operational testing by potential users/customers or an independent test team at the developers' site. Alpha testing is often employed for off-the-shelf software as a form of internal acceptance testing, before the software goes to beta testing.

Beta testing comes after alpha testing. Versions of the software, known as beta versions, are released to a limited audience outside of the company. The software is released to groups of people so that further testing can ensure the product has few faults or bugs.

It should be noted that although both Alpha and Beta are referred to as testing it is in fact use emersion. The rigors that are applied are often unsystematic and many of the basic tenets of testing process are not used. The Alpha and Beta period provides insight into environmental and utilization conditions that can impact the software.

## INTEREST CALCULATION SYSTEM FOR RETAIL BANKING

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After modifying software, either for a change in functionality or to fix defects, a regression test re-runs previously passing tests on the modified software to ensure that the modifications haven't unintentionally caused a regression of previous functionality. Regression testing can be performed at any or all of the above test levels. These regression tests are often automated.

Test cases, suites, scripts and scenarios A test case is a software testing document, which consists of event, action, input, output, expected result and actual result. Clinically defined (IEEE 829-1998) a test case is an input and an expected result. This can be as pragmatic as 'for condition x your derived result is y', whereas other test cases described in more detail the input scenario and what results might be expected. It can occasionally be a series of steps (but often steps are contained in a separate test procedure that can be exercised against multiple test cases, as a matter of economy) but with one expected result or expected outcome. The optional fields are a test case ID, test step or order of execution number, related requirement(s), depth, test category, author, and check boxes for whether the test is automatable and has been automated. Larger test cases may also contain prerequisite states or steps, and descriptions. A test case should also contain a place for the actual result. These steps can be stored in a word processor document, spreadsheet, database or other common repository. In a database system, you may also be able to see past test results and who generated the results and the system configuration used to generate those results. These past results would usually be stored in a separate table.

The term test script is the combination of a test case, test procedure and test data. Initially the term was derived from the byproduct of work created by automated regression test tools. Today, test scripts can be manual, automated or a combination of both.

The most common term for a collection of test cases is a test suite. The test suite often also contains more detailed instructions or goals for each collection of test cases. It definitely contains a section where the tester identifies the system configuration used during testing. A group of test cases may also contain prerequisite states or steps, and descriptions of the following test.

Collections of test cases are sometimes incorrectly termed a test plan. They might correctly be called a test specification. If sequence is specified, it can be called a test script, scenario or procedure.

## A sample testing cycle

**Although testing varies between organizations, there is a cycle to testing:**

1. Requirements Analysis: Testing should begin in the requirements phase of the software development life cycle. During the design phase, testers work with developers in determining what aspects of a design are testable and under what parameter those tests work.
2. Test Planning: Test Strategy, Test Plan(s), Test Bed creation.
3. Test Development: Test Procedures, Test Scenarios, Test Cases, Test Scripts to use in testing software.
4. Test Execution: Testers execute the software based on the plans and tests and report any errors found to the development team.
5. Test Reporting: Once testing is completed, testers generate metrics and make final reports on their test effort and whether or not the software tested is ready for release.
6. Retesting the Defects

Not all errors or defects reported must be fixed by a software development team. Some may be caused by errors in configuring the test software to match the development or production environment. Some defects can be handled by a workaround in the production environment. Others might be deferred to future releases of the software, or the deficiency might be accepted by the business user. There are yet other defects that may be rejected by the development team (of course, with due reason) if they deem it inappropriate to be called a defect.

# INTEREST CALCULATION SYSTEM FOR RETAIL BANKING

## 3.5. Reports & Forms:

The screenshot shows a web browser window with the URL `http://localhost:8080/dts1CSR/RecoverPasswordAction.jsp`. The page title is "INTEREST CALCULATION SYSTEM FOR A RETAIL BANK". A navigation menu at the top includes "Home", "About Us", "Interest Rates", and "Login". The main content area is titled "Login" and contains a form with the following fields: "Username", "AccountNo", and "Password". There are "Sign In" and "Clear" buttons. Below the form, there are links for "Forgot Password!!....." and "New\_User?".

**SCREEN 3.5.1**

This figure shows a login form .It contains a user name, account number, and password columns.

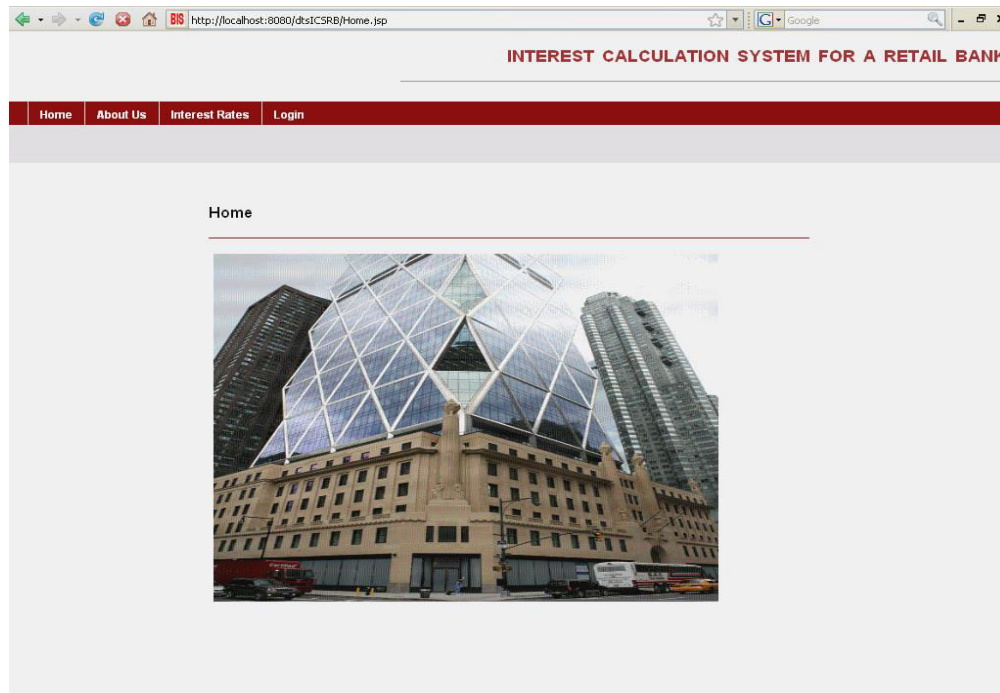
The screenshot shows a web browser window with the URL `http://localhost:8080/dts1CSR/RegisterForm.jsp`. The page title is "INTEREST CALCULATION SYSTEM FOR A RETAIL BANK". A navigation menu at the top includes "Home", "About Us", "Interest Rates", and "Login". The main content area is titled "Registration Form" and contains a form with the following fields: "First Name" (share), "Last Name" (reddy), "Birth Date" (14-2-1999), "House No" (1-19), "Street" (ameerpet), "City" (Hyderabad), "State" (Andhra pradesh), "Country" (India), "Pincode" (500016), "Contact No" (9440487048), "Email" (i02\_reddy@yahoo.co.in), "Login Name" (share), "Password" (masked with dots), "Secret Question" (What is the name of your first school?), "Own Question" (checkbox), "Own Question" (text field), "Secret Answer" (bali), "Account Type" (Saving Account), and "Account openingBal" (6000). There is a "Register" button at the bottom.

**SCREEN 3.5.2**

This figure shows registration details for the new user

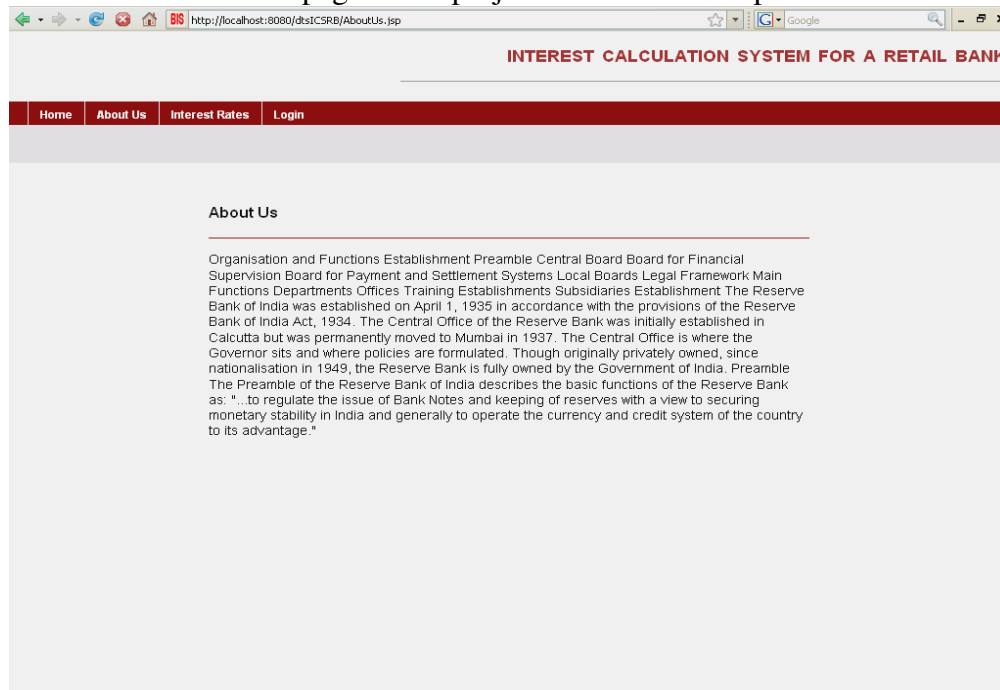


## CHAPTER – 4 WALKTHROUGHS



### SCREEN4.1.1

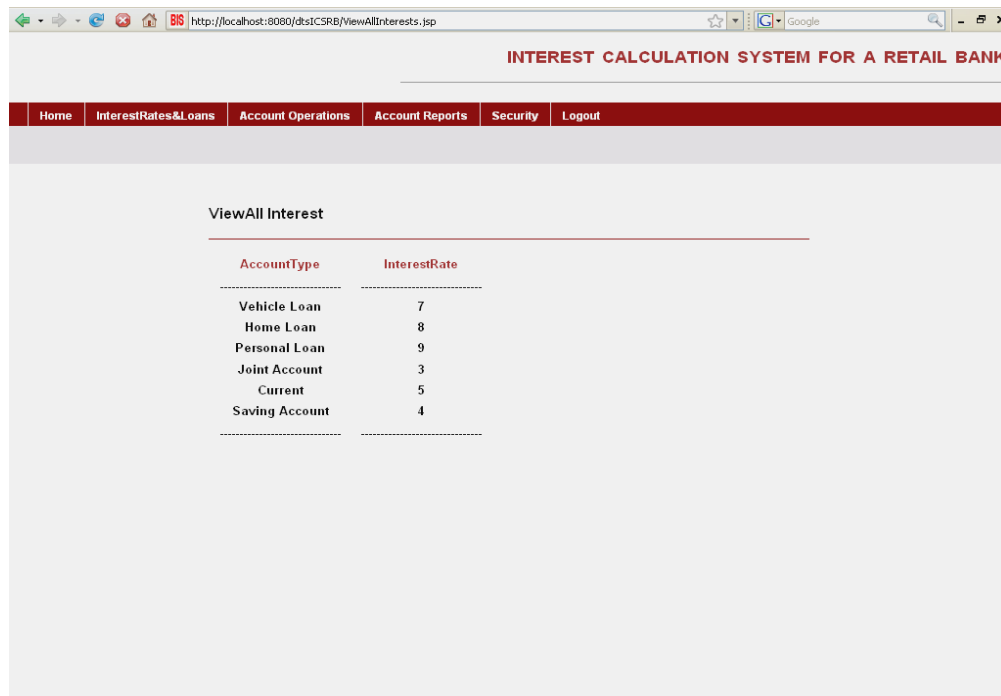
This screen shows a main home page of the project. It contains complete details about the project



### SCREEN4.1.2

This screen shows main importance of that project

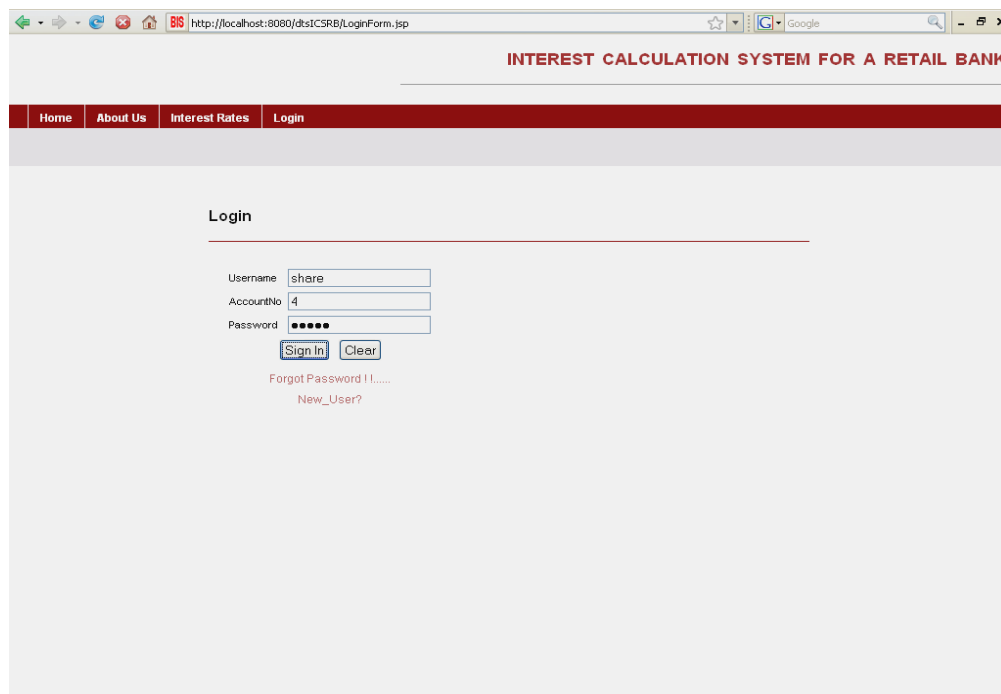
# INTEREST CALCULATION SYSTEM FOR RETAIL BANKING



AccountType	InterestRate
Vehicle Loan	7
Home Loan	8
Personal Loan	9
Joint Account	3
Current	5
Saving Account	4

## SCREEN 4.1.3

This figure shows a interest details about that project



Username:

AccountNo:

Password:

[Forgot Password !!.....](#)

[New\\_User?](#)

## SCREEN 4.1.4

This figure shows a login details it contains id ,password,accont number

# INTEREST CALCULATION SYSTEM FOR RETAIL BANKING

Recovery Password

Login Name: share

Secret Question: What was the name of your first school?

Own Question

Own Question:

Secret Answer: bali

Recover Clear

SCREEN 4.1.5

**Explanation:** This figure shows a recovery of password suppose we forget our id password .then it asks a one secret question you will give a correct anser.it will give new password

Login

Password is: |a|||

Username:

AccountNo:

Password:

Sign In Clear

[Forgot Password | |.....](#)

[New\\_User?](#)

SCREEN 4.1.6

**Explanation:** This figure shows a login details. It contains a user name, account number, password.

# INTEREST CALCULATION SYSTEM FOR RETAIL BANKING

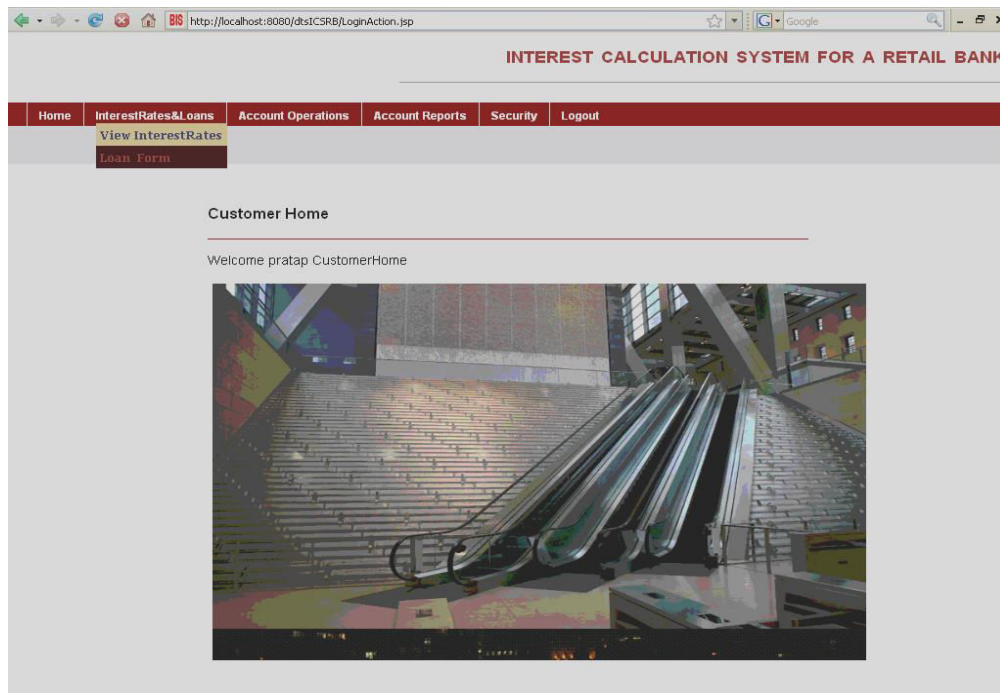
Registration Form

First Name: share  
Last Name: reddy  
Birth Date: 14-2-1999  
House No: 1-19  
Street: ameerpet  
City: Hyderabad  
State: Andhra pradesh  
Country: India  
Pincode: 500016  
Contact No: 9440487048  
Email: i02\_reddy@yahoo.co.in  
Login Name: share  
Password: ●●●●●●  
Secret Question: What is the name of your first school?  
 Own Question  
Own Question:   
Secret Answer: bali  
Account Type: Saving Account  
Account openingBal: 6000

Register

**SCREEN 4.1.7**

**Explanation:** This shows registration form for the new user with some details



**SCREEN 4.1.8**

**Explanation:** This figure shows a customer home page when the user was login with correct password

# INTEREST CALCULATION SYSTEM FOR RETAIL BANKING

Loan Form

Loan Type: Personal Loan

LoanAmount: 8888

GetLoan Clear

**SCREEN 4.1.9**

**Explanation:** This figure contains a login form with account type and account number

WithDraw Form

Account Type: Saving Account

WithdrawAmount: 2400

Deposit Clear

**SCREEN 4.1.10**

**Explanation:** This figure shows a withdraw form it contains a account type and Withdraw amount.

# INTEREST CALCULATION SYSTEM FOR RETAIL BANKING

INTEREST CALCULATION SYSTEM FOR A RETAIL BANK

Home Interest Rates Account Operations Bank Reports Security Account Balance Logout

Deposit

Account Type: Saving Account

Deposit Amount:

Deposit Clear

**SCREEN 4.1.11**

**Explanation:** This figure shows a deposit form with account type and deposited amount

INTEREST CALCULATION SYSTEM FOR A RETAIL BANK

Home Interest Rates & Loans Account Operations Account Reports Security Logout

Report Form

From Date: 2-2-2008

To Date: 4-2-2008

Check Clear

**SCREEN 4.1.12**

**Explanation:** This figure shows a report form from date to date for check the account transactions

# INTEREST CALCULATION SYSTEM FOR RETAIL BANKING

The screenshot shows a web browser window with the URL `http://localhost:8080/dts1CSR/Changepassword.jsp?role=admin`. The page title is "INTEREST CALCULATION SYSTEM FOR A RETAIL BANK". A navigation menu at the top contains links for Home, Interest Rates & Loans, Account Operations, Account Reports, Security, and Logout. The main content area is titled "Change Password" and contains the following form elements:

- Login Name:
- Old Password:
- New Password:
- Change:

**SCREEN 4.1.13**

**Explanation:** This figure shows a change password details for changing a password. It contains login name, old password and new password

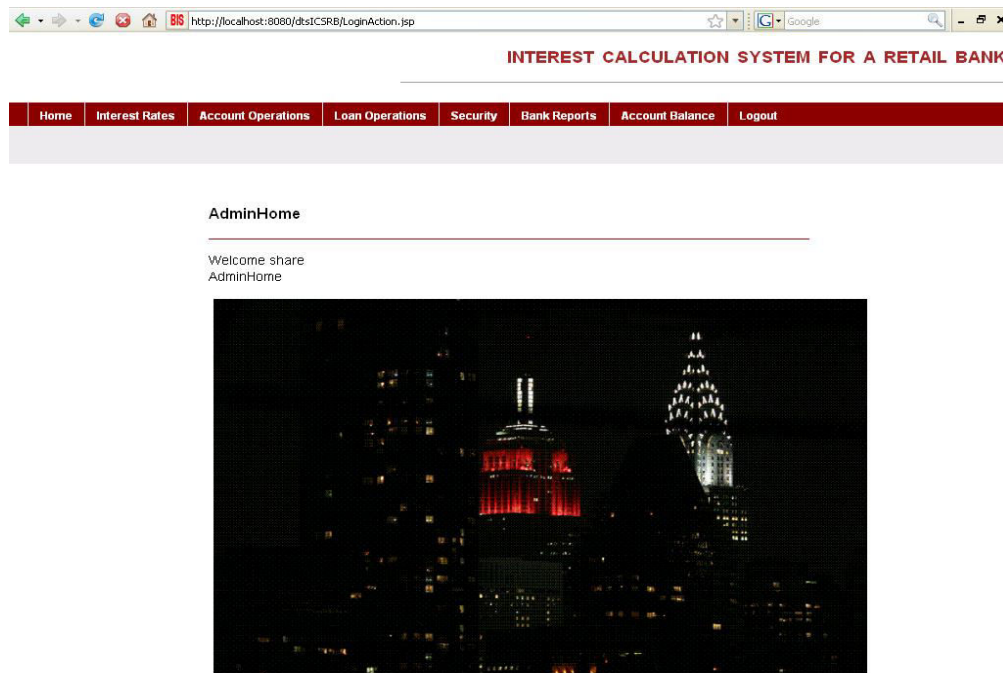
The screenshot shows a web browser window with the URL `http://localhost:8080/dts1CSR/Changequestion.jsp?role=admin`. The page title is "INTEREST CALCULATION SYSTEM FOR A RETAIL BANK". A navigation menu at the top contains links for Home, Interest Rates, Account Operations, Account Reports, Security, and Logout. The main content area is titled "Change Question" and contains the following form elements:

- Login Name:
- Password:
- Secret Question:
- Own Question
- Own Question:
- Secret Answer:
- Change:

**SCREEN 4.1.14**

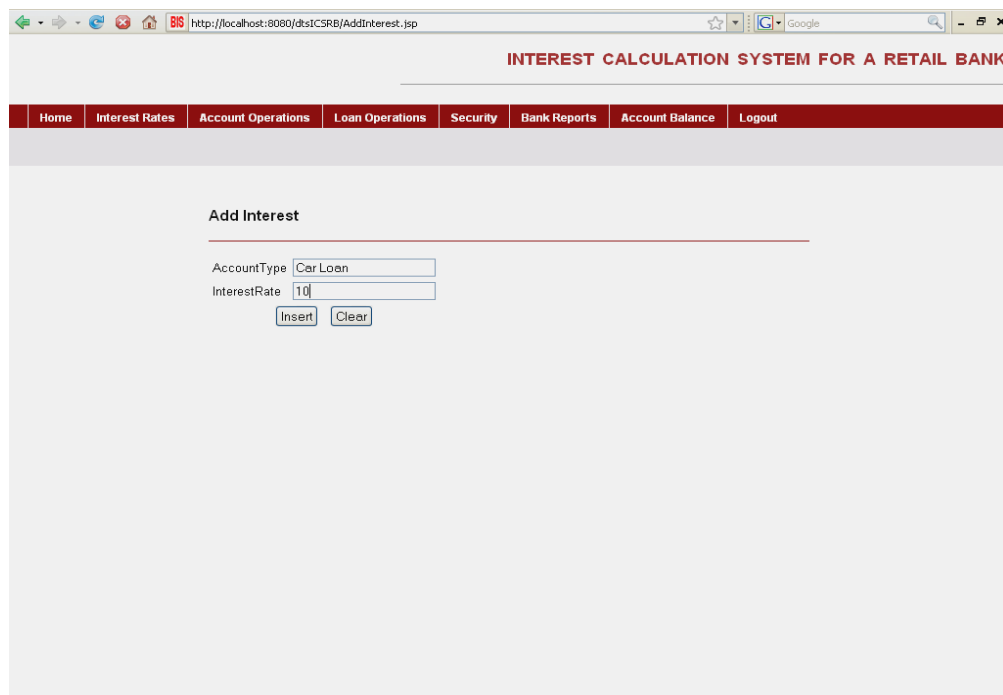
**Explanation:** This figure shows a change question option

# INTEREST CALCULATION SYSTEM FOR RETAIL BANKING



**SCREEN 4.1.15**

**Explanation:** This figure shows a main home page of the administrator



**SCREEN 4.1.16**

**Explanation:** This figure shows a add interest details with account type and an interest details

# INTEREST CALCULATION SYSTEM FOR RETAIL BANKING

The screenshot shows a web browser window with the URL `http://localhost:8080/dts1CSR8/UpdateInterest.jsp`. The page title is "INTEREST CALCULATION SYSTEM FOR A RETAIL BANK". A navigation menu at the top includes "Home", "Interest Rates", "Account Operations", "Bank Reports", "Security", "Account Balance", and "Logout". The main content area is titled "Update Interest" and contains a form with the following elements: "Account Type" (a dropdown menu set to "Saving Account"), "Interest Rate" (a text input field), and two buttons labeled "Update" and "Clear".

**SCREEN 4.1.17**

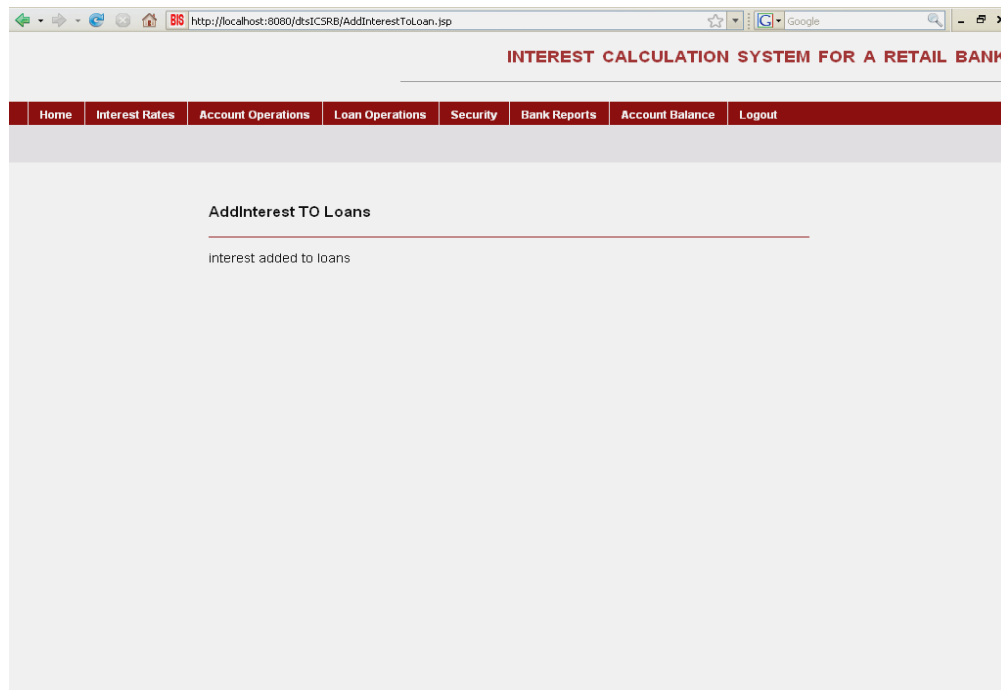
**Explanation:** This figure shows a update the interest it depends upon the account type and amount

The screenshot shows a web browser window with the URL `http://localhost:8080/dts1CSR8/CalculateLoanInterest.jsp`. The page title is "INTEREST CALCULATION SYSTEM FOR A RETAIL BANK". A navigation menu at the top includes "Home", "Interest Rates", "Account Operations", "Loan Operations", "Security", "Bank Reports", "Account Balance", and "Logout". The main content area is titled "Calculate LoanInterest" and contains a single line of text: "interest calculated and updated in loaninterest".

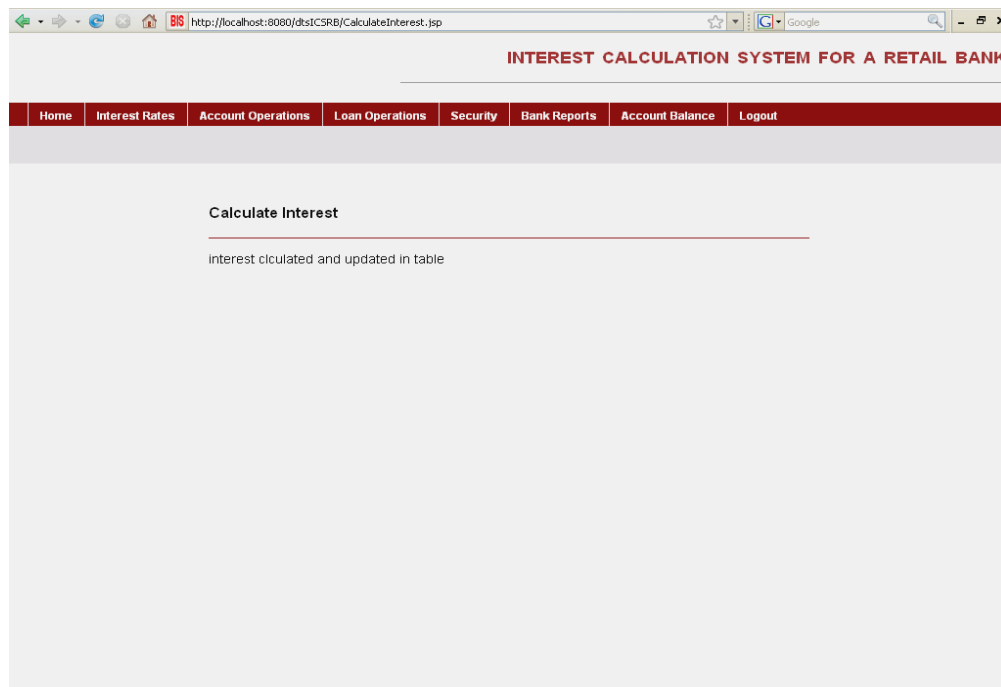
**SCREEN 4.1.18**

# INTEREST CALCULATION SYSTEM FOR RETAIL BANKING

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**SCREEN 4.1.19**



**SCREEN 4.1.20**

## 5. CONCLUSION

The **Interest Calculating for Retail bank** is a web-based application for primarily providing training to the employees who provide customized solutions to meet organizational needs.

This application software has been computed successfully and was also tested successfully by taking “test cases”. It is user friendly, and has required options, which can be utilized by the user to perform the desired operations.

The software is developed using Java as front end and Oracle as back end in Windows environment. The goals that are achieved by the software are:

- ✓ Instant access.
  - ✓ Improved productivity.
  - ✓ Optimum utilization of resources.
  - ✓ Efficient management of records.
  - ✓ Simplification of the operations.
  - ✓ Less processing time and getting required information.
  - ✓ User friendly.
- Portable and flexible for further enhancement.

# INTEREST CALCULATION SYSTEM FOR RETAIL BANKING

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