



Sri Lanka Institute of Information Technology

## **Web Portal for Sampath Bank Project Report**

Information Technology Project 2018

Project ID: **ITP-2018-MLB-G3-10**

Submitted by:

1. IT17395588– (Samarasekara S.A.M.I.D.)
2. IT17139786– (Bogahawatte W.W.M.K.A.)
3. IT17137492– (Atheeq M.M.M.)
4. IT17134668– (Gamage V.S.)
5. IT17156998– (Wijemanna M.D.C.V.)
6. IT17134736– (Subasinghe S.M.M.K.)
7. IT17138796– (Sandepani K.K.T.)
8. IT17138864– (Sankalpani K.K.T.)

Submitted to:

(Supervisor's signature)

.....  
Name of the supervisor

Date of submission

## **Declaration**

We declare that this project report or part of it was not a copy of a document done by any organization, university any other institute or a previous student project group at SLIIT and was not copied from the Internet or other sources.

### Project Details

Project Title	Web Portal for Sampath Bank
Project ID	ITP-2018-MLB-G3-10

### Group Members

Reg. No	Name	Signature
IT17395588	Samarasekara S.A.M.I.D.	Isuru
IT17139786	Bogahawatte W.W.M.K.A.	Keshani
IT17137492	Atheeq M.M.M.	Atheeq
IT17134668	Gamage V.S.	Vinu
IT17138796	Sandeepani K.K.T.	Thulshi
IT17156998	Wijemanna M.D.C.V.	Chathurka
IT17134736	Subasinghe S.M.M.K.	Madhawa
IT17138864	Sankalpani K.K.T.	Thushadi

## **Abstract**

This project revolves around the module Information Technology Project which is offered by SLIIT for 2<sup>nd</sup> year 2<sup>nd</sup> semester computing students. The main motive of this project is to make undergraduates aware of the industry and to provide good team working skills for undergraduates. This project was selected by 8 individuals where we were asked to develop the Lease Calculator for Sampath Bank and due to the insufficiency of the scope, the project was changed to a Web Portal development for Sampath Bank. The 8 main functionalities assigned to individual is mentioned below.

1. Employee, HR and Payroll Management - Samarasekara S.A.M.I.D (IT17395588)
2. User Management - Bogahawatte W.W.M.K.A. (IT17139786)
3. Inventory Management - Atheeq M.M.M. (IT17137492)
4. Transaction Management - Gamage V.S. (IT17134668)
5. Loan Calculator - Wijemanna M.D.C.V. (IT17156998)
6. Lease Calculator - Subasinghe S.M.M.K. (IT17134736)
7. Fault/ Complaint Management - Sankalpani K.K.T. (IT17138864)
8. Procurement Management - Sandeepani K.K.T. (IT17138796)

As a team we were able to complete the web portal within the expected time and we were able to face the assessments conducted by the lecturers without any obstacles.

## **Acknowledgement**

The success and outcome of the project required a lot of guidance and assistance from many people and we are extremely privileged to have this along the completion of our project. All that we have done is only due to such supervision and assistance. For the assistance they have given we would not forget to thank them.

We respect and thank Ms. Uthpala Samarakoon for being the head of ITP module and giving us the opportunity to work in projects like this. We are extremely thankful to her for providing such a nice support and guidance, although she had a busy schedule as the subject in charge.

We owe our deepest gratitude to our project guides Ms. Janani Tharmaseelan and Ms. Amali, who took keen interest on our project work and guided us all along, till the completion of our project work by providing all the necessary information for developing a good system.

Finally, we are thankful and fortunate enough to get constant encouragement, support and guidance from all the teaching staffs of computing department which helped us in successfully completing our project work.

# Table of Contents

<b>1. Introduction.....</b>	<b>1</b>
1.1    Problem Statement.....	1
1.1.1    Company Background.....	1
1.1.2    Actual Problems .....	1
1.1.3    Simulated Problems.....	2
1.2    Solution.....	2
1.3    Product Scope .....	2
1.3.1 <i>Overall Scope</i> .....	2
1.3.2 <i>Employee, HR and Payroll Management Scope</i> .....	2
1.3.3 <i>User Management Scope</i> .....	3
1.3.4 <i>Inventory Management Scope</i> .....	4
1.3.5 <i>Transaction Management Scope</i> .....	4
1.3.6 <i>Loan Calculator Scope</i> .....	5
1.3.7 <i>Lease Calculator Scope</i> .....	5
1.3.8 <i>Fault/ Complaint Management Scope</i> .....	5
1.3.9 <i>Procurement Management Scope</i> .....	5
<b>2. Methodology .....</b>	<b>7</b>
2.1    Requirements and Analysis .....	7
2.1.1    Employee, HR and Payroll Management.....	7
2.1.2    User Management .....	11
2.1.3    Inventory Management.....	14
2.1.4    Transaction Management .....	16
2.1.5    Loan Calculator.....	18
2.1.6    Lease Calculator.....	19
2.1.7    Fault & Complaint Management.....	20
2.1.8    Procurement Management.....	22
2.2    Design.....	24

2.2.1	High Level Diagram .....	24
2.2.2	ER Diagram for Overall System .....	25
2.2.3	Class Diagram for Overall System .....	26
2.2.4	User Interfaces.....	29
2.3	Implementation.....	94
2.3.1	Common Implementation Details.....	94
2.3.2	Employee, HR and Payroll Management.....	95
2.3.3	User Management .....	100
2.3.4	Inventory Management.....	103
2.3.5	Transaction Management .....	105
2.3.6	Loan Calculator.....	107
2.3.7	Lease Calculator.....	108
2.3.8	Fault/Complaint Management.....	109
2.3.9	Procurement Management.....	110
2.4	Testing .....	112
2.4.1	Test Cases.....	112
2.4.2	Testing Proofs.....	113
<b>3.</b>	<b>Evaluation.....</b>	<b>126</b>
3.1	Assessment of the Project results.....	126
3.2	Lessons Learned.....	126
3.3	Future Work .....	126
<b>4.</b>	<b>Conclusion .....</b>	<b>127</b>

# List of Figures

Figure 2-1 High Level Diagram -----	24
Figure 2-2 ER Diagram -----	25
Figure 2-3 Class Diagram-----	26
Figure 2-4 Class Definitions 01 -----	27
Figure 2-5 Class Definitions 02 -----	28
Figure 2-6 EHPM Dropdown 01-----	29
Figure 2-7 EHPM - Dropdown 02-----	29
Figure 2-8 EHPM - Dropdown 03-----	29
Figure 2-9 EHPM - Dropdown 04-----	29
Figure 2-10 EHPM - Dropdown 05-----	29
Figure 2-11 EHPM - Dropdown 06-----	29
Figure 2-12 EHPM – Employee Duties - Recruit an Employee -----	30
Figure 2-13 EHPM - Employee Duties - Create Employee Online Account -----	31
Figure 2-14 EHPM - Employee Duties - All Active Employees-----	31
Figure 2-15 EHPM - Employee Duties - Active Single Employee -----	32
Figure 2-16 EHPM - Employee Duties - Active Single Employee – Online Account Removal Prompt -----	33
Figure 2-17 EHPM - Employee Duties - Active Single Employee – Inactivate an Employee Prompt -----	33
Figure 2-18 EHPM - Employee Duties - All Inactive Employees -----	34
Figure 2-19 EHPM - Employee Duties - Inactive Single Employee -----	34
Figure 2-20 EHPM - Employee Duties - Active Single Employee - Reason for Inactivation -----	35
Figure 2-21 EHPM - Employee Duties - Search for an Employees -----	35
Figure 2-22 EHPM - Employee Duties - Search for Employees - Single Employee View -----	36
Figure 2-23 EHPM - Employee Duties - Leave Request Management -----	36
Figure 2-24 EHPM - Employee Duties - Leave Request Management - Single Leave Request -----	37
Figure 2-25 EHPM - Employee Duties - Update Request Management-----	37
Figure 2-26 EHPM - Employee Duties - Salary Management -----	38
Figure 2-27 EHPM - Employee Duties - Salary Management - Salary Summary -----	39
Figure 2-28 EHPM - HR Manager - Documents & Reports-----	40
Figure 2-29 EHPM - HR Manager – Documents & Reports - Demo-----	40
Figure 2-30 EHPM - Leave Request Inquiry - Apply for Leave-----	41
Figure 2-31 EHPM - Leave Request Inquiry - Apply for Leave - Summary-----	42
Figure 2-32 EHPM - Leave Request Inquiry - Apply for Leave - Leave Summary - Confirm Leave Prompt -----	42
Figure 2-33 EHPM - Leave Request Inquiry - Leave History -----	43
Figure 2-34 EHPM - Leave Request Inquiry - Leave History - Single Leave View-----	43
Figure 2-35 EHPM - Leave Request Inquiry - Leave History - Remove Leave (Submitted) -----	44
Figure 2-36 EHPM - Salary Inquiry - Calculate Salary-----	44
Figure 2-37 EHPM - Salary Inquiry - Pay Slip -----	45
Figure 2-38 EHPM - Profile Related - Profile Details -----	45
Figure 2-39 EHPM - Profile Related - Profile Details - Demo -----	46
Figure 2-40 EHPM - Profile Related - Update Profile-----	46
Figure 2-41 EHPM - Profile Related - Update Profile - Demo -----	47
Figure 2-42 UM - Common Homepage -----	48
Figure 2-43 UM - Customer Online Registration - Step 01 -----	49
Figure 2-44 UM - Customer Online Registration - Step 02-----	49
Figure 2-45 UM - Customer Online Registration - Step 03-----	50
Figure 2-46 UM - Common Login-----	50
Figure 2-47 UM - User Manager - Dropdown 01-----	51

Figure 2-48 UM - User Manager - Dropdown 02-----	51
Figure 2-49 UM - Common Employee – Dropdown 01-----	52
Figure 2-50 UM - User Manager - Employee Duties - Online Customer Account Management	52
Figure 2-51 UM - User Manager - Employee Duties - Online Customer Account Management - Single Customer Registration Request Details -----	53
Figure 2-52 UM - User Manager - Employee Duties - Search for Customers -----	54
Figure 2-53 UM - User Manager - Employee Duties - Search for Customers - Search Results --	54
Figure 2-54 UM - User Manager - Employee Duties - Search for Customers - Search Results - Selected View -----	55
Figure 2-55 UM - User Manager - Documents & Reports - Customer Details-----	55
Figure 2-56 UM - User Manager - Documents & Reports - Customer Details - Report 01-----	56
Figure 2-57 UM - User Manager - Documents & Reports - Customer Details - Report 02-----	56
Figure 2-58 UM - All Employees - Intra-Company Mailing system - Inbox -----	57
Figure 2-59 UM - All Employees - Intra-Company Mailing system - Outbox -----	57
Figure 2-60 UM - All Employees - Intra-Company Mailing system - Compose Mail-----	58
Figure 2-61 UM - All Employees - Intra-Company Mailing system - Single Mail View-----	59
Figure 2-62 UM - All Employees - Intra-Company Mailing system - Sender Delete Demo-----	59
Figure 2-63 IM - Inventory Employee - View Warehouse Item Details-----	60
Figure 2-64 IM - Inventory Employee - Warehouse-Branch Tracking -----	61
Figure 2-65 IM - Inventory Employee - Branch Request -----	61
Figure 2-66 IM - Inventory Employee - Inventory Management History -----	62
Figure 2-67 IM - Branch Head - Request for New Item -----	62
Figure 2-68 IM - Inventory Employee - Generate Reports -----	63
Figure 2-69 IM - Inventory Employee Add New Item -----	64
Figure 2-70 IM - Inventory Employee - View Specific Item Details -----	65
Figure 2-71 IM - Inventory Employee - Update/Delete an Item -----	65
Figure 2-72 TM - Customer - Intrabank Transactions-----	66
Figure 2-73 TM - Customer - Interbank Transactions-----	66
Figure 2-74 TM - Customer - Confirming the Transaction -----	67
Figure 2-75 TM - Customer - Transaction History -----	68
Figure 2-76 TM - Customer - Requesting to Display Account Balance -----	69
Figure 2-77 TM - Customer - Entering Security Pin-----	69
Figure 2-78 TM - Customer - Display Account Balance -----	70
Figure 2-79 TM - Transaction Manager - Display Pending Transactions -----	70
Figure 2-80 TM - Transaction Manager - Display All the transactions -----	71
Figure 2-81 TM - Transaction Manager- Generate Transaction Reports-----	72
Figure 2-82 LC – Loan Calculator-For Loan Overview-----	73
Figure 2-83 LC – Loan Calculator-For Loan Overview-home loan-----	74
Figure 2-84 LC – Loan Calculator-For Loan Overview- vehicle loan-----	74
Figure 2-85 LC – Loan Calculator-For Loan Overview-Personal loan-----	75
Figure 2-86 LC – Loan Calculator- Loan Calculator -----	75
Figure 2-87 LC – Loan Calculator- Loan Calculator-Loan Details -----	76
Figure 2-88 LC – Loan Calculator- For Admin Sign in-Create & Search loan -----	76
Figure 2-89 LC – Loan Calculator- For Admin Sign in- Create & Search loan -Create loan-----	77
Figure 2-90 LC – Loan Calculator- For Admin Sign in- Create & Search loan -Search loan update delete -----	77
Figure 2-91 LC – Loan Calculator- For Admin Sign in- Create & Search loan - Search loan update delete -Update loan -----	78
Figure 2-92 LC – Loan Calculator- For Admin Sign in-Create & Search loan - Update loan – report generate-----	78
Figure 2-93 Lease Cal - Home Page-----	79
Figure 2-94 Lease Cal - Lease Calculator-----	80
Figure 2-95 Lease Cal - main calculator-----	81
Figure 2-96 Lease Cal - secondary calculator -----	81

Figure 2-97 Lease Cal - Add a record -----	82
Figure 2-98 Lease Cal - View & delete records -----	82
Figure 2-99 Lease Cal - Update Records -----	83
Figure 2-100 Lease Cal - Generate Reports -----	83
Figure 2-101 Lease Cal - Report demo-----	84
Figure 2-102 FM - Lodge a Complaint-----	85
Figure 2-103 FM - Complaint History-----	85
Figure 2-104 FM - Delete Complaint-----	86
Figure 2-105 FM - Status Update-----	86
Figure 2-106 FM - Categorize Complaint-----	87
Figure 2-107 FM - Generate Report-----	87
Figure 2-108 FM - Complaint report (non-parameterize) -----	88
Figure 2-109 FM - Complaint report (Parameterize) -----	88
Figure 2-110 PM - Add suppliers -----	89
Figure 2-111 PM - View, update & delete suppliers-----	89
Figure 2-112 PM - Add Items -----	90
Figure 2-113 PM - View, update & delete Items-----	90
Figure 2-114 PM - Search -----	91
Figure 2-115 PM - View all details -----	91
Figure 2-116 PM - Generate reports-----	92
Figure 2-117 PM - Item report -----	92
Figure 2-118 PM - Supplier report -----	93
Figure 2-119 UM - Test Case U001 Proof 01 - Sign Up page entries -----	113
Figure 2-120 UM - Test Case U001 Proof 02 - Alert -----	113
Figure 2-121 UM - Test Case U002 Proof 01 - Email Received with the PIN -----	114
Figure 2-122 UM - Test Case U002 Proof 02 - PIN entry in UM_CustomerRegistrationSecondary.jsp-----	114
Figure 2-123 UM - Test Case U002 Proof 03 - Redirected to UM_CustomerRegistrationThirthary.jsp-----	115
Figure 2-124 TM - Test Case T001 Proof - Low Amount Transaction-----	116
Figure 2-125 TM - Test Case T002 Proof - High Amount Transaction-----	117
Figure 2-126 IM - Test Case I001 Proof - Add New Item Valid-----	118
Figure 2-127 IM - Test Case I002 Proof - Add New Item Invalid-----	119
Figure 2-128 EHPM - Test Case E001 Proof 01 - Apply_For_Leave.jsp Valid form Fill -----	120
Figure 2-129 EHPM - Test Case E001 Proof 02 - Apply_For_Leave_Confirmation.jsp -----	120
Figure 2-130 EHPM - Test Case E002 Proof 01 - Apply_For_Leave.jsp Invalid Form Fill-----	121
Figure 2-131 EHPM - Test Case E002 Proof 02 - Alert -----	121
Figure 2-132 Lease Cal - Test Case LC01 Proof-----	122
Figure 2-133 Lease Cal - Test Case LC02 Proof-----	122
Figure 2-134 FM - Test Case F001 Proof-----	123
Figure 2-135 FM - Test Case F002 Proof-----	123
Figure 2-136 LC - Test Case LO01 Proof-----	124
Figure 2-137 LC - Test Case LO02 Proof-----	124
Figure 2-138 PM - Test Case P001 Proof -----	125
Figure 2-139 PM - Test Case P002 Proof -----	125

## **List of Tables**

Table 2-1 Test Cases .....	112
----------------------------	-----

## **List of Acronyms and Abbreviations**

ATM	Automated Teller Machine
EHPM	Employee Human Resource Payroll Management
ER	Entity-Relationship (ERD)
ERP	Enterprise Resource Planning
FM	Fault Management
HR	Human Resource
IM	Inventory Manager
LKR	Sri Lankan Rupee
LC	Loan Calculator
NIC	National Identity Card
OOP	Object Oriented Programming
PLC	Public Limited Company
PM	Procurement Management
TM	Transaction Manager
UM	User Management

# **1. Introduction**

## **1.1 Problem Statement**

### **1.1.1 Company Background**

Company Name: Sampath Bank PLC.  
Head Office: 110, Sir James Peiris Mawatha, Colombo 02, Sri Lanka.

Sampath Bank PLC is a locally renowned leader in private banking sector. Established in 1986, today boast of being the third largest private sector bank in Sri Lanka in terms of revenue. Sampath Bank, popularly known as ‘Sampath’, is the first bank to operate a multi-point network of ATMs in the country, as “SET”. The bank was also introduced MasterCard for the first time locally as well as the debit cards for the first time in whole of South Asia.

In credit to be the technological leader (locally) in banking, the bank has introduced the “Tele-banking” facility which led to re-engineering of its IT induced banking technology, which has led the bank to launch Internet Banking, Internet Payment Gateways and Mobile Banking services.

Sampath Bank was the initial bank in Sri Lanka to operate with fully computerized database and technologies and the bank has secured numerous awards in respects to technological stand point. [1]

### **1.1.2 Actual Problems**

Currently, in Sampath Bank there is no module for branch staff to calculate the monthly instalments/rentals and lease capital. The calculations are done using an Excel worksheet by logging to a server with remote desktop connection.

Since there are technical difficulties with related to excel work sheets (macros) such as, unable to login to the server, copying of the generated text files (structured payments schedules) to local server and there is no direct mechanism to export data from the excel sheets to generate security documents and save the same, credit officers face many difficulties with regards to proceeding with leasing facilities.

### **1.1.3 Simulated Problems**

The above-mentioned problems are not sufficient to meet the academic requirement, since it only address a single functionality. Hence, it was assumed that the client needs an entire web portal which consists of online banking functionalities. As the client is a banking company, we decided to build both the customer side as well as the employee side. It was also assumed that the client is in need for a web portal. The research conducted by the company shows that the existing portal is not user friendly, which creates a vacuum for improvement. So, the company is looking for a system which will attract more matured target audience.

## **1.2 Solution**

Design and implement a Leasing Calculator, along with the facility to print needed security documents, which is expected to overcome all technical difficulties mentioned above and enable the branches to facilitate smooth operation process for Leasing facilities.

Develop a user-friendly web portal for the client which; manages users of all kinds, enables online transactions for customers whilst managing them, facilitates employee and payroll management, handles inventory as well as procurement, oversees fault and complaints, conducts Loan calculations and handling, finally, which holds the earlier mentioned leasing implementation.

## **1.3 Product Scope**

### ***1.3.1 Overall Scope***

A ‘Web Portal’ for Sampath bank customers and employees alike, consisting selected features similar to that of an ERP module specialized for a bank. ‘Web Portal for Sampath Bank’ will primarily focus on User Management, Employee Management, HR Management, Payroll Management, Inventory Management, Transaction Management, Loan Calculator, Lease Calculator, Procurement Management and Fault and Complaint Management. Development time for all the functionalities were estimated to be 7 to 8 weeks including integration time.

### ***1.3.2 Employee, HR and Payroll Management Scope (IT 17395588)***

Employee and HR Payroll Management discussed here is, an integration of Employee Management System, Payroll System, Leave Management System and All the relevant HR side functionalities matching for above. Employee Management System composes of diverse features which will allow the company to perform general human resource management tasks. Payroll System will focus primarily on salary management, which includes wage calculations and wage payouts. This system will minimize the labor cost and will simplify the complexities. Leave Management System facilitates the total leave process, from leave applications being completed by the employees to them being approved by HR and Management.

Divided into three sections as Employee Management, HR Management and Payroll Management, here, the scope primarily focusses on common employee tasks such as; ‘Leave Request Inquiry’ (Applying for Leave Requests, Leave Request History), Salary Inquiry (Salary Calculator, Pay Slip PDF), Documentation & Reports (specific per employee) and Profile Management (Profile); HR Manager’s tasks such as; Recruitment of an Employee, Creating Employee Online Accounts, Manage Active Employees, View Inactive Employees, Search for Employees, Leave Request Management, Update Details Request Management and Salary management. (Further will be explained in sections [2.1.1](#) and [2.3.2](#) (Requirements and Analysis and Implementation respectively)).

### ***1.3.3 User Management Scope (IT 17139786)***

User Management System plays a vital role in web-based application because it enables authorized users to access the system depending upon the hierarchy of access levels. This sub system mainly focuses on managing, customer registration, user logins, customer management and intracompany mailing system.

Scope includes Login for both customers and employees, Customer online registration (extensive process), Customer management tasks such as; approving customer online registration requests, searching for customer details and generating documentations of customer details.

Further, an intra-company mailing system will be implemented for the use of employees as a notification and a communication medium. (Further will be explained in sections [2.1.2](#) and [2.3.3](#) (Requirements and Analysis and Implementation respectively)).

#### ***1.3.4 Inventory Management Scope (IT 17137492)***

Inventory management system mainly deals on the process of effectively managing the company's inventory. As our client is operating in a banking industry, there will be many branches and warehouse throughout the county. So, inventory management plays a vital role for the client in order to minimizing their inventory holding cost and to be eligible for discounts when bulk purchasing. This system mainly focuses on the process of managing the inventory as branch wise as well as warehouse wise.

The main users of this system will be inventory related employees (Warehouse), inventory related managers (Warehouse) and branch heads. This system should also provide an interface to view the current stock levels in the branch as well as the warehouses (with the help of search function) along with a function of alarming the inventory employee when the warehouse runs out of stock. Another main function of this system is being able to view the inventory net flow history which will aid the management to get a rough idea on company's stock usage. Further, this system includes a warehouse-branch tracking functionality which will aid the drivers to easily pick the best route for the delivery purpose.

#### ***1.3.5 Transaction Management Scope (IT 17134668)***

Transaction management plays a crucial part in our client's firm because the fundamental functionality of a bank is being able to give their customers the opportunity of making interbank transactions (between Sampath bank and any other bank) and intrabank transactions (between Sampath bank). As this part deals with monetary value, this system should be made robust so that we can minimize any possible fraudulent activities.

This system has both customer side and employee side. Customer side is where the customers will be making the transactions, checking the account balance and being able to check the transaction history (with the aid of search function). In order to ensure the security of viewing the balance, customer will be sent a security code and upon the successful validation of the code the balance will be displayed. Employee side mainly provides interfaces to check all the transactions made by the

customers, to approve the transactions made more than 100000LKR and to generate reports regarding the transactions made by the customers.

#### ***1.3.6 Loan Calculator Scope (IT 17156998)***

This sub system mainly focuses on Calculating and get idea about loan amounts and give in details about current bank interest rates. Scope includes Loan Calculation for both customers and employees, Searching for current Interest rates and details. Only Administrator can add new loan (type & Interest rates) and generating reports of current loan rate and types.

#### ***1.3.7 Lease Calculator Scope (IT 17134736)***

In the present day, registering a customer for a lease requires a lot of manual interactions throughout the process. The main goal of the Lease Calculator system is to reduce the amount of above mentioned requirements in order to make the process more efficient.

The system contains a Lease Calculator and a Lease Record Management System.

#### ***1.3.8 Fault/ Complaint Management Scope (IT 17138864)***

Fault Management System is provided in commercial sites for customers to be able to criticize or praise the services of the service. This sub System mainly focuses on managing complaints and recording the state of the complaints.

This sub-system can be accessed by customers and employees alike. Customers can lodge complaints. Employee can check whether lodged complaints are valid and invalid complaints can be deleted. Employee can update the state of each complaint lodged. Employee can categorize all the complaints and generate reports. (Parameterized and non-parameterize).

#### ***1.3.9 Procurement Management Scope (IT 17138796)***

Registering procurement employee only, can access the process. Procurement Management subsystem mainly focuses on managing supplier database and managing item database. Procurement employee can add new suppliers and managing supplier details including supplier database. Employee can add always necessary items and managing item database. Employee can search available items in

database according the specific item types and view all details content in database. Manager generates the reports in overall procurement process.

## 2. Methodology

### 2.1 Requirements and Analysis

#### 2.1.1 Employee, HR and Payroll Management

##### 2.1.1.1 Requirements Gathering (User Stories)

###### Employee

As an employee at the bank  
I need to be able to apply for leave

As an employee at the bank  
I need to be able to see my leave history  
So that I can understand my own patterns

As an employee at the bank  
I need to be able to calculate my own salary  
So that I can be prepared for better

As an employee at the bank  
I need to be able to view and download my pay slip  
So that I can get my wages on time

As an employee using an online account  
I need to be able to view all my profile information  
So that I can see what details are up to date

As an employee using an online account  
I need to be able to update my basic information  
So that the information possessed by the bank are accurate

###### HR Manager

As the HR Manager of the bank  
I need to recruit new employees using an accessible interface

As the HR Manager of the bank  
I need to be able to see a list of all active employees

As the HR Manager of the bank  
I need to be able to see the information of each active employee

As the HR Manager of the bank  
I need to be able to deactivate the online account of an active employee if he/she has one

**As the HR Manager of the bank**

**I need to** be able to inactivate an active employee which will also result in deactivating the online account

**As the HR Manager of the bank**

**I need to** be able to see the list of all inactive employees

**As the HR Manager of the bank**

**I need to** be able to see the information of each inactive employee as well as the reason for inactivation

**As the HR Manager of the bank**

**I need to** be able to search for an employee using any field desired  
So that I can easily optimize my time

**As the HR Manager of the bank**

**I need to** view all leave requests at the stage of submit

**As the HR Manager of the bank**

**I need to** be able to view, approve or reject a leave request

**As the HR Manager of the bank**

**I need to** be able to view update requests by employees

**As the HR Manager of the bank**

**I need the** system to show a summary of fields requested to be updated by employees  
So that it is easier to grant or reject the request

**As the HR Manager of the bank**

**I need the** system to restrict the fields that can be requested by the employees to be updated

**As the HR Manager of the bank**

**I need to** be able to calculate and set the salary pay slip for each individual employee  
So that the employees will receive their wages in time

**As the HR Manager of the bank**

**I need to** be able to generate documentations regarding different areas of information of employees a bulk  
**So that** it will be easier to present certain information for the higher management

**As the HR Manager of the bank**

**I need to** be able to create online accounts for active employees who does not yet possess online accounts.

### **2.1.1.2 Requirements Analysis**

#### **Employees**

- Employees must be able to request for leave.
- Their leave details such as ‘No of Leaves per Year’, ‘No of Leaves Left’, ‘Last Effective Leave Date’ etc. should be shown at the top of the form.
- Employees must be able to review their leave history.
- Employees must be able to calculate their own salary using a salary calculator.
- Employees must be able to view each’s pay slip in the form of a pdf and download if the HR Manager has already initiated the salary for the said individual (Wage Payout).
- Employees must be able to view all their contact, personal, employment, branch and department information separately.
- Employees must be able to update few of their details given, which will not affect any other engagement at the bank.

#### **HR Manager**

- HR Manager must be able to recruit new employees.
- This must only focus on recording entire employee details in the system and must not include entirety of features from an Induction System.
- HR Manager must be able to separately create employee online accounts.
- All the active employees must be listed.
- HR Manager must be able to revoke only the online account of an employee and/ or deactivate an employee entirely.
- All the inactive employees must be listed.
- HR Manager must be able to search for employees using various fields.
- HR Manager must be able to view, grant or reject leave requests submitted for approval.
- HR Manager must be able to review and approve or reject the requests for updating personal information by the employees.
- HR Manager must be able to manage salary of specific employees using the salary calculator.
- HR Manager must be able to generate documentation/ Reports regarding basic details, contact details and company related details of employees as a bulk.

**All these requirements will be further explained and clarified in the implementation section (section [2.3.2](#)) of the report.**

**Most of the Important Submissions Will Prompt the Employee to Enter Their ‘Online Security Key’ which will be generated at the time of the registration.**

## 2.1.2 User Management

### 2.1.2.1 Requirements Gathering (User Stories)

#### User (Customer, Employee)

As a User

I need a Homepage

So that I can sign up or login to the system.

As a Customer

I need a login page

So that I can access my online account

As a Customer who has a physical account at  
the bank

I need to be able to create an online account

So that I can use my resources more  
efficiently

As a Customer

I need a signup page

So that I can create an online account

As the User Manager who is in charge of the  
online customer registration process

I need an extremely secure sign up process

So that I can guarantee the security of the user's  
information.

As the User Manager

I need the system to verify the initial  
registering customer using both his/her  
personal details and physical account details

**As the User Manager**

I need the system to verify the user by sending a pin to the personal email of the registering user.

**As the User Manager**

I need the system to collect security variables So that online customers can recover their accounts

**As the User Manager**

I need to be able to separately approve or reject online customer registration requests

**As the User Manager**

I need to search for specific customers using various fields

So that the internal processes can go smoothly

**As the User Manager**

I need to be able to generate reports summarizing basic and online account information of current customers

**Employee**

**As an Employee**

I need to be able to send notifications through emails to internal employees using an intra-company mailing system

As an Employee who uses the intra-company mailing system

I need to be able to receive notifications through emails from internal employees using an intra-company mailing system

As an Employee who uses the intra-company mailing system

I need the system to show all received emails

As an Employee who uses the intra-company mailing system

I need the system to show all sent emails

**As an Employee**

I need to be able to delete all the unnecessary emails from my inbox as well as from outbox.

**As a concerned Employee**

I need the system to not change the internal information of a specific email after it has been received by me.

### **2.1.2.2 Requirement Analysis**

#### **Customers**

- As a user of the banking system a customer must be able to access the system through a user-friendly home page.
- Customers must be able to login to the system in order to access his privileges as a online account holder.
- Customers who are having a physical account must be able to register for an online account to make their banking processes more efficient.
- Customers must be able to recover their online accounts easily in case of a forgotten password.

#### **User manager**

- The system must be able to guarantee the security of the sign-up process of the customers.
- The system must be able to verify the authenticity of the customer who is trying to register for an online account.
- The system must collect security variables in case whether the customer wants to recover their account.
- User manager must be able to separately approve or reject requests for customer online registration.
- User Manager must be able to search for a specific customer based on various fields.
- User Manager must be able to generate documentation regarding current customer details.

#### **Employees**

- Employees must be able to send notifications through emails to other internal employees who are connected with intra mailing system of the company.
- Employees must be able to view all the received and send emails.
- Employees must be able to delete all the unnecessary emails from their inbox as well as from their outbox.
- The receiver must not lose all the details of email in chase of an email being deleted by the sender or vice versa.

### 2.1.3 Inventory Management

#### 2.1.3.1 Requirements Gathering (User Stories)

##### Inventory Employee

**As an Employee**

**I need** add new warehouse item

**So that** I can keep track of new items

**As an Employee**

**I need** update/delete a warehouse item

**So that** I can record the dynamic changes in warehouse items

**As an Employee**

**I need** add quantity to the warehouse item

**So that** I can keep track of inward stocks

**As an Employee**

**I need** approve/disapprove branch request

**So that** I can distribute item to the allocated branches

**As an Employee**

**I need** to keep track of warehouses and branches

**So that** I can identify the branches allocated

**As an Employee**

**I need** to keep track of inventory history

**So that** I can minimize the fraudulent activities taking place in the inventory management.

**As an Employee**

**I need** to check the items to be restored (low stock count)

**So that** I can make sure that warehouse doesn't run out of stocks

**As an Employee**

**I need** to search the specific item/history

**So that** I can find the records within short period of time

##### Branch Head

**As a Branch Head**

**I need** to check the details of branch items

**So that** I can keep track of current stock level at branch

**As a Branch Head**

**I need** to request item from the warehouse

**So that** the branch won't run out of stocks

### **2.1.3.2 Requirements Analysis**

#### **Inventory Employee**

- Employee should be able to add new item to the inventory because the employee might have to track details of a new item in future period.
- Employee should be able to change the details of an item or to delete an item due to misentering the details or if the item is not needed to be tracked by the inventory employee.
- Employee should be able to add any amount of quantity related to the specific item. This process will help the employee to easily update the stock count.
- Employee should be able to approve/disapprove the request when the branch head makes a request. Depending on the requested amount, employee can either approve it or disapprove the request.
- Employee should be able to find the location of branches allocated to the specific warehouse so that the employees can deliver the item in the shortest/fastest path.
- Employees should be able to see all the changes made to the system. This history tracking system helps the employees to minimize the fraudulent activities in the inventory department.
- Employee should be able to view the item which has quantity lower than the minimum stock count and to receive alert when the item's quantity is lower than the low stock level.
- Employees should be able to find the specific item/request/history using the search function.

#### **Branch Head**

- Branch head should be able to view the details about the branch items. This helps the branch head to take a decision whether to request item from warehouse or not.
- Branch head should be able to request any amount of quantity from the warehouse so that the branch won't run out of stocks.

## 2.1.4 Transaction Management

### 2.1.4.1 Requirements Gathering (User Stories)

#### Customer

As a Customer

I need to make transactions for Sampath bank account

So that I can make my payments

As a Customer

I need to check my current account balance So that I can get to know about my balance amount

As a Customer

I need to make transactions for any bank account

So that I can make my payments

As a Customer

I need to receive an email regarding the transactions pin

So that I can check my current balance amount securely

As a Customer

I need to search transactions

So that I can get to the transactions that has been taken placed according to a specific account

As a Customer

I need to check my transaction history

So that I can get an idea about transaction

#### Transaction Manager

As a Manager

I need to check all the transactions

So that I know the approved transactions and pending transaction that the customers have made

As a Manager

I need to view all the pending transactions

So that I know the transactions that have been made more than 100000

As a Manager

I need to approve the pending transactions

So that all the pending transactions can be

As a Manager

I need to download a document on transaction

So that I can use it as a proof

#### **2.1.4.2 Requirements Analysis**

##### **Customer**

- Customer should be able to make a transaction to an account which is already present in the Sampath bank. Customer's account number and current date is directly fetched from the database and system
- Customer should be able to check his/her account balance at any time after a successful login.
- Customer should be able to make a transaction to an account available in any other bank. Customer's account number and current date is directly fetched from the database and system
- Customer should be notified with a security pin when he/she checks the balance. Successful pin will show the balance. The security pin is sent to customer's email address.
- Customer should be provided with a search function where he/she will be able to find the exact transaction customer has made.
- Customer should be able to view the transaction history. This will show the entire transactions made and received by the customer.

##### **Transaction Manager**

- Manager should be able to view all the transactions made by the customers. This process retrieves all the transactions made and received by the Sampath bank customers.
- Bank has a policy where transactions more than 100000LKR should be approved after the inspection of the manager. Therefore, the system should capture all the transactions more than 100000LKR and display it to the Manager
- Managers should be given the chance to approve the transactions after the clarification from the customer.
- Manager should be able to generate a document on all the transactions made and this report acts as a proof to verify whether a transaction has been made or not.

## 2.1.5 Loan Calculator

### 2.1.5.1 Requirements Gathering (User Stories)

As a Loan Administrator of the bank  
I need a signup page  
So that I can create a Loan account

As a Customer  
I need a Loan Calculation Page  
So that I can Calculate Loan.

As a Loan Administrator of the bank  
I need to be able to view, update, create or delete a loan.

As a Loan Administrator of the bank  
I need a be able to generate documentations regarding different areas of information of Loan.

As a User  
I need an Overview Page  
So that I can view the loan types and Interest rates.

### 2.1.5.2 Requirements Analysis

- Administrator must be able to create a Loan account.
- Customer must be able to calculate their own calculation using a loan calculator.
- Administrator must be able to view, update, delete and create loan type, interest rate.
- Administrator must be able to generate document in the form of a pdf and download for managing or customer purpose.
- Customer must be able to Overview Loan details.

## 2.1.6 Lease Calculator

### 2.1.6.1 Requirements Gathering (User Stories)

**As an employee**

I need to be able to make the necessary calculations for the lease.

**As an employee**

I need to be able to save new records of leases applied by the customer.

**As an employee**

I need to be able to update existing records if any changes are made.

**As an employee**

I need to be able to delete records when a lease is paid off or rejected.

**As an employee**

I need to be able to view records of currently existing leases.

**As an employee**

I need to be able to generate reports of new lease record entries  
So that I can send them to higher management for approval.

### 2.1.6.2 Requirements Analysis

- Employee must be able to make the necessary calculations required for a lease.
- Employee must be able to save new records of leases applied by the customer.
- Employee must be able to update existing records if any changes are made.
- Employee must be able to delete records when a lease is paid off or rejected.
- Employee must be able to view records of currently existing leases.
- Employee must be able to generate reports of new lease record entries.

## 2.1.7 Fault & Complaint Management

### 2.1.7.1 Requirements Gathering (User Stories)

#### Customer

As a Customer.

I want to Lodge Complaints.

So that I can use the System without any interruption.

As a Customer.

I want to see all the complaints I have Lodge.

So that I can check complaint's progress.

#### Employee

As a Complaint Handling Employee.

I want to view all the lodged Complaints

So that I can assess the complaints.

As an Employee.

I want to categorize the complaints.

So that I can select the type of complaint.

As an Employee.

I want to update the state of each complaint.

So that I can keep the customer satisfied.

As an Employee.

I want to select only valid complaints.

So that I can check lodged complaints and delete invalid complaints.

As an Employee.

I want to generate report for overall fault process.

So that I can evaluate the fault activities.

As an Employee.

I want to generate specific type of complaint.

So that I can summarize all records.

### **2.1.7.2 Requirements Analysis**

#### **Customer**

- Customer must be able to lodge the complaints.
- Customer must be able to view all the complaints.

#### **Employee**

- Complaint Handling Employee must be able to view all the lodge complaints.
- Employee must be able to categorize the Complaints.
  - This must only select the Specific Type of complaints and summarize.
- Employee must be able to update the state of each complaint.
  - At the beginning default state is “New”.
- Employee must be able to check the valid Complaints.
- Employee can generate report for overall Fault Process and for specific type of complaints summarized.

## 2.1.8 Procurement Management

### 2.1.8.1 Requirements Gathering (User Stories)

**As a** Procurement Employee.

**I want to** generate order of suppliers.

**So that** I can purchase items from specific suppliers.

**As a** Procurement Employee.

**I want to** get a list of suppliers who provide resources.

**So that** I can identify best supplier related to the items in market .

**As a** Procurement Employee.

**I want to** update supplier details.

**So that** I can change the supplier details according to the market supply.

**As a** Procurement Employee.

**I want to** get special suppliers who are supply items.

**So that** delete suppliers who are not related to the items and manage supplier database.

**As a** Procurement Employee.

**I want to** view list of all the available items.

**So that** I can identify available stock and needed items.

**As a** Procurement Employee.

**I want to** update Item details.

**So that** manage item database.

**As a** Procurement Employee.

**I want to** search items.

**So that** I can easily find out suppliers related to specific item types(categorize).

**As a** Manager.

**I want to** generate report for overall procurement process.

**So that** I can evaluate the procurement activities.

### ***2.1.8.2 Requirements Analysis***

- Procurement department employee must be able to view suppliers who provided items in supplier database.
- Procurement department employee must be able to identify best supplier related to items.
- Procurement department employee must be able to update details if any changes are made.
- Procurement department employee must be able to delete suppliers who are not related to the items.
- Procurement department employee must be able to view current available items in stock.
- Procurement department employee must be able to manage item database.
- Procurement department employee must be able to search items to find whether supplier related specific item types.
- Procurement department employee must be able to generate reports of overall procurement process.

## 2.2 Design

### 2.2.1 High Level Diagram

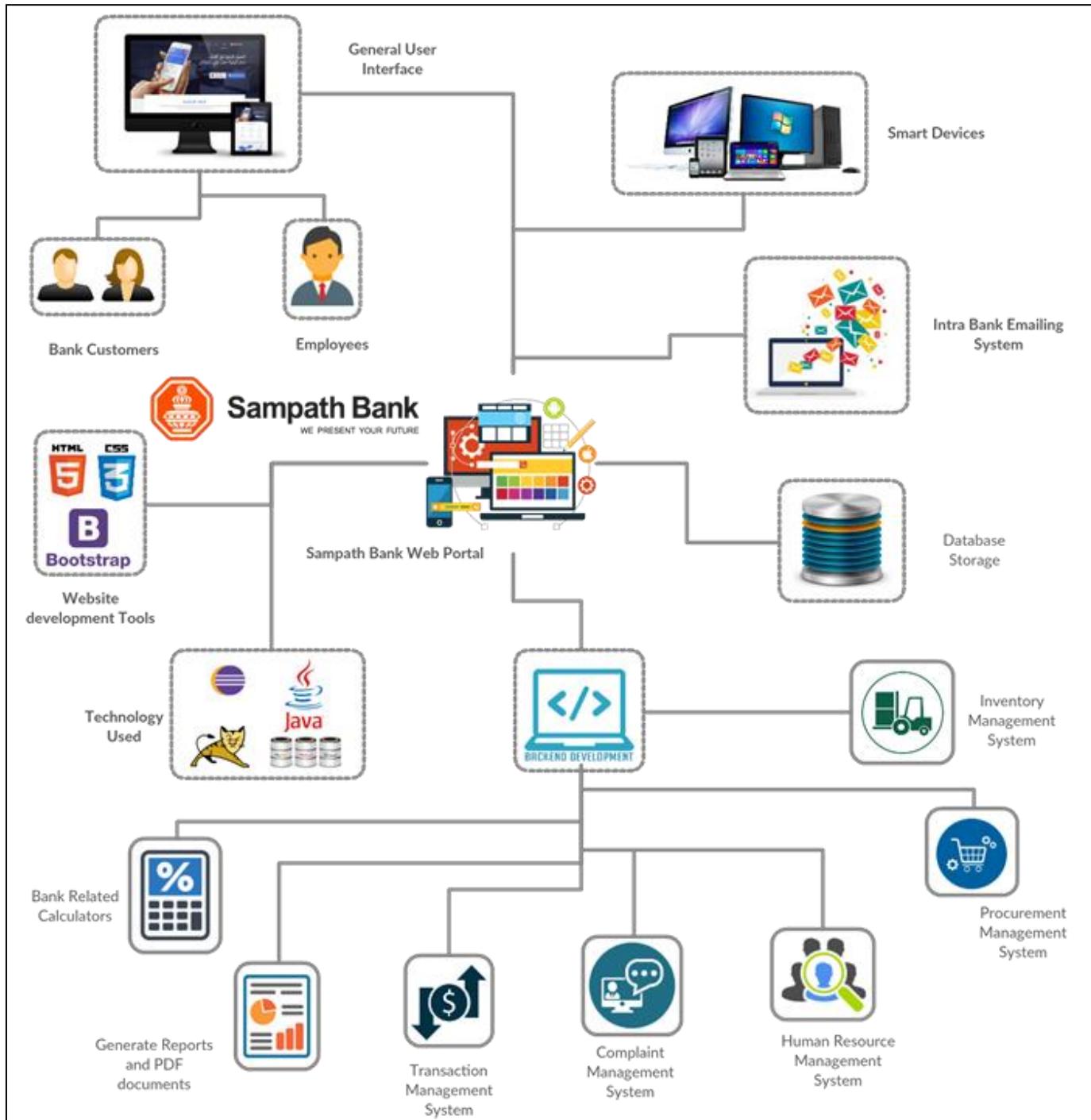
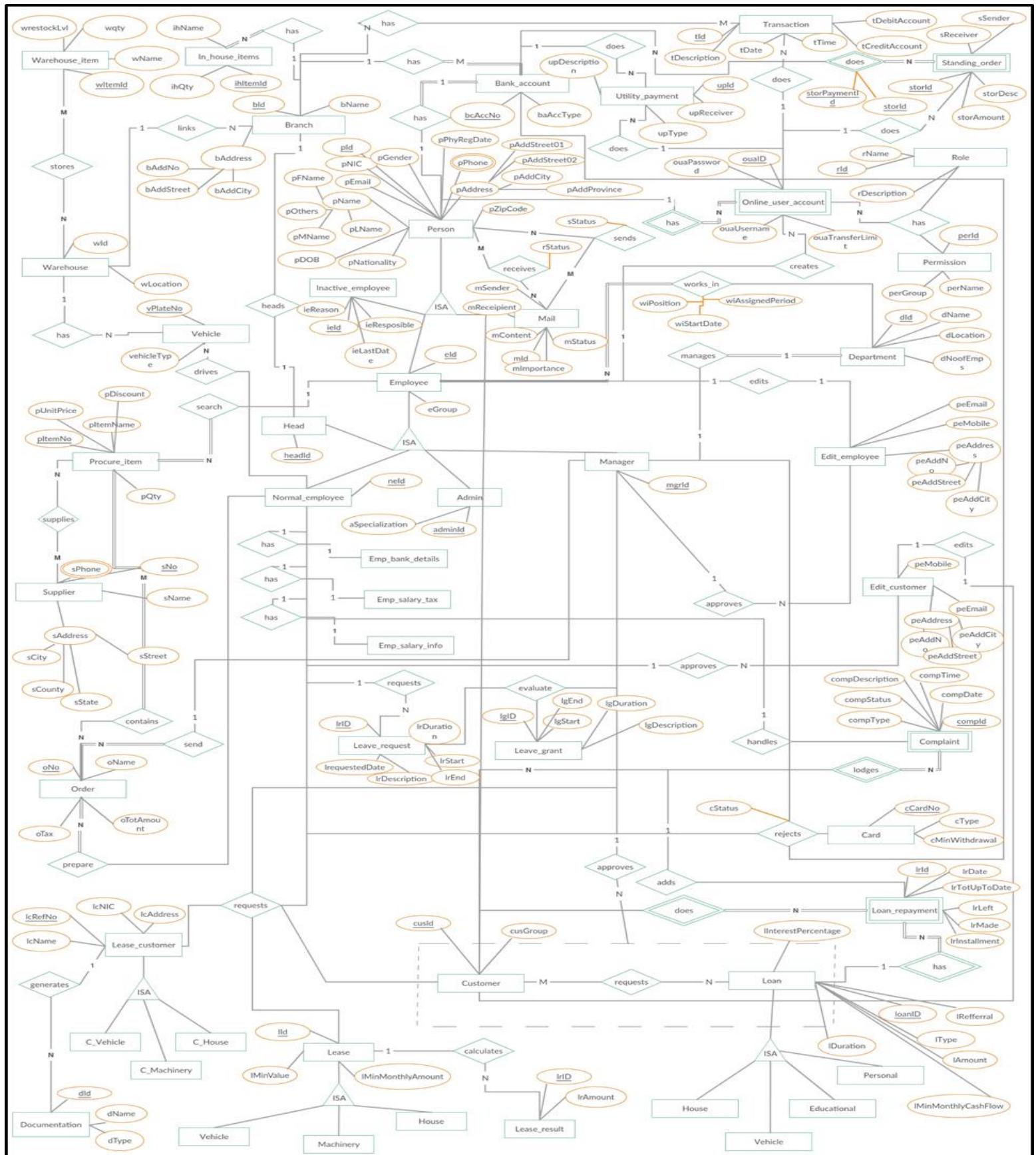


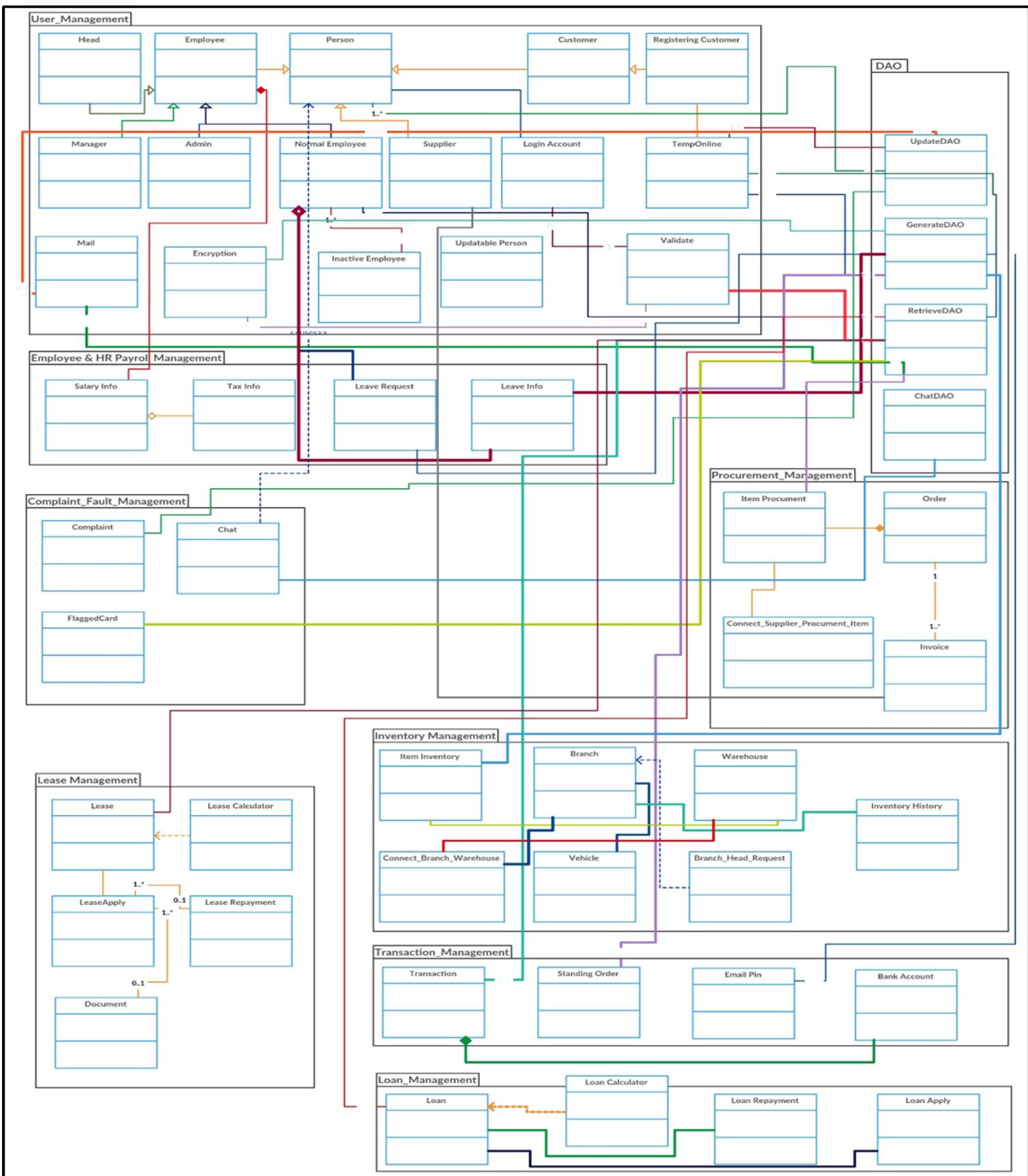
Figure 2-1 High Level Diagram

### **2.2.2 ER Diagram for Overall System**

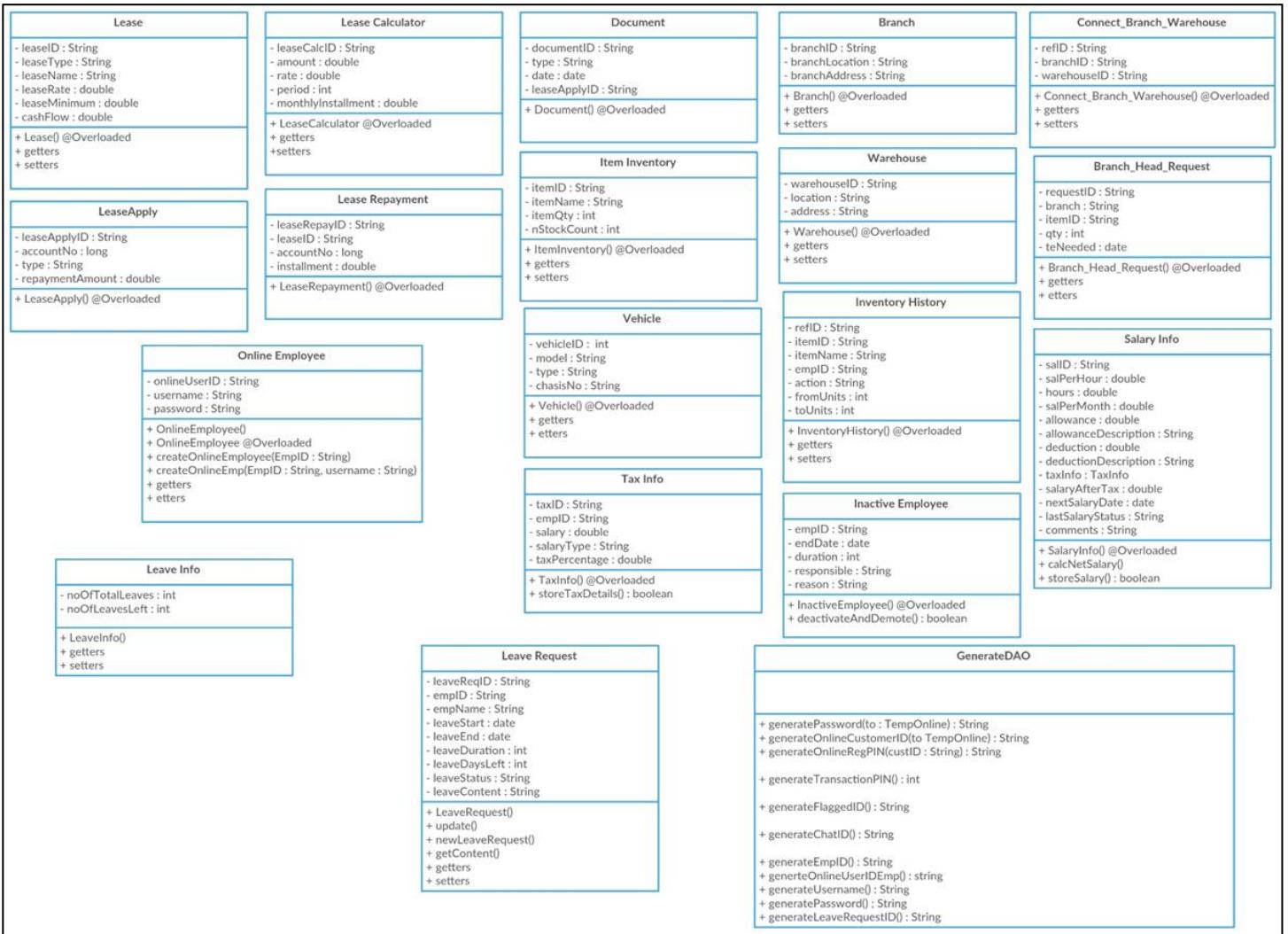


## Figure 2-2 ER Diagram

### **2.2.3 Class Diagram for Overall System**



**Figure 2-3 Class Diagram**



**Figure 2-4 Class Definitions 01**

UpdateDAO	RetrieveDAO
<pre>+ registerPhysicalCustomer(rc : RegisteringCustomer) : boolean + registerVirtualCustomer(rc RegisteringCustomer) : boolean + registerTempsToReal(to TempOnline) : boolean + removeTempOnline(custID : String) + storeOnlineRegPIN(custID : String, onlineRegPIN : String) + updatePerson(updatablePerson : UpdatablePerson) : boolean + sendMail(mail Mail) : boolean  + removeTransactionPIN(p : Person) : boolean + updateStandingOrder(stOr StandingOrder, p : Person) : boolean + updateTransaction(t : Transaction, p : Person) : boolean  + newComplaint(complaint Complaint) : boolean + updateComplaintState(complaint : Complaint) : boolean + insertFlaggedCard(fc : FlaggedCard) : boolean + updateFlaggedCardState(fc : FlaggedCard) : boolean  + updateLoan(p : Person, l : Loan) : boolean + updateLoanApply(la : LoanApply, p : Person) : boolean + updateLoanRepayment(p : Person, lr LoanRepayment) : boolean  + updateItemProcurement(ip ItemProcurement) : boolean + updateSupplier(s : Supplier) : boolean + updateConnectSupplierProcurementItem(csip : Connect_Supplier_Procurement_Item) : boolean + updateInvoice(i : Invoice) : boolean  + updateLeaseDetails(l Lease) : boolean + insertLeaseRepayment(lr : LeaseRepayment) : boolean + insertDocument(d : Document) : boolean  + retrieveItem() : ItemInventory + retrieveInventoryHistory() : InventoryHistory + retrieveBranch() : Branch + retrieveWarehouse() : Warehouse + retrieveBranchWarehouse() : Connect_Branch_Warehouse + retrieveBranchHeadRequest() : BranchHeadRequest + retrieveVehicle() : Vehicle  + registerEmployee(emp : Employee) : boolean + changeLeaveRequestStatus(lr : LeaveRequest) : boolean + storeLeaveRequest(lr : LeaveRequest) : boolean + storeEditEmployee(up : UpdatablePerson) : boolean + updatePassword(up : UpdatablePerson) : boolean + update(up : UpdatablePerson) : boolean + removeEmployee(ie : InactiveEmployee) : boolean + addInactiveEmployee(ie : InactiveEmployee) : boolean + storeTaxDetails(taxInfo : TaxInfo) : boolean + storeSalary(salaryInfo : SalaryInfo) : boolean</pre>	<pre>+ retrieveCustomerForRegistration(rc : RegisteringCustomer) : String + retrieveAllTempOnlineCustomers() : TempOnline + retrieveAllPersons() : ArrayList&lt;&lt;Person&gt;&gt; + retrieveAllPersonsByName() : ArrayList&lt;&lt;Person&gt;&gt; + retrievePersonByNIC() : Person + retrievePersonByPersonID() : Person + retrievePersonByAccountNo() : Person + login(la : LoginAccount) : boolean + retrievePersonByPersonId() : Person + retrieveInboxMails(EmpID) : ArrayList&lt;&lt;Mail&gt;&gt; + retrieveOutboxMails(EmpID) : ArrayList&lt;&lt;Mail&gt;&gt;  + retrieveAccountDetails(p : Person) : BankAccount + retrieveStandingOrders(p : Person) : ArrayList&lt;&lt;StandingOrder&gt;&gt; + retrieveTransaction(accountType : String, p : Person) : ArrayList&lt;&lt;Transaction&gt;&gt; + retrieveTransactionPIN(p : Person) : int  + retrieveAllComplaintsCustomer(p : Person) : ArrayList&lt;&lt;Complaint&gt;&gt; + retrieveAllComplaintsEmployee() : ArrayList&lt;&lt;Complaint&gt;&gt; + retrieveTypeComplaintsEmployee(complaintType : String) : ArrayList&lt;&lt;Complaint&gt;&gt; + retrieveAllFlaggedCards() : ArrayList&lt;&lt;FlaggedCard&gt;&gt;  + retrieveLoan() : Loan + retrieveLoanAppy(p : Person) : LoanApply  + retrieveItemProcurement() : ItemProcurement + retrieveSupplier() : Supplier + retrieveConnectSupplierProcurementItem() : Connect_Supplier_Procurement_Item + retrieveInvoice() : Invoice  + retrieveLease() : Lease + retrieveDocument(p : Person) : ArrayList &lt;&lt;Document&gt;&gt; + retrieveLeaseRepayment(p : Person) : LeaseRepayment  + updateItem(litl : temInventory) : boolean; + updateBranch(b : Branch) : boolean + updateWarehouse(w : Warehouse) : boolean; + updateConnectBranchWarehouse(cbw : Connect_Branch_Warehouse) : boolean + updateBranchHeadRequest(p : Person, bhr : BranchHeadRequest) : boolean  + retrieveAllEmployees() : ArrayList&lt;&lt;Employee&gt;&gt; + retrieveEmpByNIC(NIC : String) : Employee + retrieveEmpByEmpID(emplID : String) : Employee + retrieveEmpByEmpName(empName : String) : ArrayList&lt;&lt;Employee&gt;&gt; + retrieveAllReviewedLeaveRequests() : ArrayList&lt;&lt;LeaveRequest&gt;&gt; + retrieveAllUnReviewedLeaveRequests() : ArrayList&lt;&lt;LeaveRequest&gt;&gt; + retrieveLeaveRequestsByEmpName(empName : String) : ArrayList&lt;&lt;LeaveRequest&gt;&gt; + retrieveLeaveRequestContent(lr : LeaveRequest) : LeaveRequest + retrieveLeaveInfoByEmpNo(empNo : String) : LeaveInfo + retrieveAllInactiveEmployees() : ArrayList&lt;&lt;InactiveEmployee&gt;&gt; + retrieveTaxDetailsByEmpID(emplID : String) : TaxInfo + retrieveTaxDetailsByEmpName(empName : String) : TaxInfo + retrieveSalaryDetailsByEmpID(emplID : String) : SalaryInfo</pre>

**Figure 2-5 Class Definitions 02**

## 2.2.4 User Interfaces

### 2.2.4.1 Employee and HR Payroll Management



Figure 2-6 EHPM Dropdown 01



Figure 2-7 EHPM - Dropdown 02

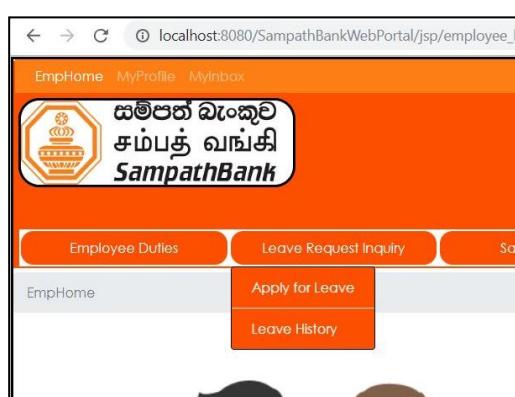


Figure 2-8 EHPM - Dropdown 03



Figure 2-9 EHPM - Dropdown 04



Figure 2-10 EHPM - Dropdown 05



Figure 2-11 EHPM - Dropdown 06

Employee Recruitment

localhost:8080/SampathBankWebPortal/jsp/employee\_hr\_payroll\_management/EHPM\_HRManager\_Re

SampathEmpWeb

Sign Out

Mr. Isuru  
Samarasekara

Employee Duties Leave Request Inquiry Salary Inquiry Documents & Reports Mailing System Profile Related

EmpHome >> Employee Duties >> Recruit An Employee

### Enter Required Details

**Basic Details**

First Name: *	Gihan
Middle Name:	Abo
Last Name: *	Jayaweera
Other Names:	Deflauta
Gender: *	male

**Identification**

NIC: *	969999999v
Nationality: *	sinhalese
Date of Birth: *	02/02/1996

**Company Related**

Branch: *	branch 01 city
Department: *	human resource
Designation: *	normal employee
Recruitment Date: *	10/05/2018

**Contact Details**

Street Address:	Line 01: *	78/2 Karawita Road
	Line 02:	Bambarcella
City: *	Pannipitya	Province: Western
ZIP Code: *	10280	
Home Contact No:	0112333333	
Mobile:	0770057735	
Personal Email: *	jaya.weera@gmail.com	

localhost:8080/SampathBankWebPortal/jsp/.../EHPM\_Common\_Employee\_Homepage.jsp
PROFILE RELATED  
[View Profile](#)
CUSTOMER RELATED  
[Transactions](#)

Type here to search

Figure 2-12 EHPM – Employee Duties - Recruit an Employee

30

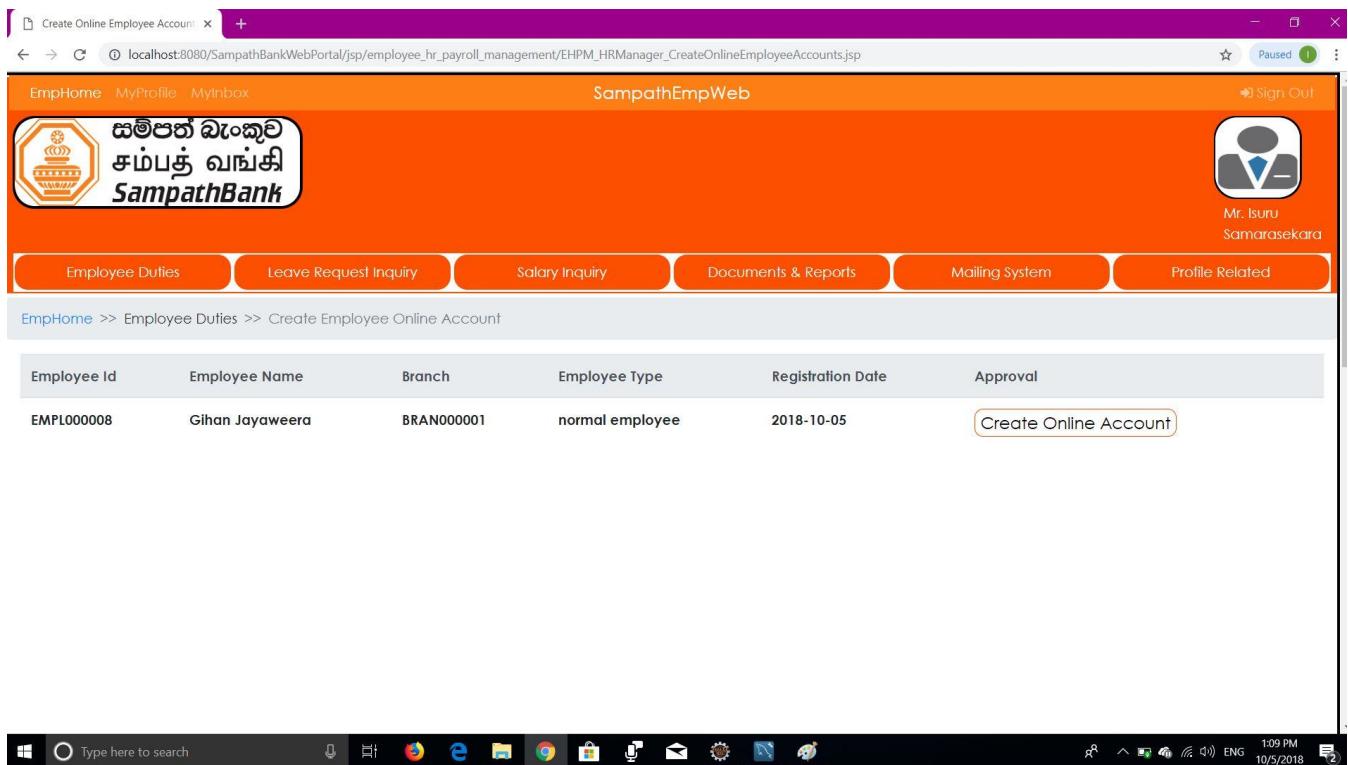


Figure 2-13 EHPM - Employee Duties - Create Employee Online Account

Employee Id	Employee Name	Branch Id	Employee Type	Company Induction Date	Online Account	####
EMPL000001	Isuru Samarasekara	BRAN000001	manager	2018-09-07	Yes	<a href="#">View Details</a>
EMPL000002	KeshiB BogahawatteB	BRAN000001	user manager	2018-10-02	Yes	<a href="#">View Details</a>
EMPL000003	AtheeqA MaharoofA	BRAN000001	head	2018-10-02	Yes	<a href="#">View Details</a>
EMPL000005	VinuB GamageB	BRAN000001	transaction manager	2018-10-02	Yes	<a href="#">View Details</a>
EMPL000007	AtheeqD MaharoofD	BRAN000001	inventory manager	2018-10-05	Yes	<a href="#">View Details</a>
EMPL000008	Gihan Jayaweera	BRAN000001	normal employee	2018-10-05	Yes	<a href="#">View Details</a>

Figure 2-14 EHPM - Employee Duties - All Active Employees

Active Single Employee

localhost:8080/SampathBankWebPortal/jsp/employee\_hr\_payroll\_management/EHPM\_HRManager\_ActiveSingleEmployee.jsp

The screenshot shows the SampathEmpWeb interface for an active single employee. The top navigation bar includes links for EmpHome, MyProfile, MyInbox, Sign Out, and a user profile for Mr. Isuru Samarasekara. Below the header are menu options: Employee Duties, Leave Request Inquiry, Salary Inquiry, Documents & Reports, Mailing System, and Profile Related.

The main content area displays the employee's basic details and contact information. The employee's ID is EMPL000001, and their date of birth is 10/01/2011. The company-related section shows they are part of branch 01 city, belong to the human resource department, and have a designation as a human resource manager. They were recruited on 2018-09-07 and registered on 2018-10-02. Their online username is ISURUA.

At the bottom, there are buttons for Remove Online Account and Inactivate Employee.

Basic Details		Identification	
Full Name:	Isuru HRManager Samarasekara	Employee ID:	EMPL000001
Gender:	male	NIC:	961370211v
Nationality:	sinhalese	Date of Birth:	10/01/2011

Contact Details		Company Related	
Street Address:	10 Pilliyandala Road	Branch:	branch 01 city
City:	Maharagama	Department:	human resource
Province:	Western	Designation:	human resource manager
ZIP Code:	10280	Recruitment Date:	2018-09-07
Contact Number (Home):	0112844830	Company Email:	isuru@Company.com
Contact Number (Mobile):	0772841580	Employee Type:	manager
Personal Email:	isurusamarasekara@gmail.com	Employee Online Username:	ISURUA
		Online Registration Date:	2018-10-02

LEGAL FORM COMPANY PROFILE RELATED CUSTOMER RELATED

Type here to search

Figure 2-15 EHPM - Employee Duties - Active Single Employee

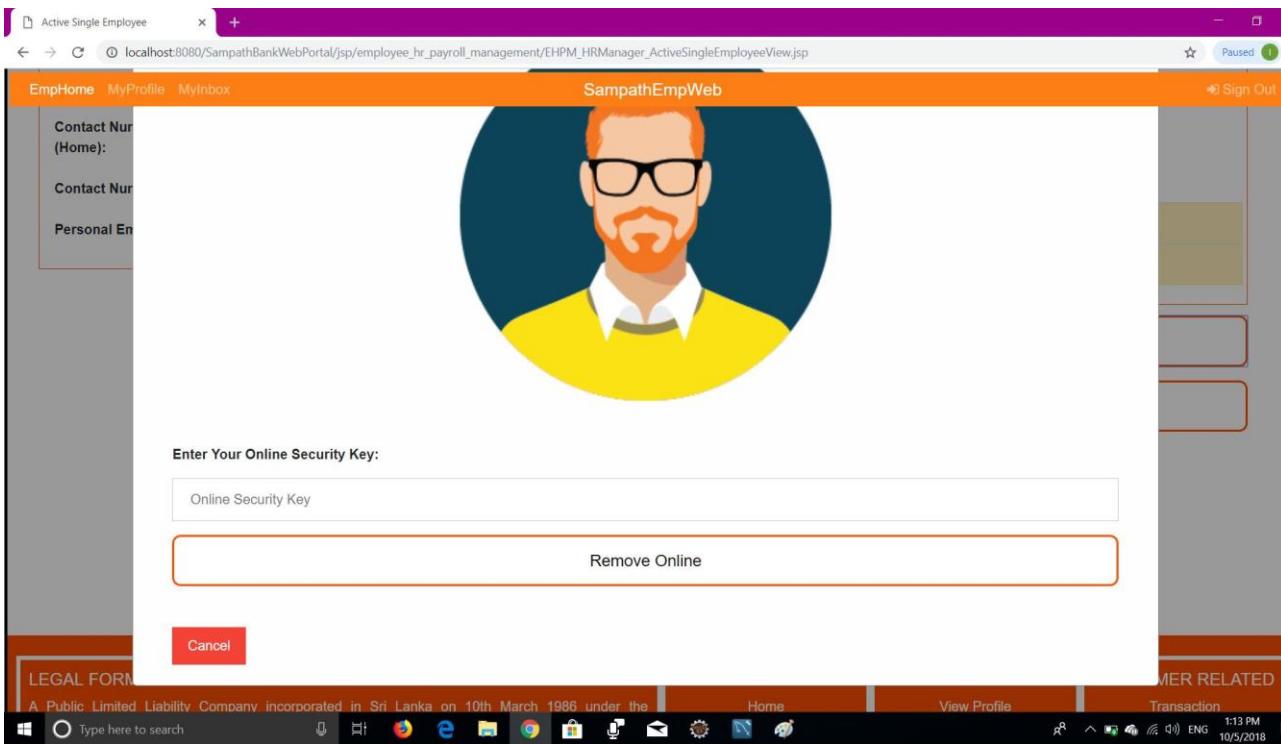


Figure 2-16 EHPM - Employee Duties - Active Single Employee – Online Account Removal Prompt

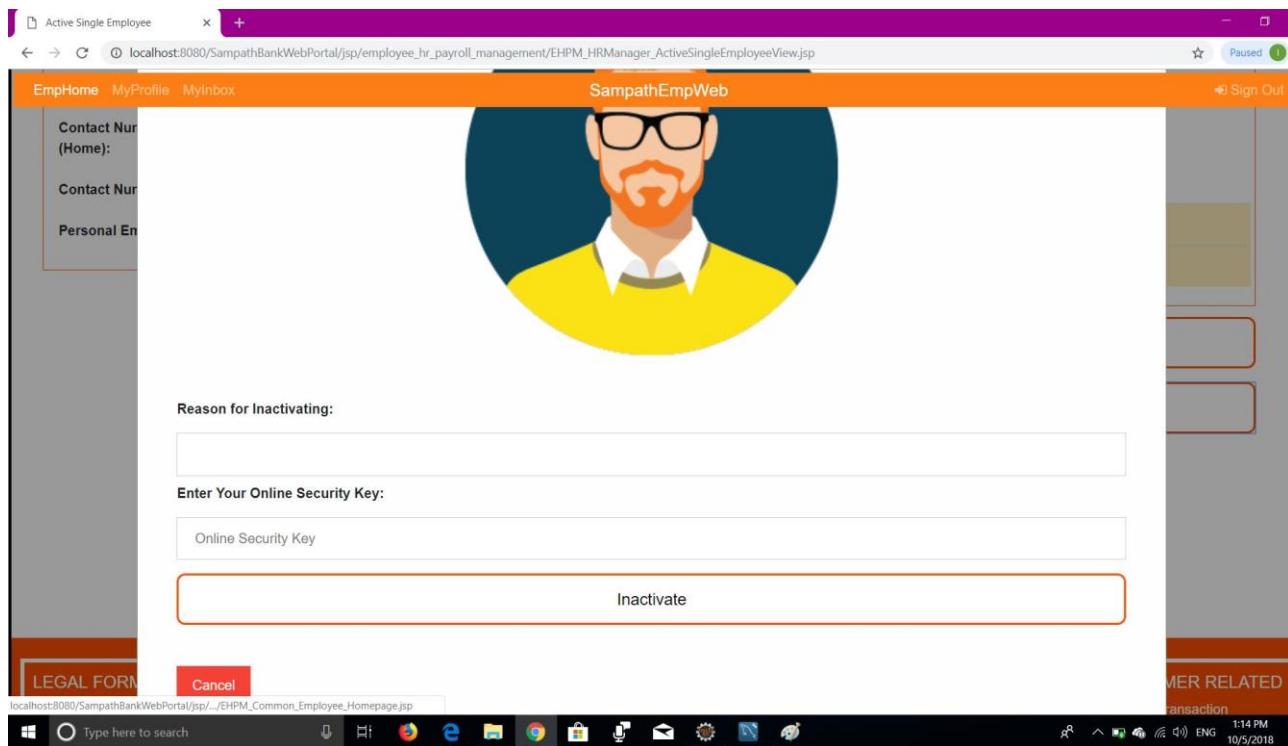


Figure 2-17 EHPM - Employee Duties - Active Single Employee – Inactivate an Employee Prompt

The screenshot shows a web browser window for the SampathBank Employee HR Management System. The title bar reads "Inactive Employees". The URL is "localhost:8080/SampathBankWebPortal/jsp/employee\_hr\_payroll\_management/EHPM\_HRManager\_InactiveEmployeesView.jsp". The page header includes the SampathBank logo, navigation links for "EmpHome", "MyProfile", "MyInbox", "Sign Out", and the user profile "Mr. Isuru Samarasekara". Below the header is a menu bar with links: "Employee Duties", "Leave Request Inquiry", "Salary Inquiry", "Documents & Reports", "Mailing System", and "Profile Related". The main content area displays a table titled "All Inactive Employees" with columns: "Employee Id", "Employee Name", "Branch Id (Before Inactive)", "Company Induction Date", "Inactivation Date", and "View Details". A single row is shown for employee ID EMPL000004, named AtheeqB Manager MaharoofB, with branch BRAN000001, induction date 2018-10-02, and inactivation date 2018-10-04. The Windows taskbar at the bottom shows various pinned icons.

**Figure 2-18 EHPM - Employee Duties - All Inactive Employees**

The screenshot shows a web browser window for the SampathBank Employee HR Management System. The title bar reads "Inactive Single Employee". The URL is "localhost:8080/SampathBankWebPortal/jsp/employee\_hr\_payroll\_management/EHPM\_HRManager\_InactiveSingleEmployeeView.jsp". The page header includes the SampathBank logo, navigation links for "EmpHome", "MyProfile", "MyInbox", "Sign Out", and the user profile "Mr. Isuru Samarasekara". Below the header is a menu bar with links: "Employee Duties", "Leave Request Inquiry", "Salary Inquiry", "Documents & Reports", "Mailing System", and "Profile Related". The main content area displays a detailed view for employee ID EMPL000004, named AtheeqB Manager MaharoofB (INACTIVE). The page is divided into several sections: "Basic Details" (Full Name: AtheeqB Manager MaharoofB, Gender: male, Nationality: muslim), "Identification" (Employee ID: EMPL000004, NIC: 973451182v, Date of Birth: 1997-12-10), "Contact Details" (Street Address: 20 st peter's Place, City: Bambalapitiya, Province: Western, ZIP Code: 10004, Contact Number (Home): 0112503382, Contact Number (Mobile): 0716346042, Personal Email: atheeqrbc@gmail.com), and "Company Related" (Branch (Before Inactivation): branch 01 city, Recruitment Date: 2018-10-02, Reason For Disposal: See, Inactivation Date: 2018-10-04). The Windows taskbar at the bottom shows various pinned icons.

**Figure 2-19 EHPM - Employee Duties - Inactive Single Employee**

The screenshot shows the SampathEmpWeb interface. In the center, a modal dialog box is open with the title "Reason for Disposal". Inside the dialog, there is a single line of text: "asdfghj". At the bottom right of the dialog is a small "X" icon. Below the dialog, a red "Done" button is visible. The background of the main window shows basic employee details like Full Name, Gender, Nationality, and Contact Information.

Figure 2-20 EHPM - Employee Duties - Active Single Employee - Reason for Inactivation

The screenshot shows the SampathEmpWeb interface with the search results for employees. The search bar at the top contains the text "Search for Employees". Below the search bar, a table displays the following data:

Employee Id	Employee Name	Branch Id	Employee Type	Company Induction Date	Online Account	####
EMPL00001	Isuru HRManager Samarasekara	BRAN00001	manager	2018-09-07	No	<a href="#">View Details</a>

At the bottom of the page, there are four footer sections: "LEGAL FORM", "COMPANY", "PROFILE RELATED", and "CUSTOMER RELATED".

Figure 2-21 EHPM - Employee Duties - Search for an Employees

**Employee Duties**

**EMPLOYEE ID:** EMPL000001

**NIC:** 961370211V

**DATE OF BIRTH:** 1001-01-01

**Branch:** branch 01 city

**Department:** human resource

**Designation:** human resource manager

**Recruitment Date:** 2018-09-07

**Company Email:** isuru@Company.com

**Employee Type:** manager

Figure 2-22 EHPM - Employee Duties - Search for Employees - Single Employee View

Employee Id	Leave Type	Start Date	Duration	####	####	####
EMPL000001	sick leave	2018-10-05	10	<a href="#">Show</a>	<a href="#">Grant</a>	<a href="#">Reject</a>

**LEGAL FORM**  
A Public Limited Liability Company incorporated in Sri Lanka on 10th March 1986 under the Companies Act No 17 of 1982 and listed in the Colombo Stock Exchange. A licensed Commercial Bank under the Banking Act No 30 of 1988. Re-registered on 28th April 2008 under the Companies Act No 7 of 2007.

**COMPANY**  
[Home](#)  
[About Us](#)  
[Contact Us](#)  
[Privacy Policy](#)

**PROFILE RELATED**  
[View Profile](#)  
[Update Profile](#)  
[Update History](#)

**CUSTOMER RELATED**  
[Transaction](#)  
[Loan Calculator](#)  
[Lease Calculator](#)  
[Complaint](#)

Figure 2-23 EHPM - Employee Duties - Leave Request Management

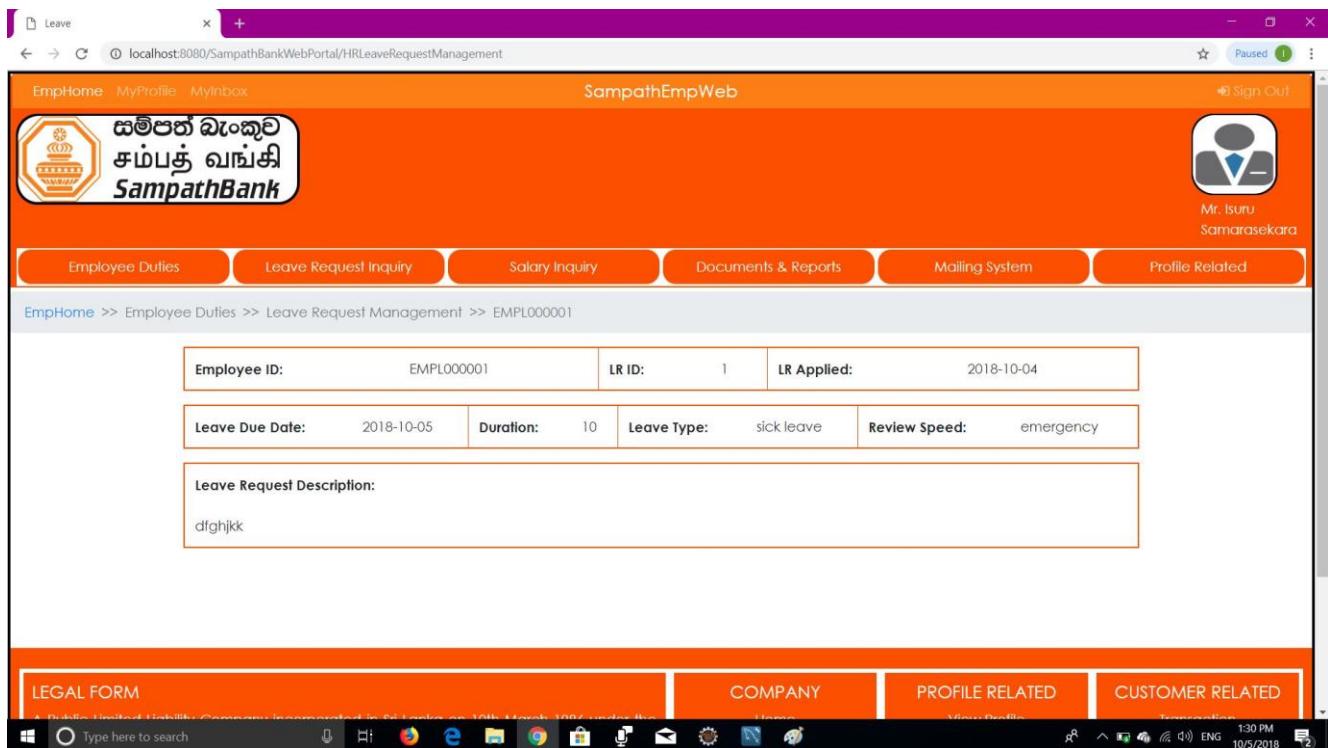


Figure 2-24 EHPM - Employee Duties - Leave Request Management - Single Leave Request

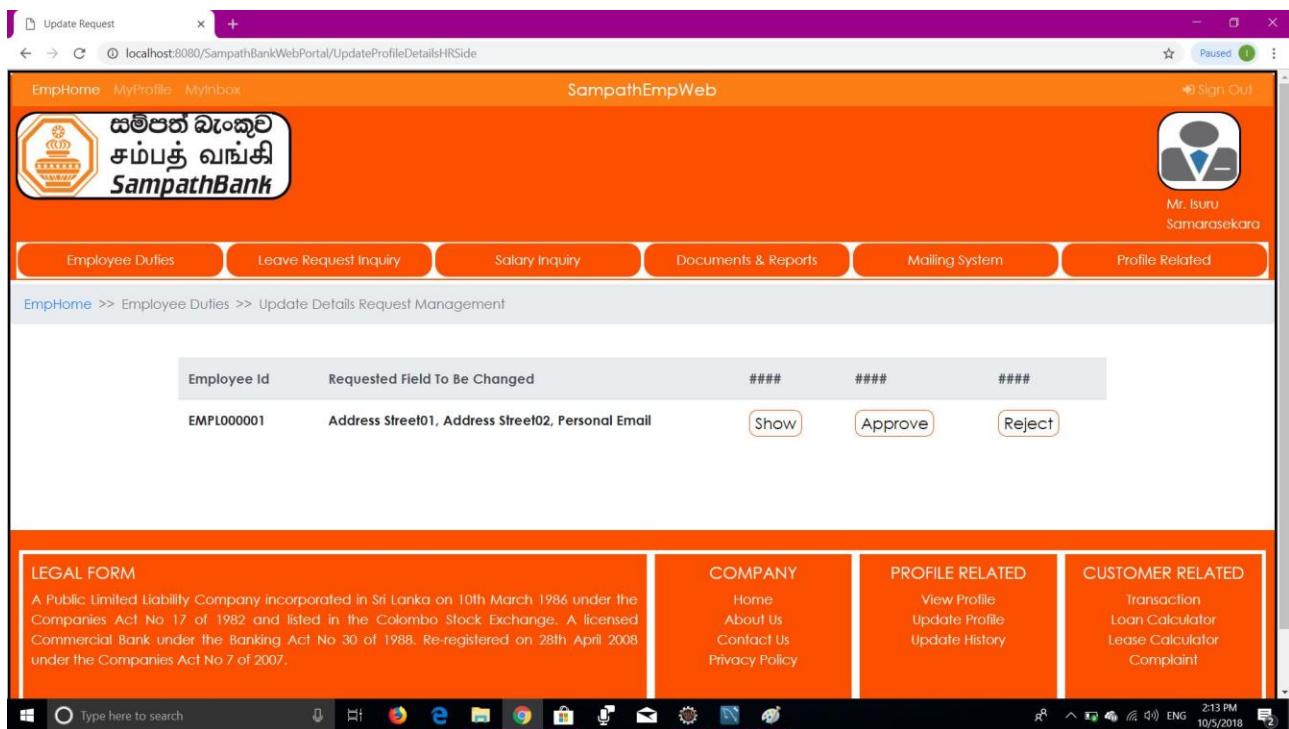


Figure 2-25 EHPM - Employee Duties - Update Request Management

Employee Salary Initial    +

localhost:8080/SampathBankWebPortal/jsp/employee\_hr\_payroll\_management/EHPM\_HRManager\_I

EmpHome MyProfile MyInbox SampathEmpWeb Sign Out

සම්පත් බැංකුව  
සම්පත් බැංකුව  
SampathBank

Mr. Isuru Samarasekara

Employee Duties Leave Request Inquiry Salary Inquiry Documents & Reports Mailing System Profile Related

EmpHome >> Employee Duties >> Salary Management

### Salary Initiation

<b>Employee ID</b>	EMPL00001	<b>NON-TAXABLE INCOME</b>
<b>TAXABLE INCOME</b>		Non taxable subsistence allowance:
Monthly Based Fixed: *	Rs. 200000	No of days: * 12.50
Overtime Hrs: *	10.25	Rate: * Rs. 350.26
Overtime R: *	Rs. 256.56	Non taxable medical: * Rs. 16000
Total OT:	Rs. 2629.74	Total Non Taxable Income: Rs. 20378.25
Car Allowance: *	Rs. 75000	<b>DEDUCTIONS</b>
Bonus: *	% 10	EPF: * Rs. 12456
Tax: *	% 8.956	Medical: * Rs. 8654
Total Taxable Income:	Rs. 297629.74	Loan Repayments: * Rs. 12000
		Other Deductions: * Rs. 5000
		Total Deductions: Rs. 38110.00
		Net Salary: Rs. 253242.27

Reset Submit Demo

Windows Type here to search Microsoft Edge Google Chrome Microsoft Word Microsoft Excel Microsoft PowerPoint Microsoft OneDrive Microsoft Teams Microsoft Store

Figure 2-26 EHPM - Employee Duties - Salary Management

Employee Salary Secondary +

localhost:8080/SampathBankWebPortal/jsp/employee\_hr\_payroll\_management/EHPM\_HRManager\_S

The screenshot shows the SampathEmpWeb interface for salary management. At the top, there's a navigation bar with links like EmpHome, MyProfile, MyInbox, and Sign Out. The main content area displays salary initiation details for employee EMPL000001. It's divided into three main sections: TAXABLE INCOME, NON-TAXABLE INCOME, and DEDUCTIONS. The TAXABLE INCOME section includes fields for Monthly Salary, Overtime Hours, Overtime Rate, Car Allowance, and Bonus. The NON-TAXABLE INCOME section includes fields for Subsistence Allowance Days and Rate, and Medical allowance. The DEDUCTIONS section includes fields for EPF, Medical, Loan Repayments, and Other Deductions. To the right of these sections, there's a summary table with columns for various financial figures. At the bottom, there are buttons for Reject and Submit, and a footer with links for Legal Form, Company, Profile Related, and Customer Related.

TAXABLE INCOME		NON-TAXABLE INCOME		DEDUCTIONS	
Monthly Salary:	200000.0	Subsistence Allowance Days:	12.5	EPF:	12456.0
Overtime Hours:	10.25	Subsistence Allowance Rate:	350.26	Medical:	8654.0
Overtime Rate:	256.56	Medical:	16000.0	Loan Repayments:	12000.0
Car Allowance:	75000.0			Other Deductions:	5000.0
Bonus:	10.0				

Overtime Total:	2629.74
Total Taxable Income:	297629.74
Total Non-Taxable Income:	20378.25
Total Deductions:	38110.00
Tax upon Taxable Income:	8.96
<b>Net Salary:</b>	<b>253242.27</b>

**LEGAL FORM**  
A Public Limited Company incorporated in Sri Lanka on 10th March 1964 under No.

**COMPANY**  
Univas

**PROFILE RELATED**  
MyProfile

**CUSTOMER RELATED**  
CustomerCare

Type here to search

Figure 2-27 EHPM - Employee Duties - Salary Management - Salary Summary

The screenshot shows the SampathEmpWeb HR Manager interface. At the top, there's a navigation bar with links for EmpHome, MyProfile, MyInbox, Sign Out, and a logo for SampathBank. Below the header is a menu bar with tabs for Employee Duties, Leave Request Inquiry, Salary Inquiry, Documents & Reports, Mailing System, and Profile Related. The main content area displays a table titled 'Documentation' with three rows: Employee Basic Details, Employee Contact Details, and Employee Company Details. Each row contains a description and a 'Generate Document' button. The bottom of the screen shows a Windows taskbar with various icons and system status.

Figure 2-28 EHPM - HR Manager - Documents & Reports

This screenshot shows a PDF document titled 'EHPM\_HRManager\_BasicDetails\_PDF.jsp'. The header of the PDF includes the SampathBank logo and the text 'For the Use of HR Manager ONLY! All Employee Personal Details'. The main content is a table with columns for Emp ID, Name, NIC, DOB, Gender, and Nationality. Two rows of data are shown:

Emp ID	Name	NIC	DOB	Gender	Nationality
EMPL000001	ISA Isuru HRManager Samarasekara	961370211v	1001-01-01	MALE	SINHALESE
EMPL000002	KBB KeshiB Manager BogahawatteB	968052032v	1996-10-31	FEMALE	SINHALESE

Figure 2-29 EHPM - HR Manager – Documents & Reports - Demo

Apply For Leave

localhost:8080/SampathBankWebPortal/jsp/employee\_hr\_payroll\_management/EHPM\_Apply\_For\_Leave

**SampathEmpWeb**

Emphome MyProfile MyInbox Sign Out

සම්පත් බංකුව  
සම්පත් බංකුව  
**SampathBank**

Mr. Isuru  
Samarasekara

Employee Duties Leave Request Inquiry Salary Inquiry Documents & Reports Mailing System Profile Related

EmpHome >> Leave Request Inquiry >> Apply For Leave

Fill the Leave Request Form

Employee ID:	Employee Name:	Employee Designation:	
EMPL00001	ISURU HRMANAGER SAMARASEKARA	HUMAN RESOURCE MANAGER	
No of Leaves Per Year:	No of Leaves Left:	Last Effective Leave Date:	
30	20	2018-10-05	
Leave Start Date (Requested):	Leave Duration (Requested):	Leave Type:	Review Speed:
mm/dd/yyyy		Choose...	Choose...
Leave Description:			
<input type="button" value="Demo"/>		<input type="button" value="Reset"/> <input type="button" value="Submit"/>	

**LEGAL FORM**  
A Public Limited Liability Company incorporated in Sri Lanka on 10th March 1986 under the Companies Act No 17 of 1982 and listed in the Colombo Stock Exchange. A licensed Commercial Bank under the Banking Act No 30 of 1988. Re-registered on 28th April 2008 under the Companies Act No 7 of 2007.

**COMPANY**  
Home About Us Contact Us Privacy Policy

**PROFILE RELATED**  
View Profile Update Profile Update History

**CUSTOMER RELATED**  
Transaction Loan Calculator Lease Calculator Complaint

Windows Start Type here to search Microphone Taskbar Icons

Figure 2-30 EHPM - Leave Request Inquiry - Apply for Leave

Leave Request Confirmation    +

localhost:8080/SampathBankWebPortal/jsp/employee\_hr\_payroll\_management/EHPM\_Apply\_For\_Leave\_Confirmation.jsp

[EmpHome](#) [MyProfile](#) [MyInbox](#) [SampathEmpWeb](#) [Sign Out](#)



සම්පත් බැංකුව  
සම්පත් බැංකුව  
**SampathBank**

Employee Duties    Leave Request Inquiry    Salary Inquiry    Documents & Reports    Mailing System    Profile Related

[EmpHome](#) >> [Leave Request Inquiry](#) >> [Apply For Leave](#) >> [Confirm Leave Request](#)

Employee ID:	EMPL000001	Employee Name:	Isuru HRManager Samarasekara		
Branch:	branch 01 city	Department:	human resource	Designation:	human resource manager
Leave Start Date:	2018-10-08	Leave Duration:	10	Leave Type:	sick leave
Review Speed: emergency					
<b>Leave Request Description:</b>					
I need a leave because of this reason, so I need the leave, obviously!					
<a href="#">Reject</a> <a href="#">Confirm</a>					

LEGAL FORM    localhost:8080/SampathBankWebPortal/jsp/.../EHPM\_Common\_Employee\_Homepage.jsp    COMPANY    PROFILE RELATED    CUSTOMER RELATED

Type here to search

Figure 2-31 EHPM - Leave Request Inquiry - Apply for Leave - Summary

Leave Request Confirmation    +

localhost:8080/SampathBankWebPortal/jsp/employee\_hr\_payroll\_management/EHPM\_Apply\_For\_Leave\_Confirmation.jsp

[EmpHome](#) [MyProfile](#) [MyInbox](#) [SampathEmpWeb](#) [Sign Out](#)

Employee ID:	EMPL000001	Employee Name:	Isuru HRManager Samarasekara		
Branch:	branch 01 city	Department:	human resource	Designation:	human resource manager

Enter Your Online Security Key:

[Submit](#)

[Confirm](#)

LEGAL FORM  
A Public Limited Liability Company incorporated in Sri Lanka on 10th March 1986 under the Companies Act No 17 of 1982 and listed in the Colombo Stock Exchange. A licensed Commercial Bank under the Banking Act No 30 of 1988. Re-registered on 28th April 2008 under the Companies Act No 7 of 2007.

COMPANY    PROFILE RELATED    CUSTOMER RELATED

- Home
- About Us
- Contact Us
- Privacy Policy
- View Profile
- Update Profile
- Update History
- Transaction
- Loan Calculator
- Lease Calculator
- Complaint

Type here to search

Figure 2-32 EHPM - Leave Request Inquiry - Apply for Leave - Leave Summary - Confirm Leave Prompt

Leave History

localhost:8080/SampathBankWebPortal/jsp/employee\_hr\_payroll\_management/EHPM\_Leave\_History.jsp

SampathEmpWeb

Mr. Isuru Samarasekara

LRID	LR Type	LR Date	LR Duration	LR Status	##	##	##
1	sick leave	2018-10-04	10	granted	<a href="#">View</a>		
2	sick leave	2018-10-05	10	submitted	<a href="#">View</a>	<a href="#">Edit</a>	<a href="#">Remove</a>

LEGAL FORM

A Public Limited Liability Company incorporated in Sri Lanka on 10th March 1986 under the Companies Act No 17 of 1982 and listed in the Colombo Stock Exchange. A licensed Commercial Bank under the Banking Act No 30 of 1988. Re-registered on 28th April 2008 under the Companies

COMPANY

Home  
About Us  
Contact Us

PROFILE RELATED

View Profile  
Update Profile  
Update History

CUSTOMER RELATED

Transaction  
Loan Calculator  
Lease Calculator

Figure 2-33 EHPM - Leave Request Inquiry - Leave History

Leave History

localhost:8080/SampathBankWebPortal/LeaveHandlingEmployee?leaveRequestId=1&viewLeaveReq=View

SampathEmpWeb

Mr. Isuru Samarasekara

Employee ID:	EMPL000001	Employee Name:	Isuru HRManager Samarasekara		
Leave Start Date:	2018-10-05	Leave Duration:	10	Leave Type:	sick leave
Review Speed:	emergency				
Leave Status:	granted		Leave Reviewed By:	EMPL000001	
Leave Request Description:					
dfghjkk					

Figure 2-34 EHPM - Leave Request Inquiry - Leave History - Single Leave View

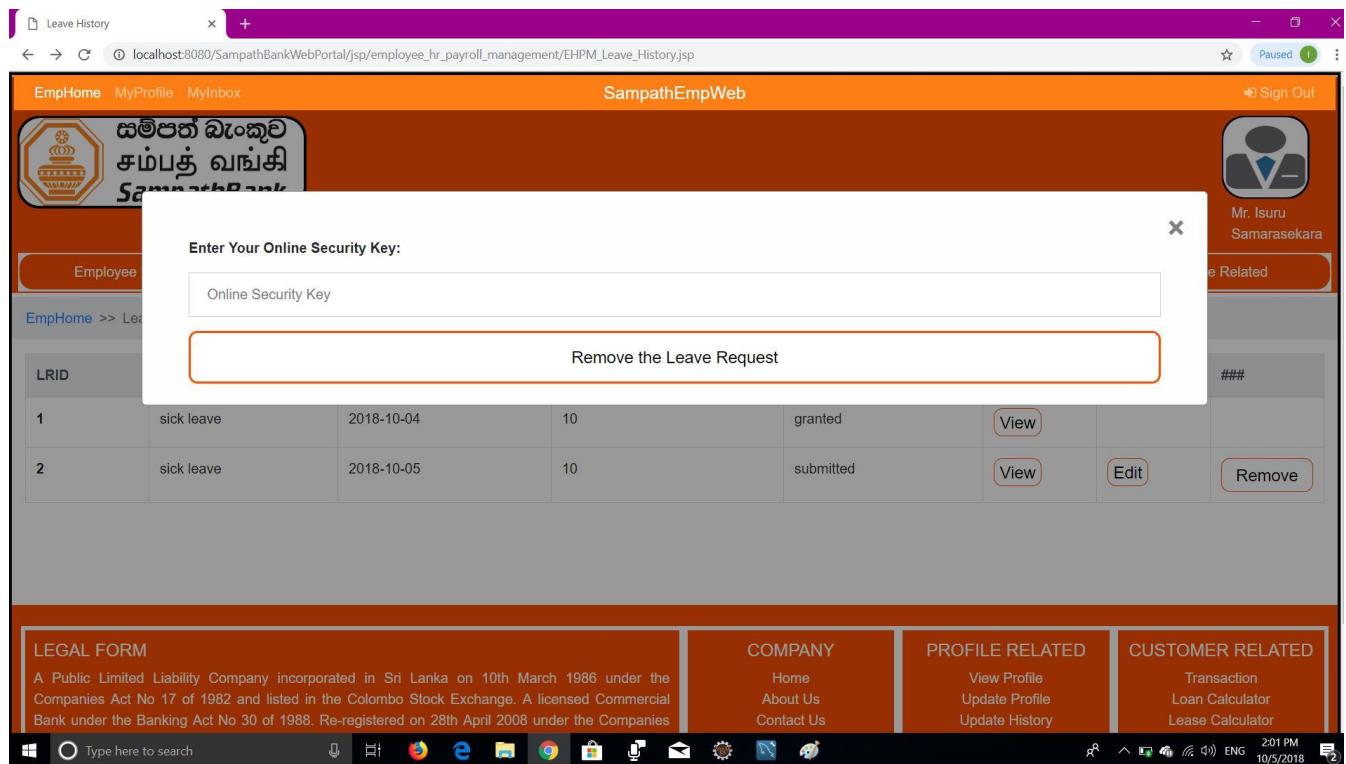


Figure 2-35 EHPM - Leave Request Inquiry - Leave History - Remove Leave (Submitted)

NON-TAXABLE INCOME	
Non taxable subsistence allowance:	<input type="text"/>
Rate: *	<input type="text"/>
Non taxable medical: *	<input type="text"/>
Total Non Taxable Income:	<input type="text"/>

DEDUCTIONS	
EPF: *	<input type="text"/>
Medical: *	<input type="text"/>
Loan Repayments: *	<input type="text"/>
Other Deductions: *	<input type="text"/>
Total Deductions:	<input type="text"/>
Net Salary:	<input type="text"/>

Figure 2-36 EHPM - Salary Inquiry - Calculate Salary

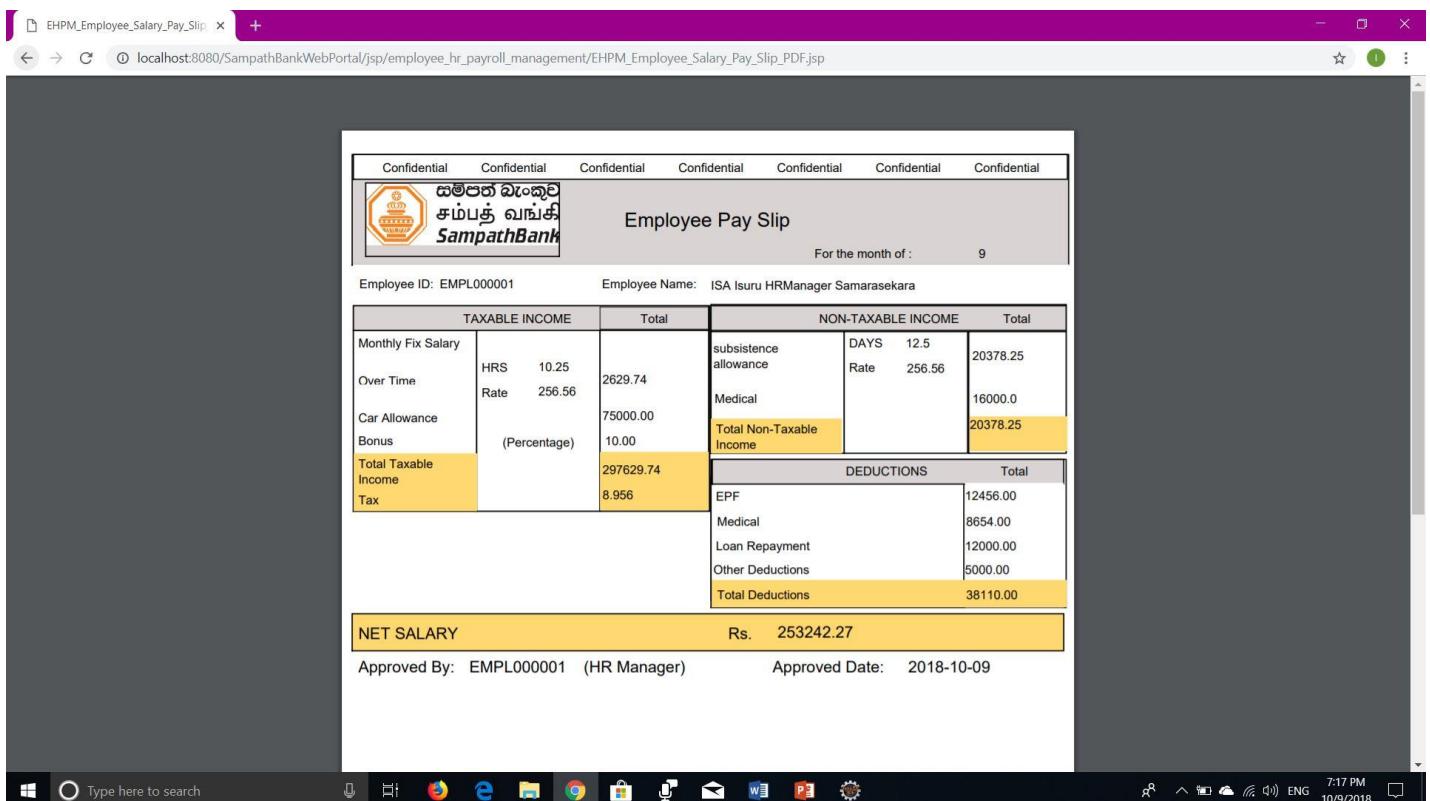


Figure 2-37 EHPM - Salary Inquiry - Pay Slip

Contact Info	Other Info	
Personal Email	isurusamarasekaraA@gmail.com	Personal
Company Email	isuru@Company.com	Employment
Home	0112844830	Branch
Mobile	0772841580	Department

Figure 2-38 EHPM - Profile Related - Profile Details

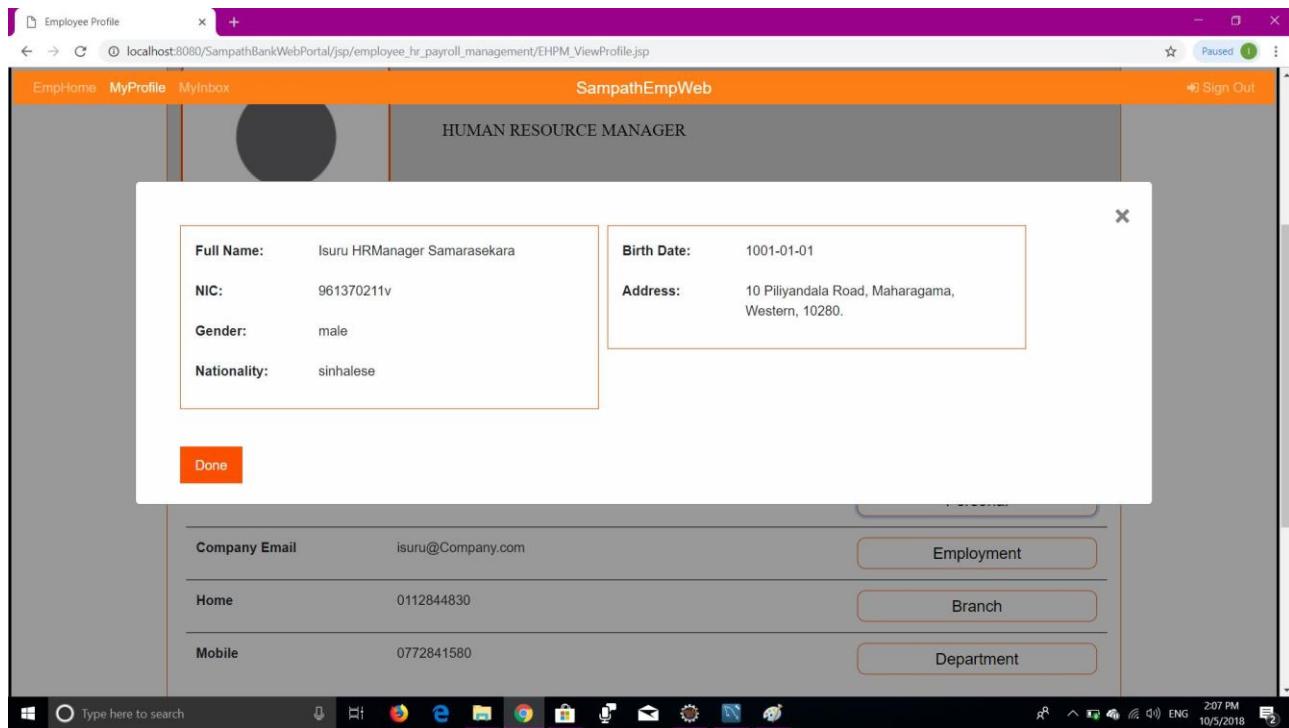


Figure 2-39 EHPM - Profile Related - Profile Details - Demo

Figure 2-40 EHPM - Profile Related - Update Profile

Update Profile

localhost:8080/SampathBankWebPortal/jsp/employee\_hr\_payroll\_management/EHPM\_UpdateProfile.jsp

Paused 1

SampathEmpWeb

Employee Duties Leave Request Inquiry Salary Inquiry Documents & Reports Mailing System Profile Related Sign Out

Emphome >> Update Profile >> EMPL000001

Street Address:

Line 01: \* 20 Abcd Road

Line 02: Efgh Road

City: \* Colombo Province: \* Western ZIP Code: \* 10000

Reset Submit Cancel

Contact Info

Address 10 Piliyandala Road, Maharagama, Western,

Edit

The screenshot shows a web browser window for the SampathEmpWeb application. The main menu includes 'Employee Duties', 'Leave Request Inquiry', 'Salary Inquiry', 'Documents & Reports', 'Mailing System', 'Profile Related', and 'Sign Out'. A sub-menu 'Update Profile' is selected, leading to the 'EMPL000001' profile. A modal dialog box is open for updating the address. It contains fields for 'Street Address' (with 'Line 01' and 'Line 02' sub-fields), 'City' (Colombo), 'Province' (Western), and 'ZIP Code' (10000). Below the dialog are 'Reset', 'Submit', and 'Cancel' buttons. In the background, there's a 'Contact Info' section with an 'Address' field containing '10 Piliyandala Road, Maharagama, Western,' and an 'Edit' button. The system status bar at the bottom shows the date and time (10/5/2018, 2:12 PM) and battery level.

Figure 2-41 EHPM - Profile Related - Update Profile - Demo

#### 2.2.4.2 User management

The screenshot shows the Sampath Web Portal homepage. At the top, there's a purple header bar with a 'Customer Login' button, a close button ('x'), and a '+' button. Below it is a navigation bar with back, forward, and search icons, and the URL 'localhost:8080/SampathBankWebPortal/'. The main header features the bank's logo and name in Sinhala and English ('SampathBank'). A horizontal menu bar includes links for Home, About Us, Contact Us, Careers, News, and Branch Network. The central content area has a large orange background with a white curved shape. On the left, two awards are displayed. On the right, a large orange banner says '5 IN A ROW!' followed by text about being recognized as Sri Lanka's Best Retail Bank and Best Commercial Bank for five consecutive years. Below this is a welcome message and a call to action: 'Please Login to access the further functionalities'. At the bottom, there are two columns: 'LEGAL FORM' with information about the company's incorporation and listing, and 'COMPANY' with links to Home, About Us, Contact Us, and Privacy Policy. A copyright notice at the very bottom reads: '© All Rights Reserved @2018 | ITP-2018-MLB-G3-10. | Privacy Policy.'

Figure 2-42 UM - Common Homepage

Customer Registration    +    localhost:8080/SampathBankWebPortal/jsp/user\_management/UM\_CustomerRegistrationInitial.jsp

Common Home Sampath Web Portal Sign Up Login

**SampathBank**

Home About Us Contact Us Careers News Branch Network

This is for customer registration only!  
Customers who are registering must to have a physical account in the bank itself!!

NIC: *	000000000v
Date of Birth:	mm/dd/yyyy
ZIP: *	
Personal Email:	
Account No:	
<input type="button" value="Submit"/> <input type="button" value="Demo"/>	

**LEGAL FORM**  
A Public Limited Liability Company incorporated in Sri Lanka on 10th March 1986 under the Companies Act No 17 of 1982 and listed in the Colombo Stock Exchange. A licensed Commercial Bank under the Banking Act No 30 of 1988. Re-registered on 28th April 2008 under the Companies Act No 7 of 2007.

**COMPANY**  
Home About Us Contact Us Privacy Policy

© All Rights Reserved @2018 | ITP-2018-MLB-G3-10. | Privacy Policy.

Type here to search

Figure 2-43 UM - Customer Online Registration - Step 01

Customer Registration    +    localhost:8080/SampathBankWebPortal/jsp/user\_management/UM\_CustomerRegistrationSecondary.jsp#

Common Home Sampath Web Portal Sign Up Login

**SampathBank**

Home About Us Contact Us Careers News Branch Network

Please Enter the 5 digit pin you received via email!

00000
<input type="button" value="Submit"/>

**LEGAL FORM**  
A Public Limited Liability Company incorporated in Sri Lanka on 10th March 1986 under the Companies Act No 17 of 1982 and listed in the Colombo Stock Exchange. A licensed Commercial Bank under the Banking Act No 30 of 1988. Re-registered on 28th April 2008 under the Companies Act No 7 of 2007.

**COMPANY**  
Home About Us Contact Us Privacy Policy

© All Rights Reserved @2018 | ITP-2018-MLB-G3-10. | Privacy Policy.

Type here to search

Figure 2-44 UM - Customer Online Registration - Step 02

The screenshot shows the 'Customer Registration' page of the Sampath Bank Web Portal. At the top, there are navigation links for 'Common Home', 'Sampath Web Portal', 'Sign Up', and 'Login'. Below the header, the Sampath Bank logo is displayed. A main content area contains a form titled 'Please fill the necessary details!'. The form includes fields for 'Secret Question 01\*' (Who am I? Answer: Me) and 'Secret Question 02\*' (Who are you? Answer: You). It also features a note about password recovery and a 'Sign Up' button.

**Figure 2-45 UM - Customer Online Registration - Step 03**

The screenshot shows the 'Common Login' page of the Sampath Bank Web Portal. At the top, there are navigation links for 'Common Home', 'Sampath Web Portal', 'Sign Up', and 'Login'. Below the header, the Sampath Bank logo is displayed. A central 'Sign In' form is shown, featuring fields for 'UserID' and 'Password', a 'Sign in' button, and links for 'Remember me', 'Forgot Password?', and 'Sign Up'. The page also includes legal and company information at the bottom.

**Figure 2-46 UM - Common Login**

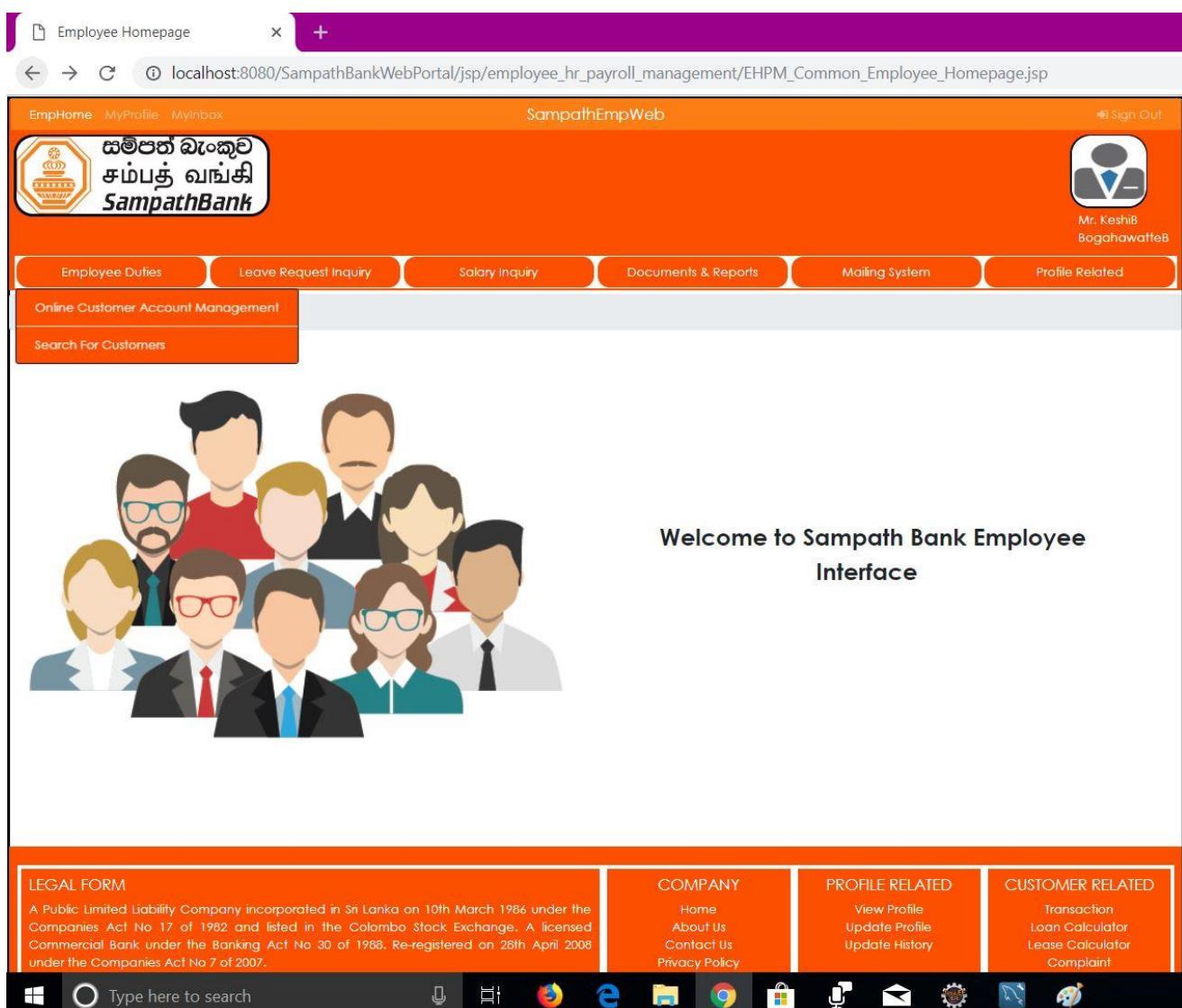
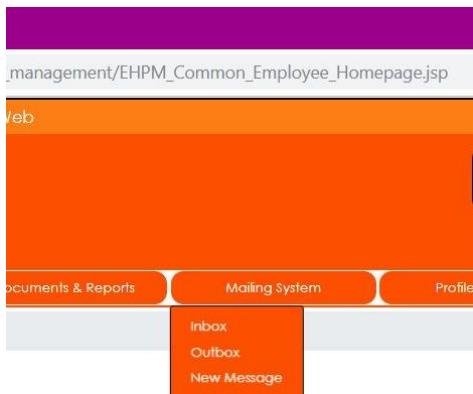


Figure 2-47 UM - User Manager - Dropdown 01



Figure 2-48 UM - User Manager - Dropdown 02



**Figure 2-49 UM - Common Employee – Dropdown 01**

**Figure 2-50 UM - User Manager - Employee Duties - Online Customer Account Management**

Review Customer Online Account +

localhost:8080/SampathBankWebPortal/CustomerRegistrationManagementController

EmpHome MyProfile MyInbox SampathEmpWeb Sign Out

SampathBank

Employee Duties Leave Request Inquiry Salary Inquiry Documents & Reports Mailing System Profile Related

[EmpHome](#) >> Employee Duties >> Online Customer Account Management >> CUST000003

**CUST000003 : KeshiC Customer BogahawatteC**

<b>Basic Details</b> <b>Full Name:</b> KeshiC Customer BogahawatteC <b>Gender:</b> female <b>Nationality:</b> sinhalese	<b>Identification</b> <b>Customer ID:</b> CUST000003 <b>NIC:</b> 968052039V <b>Date of Birth:</b> 1996-10-31
<b>Contact Details</b> <b>Street Address:</b> 70 Pamunuwa <b>City:</b> Maharagama <b>Province:</b> western <b>ZIP Code:</b> 10280 <b>Contact Number (Home):</b> 0112848708 <b>Contact Number (Mobile):</b> 0779979350 <b>Personal Email:</b> keshanibogahawatte96@gmail.com	<b>Company Association</b> <b>Branch:</b> branch 01 city <b>Physical Registration Date:</b> 2018-10-01

Windows Start Type here to search Taskbar icons

Figure 2-51 UM - User Manager - Employee Duties - Online Customer Account Management - Single Customer Registration Request Details

**Figure 2-52 UM - User Manager - Employee Duties - Search for Customers**

Customer Id	Customer Name	Branch Id	Physical Registration Date	Gender	Online Registered?	####
CUST000001	KeshiA Customer BogahawatteA	BRAN000001	2018-10-02	female	Yes	<a href="#">View Customer</a>
CUST000002	VinuA Customer GamageA	BRAN000001	2018-10-02	female	Yes	<a href="#">View Customer</a>
CUST000003	KeshiC Customer BogahawatteC	BRAN000001	2018-10-01	female	No	<a href="#">View Customer</a>

**Figure 2-53 UM - User Manager - Employee Duties - Search for Customers - Search Results**

The screenshot shows a web browser window with the URL [localhost:8080/SampathBankWebPortal/SearchForCustomers](http://localhost:8080/SampathBankWebPortal/SearchForCustomers). The page title is "Customer Search Result View". The main content area displays customer details for "CUST000001 : KeshiA Customer BogahawatteA". The interface is divided into sections: "Basic Details" (Full Name: KeshiA Customer BogahawatteA, Gender: female, Nationality: sinhalese), "Contact Details" (Street Address: 10 Pamunuwa, City: Maharagama, Province: Western, ZIP Code: 10280, Contact Number (Home): 0112848701, Contact Number (Mobile): 0779979351, Personal Email: keshaniA@gmail.com), and "Identification" (Customer ID: CUST000001, NIC: 968052031v, Date of Birth: 1996-10-31). The top navigation bar includes links for EmpHome, MyProfile, MyInbox, Sign Out, and various reporting modules like Employee Duties, Leave Request Inquiry, Salary Inquiry, Documents & Reports, Mailing System, and Profile Related.

Figure 2-54 UM - User Manager - Employee Duties - Search for Customers - Search Results - Selected View

The screenshot shows a web browser window with the URL [localhost:8080/SampathBankWebPortal/jsp/user\\_management/UM\\_CustomerDetailsDocumentation.jsp](http://localhost:8080/SampathBankWebPortal/jsp/user_management/UM_CustomerDetailsDocumentation.jsp). The page title is "Employee Details Documentation". The main content area displays a message: "This page represents reports generated according to customer details". It then lists "Customer basic details" with a "Report 01" button and "Customer online account details" with a "Report 02" button. The top navigation bar is identical to Figure 2-54, featuring the SampathBank logo, user profile, and various reporting modules.

Figure 2-55 UM - User Manager - Documents & Reports - Customer Details

The screenshot shows a web browser window with two tabs open: "Employee Details Documentation" and "UM\_CustomerBasicDetailsPDF.jsp". The main content area displays a report titled "Sampath Bank" with an orange header. The report lists two customer records in a table:

Person ID	Customer Name	Gender	Nationality	NIC	Address	Home Contact	Mobile Contact	Customer ID
CUST000001	KeshiA BogahawatteA	female	sinhalese	968052031v	10 Pamunuwa Maharagama	0112848701	0779979351	CUST000001
CUST000002	KeshiC BogahawatteC	female	sinhalese	968052033v	30 Pamunuwa Maharagama	0112848703	0779979353	CUST000002

The browser's taskbar at the bottom shows various pinned icons and the system status bar indicates the date and time as 10/9/2018 8:04 PM.

Figure 2-56 UM - User Manager - Documents & Reports - Customer Details - Report 01

The screenshot shows a web browser window with two tabs open: "Employee Details Documentation" and "UM\_CustomerOnlineAccountDet.". The main content area displays a report titled "Sampath Bank" with an orange header. The report lists one customer record in a table:

onlineCustomerID	username	Secret Question 01	Answer 01	Secret Question 02	Answer 02	Customer ID
CUON000001	KESHIA	a?	a	b?	b	CUST000001

The browser's taskbar at the bottom shows various pinned icons and the system status bar indicates the date and time as 10/9/2018 8:05 PM.

Figure 2-57 UM - User Manager - Documents & Reports - Customer Details - Report 02

The screenshot shows the SampathBank Employee Intra-Company Mailing system. The top navigation bar includes links for EmpHome, MyProfile, Myinbox, Sign Out, and a logo for SampathBank. Below the header is a menu bar with Employee Duties, Leave Request Inquiry, Salary Inquiry, Documents & Reports, Mailing System, and Profile Related. The main content area is titled 'Inbox' and displays a single email entry from 'isuru@Company.com' with subject 'asdasd asd adada fas' received on '2018-10-04'. The bottom of the page features a footer with links for Legal Form, Company, Profile Related, and Customer Related, along with a search bar and various icons.

Figure 2-58 UM - All Employees - Intra-Company Mailing system - Inbox

The screenshot shows the SampathBank Employee Intra-Company Mailing system. The top navigation bar includes links for EmpHome, MyProfile, Myinbox, Sign Out, and a logo for SampathBank. Below the header is a menu bar with Employee Duties, Leave Request Inquiry, Salary Inquiry, Documents & Reports, Mailing System, and Profile Related. The main content area is titled 'Outbox' and displays a single email entry sent to 'isuru@Company.com' with subject 'asdasd asd adada fas' on '2018-10-04'. The bottom of the page features a footer with links for Legal Form, Company, Profile Related, and Customer Related, along with a search bar and various icons.

Figure 2-59 UM - All Employees - Intra-Company Mailing system - Outbox

The screenshot shows the SampathBank Web Portal interface. At the top, there is a purple header bar with a 'Compose Email' button and a URL indicator 'localhost:8080/SampathBankWebPortal/jsp/user\_management/UM\_EmailCompose.jsp'. Below the header is a navigation bar with links like 'EmpHome', 'MyProfile', 'MyInbox', 'Sign Out', and a user profile icon for 'Mr. KeshiB BogahawatteB'. A secondary navigation bar below it includes 'Employee Duties', 'Leave Request Inquiry', 'Salary Inquiry', 'Documents & Reports', 'Mailing System', and 'Profile Related'. The main content area is titled 'Compose Mail'. On the left, there is a sidebar with 'Compose' selected. The main form has fields for 'To' (receiver@Company.com), 'From' (Bogahawatte896@Company.com), 'Subject', and a large 'Message' area. Buttons for '+ Attachment' and 'Send' are at the bottom. At the bottom of the page, there are sections for 'LEGAL FORM', 'COMPANY', 'PROFILE RELATED', and 'CUSTOMER RELATED' with various links. A search bar and system icons are also present.

Figure 2-60 UM - All Employees - Intra-Company Mailing system - Compose Mail

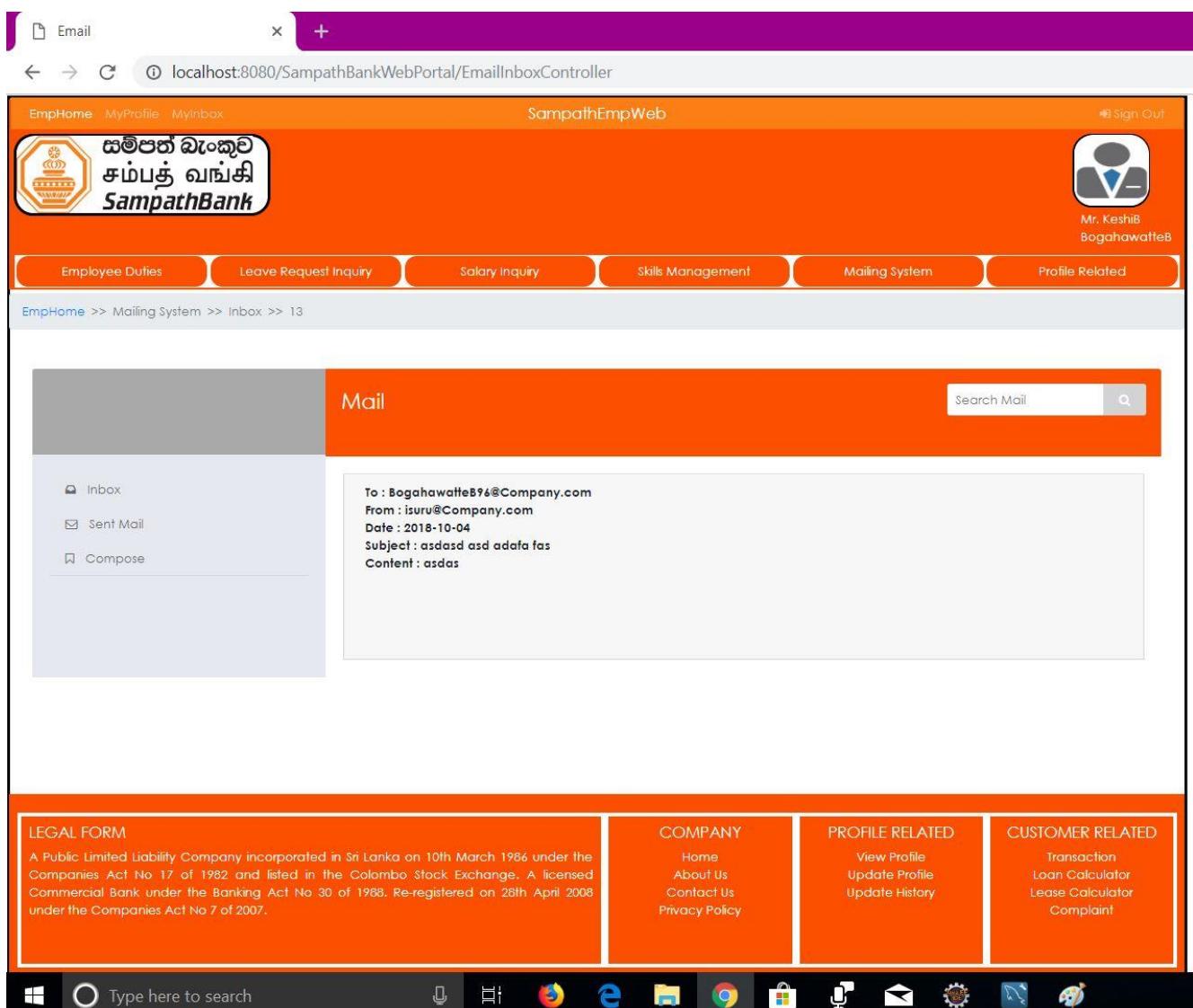


Figure 2-61 UM - All Employees - Intra-Company Mailing system - Single Mail View

This screenshot shows a similar interface to Figure 2-61, but it appears to be a different view or a later version. It features a large orange header bar with the word 'Inbox'. Below it is a white content area with a table-like structure. The columns are labeled 'From', 'Subject', 'Received', 'Date', and two empty fields. An entry shows 'Confidential' in the 'From' field and 'some subject' in the 'Subject' field. The 'Received' column shows '2018-10-09'. To the right of the table are 'View' and 'Delete' buttons.

Figure 2-62 UM - All Employees - Intra-Company Mailing system - Sender Delete Demo

### 2.2.4.3 Inventory Management

The screenshot shows the SampathEmpWeb interface for Inventory Management. At the top, there's a navigation bar with links for EmpHome, CustomerHome, MyProfile, and MyInbox. The main header features the SampathBank logo and a sign-out link. Below the header is a menu bar with links for Employee Duties, Leave Request Inquiry, Salary Inquiry, Skills Management, Mailing System, and Profile Related. A search bar is positioned above the item list. The central part of the page contains a table with four rows of data:

ItemID	Item Name	Quantity	Measurement	Low Stock Level	Add Quantity	Further Details
AA01	Paper	400	Bundle	500	<input type="text" value="100"/> <span>-</span> <span>+</span> <span>ADD</span>	<span>More</span>
AA02	Computer	50	Number	25	<input type="text" value="100"/> <span>-</span> <span>+</span> <span>ADD</span>	<span>More</span>
AA03	Passbook	500	Number	250	<input type="text" value="100"/> <span>-</span> <span>+</span> <span>ADD</span>	<span>More</span>
AA04	Repairing Tools	50	Number	25	<input type="text" value="100"/> <span>-</span> <span>+</span> <span>ADD</span>	<span>More</span>

At the bottom of the page, there are buttons for 'Add New Item' and 'Re-stocking Items'. The footer includes sections for Legal Form, Company, Profile Related, and Customer Related, along with a search bar and various system icons.

Figure 2-63 IM - Inventory Employee - View Warehouse Item Details

Common Employee Inventory    +

localhost:8080/SampathBankWebPortal/IM\_ShowWarehouse-Branch.jsp

EmpHome CustomerHome MyProfile Myinbox SampathEmpWeb Sign Out Mr. xxx xxx

Employee Duties Leave Request Inquiry Salary Inquiry Skills Management Mailing System Profile Related

This Map is custom created for the warehouse branch tracking. Only the authorized employee who has the correct Gmail Address and Password can make the changes.

**Warehouse**

**Branches**

**LEGAL FORM**  
A Public Limited Liability Company incorporated in Sri Lanka on 10th March 1986 under the Companies Act No 17 of 1982 and listed in the Colombo Stock Exchange. A licensed Commercial Bank under the Banking Act No 30 of 1988. Re-registered on 28th April 2008 under the Companies Act No 7 of 2007.

**COMPANY**  
Home About Us Contact Us Privacy Policy

**PROFILE RELATED**  
View Profile Update Profile Update History

**CUSTOMER RELATED**  
Transaction Loan Calculator Lease Calculator Complaint

© All Rights Reserved ©2018 | ITP-2018-MLB-G3-10. | Privacy Policy.



Figure 2-64 IM - Inventory Employee - Warehouse-Branch Tracking

Common Employee Inventory    +

localhost:8080/SampathBankWebPortal/RetriveRequestServlet

EmpHome CustomerHome MyProfile Myinbox SampathEmpWeb Sign Out Mr. xxx xxx

Employee Duties Leave Request Inquiry Salary Inquiry Skills Management Mailing System Profile Related

Enter any field name you want to search

Request ID	Head UserName	Branch	Item Name	Quantity Needed	Quantity Available	Approve Request	Disapprove Request
BB01	ATHEEQA	branch 01 city	Paper	100	400	<input type="button" value="Approve"/>	<input type="button" value="Disapprove"/>

**LEGAL FORM**  
A Public Limited Liability Company incorporated in Sri Lanka on 10th March 1986 under the Companies Act No 17 of 1982 and listed in the Colombo Stock Exchange. A licensed Commercial Bank under the Banking Act No 30 of 1988. Re-registered on 28th April 2008 under the Companies Act No 7 of 2007.

**COMPANY**  
Home About Us Contact Us Privacy Policy

**PROFILE RELATED**  
View Profile Update Profile Update History

**CUSTOMER RELATED**  
Transaction Loan Calculator Lease Calculator Complaint

© All Rights Reserved ©2018 | ITP-2018-MLB-G3-10. | Privacy Policy.

Figure 2-65 IM - Inventory Employee - Branch Request

HistoryID	Username	ItemID	Item Name	Action	Quantity	From Quantity	To Quantity	Date and Time
HH01	ATHEEQB	AA01	Paper	New	1000	0	1000	Wed 2018-10-03 at 12:07:37 PM IST
HH02	ATHEEQB	AA02	Computer	New	50	0	50	Wed 2018-10-03 at 12:09:53 PM IST
HH03	ATHEEQB	AA03	Passbook	New	500	0	500	Wed 2018-10-03 at 12:10:40 PM IST
HH04	ATHEEQB	AA04	Repairing Tools	New	50	0	50	Wed 2018-10-03 at 12:11:54 PM IST
					-1000	1000	0	Thu 2018-10-04 at 10:39:40

Figure 2-66 IM - Inventory Employee - Inventory Management History

Branch Item Id	Name	Quantity	Request Amount
AA01	Paper	600	<input type="button" value="-"/> <input type="text" value="10"/> <input type="button" value="+"/> <input type="button" value="Request"/>
AA02	Computer	0	<input type="button" value="-"/> <input type="text" value="10"/> <input type="button" value="+"/> <input type="button" value="Request"/>
AA03	Passbook	0	<input type="button" value="-"/> <input type="text" value="10"/> <input type="button" value="+"/> <input type="button" value="Request"/>
AA04	Repairing Tools	0	<input type="button" value="-"/> <input type="text" value="10"/> <input type="button" value="+"/> <input type="button" value="Request"/>

**LEGAL FORM**

A Public Limited Liability Company incorporated in Sri Lanka on 10th March 1986 under the Companies Act No 17 of 1982 and listed in the Colombo Stock Exchange. A licensed Commercial Bank under the Banking Act No 30 of 1988. Re-registered on 28th April 2008 under the Companies Act No 7 of 2007.

**COMPANY**

[Home](#)  
[About Us](#)  
[Contact Us](#)  
[Privacy Policy](#)

**PROFILE RELATED**

[View Profile](#)  
[Update Profile](#)  
[Update History](#)

**CUSTOMER RELATED**

[Transaction](#)  
[Loan Calculator](#)  
[Lease Calculator](#)  
[Complaint](#)

© All Rights Reserved @2016 | ITP-2016-MLB-Q3-10, | Privacy Policy.

Figure 2-67 IM - Branch Head - Request for New Item

**Generate History Reports**

Enter the file name :

Enter the History ID :

Enter the Username :

Enter the Item ID :

Enter the Item Item Name :

Select the Action :

Select the Month :

**Generate Overall Report**    **Generate Specific Report**

**Generate Item List Reports**

Enter the file name :  **Generate Overall Report**

**Generate Request Reports**

Enter the file name :  **Generate Overall Report**

**LEGAL FORM**  
A Public Limited Liability Company incorporated in Sri Lanka on 10th March 1986 under the Companies Act No 17 of 1982 and listed in the Colombo Stock Exchange. A licensed Commercial Bank under the Banking Act No 30 of 1968. Re-registered on 28th April 2008 under the Companies Act No 7 of 2007.

**COMPANY**  
[Home](#)  
[About Us](#)  
[Contact Us](#)  
[Privacy Policy](#)

**PROFILE RELATED**  
[View Profile](#)  
[Update Profile](#)  
[Update History](#)

**CUSTOMER RELATED**  
[Transaction](#)  
[Loan Calculator](#)  
[Lease Calculator](#)  
[Complaint](#)

All Rights Reserved ©2018 | ITP-2018-MLB-G3-10. | [Privacy Policy](#).

localhost:8080/SampathBankWebPortal/IM\_GenerateReports.jsp#

Windows Start button, Search bar, Taskbar icons for File Explorer, Edge, Google Chrome, Mail, and other system utilities.

Figure 2-68 IM - Inventory Employee - Generate Reports

The screenshot shows a web browser window with the URL [localhost:8080/SampathBankWebPortal/GetNewItemIDServlet](http://localhost:8080/SampathBankWebPortal/GetNewItemIDServlet). The page title is "Common Employee Inventory". The header includes links for "EmplHome", "CustomerHome", "MyProfile", "MyInbox", "SampathEmpWeb", "Sign Out", and a user placeholder "Mr. XXX XXX". The main content area is titled "SampathBank" with the text "සම්පත් බංකුව සම්පත් බංකි" and "SampathBank". Below this is a form for adding a new item:

Employee Duties	Leave Request Inquiry	Salary Inquiry	Skills Management	Mailing System	Profile Related
<p>Item ID : AA05</p> <p>Item Name : <input type="text"/></p> <p>Item Quantity : <input type="text"/></p> <p>Measurement : <input type="text"/></p> <p>Low Stock Level : <input type="text"/></p> <p>Description : <input type="text"/></p> <p>Upload Image : <input type="button" value="Choose File"/> No file chosen</p> <p><input type="button" value="Add New Item"/> <input type="button" value="Reset"/></p> <p><b>DEMO</b></p>					
<p><b>LEGAL FORM</b> A Public Limited Liability Company incorporated in Sri Lanka on 10th March 1986 under the Companies Act No 17 of 1982 and listed in the Colombo Stock Exchange. A licensed Commercial Bank under the Banking Act No 30 of 1968. Re-registered on 28th April 2008 under the Companies Act No 7 of 2007.</p>			<p><b>COMPANY</b> <a href="#">Home</a> <a href="#">About Us</a> <a href="#">Contact Us</a> <a href="#">Privacy Policy</a></p>	<p><b>PROFILE RELATED</b> <a href="#">View Profile</a> <a href="#">Update Profile</a> <a href="#">Update History</a></p>	<p><b>CUSTOMER RELATED</b> <a href="#">Transaction</a> <a href="#">Loan Calculator</a> <a href="#">Lease Calculator</a> <a href="#">Complaint</a></p>
<p>© All Rights Reserved ©2018   ITP-2018-MLB-G3-10;   <a href="#">Privacy Policy</a>.</p>					

The taskbar at the bottom shows various application icons including File Explorer, Edge, Google Chrome, and others.

Figure 2-69 IM - Inventory Employee Add New Item

Common Employee Inventory    +

localhost:8080/SampathBankWebPortal/individualItemServlet

EmpHome CustomerHome MyProfile Myinbox SampathEmpWeb Sign Out

සම්පත් බැංකුව  
සම්පත් බැංකුව  
SampathBank

Employee Duties Leave Request Inquiry Salary Inquiry Skills Management Mailing System Profile Related

Item ID : AA01  
 Item Name : Paper  
 Item Quantity : 400  
 Units : Bundle  
 Low Stock Level : 500  
 Description : About Paper



[Edit Item](#)

**LEGAL FORM**  
 A Public Limited Liability Company incorporated in Sri Lanka on 10th March 1986 under the Companies Act No 17 of 1982 and listed in the Colombo Stock Exchange. A licensed Commercial Bank under the Banking Act No 30 of 1988. Re-registered on 28th April 2008 under the Companies Act No 7 of 2007.

**COMPANY**  
[Home](#)  
[About Us](#)  
[Contact Us](#)  
[Privacy Policy](#)

**PROFILE RELATED**  
[View Profile](#)  
[Update Profile](#)  
[Update History](#)

**CUSTOMER RELATED**  
[Transaction](#)  
[Loan Calculator](#)  
[Lease Calculator](#)  
[Complaint](#)

© All Rights Reserved ©2018 | ITP-2018-MLB-G3-10. | [Privacy Policy](#).

Figure 2-70 IM - Inventory Employee - View Specific Item Details

Common Employee Inventory    +

localhost:8080/SampathBankWebPortal/IM\_EditIndividualItemInfoEmployee.jsp?

EmpHome CustomerHome MyProfile Myinbox SampathEmpWeb Sign Out

සම්පත් බැංකුව  
සම්පත් බැංකුව  
SampathBank

Employee Duties Leave Request Inquiry Salary Inquiry Skills Management Mailing System Profile Related

Item ID : AA01  
 Item Name : Paper  
 Item Quantity : 400  
 Measurement : Bundle  
 Low Stock Level : 500  
 Description : About Paper



[Delete Item](#)

[Update Item](#)

**LEGAL FORM**  
 A Public Limited Liability Company incorporated in Sri Lanka on 10th March 1986 under the Companies Act No 17 of 1982 and listed in the Colombo Stock Exchange. A licensed Commercial Bank under the Banking Act No 30 of 1988. Re-registered on 28th April 2008 under the Companies Act No 7 of 2007.

**COMPANY**  
[Home](#)  
[About Us](#)  
[Contact Us](#)  
[Privacy Policy](#)

**PROFILE RELATED**  
[View Profile](#)  
[Update Profile](#)  
[Update History](#)

**CUSTOMER RELATED**  
[Transaction](#)  
[Loan Calculator](#)  
[Lease Calculator](#)  
[Complaint](#)

© All Rights Reserved ©2018 | ITP-2018-MLB-G3-10. | [Privacy Policy](#).

Figure 2-71 IM - Inventory Employee - Update/Delete an Item

#### 2.2.4.4 Transaction Management

The screenshot shows the Sampath Web Portal interface. The main title is "Sampath Bank Transacions". On the left, there is a sidebar with various transaction-related links: Inter-Bank Transaction, Intra-Bank Transaction, Account Balance, Account History, Loan Calculator, Other Loan Related, Lease Calculator, Other Loan Related, Complaint Handling, Lodge History, and Chat Support. The main form area contains fields for Account No (303131313), Target Account No (Target Account No), Date (10/05/2018), and Amount (LKR/=). Below these fields are three buttons: Reset, Submit, and DEMO. At the bottom of the page, there are sections for Legal Form, Company, Profile Related, and Customer Related.

Figure 2-72 TM - Customer - Intrabank Transactions

The screenshot shows the Sampath Web Portal interface. The main title is "Other Bank Transacions". The sidebar on the left is identical to Figure 2-72. The main form area contains fields for Account No (303131313), Target Account No (Target Account No), Date (10/05/2018), and Amount (LKR/=). Below these fields are three buttons: Reset, Submit, and DEMO. At the bottom of the page, there are sections for Company, Profile Related, and Customer Related.

Figure 2-73 TM - Customer - Interbank Transactions

Transact Details

localhost:8080/SampathBankWebPortal/transactionServlet

**Your Transaction Details**

Account No	:	303131313
Target Account No	:	202121212
Date	:	2018-10-05
Amount	:	1000.0

**Confirm**

**LEGAL FORM**  
A Public Limited Liability Company incorporated in Sri Lanka on 10th March 1986 under the Companies Act No 17 of 1982 and listed in the Colombo Stock Exchange. A licensed Commercial Bank under the Banking Act No 30 of 1988. Re-registered on 28th April 2006 under the Companies Act No 7 of 2007.

**COMPANY**  
[Home](#)  
[About Us](#)  
[Contact Us](#)  
[Privacy Policy](#)

**PROFILE RELATED**  
[View Profile](#)  
[Update Profile](#)  
[View History](#)

**CUSTOMER RELATED**  
[Transaction](#)  
[Loan Calculator](#)  
[Lease Calculator](#)  
[Complaint](#)

All Rights Reserved ©2018 | TP-2018-MLB-G3-10. | [Privacy Policy](#)

localhost:8080/SampathBankWebPortal/transactionServlet#



Figure 2-74 TM - Customer - Confirming the Transaction

Transact Details X +

localhost:8080/SampathBankWebPortal/searchServlet

Customer Home Sampath Web Portal Sign Out  
  
 Mr. XXXXX

[Home](#) [About Us](#) [Contact Us](#) [Careers](#) [News](#) [Branch Network](#)

[Transaction](#)  
[Inter-Bank Transaction](#)  
[Intra-Bank Transaction](#)  
[Account Balance](#)  
[Account History](#)  
[Loan Calculator](#)  
[Other Loan Related](#)  
[Lease Calculator](#)  
[Other Loan Related](#)  
[Complaint Handling](#)  
[Lodge History](#)  
[Chat Support](#)

## Transaction History

Enter Account No

Search

### Sampath Transactions

Transactions Made

Transaction ID	Date	Amount
3	2018-10-02	1000.0
4	2018-10-02	100000.0
5	2018-10-02	5000.0
6	2018-10-02	100000.0
7	2018-10-04	1000.0
8	2018-10-04	100000.0
9	2018-10-04	1000.0
10	2018-10-05	1000.0

Transactions Received

Transaction ID	Date	Amount
1	2018-10-04	1000.0
2	2018-10-04	100000.0
3	2018-10-05	1000.0

### Other Bank Transactions

Transactions Made

Transaction ID	Date	Amount
1	2018-10-04	1000.0
2	2018-10-04	100000.0
3	2018-10-05	1000.0

Transactions Received

Transaction ID	Date	Amount
1	2018-10-04	1000.0
2	2018-10-04	100000.0
3	2018-10-05	1000.0

**LEGAL FORM**  

A Public Limited Liability Company incorporated in Sri Lanka on 10th March 1986 under the Companies Act No 17 of 1982 and listed in the Colombo Stock Exchange. A licensed Commercial Bank under the Banking Act No 30 of 1988. Re-registered on 28th April 2008 under the Companies Act No 7 of 2007.

COMPANY

[Home](#)  
[About Us](#)  
[Contact Us](#)  
[Privacy Policy](#)

PROFILE RELATED

[View Profile](#)  
[Update Profile](#)  
[View History](#)

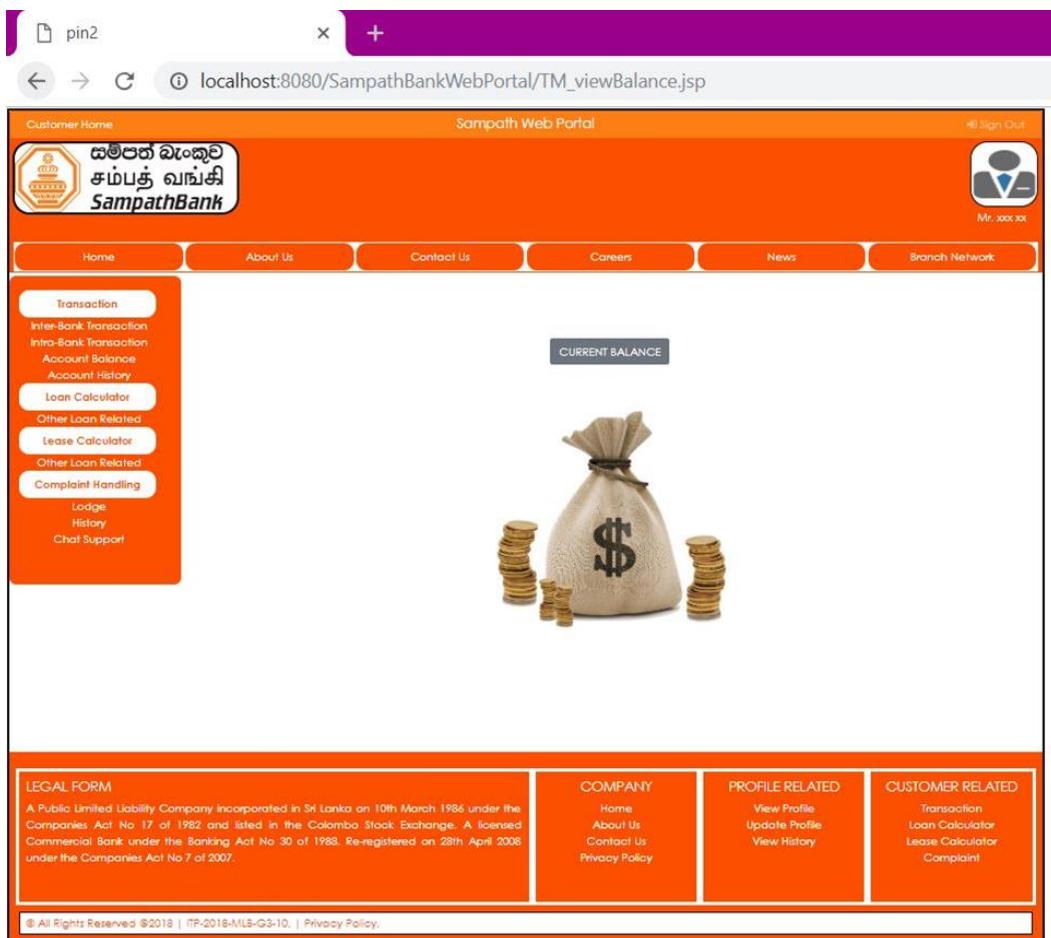
CUSTOMER RELATED

[Transaction](#)  
[Loan Calculator](#)  
[Lease Calculator](#)  
[Complaint](#)

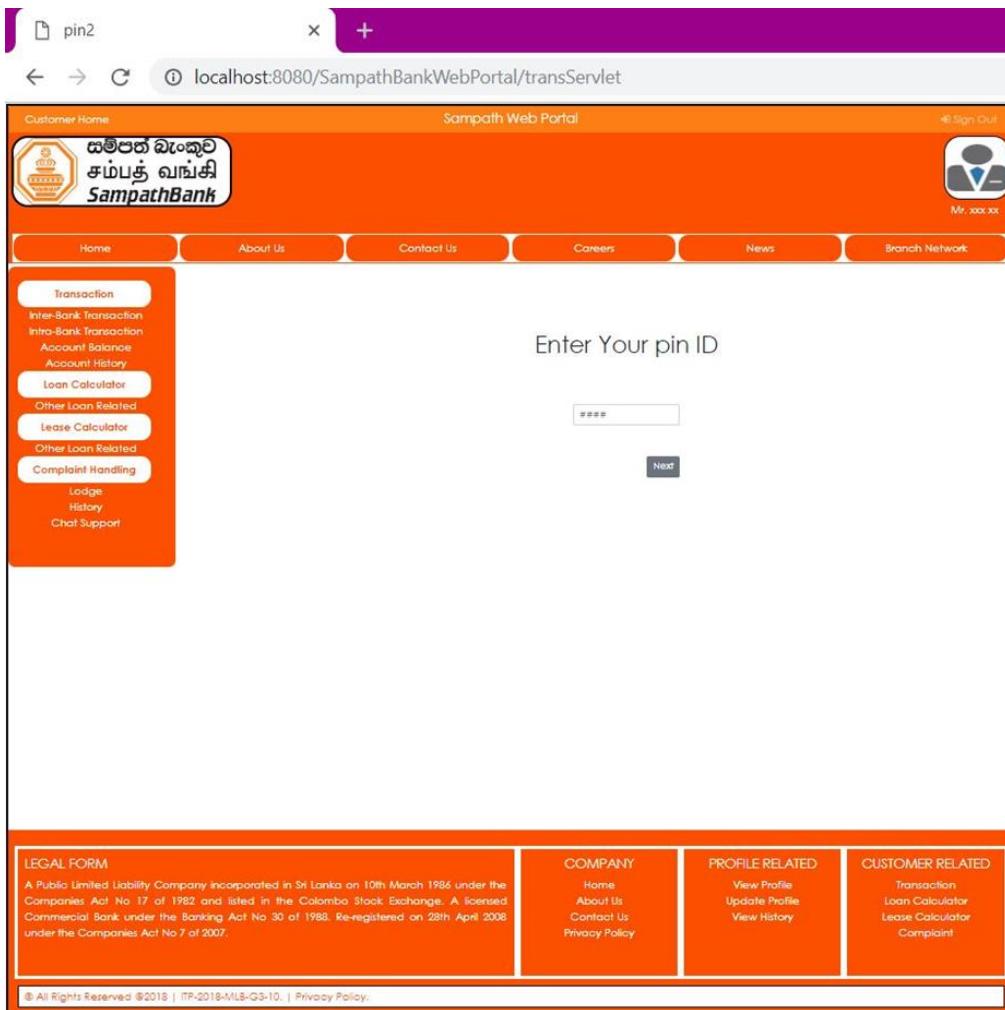
© All Rights Reserved. ©2018. ITP-2018-MLB-Q3-10. | Privacy Policy.  
 localhost:8080/SampathBankWebPortal/searchServlet#

Type here to search

Figure 2-75 TM - Customer - Transaction History



**Figure 2-76 TM - Customer - Requesting to Display Account Balance**



**Figure 2-77 TM - Customer - Entering Security Pin**

The screenshot shows the Sampath Web Portal's account balance page. At the top, there is a navigation bar with links for Home, About Us, Contact Us, Careers, News, and Branch Network. On the left, a sidebar titled "Transaction" lists options like Inter-Bank Transaction, Intra-Bank Transaction, Account Balance, Account History, Loan Calculator, Other Loan Related, Lease Calculator, Other Loan Related, Complaint Handling, Lodge History, and Chat Support. The main content area is titled "Your Account Balance" and displays a table with one row: Account No. 303131313 and Balance Amount 489000.0. At the bottom, there are sections for Legal Form, Company, Profile Related, and Customer Related links.

Figure 2-78 TM - Customer - Display Account Balance

The screenshot shows the Sampath Transactions page. The top navigation bar includes links for EmpHome, CustomerHome, MyProfile, MyInbox, SampathEmpWeb, Sign Out, and a placeholder for "Mr. xxx xxx". Below the header, there is a sidebar with links for Employee Duties, Leave Request Inquiry, Salary Inquiry, Skills Management, Mailing System, and Profile Related. The main content area is titled "Sampath Transactions" and displays a table of pending transactions:

Transaction ID	Debit Account	Credit Account	Date	Amount	Status	Approve
11	303131313	202121212	2018-10-05	100000.0	pending	<button>Approve</button>
12	303131313	202121212	2018-10-05	100000.0	pending	<button>Approve</button>

At the bottom, there are sections for Legal Form, Company, Profile Related, and Customer Related links, along with a copyright notice.

Figure 2-79 TM - Transaction Manager - Display Pending Transactions

Common Employee Inventory    X    +

localhost:8080/SampathBankWebPortal/showAllTransactDetailsServlet

[EmpHome](#) [CustomerHome](#) [MyProfile](#) [MyInbox](#) [SampathEmpWeb](#) [Sign Out](#)

 சம்பத் வங்கி  
SampathBank

Employee Duties Leave Request Inquiry Salary Inquiry Skills Management Mailing System Profile Related

### Sampath Transactions

Transactions Made

Transaction ID	Debit Account	Credit Account	Date	Amount	Status
3	303131313	202121212	2018-10-02	1000.0	approved
4	303131313	202121212	2018-10-02	100000.0	approved
5	303131313	202121212	2018-10-02	5000.0	approved
6	303131313	202121212	2018-10-02	100000.0	approved
7	303131313	202121212	2018-10-04	1000.0	approved
8	303131313	202121212	2018-10-04	100000.0	approved
9	303131313	202121212	2018-10-04	1000.0	approved
10	303131313	202121212	2018-10-05	1000.0	approved

### Other Bank Transactions

Transactions Made

Transaction ID	Debit Account	Credit Account	Date	Amount	Status
1	303131313	202121212	2018-10-04	1000.0	approved
2	303131313	202121212	2018-10-04	100000.0	approved
3	303131313	202121212	2018-10-05	1000.0	approved

LEGAL FORM COMPANY PROFILE RELATED CUSTOMER RELATED

Type here to search

Figure 2-80 TM - Transaction Manager - Display All the transactions

The screenshot shows a web application interface for generating transaction history reports. At the top, there are navigation links: EmpHome, CustomerHome, MyProfile, MyInbox, SampathEmpWeb, and Sign Out. Below the header is the SampathBank logo with Sinhala and English text. A user profile icon and the name 'Mr. xxx xxx' are also present.

The main content area has tabs for Employee Duties, Leave Request Inquiry, Salary Inquiry, Skills Management, Mailing System, and Profile Related. The current tab is 'Employee Duties'. Below the tabs is a form titled 'Generate Transaction History Report' with the following fields:

- Enter the File name :
- Enter Transaction ID :
- Enter Source Account :
- Enter Target Account :
- Enter Amount :
- Enter Month :
- Select Status :

At the bottom of the form are two buttons: 'Generate Overall Report' and 'Generate Specific Report'.

At the bottom of the page, there are four sections: 'LEGAL FORM' (with text about the bank's incorporation), 'COMPANY' (links to Home, About Us, Contact Us, Privacy Policy), 'PROFILE RELATED' (links to View Profile, Update Profile, Update History), and 'CUSTOMER RELATED' (links to Transaction, Loan Calculator, Lease Calculator, Complaint). A footer note says 'All Rights Reserved ©2018 | ITP-2018-MLB-G3-10. | Privacy Policy.'



Figure 2-81 TM - Transaction Manager- Generate Transaction Reports

#### 2.2.4.5 Loan Calculator

The screenshot shows a web browser window with the URL [localhost:8080/LoanCalculator/LM\\_LoanOverviw.html](http://localhost:8080/LoanCalculator/LM_LoanOverviw.html). The page is titled "Sampath Web Portal". The left sidebar contains navigation links for "Customer Home", "Home", "Transaction", "Loan Calculator", "For Admin Sign In", "For Admin Register", "For Loan Over View", "Leave Calculator", "Other Loan Related", and "Complaint Handling". The main content area features a large image of a laptop displaying a stack of money, with the text "Why an Online Platform for Personal Loans ?" above it. Below this, there are three sections: "Home Loan", "Vehicle Loan", and "Personal Loan", each with a "READ MORE" button. At the bottom, there are legal and company-related links.

**Sampath Web Portal**

Customer Home | Home | Transaction | **Loan Calculator** | For Admin Sign In | For Admin Register | For Loan Over View | Leave Calculator | Other Loan Related | Complaint Handling

Why an Online Platform for Personal Loans ?

**Home Loan**  
You can now put a full stop to the hassles of getting loans and make your dream home a reality. You can apply for a Housing Loan from Sampath Bank even if you are 55 years old and settle on a repayment schema which suits your income.

**Vehicle Loan**  
You can now put a full stop to the hassles of getting Vehicle loans and make your dream home a reality. You can apply for a Vehicle Loan from Sampath Bank even if you are 55 years old and settle on a repayment schema which suits your income.

**Personal Loan**  
You can now put a full stop to the hassles of getting Personal loans and make your dream home a reality. You can apply for a Personal Loan from Sampath Bank even if you are 55 years old and settle on a repayment schema which suits your income.

**LEGAL FORM**  
A Public Limited Liability Company incorporated in Sri Lanka on 10th March 1954 under the Companies Act No 17 of 1952 and listed in the Colombo Stock Exchange. A Licensed Commercial Bank under the Banking Act No 30 of 1988. Regd.

**COMPANY**  
Home | About Us | Contact Us

**PROFILE RELATED**  
View Profile | Update Profile | View History

**CUSTOMER RELATED**  
Transaction | **Loan Calculator** | Leave Calculator | Complaint

localhost:8080/LoanCalculator/LM\_LoanOverviw.html#

Figure 2-82 LC – Loan Calculator-For Loan Overview

Hello, world!

localhost:8080/LoanCalculator/LM\_LoanHome.jsp

**Customer Home** Sampath Web Portal **Sign Up** **Login** Mr. xxooxxoo

கனிப்பத் தொழில்  
சம்பத் வங்கி  
**SampathBank**

Home About Us Contact Us Careers News Branch Network

**Transaction**  
Inter-Bank Transaction  
Intra-Bank Transaction  
Account Balance  
Account History  
**Loan Calculator**  
For Admin Sign IN  
For Admin Register  
For Loan Over View  
Lease Calculator  
Other Loan Related  
Complaint Handling  
Lodge History  
Chat Support

**Home Loan**  
You can now put a full stop to the hassle of getting housing loans and make your dream home a reality.

**Home Loan**  
Whether you're remodeling your vehicle or buying a new one, Comerica home loan solutions<sup>1</sup> are designed with the flexibility needed to meet your needs.

**Search** Please Enter Correct Loan Type(HomeLoan) **SEARCH**

#	Loan Id	Loan Type	Loan Rate
No Record Found...			

Type here to search

Figure 2-83 LC – Loan Calculator-For Loan Overview-home loan

Hello, world!

localhost:8080/LoanCalculator/LM\_LoanVehicle.jsp

**Customer Home** Sampath Web Portal **Sign Up** **Login** Mr. xxooxxoo

கனிப்பத் தொழில்  
சம்பத் வங்கி  
**SampathBank**

Home About Us Contact Us Careers News Branch Network

**Transaction**  
Inter-Bank Transaction  
Intra-Bank Transaction  
Account Balance  
Account History  
**Loan Calculator**  
For Admin Sign IN  
For Admin Register  
For Loan Over View  
Lease Calculator  
Other Loan Related  
Complaint Handling  
Lodge History  
Chat Support

**Vehicle Loan**  
You can now put a full stop to the hassle of getting housing loans and make your dream home a reality.

**Vehicle Loan**  
Whether you're remodeling your vehicle or buying a new one, Comerica home loan solutions<sup>1</sup> are designed with the flexibility needed to meet your needs.

**Search** Enter Loan type **SEARCH**

#	Loan Id	Loan Type	Loan Rate
No Record Found...			

Type here to search

Figure 2-84 LC – Loan Calculator-For Loan Overview- vehicle loan

**personal Loan**

You can now put a full stop to the hassle of getting housing loans and make your dream home a reality.

**personal Loan**

Whether you're remodeling your vehicle or buying a new one, Comerica home loan solutions<sup>1</sup> are designed with the flexibility needed to meet your needs.

Search | Enter Loan type | SEARCH

#	Loan Id	Loan Type	Loan Rate
No Record Found...			

Figure 2-85 LC – Loan Calculator-For Loan Overview-Personal loan

**Loan Calculator**

Choose your plan and calculate installment for a Loan!

Loan Type : Choose Loan type ▼

Loan Amount : 7000

Loan Term : 1 Years ▼

Interest Rate % : 4.9 %

CALCULATE

Figure 2-86 LC – Loan Calculator- Loan Calculator

**Customer Home**

Sampath Web Portal

Sign Up | Login

Mr. xxxxxx

**Loan Details**

Loan Name : null

Total Loan Amount : Rs. 7000.0

Loan Term : 1 years

Monthly Installment will be : Rs.598.0

Annual Installment will be : Rs. 7157.0

**LEGAL FORM**

A Public Limited Liability Company incorporated in Sri Lanka on 10th March 1986 under the Companies Act No 17 of 1982 and listed in the Colombo Stock Exchange. A licensed Commercial Bank under the Banking Act No 30 of 1988. Re-registered on 28th April 2008 under the Companies Act No 7 of 2007.

**COMPANY**

Home | About Us | Contact Us | Privacy Policy

**PROFILE RELATED**

View Profile | Update Profile | View History

**CUSTOMER RELATED**

Transaction | Loan Calculator | Lease Calculator | Complaint

All Rights Reserved ©2018 | ITP-2018-MLB-G3-10 | Privacy Policy

Figure 2-87 LC – Loan Calculator- Loan Calculator-Loan Details

Hello, world!

localhost:8080/LoanCalculator/loginServlet

**Customer Home**

Sampath Web Portal

Sign Up | Login

Mr. xxxxxx

**Transaction**

Inter-Bank Transaction | Intra-Bank Transaction | Account Balance | Account History

**Loan Calculator**

For Admin Sign In | For Admin Register | For Loan Over View

**Lease Calculator**

Other Loan Related

**Complaint Handling**

Lodge | History | Chat Support

**Search** **Enter Loan type** **Search**

**Add New Loan**

**LEGAL FORM**

A Public Limited Liability Company incorporated in Sri Lanka on 10th March 1986 under the Companies Act No 17 of 1982 and listed in the Colombo Stock Exchange. A licensed Commercial Bank under the Banking Act No 30 of 1988. Re-registered on 28th April 2008 under the Companies Act No 7 of 2007.

**COMPANY**

Home | About Us | Contact Us | Privacy Policy

**PROFILE RELATED**

View Profile | Update Profile | View History

**CUSTOMER RELATED**

Transaction | Loan Calculator | Lease Calculator | Complaint

All Rights Reserved ©2018 | ITP-2018-MLB-G3-10 | Privacy Policy

Figure 2-88 LC – Loan Calculator- For Admin Sign in-Create & Search loan

The screenshot shows the Sampath Web Portal interface. At the top, there are links for 'Customer Home', 'Sampath Web Portal', 'Sign Up', 'Login', and a user profile icon labeled 'Mr. xxx xxx'. The main menu includes 'Home', 'About Us', 'Contact Us', 'Careers', 'News', and 'Branch Network'. On the left, a sidebar under 'Transaction' lists: 'Inter-Bank Transaction', 'Intra-Bank Transaction', 'Account Balance', 'Account History', 'Loan Calculator' (which is highlighted in orange), 'For Admin Sign IN', 'For Admin Register', 'For Loan Over View', 'Lease Calculator', 'Other Loan Related', 'Complaint Handling', 'Lodge History', and 'Chat Support'. The central area features a form with fields for 'Loan Type' and 'Loan Rate', and a button 'Create a Loan'. Below this is a 'LEGAL FORM' section containing the bank's incorporation details. To the right are links for 'COMPANY', 'PROFILE RELATED', and 'CUSTOMER RELATED' sections.

Figure 2-89 LC – Loan Calculator- For Admin Sign in- Create & Search loan -Create loan

This screenshot shows the same Sampath Web Portal interface as Figure 2-89, but the central area displays a search results table for loans. The table has columns for '#', 'Loan Id', 'Loan Type', and 'Loan Rate'. Each row contains a 'Search' button, an 'Enter Loan type' input field, and a 'Search' button. Below the table are four rows of loan data with 'update' and 'Delete' buttons:

#	Loan Id	Loan Type	Loan Rate	update	Delete
63	home loan	5.6		<a href="#">update</a>	<a href="#">Delete</a>
64	personal Loan	4.3		<a href="#">update</a>	<a href="#">Delete</a>
67	Home loan feb	4		<a href="#">update</a>	<a href="#">Delete</a>
70				<a href="#">update</a>	<a href="#">Delete</a>

At the bottom of the page, there is a 'LEGAL FORM' section with the URL 'localhost:8080/LoanCalculator/SearchServlet#', and links for 'COMPANY', 'PROFILE RELATED', and 'CUSTOMER RELATED' sections.

Figure 2-90 LC – Loan Calculator- For Admin Sign in- Create & Search loan -Search loan update delete

Customer Home Sampath Web Portal Sign Up Login

SampathBank

Transaction

- Inter-Bank Transaction
- Intra-Bank Transaction
- Account Balance
- Account History
- Loan Calculator
- For Admin Sign IN
- For Admin Register
- For Loan Over View
- Lease Calculator
- Other Loan Related
- Complaint Handling
- Lodge History Chat Support

Update Loan

Loan ID	63
Loan Type	home loan
Loan Rate	5.6

Update

**LEGAL FORM**  
A Public Limited Liability Company incorporated in Sri Lanka on 10th March 1986 under the Companies Act No 17 of 1982 and listed in the Colombo Stock Exchange. A licensed Commercial Bank under the Banking Act No 30 of 1988. Re-registered on 28th April 2008 under the Companies Act No 7 of 2007.

**COMPANY**

- Home
- About Us
- Contact Us
- Privacy Policy

**PROFILE RELATED**

- View Profile
- Update Profile
- View History

**CUSTOMER RELATED**

- Transaction
- Loan Calculator
- Lease Calculator
- Complaint

Figure 2-91 LC – Loan Calculator- For Admin Sign in- Create & Search loan - Search loan update delete -Update loan

GeneratedReports/LoanDetails.pdf

Loan MAnagement System Calculation Details

LoanID	LoanType	LoanRate
63	home loan	5.6
64	personal Loan	4.3
67	Home loan feb	4
70		

Figure 2-92 LC – Loan Calculator- For Admin Sign in-Create & Search loan - Update loan – report generate

#### 2.2.4.6 Lease Calculator

The screenshot shows a web browser window titled "Lease Calculator Home". The URL in the address bar is "localhost:8080/Lease\_Calculator/LEC\_LeaseCalHomeEmployee.jsp". The page has a header with the text "SampathEmpWeb" and a logo for "SampathBank" featuring a traditional oil lamp and the text "සම්පත් බැංකුව සම්පත් බැංකුව". On the right side of the header is a user profile icon and the text "Mr. xxx xxx". Below the header is a navigation menu with links: "Employee Duties", "Leave Request Inquiry", "Salary Inquiry", "Skills Management", "Mailing System", "Profile Related", "Lease Calculator" (which is highlighted in blue), "Manage Customers", and "Reports". A "Demo" button is also present. At the bottom left, there is a footer with the text "© All Rights Reserved @2018 | ITP-2018-MLB-G3-10. | Privacy Policy.". The bottom right corner shows the Windows taskbar with various pinned icons and the system tray.

Figure 2-93 Lease Cal - Home Page

**Figure 2-94 Lease Cal - Lease Calculator**

New Tab X Normal Lease Calculator Employee +

localhost:8080/Lease\_Calculator/LeaseCalcHomeEmp

EmpHome CustomerHome MyProfile MyInbox SampathEmpWeb Sign Up Login

## Normal Calculator

### Facility Details

Selling Price (with VAT)	<input type="text" value="900000"/>
Effective Rate	<input type="text" value="10.5"/> %
VAT on Capital	<input type="text" value="0.00%"/> %
VAT on Installment	<input type="text" value="0.00%"/> %
Period	<input type="text" value="45"/>
Normal Monthly Rental	22100.00
Lease A/C Number	<input type="text" value="321654987321"/>
Lease A/C Opened Date	<input type="text" value="12/09/2018"/>
<input type="button" value="Reset"/>	
<input type="button" value="Add Customer"/>	

Figure 2-95 Lease Cal - main calculator

The screenshot shows a web browser window with the title 'Normal Lease Calculator Employee'. The URL is 'localhost:10005/lease\_calculator/leaseCalHomeEmp'. The page has an orange header bar with tabs for 'EmpHome', 'Communications', 'MyProfile', and 'MyTasks'. The main content area contains two columns: 'No. of Rentals' and 'Rental Amount', each with a series of input fields. At the bottom, there are 'Remaining rentals' and 'Remaining amount' labels. A footer navigation bar includes links for 'LEGAL FORM', 'COMPANY PROFILE', 'PROFILE RELATED', 'CUSTOMER RELATED', and search functions.

**Figure 2-96 Lease Cal - secondary calculator**

**Customer Registration**

Account Number	321654987321
Date	2018-10-16
Sell Price	900000
Effective Rate	10.5
Period	45
Monthly Rate	22100.0

**Save** **Back**

**LEGAL FORM**  
 A Public Limited Utility Company Incorporated in Sri Lanka on 10th March 1986 under the Companies Act No 17 of 1982 and listed in the Colombo Stock Exchange. A licensed Commercial Bank under the Banking Act No 30 of 1988. Re-registered on 28th April 2008 under the Companies Act No 7 of 2007.

**COMPANY**  
[Home](#)  
[About Us](#)  
[Contact Us](#)  
[Privacy Policy](#)

**PROFILE RELATED**  
[View Profile](#)  
[Update Profile](#)  
[Update History](#)

**CUSTOMER RELATED**  
[Transaction](#)  
[Loan Calculator](#)  
[Leave Calculator](#)  
[Complaint](#)

Figure 2-97 Lease Cal - Add a record

**View Lease Cal**

A/C Number	A/C Open Date	Selling Price	Effective Rate	Period	Monthly Rate		
111111111111	2018-10-21	1.0	1.0	1	1.01	<a href="#">View</a>	<a href="#">Delete</a>
222222222222	2018-09-30	2.0	2.0	2	1.02	<a href="#">View</a>	<a href="#">Delete</a>
333333333333	2018-09-09	3.0	3.0	3	1.03	<a href="#">View</a>	<a href="#">Delete</a>

**Back**

**LEGAL FORM**  
 A Public Limited Utility Company Incorporated in Sri Lanka on 10th March 1986 under the Companies Act No 17 of 1982 and listed in the Colombo Stock Exchange. A licensed Commercial Bank under the Banking Act No 30 of 1988. Re-registered on 28th April 2008 under the Companies Act No 7 of 2007.

**COMPANY**  
[Home](#)  
[About Us](#)  
[Contact Us](#)  
[Privacy Policy](#)

**PROFILE RELATED**  
[View Profile](#)  
[Update Profile](#)  
[Update History](#)

**CUSTOMER RELATED**  
[Transaction](#)  
[Loan Calculator](#)  
[Leave Calculator](#)  
[Complaint](#)

© All Rights Reserved ©2018 | IP-2018-VLS-O3-10 | Privacy Policy

Figure 2-98 Lease Cal - View & delete records

Employee Duties    Leave Request Inquiry    Salary Inquiry    Skills Management    Mailing System    Profile Related

A/C No	1111111111
A/C Open Date	2018-10-21
Selling Price	1.0
Effective Rate	1.0
Period	1
Monthly Rate	1.01

[Update](#) [Back](#)

**LEGAL FORM**

A Public Limited Liability Company incorporated in Sri Lanka on 10th March 1986 under the Companies Act No 17 of 1982 and listed in the Colombo Stock Exchange. A licensed Commercial Bank under the Banking Act No 30 of 1988. Re-registered on 28th April 2008 under the Companies Act No 7 of 2007.

**COMPANY**

[Home](#)  
[About Us](#)  
[Contact Us](#)  
[Privacy Policy](#)

**PROFILE RELATED**

[View Profile](#)  
[Update Profile](#)  
[Update History](#)

**CUSTOMER RELATED**

[Transaction](#)  
[Loan Calculator](#)  
[Lease Calculator](#)  
[Complaint](#)

© All Rights Reserved ©2018 | ITP-2018-MLB-G3-10. | [Privacy Policy](#).

Employee Duties    Leave Request Inquiry    Salary Inquiry    Skills Management    Mailing System    Profile Related

[Generate Report](#)

[Back](#)

**LEGAL FORM**

A Public Limited Liability Company incorporated in Sri Lanka on 10th March 1986 under the Companies Act No 17 of 1982 and listed in the Colombo Stock Exchange. A licensed Commercial Bank under the Banking Act No 30 of 1988. Re-registered on 28th April 2008 under the Companies Act No 7 of 2007.

**COMPANY**

[Home](#)  
[About Us](#)  
[Contact Us](#)  
[Privacy Policy](#)

**PROFILE RELATED**

[View Profile](#)  
[Update Profile](#)  
[Update History](#)

**CUSTOMER RELATED**

[Transaction](#)  
[Loan Calculator](#)  
[Lease Calculator](#)  
[Complaint](#)

© All Rights Reserved ©2018 | ITP-2018-MLB-G3-10. | [Privacy Policy](#).



Figure 2-100 Lease Cal - Generate Reports

The screenshot shows a Microsoft Edge browser window with the title bar "IEP\_Final\_Document.pdf" and "Inserted Customers.pdf". The address bar shows the URL "file:///D:/CambridgeReports/Inserts/IEP/20/Customers.pdf". The main content area displays a report titled "New Leases Applied By Customers" with a table of data.

HistoryID	Account number	Account Date	Sell Price	Effective Rate	Period	Monthly Rental
4	111111111111	2018-10-21	1.0	1.0	1	1.01
5	222222222222	2018-09-30	2.0	2.0	2	1.02
6	333333333333	2018-10-15	3.0	3.0	3	1.03
7	444444444444	2018-09-30	4.0	4.0	4	1.04
8	333333333333	2018-09-09	3.0	3.0	3	1.03
9	321654967321	2012-11-07	900000.0	10.5	45	22100.0

Figure 2-101 Lease Cal - Report demo

#### 2.2.4.7 Fault & Complaint Management

Customer Home      Sampath Web Portal      Sign Up      Login  
 SampathBank

Home      About Us      Contact Us      Careers      News      Branch Network

**Transaction**

- Inter-Bank Transaction
- Intra-Bank Transaction
- Account Balance
- Account History

**Loan Calculator**

**Other Loan Related**

**Lease Calculator**

**Other Loan Related**

**Complaint Handling**

- Lodge History
- Chat Support

**LEGAL FORM**

A Public Limited Liability Company incorporated in Sri Lanka on 10th March 1986 under the Companies Act No 17 of 1982 and listed in the Colombo Stock Exchange. A licensed Commercial Bank under the Banking Act No 30 of 1988. Re-registered on 28th April 2008 under the Companies Act No 7 of 2007.

**COMPANY**

- Home
- About Us
- Contact Us
- Privacy Policy

**PROFILE RELATED**

- View Profile
- Update Profile
- View History

**CUSTOMER RELATED**

- Transaction
- Loan Calculator
- Lease Calculator
- Complaint

All Rights Reserved ©2018 | ITP-2018-MLB-G3-10 | Privacy Policy

Figure 2-102 FM - Lodge a Complaint

Hello, world!      localhost:8080/Fault\_management/Delete\_Servlet      Sign Up      Login

EmplHome      CustomerHome      MyProfile      MyInbox      SampathEmpWeb

SampathBank

Employee Duties      Leave Request Inquiry      Salary Inquiry      Skills Management      Mailing System      Profile Related

**Complaint History**

View All the Details.

Ref_ID	User_Name	Type	Date	Time	complaint	Status
1	Thushadi	Credit Card	2018-09-17	03:00	card is not working	New
2	Thushadi	Account Details	2018-10-31	00:00	Balance is wrong	New
3	Thushadi	Debit Card	2018-10-04	16:00	Balance is incorrect	New
4	Thushadi	want to change password	2018-10-09	06:00	Password is not working	New

Figure 2-103 FM - Complaint History

SampathEmpWeb

Sign Up Login

Mr. xxx xxx

Ref_ID	User_Name	Type	Date	Time	complaint	Status
1	Thushadi	Credit Card	2018-09-17	03:00	Card is not working	New
2	Thulshi	Debit Card	2018-09-20	00:00	Balance is incorrect	New
3	Atheeq	Credit Card	2018-10-24	05:00	Balance is wrong	New
4	Keshi	Credit Card	2018-10-26	14:00	card is not working	New
5	Thushadi	Debit Card	2018-10-04	16:00	Balance is incorrect	New

Delete Complaint

Ref\_ID :

Figure 2-104 FM - Delete Complaint

SampathEmpWeb

Sign Up Login

Mr. xxx xxx

Ref_ID	User_Name	Type	Date	Time	complaint	Status
1	Thushadi	Credit Card	2018-09-17	03:00	Card is not working	New
2	Thulshi	Debit Card	2018-09-20	00:00	Balance is incorrect	New
3	Atheeq	Credit Card	2018-10-24	05:00	Balance is wrong	New
4	Keshi	Credit Card	2018-10-26	14:00	card is not working	New
5	Thushadi	Debit Card	2018-10-04	16:00	Balance is incorrect	New

Status Update

Ref\_ID :

Status :

Figure 2-105 FM - Status Update

**Complaint history**

Ref_ID	User_Name	Type	Date	Time	complaint	Status
1	Thushadi	Credit Card	2018-09-17	03:00	Card is not working	New
3	Atheeq	Credit Card	2018-10-24	05:00	Balance is wrong	New
4	Keshi	Credit Card	2018-10-26	14:00	card is not working	New

**LEGAL FORM**  
A Public Limited Liability Company incorporated in Sri Lanka on 10th March 1986 under the Companies Act No 17 of 1982 and listed in the Colombo Stock Exchange. A licensed Commercial Bank under the Banking Act No 30 of 1988. Re-registered on 28th April 2008 under the Companies Act No 7 of 2007.

**COMPANY**  
[Home](#)  
[About Us](#)  
[Contact Us](#)  
[Privacy Policy](#)

**PROFILE RELATED**  
[View Profile](#)  
[Update Profile](#)  
[Update History](#)

**CUSTOMER RELATED**  
[Transaction](#)  
[Loan Calculator](#)  
[Lease Calculator](#)  
[Complaint](#)

Figure 2-106 FM - Categorize Complaint

**Generate Reports**

Complaint type :

**LEGAL FORM**  
A Public Limited Liability Company incorporated in Sri Lanka on 10th March 1986 under the Companies Act No 17 of 1982 and listed in the Colombo Stock Exchange. A licensed Commercial Bank under the Banking Act No 30 of 1988. Re-registered on 28th April 2008 under the Companies Act No 7 of 2007.

**COMPANY**  
[Home](#)  
[About Us](#)  
[Contact Us](#)  
[Privacy Policy](#)

**PROFILE RELATED**  
[View Profile](#)  
[Update Profile](#)  
[Update History](#)

**CUSTOMER RELATED**  
[Transaction](#)  
[Loan Calculator](#)  
[Lease Calculator](#)  
[Complaint](#)

Figure 2-107 FM - Generate Report

Sample.pdf

file:///D:/GenerateReports/Sample.pdf

1 of 1

## Full History in complaint Management System

Ref_ID	User_Name	Type	Day	Time	Complaint	Status
1	Thushadi	Credit Card	2018-09-17	03:00	Card is not working	New
2	Thulshi	Debit Card	2018-09-20	00:00	Balance is incorrect	Completed
3	Atheeq	Credit Card	2018-10-24	05:00	Balance is wrong	New
4	Keshi	Credit Card	2018-10-26	14:00	card is not working	New
5	Thushadi	Debit Card	2018-10-04	16:00	Balance is incorrect	Inprogress

Figure 2-108 FM - Complaint report (non-parameterize)

Sample2.pdf

file:///D:/GenerateReports/Sample2.pdf

## History of Specific type in complaint Management System

Ref_ID	User_Name	Type	Day	Time	Complaint	Status
1	Thushadi	Credit Card	2018-09-17	03:00	Card is not working	New
3	Atheeq	Credit Card	2018-10-24	05:00	Balance is wrong	New
4	Keshi	Credit Card	2018-10-26	14:00	card is not working	New

Figure 2-109 FM - Complaint report (Parameterize)

#### 2.2.4.8 Procurement Management

**Add Supplier**

Supplier Name	<input type="text" value="Enter supplier Name"/>
Address	<input type="text" value="Enter Address"/>
Phone	<input type="text" value="0xxxxxxxxx"/>
Email	<input type="text" value="someoneis@some.com"/>
<input type="button" value="reset"/> <input type="button" value="Add"/>	

**LEGAL FORM**  
A Public Limited Liability Company incorporated in Sri Lanka on 10th March 1986 under the Companies Act No 17 of 1982 and listed in the Colombo Stock Exchange. A licensed Commercial Bank under the Banking Act No 30 of 1988. Re-registered on 28th April 2008 under the Companies Act No 7 of 2007.

**COMPANY**  
[Home](#) [About Us](#) [Contact Us](#) [Privacy Policy](#)

**PROFILE RELATED**  
[View Profile](#) [Update Profile](#) [Update History](#)

**CUSTOMER RELATED**  
[Transaction](#) [Loan Calculator](#) [Lease Calculator](#) [Complaint](#)

Figure 2-110 PM - Add suppliers

**Update Supplier**

Supp_ID	Supp_Name	Address	Phone	email
1	Abans	Malabe	0765588993	Abans@gmail.com
2	Singer	Kaduwela	0718382621	singer@gmail.com
3	LG	Kaluthara	0762299875	LG@gmail.com
4	Softlogic	Gampaha	0722299384	Slogic@gmail.com
5	kodi	malabe	0718382621	kodi@gmail.com

**Delete Supplier**

Supplier ID	<input type="text" value="Enter supplierID"/>
<input type="button" value="reset"/> <input type="button" value="Delete"/>	

**NEXT**

**LEGAL FORM**  
A Public Limited Liability Company incorporated in Sri Lanka on 10th March 1986 under the Companies Act No 17 of 1982 and listed in the Colombo Stock Exchange. A licensed Commercial Bank under the Banking Act No 30 of 1988. Re-registered on 28th April 2008 under the Companies Act No 7 of 2007.

**COMPANY**  
[Home](#) [About Us](#) [Contact Us](#) [Privacy Policy](#)

**PROFILE RELATED**  
[View Profile](#) [Update Profile](#) [Update History](#)

**CUSTOMER RELATED**  
[Transaction](#) [Loan Calculator](#) [Lease Calculator](#) [Complaint](#)

Figure 2-111 PM - View, update & delete suppliers

Hello, world! x + localhost:8080/procurement\_management/Manage\_Item.jsp

EmpHome CustomerHome MyProfile MyInbox SampathEmpWeb Sign Up Login Mr. xxx xxx



සම්පත් බැංකුව  
සම්පත් බැංකි  
**SampathBank**

Employee Duties Leave Request Inquiry Salary Inquiry Skills Management Mailing System Profile Related

[view Details](#)

## Add Item

Item type	other
Item name	Enter item name
Available quantity	qty
priority Level	Low

[reset](#) [Add](#)

**LEGAL FORM**  
A Public Limited Liability Company incorporated in Sri Lanka on 10th March 1986 under the Companies Act No 17 of 1982 and listed in the Colombo Stock Exchange. A licensed Commercial Bank under the Banking Act No 30 of 1988. Re-registered on 28th April 2008 under the Companies Act No 7 of 2007.

[Home](#) [About Us](#) [Contact Us](#) [Privacy Policy](#)

**COMPANY**

**PROFILE RELATED**

**CUSTOMER RELATED**

View Profile Update Profile Update History Transaction Loan Calculator Lease Calculator Complaint

All Rights Reserved ©2018 | ITP-2018-MLB-G3-10. | Privacy Policy.

Figure 2-112 PM - Add Items

Hello, world! x + localhost:8080/procurement\_management/Delete\_ItemController

EmpHome CustomerHome MyProfile MyInbox SampathEmpWeb Sign Up Login Mr. xxx xxx



සම්පත් බැංකුව  
සම්පත් බැංකි  
**SampathBank**

Employee Duties Leave Request Inquiry Salary Inquiry Skills Management Mailing System Profile Related

[view all Details](#)

[Item summary](#)

## Update Item

Item_ID	Type	Item Name	Available_qty	priority
1	Technic	Laptop	5	need
2	Furniture	Chair	58	medium
3	electric	Fan	12	medium
4	Ruff	papers	200	need
5	other	CCTV	4	need
6	Furniture	Tables	35	need

[Delete Item](#)

Item ID	Enter item ID
Item type	other
Item name	Enter item name
Available quantity	qty
priority Level	Low

[reset](#) [Update](#)

[Item ID](#) Enter item ID [reset](#) [Delete](#)

Figure 2-113 PM - View, update & delete Items

The screenshot shows a web browser window with the URL [localhost:8080/procurement\\_management/item\\_summarycontroller](http://localhost:8080/procurement_management/item_summarycontroller). The page title is "Hello, world!". The header includes links for EmpHome, CustomerHome, MyProfile, MyInbox, and SampathEmpWeb. It also features a sign-up/login button, a user profile icon, and a message "Mr. xxxx xxxx". The main content area is titled "Available Items" and contains a table with the following data:

Item_ID	Type	Item Name	Available_qty	priority
2	Furniture	Chair	58	medium
6	Furniture	Tables	35	need

Below the table, there are four orange boxes: "LEGAL FORM", "COMPANY", "PROFILE RELATED", and "CUSTOMER RELATED". The "COMPANY" box contains links to Home, About Us, Contact Us, and Privacy Policy. The "PROFILE RELATED" box contains links to View Profile, Update Profile, and Update History. The "CUSTOMER RELATED" box contains links to Transaction, Loan Calculator, Lease Calculator, and Complaint. At the bottom, there is a footer with a copyright notice: "All Rights Reserved ©2018 | ITP-2018-MLB-G3-10. | Privacy Policy." and a standard Windows taskbar.

Figure 2-114 PM - Search

The screenshot shows a web browser window with the URL [localhost:8080/procurement\\_management/retrieveSupplierItemController](http://localhost:8080/procurement_management/retrieveSupplierItemController). The page title is "Hello, world!". The header includes links for EmpHome, CustomerHome, MyProfile, MyInbox, and SampathEmpWeb. It also features a sign-up/login button, a user profile icon, and a message "Mr. xxxx xxxx". The main content area contains a large "Generate All Reports" button. Below it are two tables of data:

Supp_ID	Supp_Name	Address	Phone	email
1	Abans	Malabe	0765588993	Abans@gmail.com
2	Singer	Kaduwela	0718382621	singer@gmail.com
3	LG	Kaluthara	0762299875	LG@gmail.com
4	Softlogic	Gampaha	0722299384	Slogic@gmail.com
5	kodi	malabe	0718382621	kodi@gmail.com

Item_ID	Type	Item Name	Available_qty	priority
1	Technic	Laptop	5	need
2	Furniture	Chair	58	medium
3	electric	Fan	12	medium
4	Ruff	papers	200	need
5	other	CCTV	4	need
6	Furniture	Tables	35	need

Below the tables, there are four orange boxes: "LEGAL FORM", "COMPANY", "PROFILE RELATED", and "CUSTOMER RELATED". The "COMPANY" box contains links to Home, About Us, Contact Us, and Privacy Policy. The "PROFILE RELATED" box contains links to View Profile, Update Profile, and Update History. The "CUSTOMER RELATED" box contains links to Transaction, Loan Calculator, Lease Calculator, and Complaint. At the bottom, there is a footer with a copyright notice: "All Rights Reserved ©2018 | ITP-2018-MLB-G3-10. | Privacy Policy." and a standard Windows taskbar.

Figure 2-115 PM - View all details

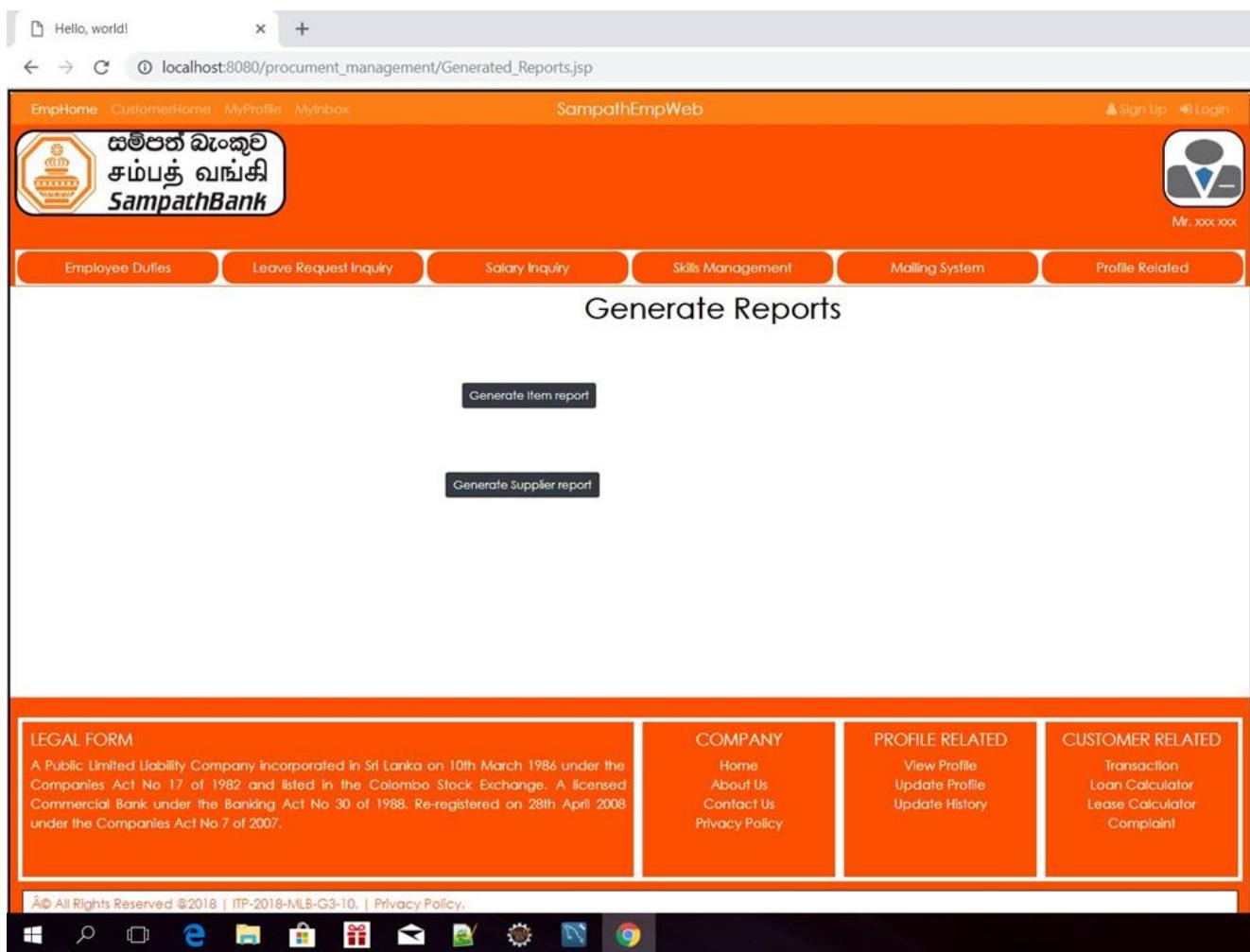


Figure 2-116 PM - Generate reports

Item_ID	Itemtype	Itemname	AvailableQty	priorityLevel
1	Technic	Laptop	5	need
2	Furniture	Chair	58	medium
3	electric	Fan	12	medium
4	Ruff	papers	200	need
5	other	CCTV	4	need
6	Furniture	Tables	35	need

Figure 2-117 PM - Item report

The screenshot shows a Windows desktop environment. A PDF viewer window is open, titled 'Sample2.pdf'. The URL in the address bar is 'file:///D:/GeneratedReports/Sample2.pdf'. The main content of the PDF is a title and a table. The title is 'Full Supplier History In Procurement Management System'. The table has columns: Supplier\_ID, SupplierName, Address, Phone, and Email. The data is as follows:

Supplier_ID	SupplierName	Address	Phone	Email
1	Abans	Malabe	0765588993	Abans@gmail.com
2	Singer	Kaduwela	0718382621	singer@gmail.com
3	LG	Kaluthara	0762299875	LG@gmail.com
4	Softlogic	Gampaha	0722299384	Slogic@gmail.com
5	kodi	malabe	0718382621	kodi@gmail.com

Figure 2-118 PM - Supplier report

## **2.3 Implementation**

### **2.3.1 Common Implementation Details**

#### **2.3.1.1 Programming Language**

JAVA was used as the programming language. It was selected for the reason that majority of the team member were capable of the language. It is a class-based object-oriented programming language which can be used to program standalone applications as well as web applications. Because of its OOP feature, the implantation provided more usable and manageable than procedural programming languages such as C.

#### **2.3.1.2 Choice of DBMS**

MySQL was used as the database management system. It was selected due to it being an open source software and more user friendly. Since it uses relation theory, certain level of adaptation must be applied to map the OOP concepts in java to relational concepts in MySQL.

#### **2.3.1.3 Development Tools**

##### **Eclipse JEE (Photon)**

Eclipse SE is the most widely used java IDE and its enterprise edition extends features of SE with specifications for enterprise features such as distributed computing and web services (feature which is this project is based on).

##### **Apache Tomcat**

Tomcat server is an open-source Java Servlet Container which will run the java web application developed to provide us with the web services needed.

### **2.3.2 Employee, HR and Payroll Management**

These are the **applied** functionalities, (View Figures 2.6, 2.7)

#### **HR MANAGER**

- Recruitment of Employees. (Tab: Employee Duties, Option: Recruit an Employee) (View Figure 2.12)
  - This will only focus on recording entire employee details in the system and will not include entirety of features from an Induction System.
  - When all the relevant details are entered and submitted by the HR Manager, they will be recorded, and an employee id will be auto generated through the system. (Online account will not be created).
- HR Manager can separately ‘create employee online accounts’ using the relevant tab. (Tab: Employee Duties, Option: Create Employee Online Account) (View Figure 2.13)
  - All the initial employee registrations will be shown for the HR Manager in this tab.
  - From the list, HR Manager can separately select an employee and click ‘create online account’ which will create a separate record in the ‘online\_employee\_credentials’ table with auto generated username and a password.
  - For each online account, an online security key will also be auto generated.
  - These details (username, password and online security key), will be sent via an email to the employee personal email given at the time of registration.
- All the active employees will be listed under ‘Active employees’ tab. (Tab: Employee Duties, Option: Active Employees) (View Figures 2.14, 2.15, 2.16, 2.17)
  - HR Manager can manipulate each employee listed here and can revoke only the online account of an employee or deactivate an employee which will result in both, shifting relevant details off relevant tables and placing them as inactive, and removing the online account automatically.
  - Either of these actions will prompt the manager to enter his/ her online security key as an addition security step.
  - Deactivating will ask for a reason for deactivation.
  - An email will be sent to the personal email to notify the employee of any changes.

- After inactivating an employee, they will be separately identified.

(Tab: Employee Duties, Option: Inactive Employees) (View Figures 2.18, 2.19, 2.20)

- Employees who have left the company will be recorded in the system. [3]
- HR Manager can see the list of inactive employees by selecting the ‘Inactive Employees’ tab in the ‘Employee Duties’ dropdown.
- Manager can further see specific employee details by clicking the ‘view details’ button in each record.
- Reason for inactivation can be viewed when a specific button is clicked.

- HR Manager can search for employee details using various fields.

(Tab: Employee Duties, Option: Search for Employees) (View Figures 2.21, 2.22)

- Results will show in a tabular list format.
  - The records can be viewed separately, in detail, by clicking the ‘View Details’ button.
- HR Manager can view, grant or reject leave requests submitted for approval.

(Tab: Employee Duties, Option: Leave Request Management) (View Figures 2.23, 2.24)

- Leave requests which are at the stage ‘submitted’, will be listed down in summary format for the HR Manager in ‘Leave Request Management’ tab and each of them can be viewed separately in detail.
- Granting a leave request will result in changing its state to ‘granted’.

- HR Manager can review and approve or reject the requests for updating personal information by the employees. (Tab: Employee Duties, Option: Update Details Request Management)

(View Figure 2.25)

- When employees update their personal details, instead of updating right away, an update request will be formed and stored in the database in a separate table.
- Those requests will be listed under ‘Update Details Request Management’ tab of the HR Manager and the specific fields to be updated will be shown as a summary so that the manager can identify the changes requested easily.
- Approving a request will result in changing the information in the original ‘person’ table and the temporary stored details will be removed.

- HR Manager can manage salary using the form/calculator in ‘Salary Management’ tab (Processing of Employee Salaries). (Tab: Employee Duties, Option: Salary Management) (View Figures 2.26, 2.27)
  - He/she will have to enter all the relevant figures for a certain employee and the relevant totals will be automatically calculated real time for the ease of verifying.
  - After submitting the system will automatically identify whether salary details should be updated against a record which already exists in the database or inserted newly.
  - After notifying the manager via a JavaScript alert (whether submitting will update an existing record or insert a record newly), he/she will be shown the salary details initiated in a static page.
  - Manager can either submit again, which will solidify the process and store the figures, or reject, which will result in manager being redirected to the initial salary initiation page.
- HR Manager can generate documentation/ Reports regarding basic details, contact details and company related details of employees as a bulk using the separate buttons in the option ‘All Employee Details’ under the tab ‘Documents & Reports’.

(Tab: Documents & Reports, Option: All Employee Details) (View Figures 2.28, 2.29)

### **All Employees**

- Employees can request for leave.

(Tab: Leave Request Inquiry, Option: Apply for Leave) (View Figures 2.30, 2.31, 2.32)

- Employee’s current leave details such as ‘No of Leaves per Year’, ‘No of Leaves Left’, ‘Last Effective Leave Date’ etc. will be shown at the top of the form for the ease of the employee.
- An Employee can make a leave request only, and only if, he/she does not already have a request in the state of ‘submitted’.
- If an employee select ‘Apply for Leave’ option from the tab, and if there is already a leave request submitted which is yet to be reviewed by the HR Manager, the said individual will be shown an alert indicating the presence of a submitted leave request and will be redirected to the employee homepage rather than proceeding to the page containing the leave request apply form.

- Additionally, when confirming a leave request, the employee will be prompted to enter his/ her online security key.
- An employee can only remove a leave request in the stage of ‘submitted’ from his/ her ‘Leave History’.
- When trying to remove the ‘submitted’ leave request from the ‘Leave History’, the employee will be prompted to enter the online security key belonging to the individual.
- Employees can review their leave history.
  - (Tab: Leave Request Inquiry, Option: Leave History) (View Figures 2.33, 2.34, 2.35)
    - All the leave requests granted or rejected and any leave request which is in the state of ‘submitted’ will be listed in summary and tabular format.
    - Already granted or rejected leaves will be only available for viewing.
    - The leave which is in the state of ‘submitted’ can be viewed, edited or removed.
    - While the leave in the submitted state is removed, employee has to enter the online security key.
- Employees can calculate their own salary using the salary calculator which resides in the ‘Calculate Salary’ tab. (Tab: Salary Inquiry, Option: Calculate Salary) (View Figure 2.36)
  - Employee will have to enter all the relevant data manually and the calculations will be done real time and shown to the employee in the same interface.
- Employees can view the pay slip in the form of a pdf and download, if the HR Manager has already initiated the salary for the said individual (Wage Payout).

(Tab: Leave Request Inquiry, Option: Pay Slip) (View Figure 2.37)

- HR Manager must already have initiated the salary for the employee.
- If the manager has yet to initiate the salary, the pay slip pdf will be blank.
- Employees can view all their contact, personal, employment, branch and department information separately.

(Tab: Profile Related, Option: Profile Details) (View Figures 2.38, 2.39)

- To make the interface feel not clustered, only the contact details are shown as default.
- Personal, Employment, Branch and Department information regarding an employee are separated into modals and 4 buttons will prompt them separately.

- Employees can update few of their details given, which will not affect any other engagement at the bank. (View Figure 2.40, 2.41)
  - Contact information and the online account password can only be updated to reduce the risk of fraudulent information.
  - Fields which can be updated include Address (Divided into different sections), Personal Email, Home Contact Number and Mobile contact number.
  - Updating will result in an update request which will be stored in a different table.
  - These requests can be reviewed by the HR Manager from the relevant option.
- Online Account Password can be changed, and it will be updated at the same time rather than someone approving.
  - Employee needs to enter the old password with the new password to change it.
  - If the old password entered is correct, the updating of the online account password will take effect immediately.

**Most of the Important Submissions Will Prompt the Employee to Enter Their ‘Online Security Key’ which will be generated at the time of the registration.**

**Each and every step (button clicks, which buttons to click) and each and every outcomes and notifications in the form of alerts (JavaScript notifications which relate to most of the button clicks on validations and etc.) are not described considering the length of the document may be, if described.**

### **2.3.3 User Management**

- Customers and employees alike can access the system using a user-friendly interface. (View Figure 2.42)
- Customers and employees can login to the system to access his account information using the same interface. (View Figure 2.46)
  - Logging in to the system will allow the users to generally see all the details concerning that particular user.
  - Once a customer enters his/her login credentials, the system verifies the user and then retrieves all his/her details from personal details to online account details with the exception of the online account password (due to security risks).
  - Object Oriented Concepts were used during the implementation. Compositions and aggregations are used between various classes relating to the Person class to draw out all the necessary data when a user is going through the login process.
- Customers who have a physical account at the bank can register for an online account.
  - The registration process for an online account consists of major three steps.
    1. Entering of the verification details, (View Figure 2.43)
    2. Confirmation of the security pin (Real Time), (View Figure 2.44)
    3. Submission of security variables. (View Figure 2.45)
  - Customers must first enter National Identity Card Number, Date of Birth, ZIP Code of his area, Personal Email and Account Number to ensure that he already has a physical account with the bank. If all the fields are verified with the records in the bank database, he will be prompted to the next page.
  - If any of the fields are not matched, an alert will be displayed, and the user will be redirected to the homepage.
  - If all the fields were matched, the system automatically generate a random PIN, stores it in the database (table: temp\_customer\_online\_reg) along with the customer ID and an email containing the PIN will be sent to the customers's personal email immediately.

- If he/she has previously ended the process without entering the PIN, the previously-generated PIN will be updated as a new PIN is generated and sent to email of the customer.
- The customer will be directed to the page where he/she must enter the received pin.
- After the customer enters the PIN, it will be checked with the generated PIN stored in the database.
- If they are matched the customer will be prompted to the next page. Simultaneously the PIN will be removed from the database.
- The last step includes entering of security variables which the user should set in case of a forgotten password.

### **Employee**

- Employee can use the intra-company mailing system to send notifications as emails to fellow employees. (View Figure 2.60)
  - Employees can send notifications through emails to another employee in the system.
  - The details of the email will be stored in the database (table: email\_company).
- Employee can view all sent and received emails. (View Figures 2.58, 2.59)
  - The sent and received emails of the employee can be viewed separately as Inbox and as Outbox.
- Employee can view each mail separately. (View Figure 2.61).
- If an employee removes an email from his/her sent box, field ‘From’ in the receiver’s outbox will be set to ‘Confidential’ and vice versa.

### **User Manager**

- User Manager can see the list of requests for online customer accounts. (Tab: Employee Duties, Option: Online Customer Account Management) (View Figure 2.47, 2.50)
  - All the requests will be shown here in a summarized tabular format.
  - User Manager can proceed to see a single request in a detailed manner. (View Figure 2.51)
  - User Manager can approve or reject request in this interface.
- Approving of request will result in automatic generation of a username, password for the online account and an online security key tied with the customer.

- After successfully creating the online account credentials, the system will shift the security variable from the table containing the requests to the online credentials table
- System will automatically send an email to the customer's personal account notifying whether his/her request has been approved or rejected.
  - online credentials (autogenerated username and password) along with the security key will also be received by the customer if the request was approved by the User Manager.
- User Manager can search for a customer using various field details.
  - From the generated search results list, User Manager can proceed to select and see a more detailed version of the selected customer.
- User Manager can generate reports regarding customers as a bulk. (View Figures 2.55, 2.56, 2.57)
  - Reports containing basic information of customers (Non-Parameterized).
  - Reports containing online account information of customers (Non-Parameterized).

#### **2.3.4 Inventory Management**

##### **Inventory Employee**

- The tabs assigned to inventory employee are item list, history, display branch request and warehouse-branch tracking.
- Managing warehouse item (view figure 2-63)
  - This page contains the interface of the warehouse items. This table helps the inventory employee to add any amount of item by clicking the “ADD” button.
  - If an item has quantity less than the minimum stock level, then the item will be shown in red color and by clicking the “Restocking Items” the employee can view all the items that should be restocked.
  - Each item has a “MORE” button which will re direct to the specific item
  - Search function is available to search the specific item. (Item can be searched by using any keywords from any fields)
- Warehouse- Branch tracking (view figure 2-63)
  - This page shows the warehouse and the branch allocated to the specific warehouse.
  - Google’s embedded map link is used to design this interface. This interface helps the drivers to locate the branches related to warehouse and helps to find the most suitable route to deliver the items.
  - The map can only be edited by an authorized user.
- Managing branch head requests (view figure 2-64)
  - This page shows all the requests sent by branch heads and these requests can be either approved or disapproved by the inventory employee.
  - When an employee accepts/rejects the request then the request will be automatically deleted.
- Low stock alert
  - When the employee accepts a request and if the quantity available in the warehouse is less than the low stock level then the inventory employee will be receiving an alert through an email. This email will give the information about the item that should be restocked and the current stock level

- Managing inventory history (view figure 2-66)
  - This page contains the overall fluctuations in the warehouse items and records the changes done by each employee (identified by unique username) to the inventory management system.
  - History management tracks the following actions,
    1. When an employee adds an item – NEW
    2. When an employee deletes the item – DELETED
    3. When an employee updates an item – UPDATED and the changes made
    4. When a request is approved – APPROVED
    5. When a request is disapproved – DISAPPROVED
  - This tracking also shows stock level before making the changes and after making the changes.
- Managing the individual item (view figure 2 – 69/70/71)
  - This process includes the process of adding an item, updating an item and deleting an item.
- Generating inventory related reports (view figure 2-68)
  - This page contains the generation of following reports,
    1. Overall inventory history (non-parameterized)
    2. Specific inventory history (parameterized)
    3. Current stock level of warehouse item (non-parameterized)
    4. Current branch request (non-parameterized)

### **Branch Head**

- Requesting item from warehouse (view figure 2-67)
  - This page shows the details of branch items specific to the branch.
  - Branch head can request for any number of items from the warehouse.

### 2.3.5 Transaction Management

#### Customer

- The tabs assigned to the customer under the transaction sub system would be interbank transaction, intrabank transaction, account history and view balance.
- Intrabank transactions (view figure 2-72)
  - This interface contains 4 fields namely account number, target account number, Date and the amount to be transferred.
  - Account number of the customer is automatically retrieved from the database so that the customer would not enter an invalid account number.
  - The target account number refers to the destination account number and failing to enter an existing account number will fail the transaction process.
  - Amount field is restricted to send 100000LKR and transactions more than this value will be in hold for the overview of the manager.
- Intrabank transactions (view figure 2-73)
  - This process is also like the transaction mentioned above but the only difference is that the destination account number should be the account number of a different bank.
- Confirming the transactions (view figure 2-74) – after filling the interbank/intrabank transactions the customer is directed to this page. This helps the customer to check the credentials which were entered is correct or not. Sometimes the customer can enter a faulty transaction amount and this problem can be eliminated by this confirmation process.
- Viewing transaction history (view figure 2-75)
  - This section shows the interbank and intra bank transaction made or received by the specific bank account (account of the logged in customer)
  - Search functionality is also included in this section, this helps the customer to get the specific transaction according to the account number entered in search box.
- Viewing account balance (refer figure 2-76/77/78)
  - Initially the customer is redirected to 2-76 page when he/she enters the view account balance button.
  - When the customer enters the view account balance button, the system automatically generates a 4-digit pin and will be sent to customer's personal email.

- Then the customer is directed to enter the security pin page (2-77), and when customer enters the correct security key the customer will be directed to the page where it shows the account balance (figure 2-78)

### **Transaction Manager**

- Approving the pending transactions (view figure 2-79)
  - As mentioned earlier, customer is not allowed to make any transaction more than 100000LKR. The transactions above this amount will be blocked until the manager checks the transaction. After a successful checking the manager will be approving the transaction
- Display all the transactions (view figure 2-80)
  - Transaction manager will be able to view all the transactions made by Sampath bank. This page contains 2 tables, where one table is assigned interbank transactions and other table is assigned for intrabank transactions.
- Generating transaction related reports (view figure 2-81)
  - This page provides the interface to manager to generate transactions occurred in Sampath bank
  - Manager can generate the overall transaction reports (Non-parameterized) and specific reports by giving the required values in the textboxes. (Parameterized)

### **2.3.6 Loan Calculator**

- Loan Administrator can separately ‘create new Loan’ using the relevant tab.
  - Administrator will have recorded the new loan details from using ‘create loan’ button.
- Customer can calculate own calculation using a loan calculator.
  - Any customer can use the loan calculator.
  - When entering loan details, customer wants to know current interest rates.
  - Customer can go to relevant loan details page using ‘For Loan Overview’ page.
  - Then all loan details will save in ‘calculator table’.
  - If customer will not enter any value to that field system generate message, ‘field is empty’.
- Loan Administrator can search, update, delete for loan details using various fields
  - When administer wants to change a loan he clicks ‘update’ button and then go to update page and he can change update details and click update button again.
  - After that values go to ‘loan table’ and updated value show in previous page.
  - When administer delete a loan, that loan value erase from data base and remove from current page.
- Loan Administrator can generate documentation/ Reports regarding current loans.
  - When bank management or customers need current loan type and that particular interest rates, administer click ‘GET Report’ button.
  - Then bank management & customers can take right decisions according to the report.
- Customer can view new loan interest rates according to the loan type.
  - Customer go to the ‘For loan overview’ link, he can see what current loans are available.
  - Then click ‘Read More’ button and will go to relevant loan page and he will enter the loan name inside the search bar.
  - If he entered ‘home loan’, system generate home loan interest rates.

### **2.3.7 Lease Calculator**

- Employee can make the necessary calculations for the lease. (view figure 2.94, 2.95)
  - After entering the required values, employee can calculate the monthly rental for a lease.
  - Furthermore, employee can help the customer decide on a payment plan by using the secondary calculator.
- Employee can save new records of leases applied by the customer. (view figure 2.97)
  - Once entering the required details in the calculator, employee can save the record by clicking the “Add Customer” button.
  - If confirmed, employee will be redirected to another interface, allowing her/him to check the details and confirm the entry.
  - A success message will be displayed once the entry is saved.
- Employee can view records of currently existing leases. (view figure 2.98)
  - All records will be showed in a list.
  - By clicking the “View” button, individual details can be viewed.
- Employee can delete records when a lease is paid off or rejected. (view figure 2.98)
  - By clicking the “Delete” button in the record list, employee can delete records.
- Employee can update existing records if any changes are made. (view figure 2.99)
  - By clicking the “View” button, employee can change the necessary values and click the “Update” button to update the record.
  - Employee will be redirected to the View Record page and the records will be updated.
- Employee can generate reports of new lease record entries. (view figure 2.100, 2.101)
  - By clicking the “Generate report” button, employee can generate a report of the newly added lease records.
  - The report will be generated in a separate directory.

### **2.3.8 Fault/Complaint Management**

- Complaint Lodging
  - Display an interface to customer to launch their complaints under five main categories.
  - Once entering the required details, customer can save the record by clicking the “Submit” button.
  - A successful message will be displayed once the entry is saved.
  - Reference No is auto increment for each complaint.
- Customer can view the records.
- Employee can view all the records of each customer who lodge the complaints.
  - By the clicking “view all details” button can show all the list of records.
- Employee can delete records.
  - Initially checks whether it's valid complaint or not
  - If it is not valid can delete those records by clicking “Delete” button.
  - A successfully message will be deleted once the records deleted.
- Employee can update state of each complaint.
  - At the beginning the state's default value is “New”.
  - Employee can update the state by clicking “update” button.
- Employee can categorize all the complaints.
  - Employee can select the type of complaint by clicking the “submit” button.
  - Then display the specific type of records.
- Employee can generate reports (Non-parameterize, parameterize)
  - By clicking the “Generate reports” button, employee can generate a report containing all the records of complaints.
  - Employee can select the specific type of complaint by clicking the “generate specific records” button and generate documentations of specific records.

### **2.3.9 Procurement Management**

- Managing Supplier
  - Enter supplier's required details, Employee can save these record to database by clicking the "Add" button.
  - A successful message will be displayed once the records are saved.
  - If confirmed, Employee will be redirect to another interface and employee can check the records.
- Employee can view supplier records which they inserted
  - All records will be showed in list.
- Employee can update supplier record. If any changes are made
  - Check the view details and employee can change necessary values, by clicking "Update" button to update the record.
  - A successful Update message will be displayed one the records are saved.
- Employee can delete supplier record when suppliers who are not supply the items.
  - Check whether the view details and employee can delete the records in record list by clicking "Delete" button.
  - A successful delete message will be displayed one the records are saved.
- Managing Item
  - Enter Item details, Employee can save these record to database by clicking the "Add" button.
  - A successful message will be displayed once the records are saved.
- Employee can view Item records which they inserted.
  - All records will be showed in list.
- Employee can update Item record, if any changes are made
  - Check the view details and employee can change necessary values, by clicking "Update" button to update the record.
  - A successful Update message will be displayed one the records are saved.
- Employee can delete Item record

- Check whether the view details and employee can delete the records in record list by clicking “Delete” button.
  - A successful delete message will be displayed once the records are saved.
- Employee can check whether available items in database.
  - By clicking “Item Summary” button and move to available item page and employee can search specific item type in list of items. Then employee can view items according to specific item type. Then employee can summarize the item database.
- Employee can generate reports
  - By clicking “Generate Item report” button, Employee can generate a report with newly added records by using pdf.
  - By clicking “Generate Supplier report” button, Employee can generate a report with newly added records by using pdf.

## 2.4 Testing

**Table 2-1 Test Cases**

Function	Sub functionality	TestID	Test Input	Expected Output	Actual Output	Pass/Fail	Description
User Management IT17139786	Customer Registration	U001	NIC: 968052033v Date of Birth: 10/31/1996 ZIP: 10280 Personal Email: isurusamarasekara@gmail.com Account No: 303131313	Customer's browser should notify the customer that his/her personal email should receive the pin required for the next step, and a random 5 digit pin should be delivered to the personal email of the customer.	Browser shows an alert with the message "Your email will receive the pin required for the next step, immediately!" and a email sent from 'itpcompanysampath@gmail.com' to the personal email of the customer with the message 'Your Registration Pin is : 43701'.	Pass	Customers personal details and the account number is in the database of the bank, hence, when requesting for a online account he/she must enter those predefined details in order to be verified as a existing customer. (These Test Inputs are correct and pre-exist in the database)
		U002	PIN: 43701	Redirect to the UM_CustomerRegistrationThiray.jsp page where the customer is required to enter Security Variables.	Redirecting to the UM_CustomerRegistrationThiray.jsp page.	Pass	The pin is autogenerated and stored in the database until the customer has finished with the UM_CustomerRegistrationThiray.jsp form and submits. Then the pin will be removed from the database automatically.
Transaction Management IT17134668	Inter Bank Tranacrions	T001	Target Account Number :202121212 Amount : 1000	Transaction being made and visible in transaction history	Transaction made and showed in the transaction history	Pass	
		T002	Target Account Number :202121212 Amount : 100000	Transaction will be pending till the employee approves, Shows high amount warning message	Transaction was added to pending list, Shows high amount warning message	Pass	
Inventory Management IT17137492	Add New Inventory Item	I001	Item Name: Pencil Item Quantity : 100 Low Stock : 50 Description : About Pencil Upload Image : pencil.jpg	Successful message with a button to direct to item list page	Successful message with a button to direct to item list page	Pass	
		I002	Item Name: Pencil Item Quantity : Hundread Low Stock : 50 Description : About Pencil Upload Image : pencil.jpg	Please match the requested format, Enter only numbers	Please match the requested format, Enter only numbers	Pass	
Employee and HR Payroll Management IT17395588	Apply for Leave	E001	Leave Start Date : 10/10/2018 Leave Duration : 10 (Smaller than No of Leaves Left) Leave Type : sick leave Review Speed : emergency Leave Description : Need a leave.	Direct the employee to the leave request submission confirm page, containing the summary of the leave request submitted earlier.	Directed to the Leave Request Confirmation page.	Pass	An employee can only submit a leave request which is having the duration less than equal to the No of Leaves Left.
		E002	Leave Start Date : 10/10/2018 Leave Duration : 31 (Larger than No of Leaves Left) Leave Type : sick leave Review Speed : emergency Leave Description : Need a leave.	Alert popping up to direct the employee to enter a valid duration	Alert having 'Please input a valid duration which is less than leaves left'.	Pass	An employee can only submit a leave request which is having the duration less than equal to the No of Leaves Left.
Lease Calculator IT17134736	Add New Lease Record	LC01	Account No: 123456789123 Account Date : 2018/09/12 Sell Price : 9000000.00 Interest Rate : 15.5 Period : 60 Monthly Rental : 173250.00	Successful message and redirect to the calculator home page.	Successful message and redirect to the calculator home page.	Pass	
		LC02	Account No: 1234567891aa Account Date : 2017/10/11 Sell Price : 7500000.00 Interest Rate : 10.5 Period : 75 Monthly Rental : 110500.00	Account number can only contain numbers	Account number can only contain numbers	Pass	
Fault/Complaint Management	Complaint Lodging/ Complaint Handling	F001	User Name: Thushadi Complaint Type: Credit Card Date: 09/17/2018 Time: 03:00 AM Complaint: Card is not working	Successfully Added' message dialog pops up.	Successfully Added' message dialog pops up.	Pass	
		F002	Ref_ID: 2 Status: Completed	Successfully Updated' message dialog pops up.	Successfully Updated' message dialog pops up.	Pass	
Loan Calculator	Add calculate Record	LO01	Loan Type: Home Loan LoanAmount : 9000000.00 Interest Rate : 6.5 Loan Duration : 2 year	Redirect to the LoanDetails page and Display the previously Entered value	Redirect to the LoanDetails page and Display the previously Entered value	pass	
		LO02	Loan Type: Home Loan LoanAmount : Interest Rate : 6.5 Loan Duration : 2 year	Please Fillout this field.	Please Fillout this field.	pass	
Procurement Management	Add Supplier	P001	Supplier Name: Softlogic Address: Malabe Phone: 076228822	Warning indicating to input 10 digit number for the Phone field.	Warning pops up with 'Please match the required format. There should be only 10 Numbers without spaces'	Pass	112
		P002	Supplier Name: Damro Address: Tangalle Phone: 0472223880 Email: Damro@gmail.com	Successfully Added' message dialog pops up.	Successfully Added' message dialog pops up.	Pass	

## 2.4.2 Testing Proofs

### 2.4.2.1 User Management

#### 2.4.2.1.1 Test Case U001

The screenshot shows the 'Sampath Web Portal' sign up page. At the top, there is a navigation bar with links for 'Common Home', 'Home', 'About Us', 'Contact Us', 'Careers', 'News', and 'Branch Network'. On the right side of the header is a 'Sign Up' button. Below the header, a message states: 'This is for customer registration only! Customers who are registering must have a physical account in the bank itself!!'. A form is displayed with the following fields and values:

NIC: *	968052033v
Date of Birth:	10/31/1996
ZIP: *	10280
Personal Email:	isurusamarasekara@gmail.com
Account No:	303131313

At the bottom of the form are two buttons: 'Submit' and 'Demo'.

Figure 2-119 UM - Test Case U001 Proof 01 - Sign Up page entries

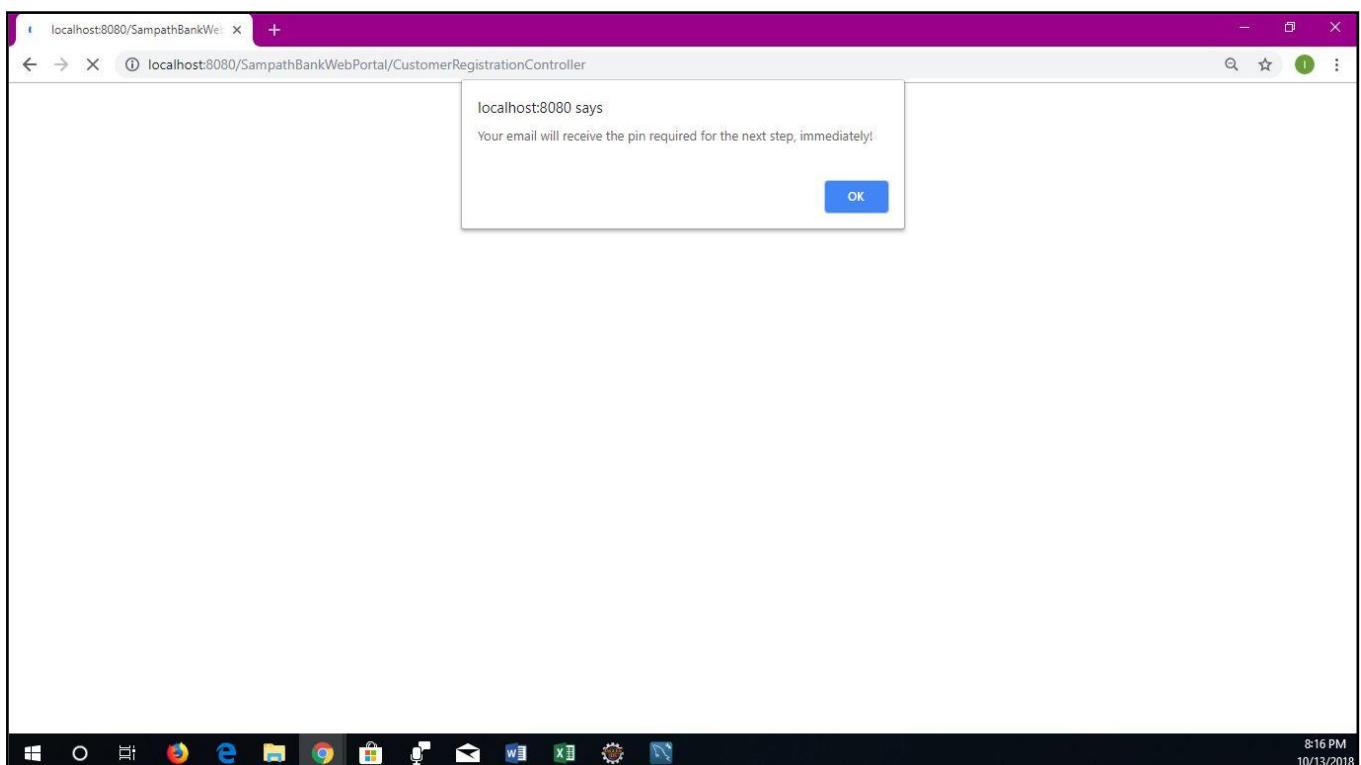


Figure 2-120 UM - Test Case U001 Proof 02 - Alert

#### 2.4.2.1.2 Test Case U002

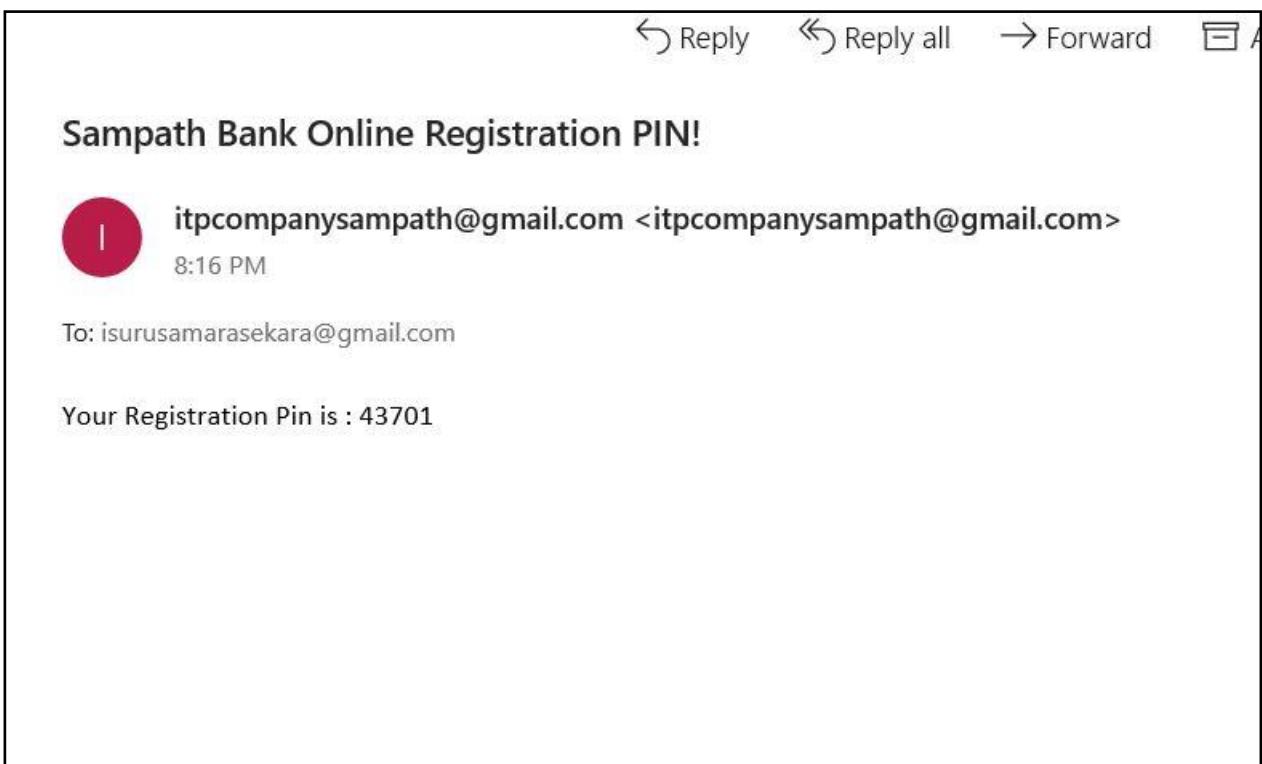


Figure 2-121 UM - Test Case U002 Proof 01 - Email Received with the PIN

The image shows a web page with an orange header. Below the header, there is a navigation bar with four items: "About Us", "Contact Us", "Careers", and "News". The main content area has a yellow background. It displays a message: "Please Enter the 5 digit pin you received via email!". Below this message is a form field containing the number "43701". To the right of the form field is a blue "Submit" button.

corporated in Sri Lanka on 10th March 1986 under the listed in the Colombo Stock Exchange. A licensed Act No 30 of 1988. Re-registered on 28th April 2008

COMP.  
Home  
About  
Contact  
Privacy P

Figure 2-122 UM - Test Case U002 Proof 02 - PIN entry in UM\_CustomerRegistrationSecondary.jsp

Customer Registration X +

localhost:8080/SampathBankWebPortal/jsp/user\_management/UM\_CustomerRegistrationThirtary.jsp

Common Home Sampath Web Portal Sign Up Login

Please fill the necessary details!

**2.4.2.2**

In case you forget Vishwa password, you can reset on your own without contacting bank officers based on following sensitive information.  
Hence, you are kindly requested to carefully update the below information as you will not be able to change once submitted.

Secret Question 01\*

Who am I ?

Answer for Secret Question 01\*

Me

Secret Question 02\*

Who are you?

Answer for Secret Question 02\*

You

By creating an account you agree to our [Terms & Privacy](#).

**Sign Up**

**CAL FORM**  
public Limited Liability Company incorporated in Sri Lanka on 10th March 1986 under the Companies Act No 17 of 1982 and listed in the Colombo Stock Exchange. A licensed

**COMPANY**  
[Home](#)  
[About Us](#)

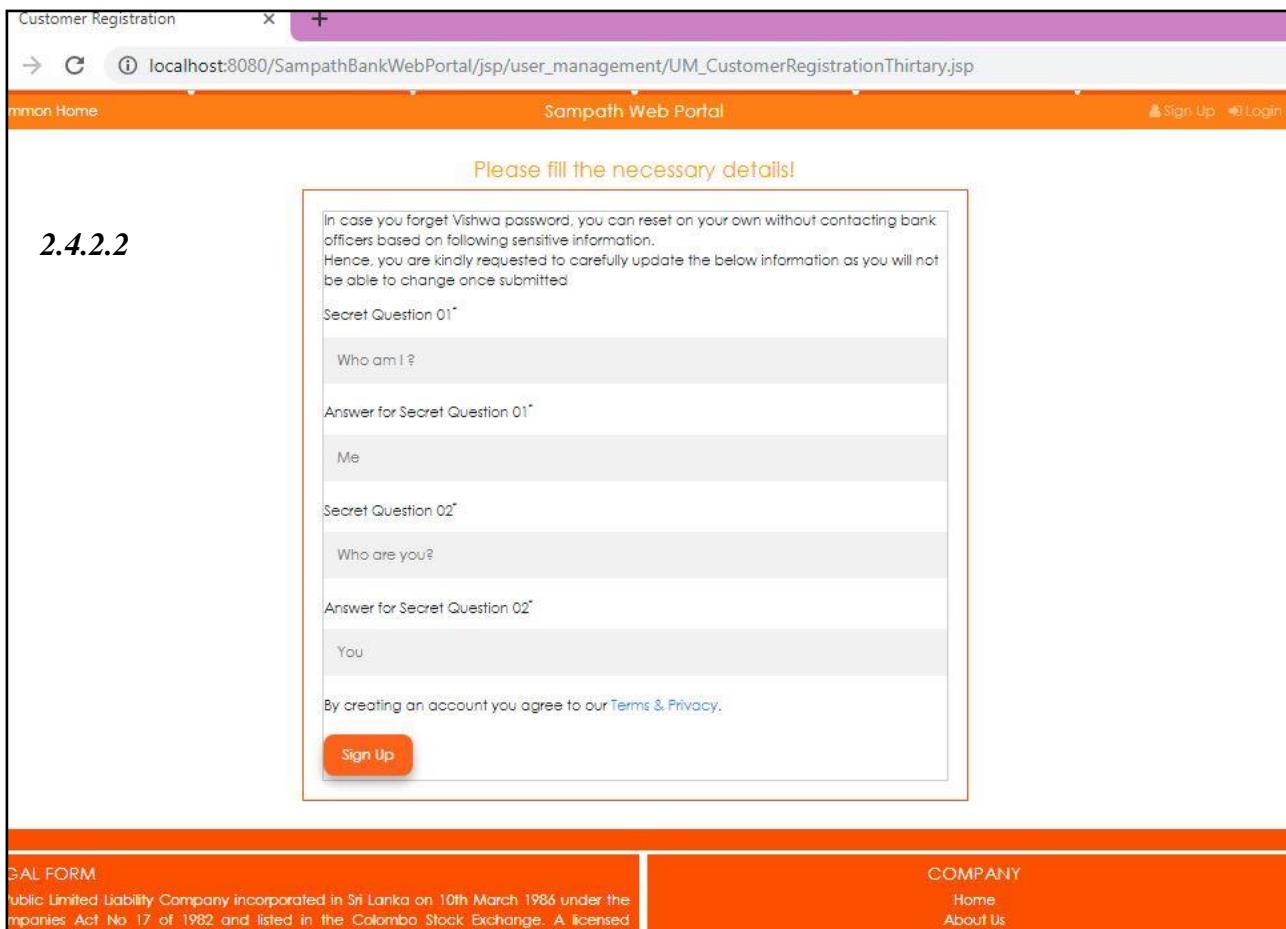


Figure 2-123 UM - Test Case U002 Proof 03 - Redirected to UM\_CustomerRegistrationThirtary.jsp

### 2.4.2.3 Transaction Management

#### 2.4.2.3.1 Test Case T001

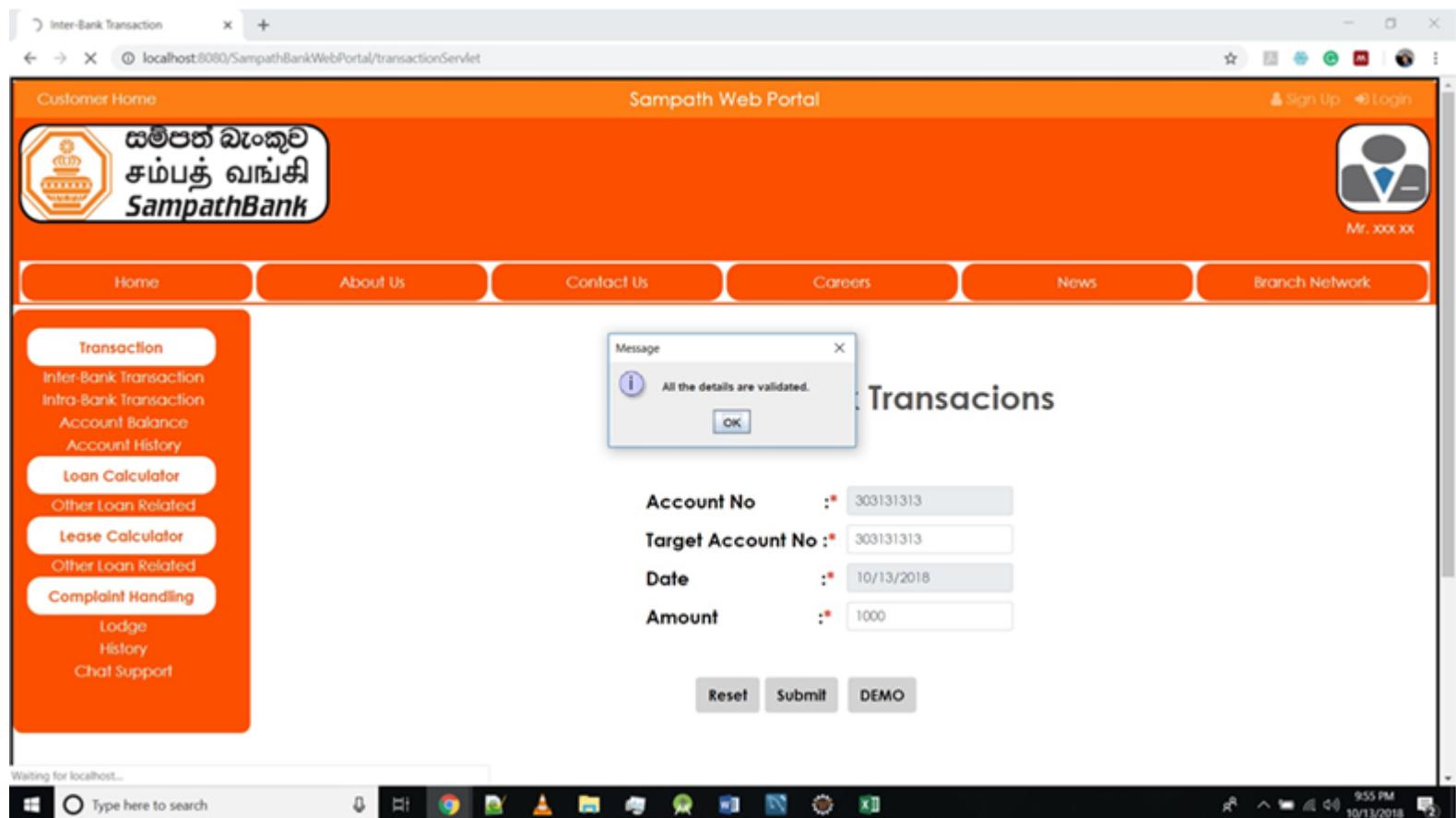


Figure 2-124 TM - Test Case T001 Proof - Low Amount Transaction

#### 2.4.2.3.2 Test Case T002

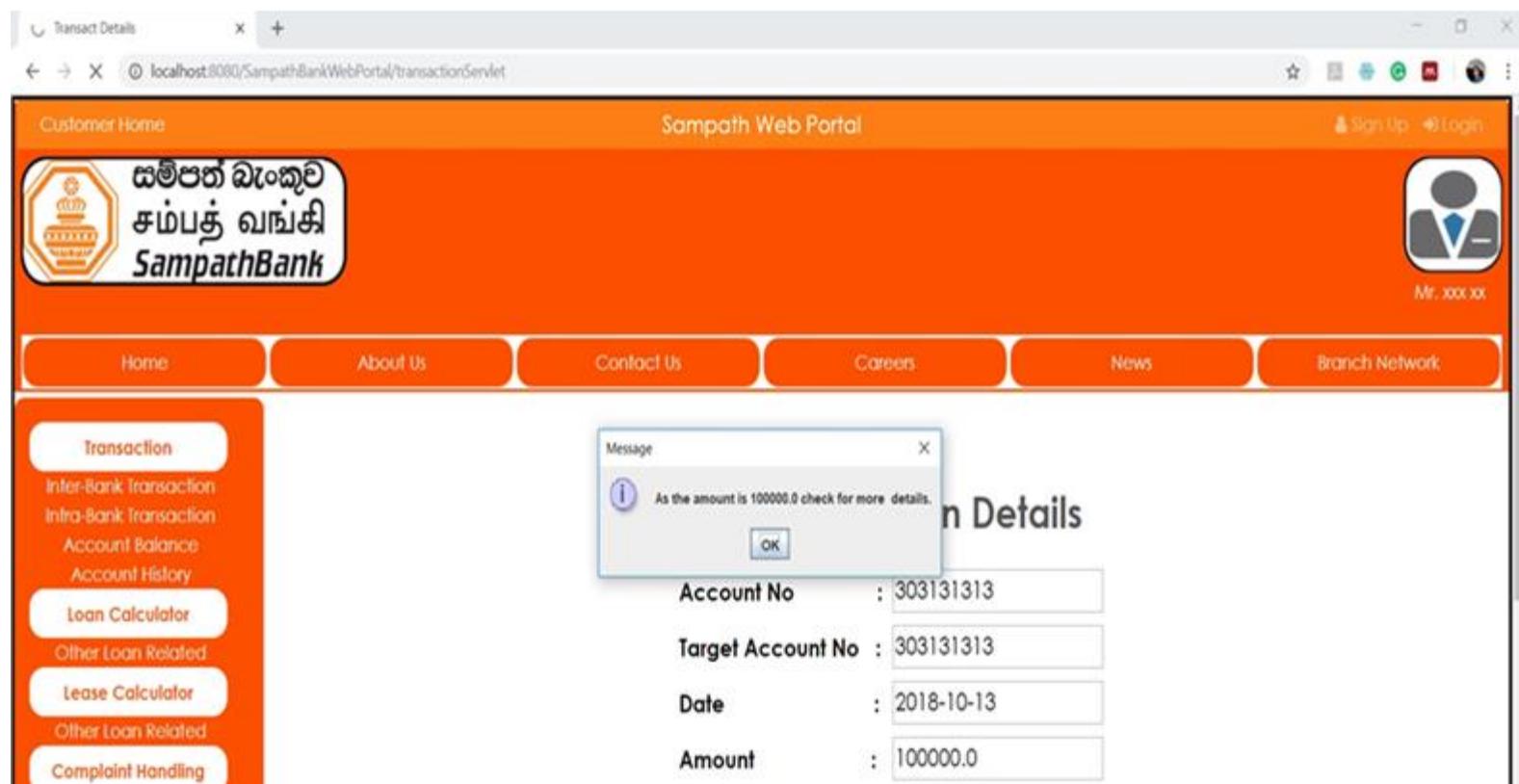


Figure 2-125 TM - Test Case T002 Proof - High Amount Transaction

## 2.4.2.4 Inventory Management

### 2.4.2.4.1 Test Case I001

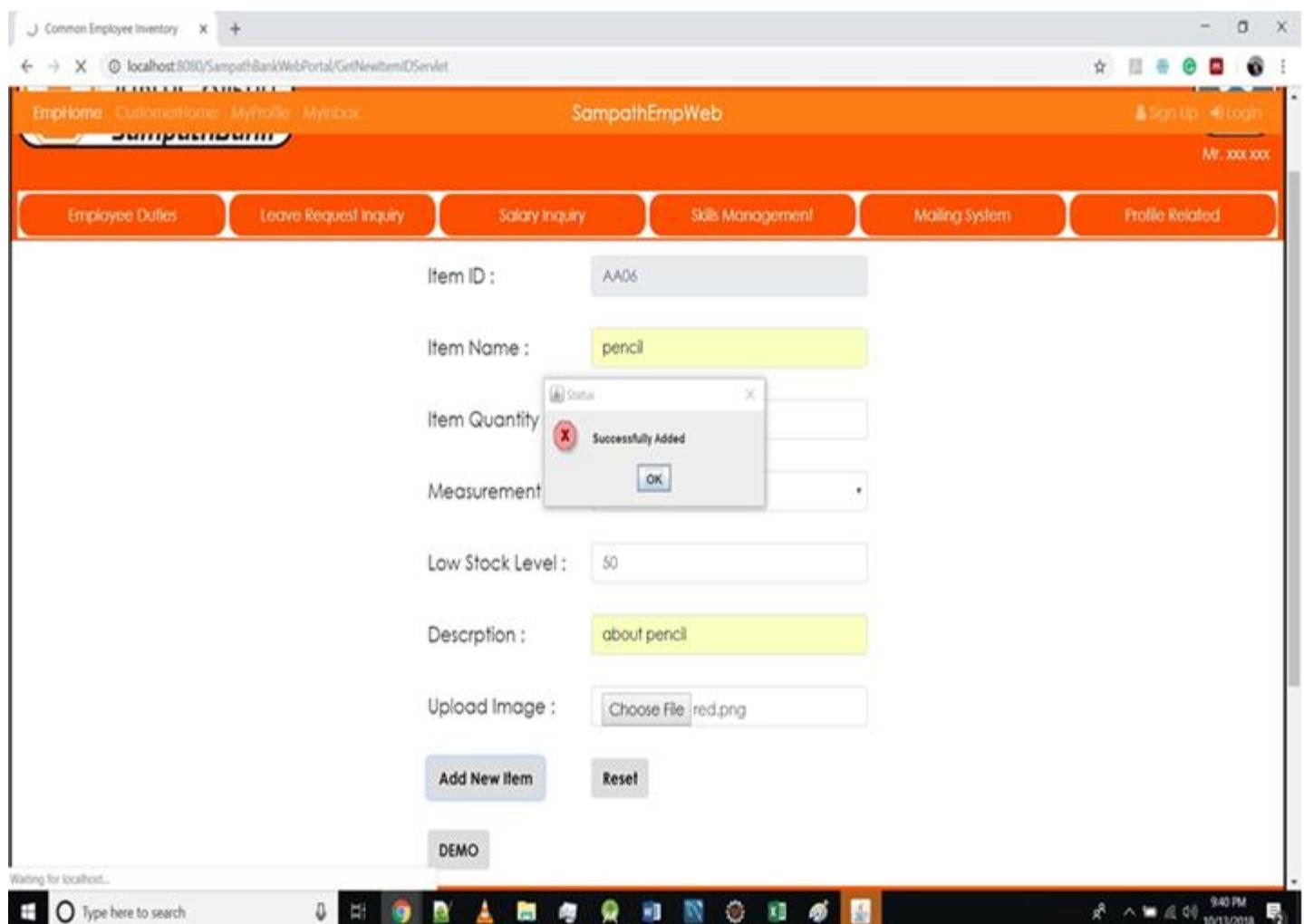


Figure 2-126 IM - Test Case I001 Proof - Add New Item Valid

#### 2.4.2.4.2 Test Case I002

The screenshot shows a web browser window titled "Common Employee Inventory" with the URL "localhost:8080/SampathBankWebPortal/GetNewItemIDServlet". The page is titled "SampathEmpWeb" and features a navigation bar with links like "EmpHome", "CustomerHome", "MyProfile", "Mybox", "Sign Up", "Login", and "Mr. 200000". Below the navigation bar is a horizontal menu with buttons for "Employee Duties", "Leave Request Inquiry", "Salary Inquiry", "Skills Management", "Mailing System", and "Profile Related". The main content area contains fields for adding a new item:

- Item ID :** AA06
- Item Name :** pencil
- Item Quantity :** Hundread
- Measurement :** N ! Please match the requested format.  
Enter a number for the quantity
- Low Stock Level :** 50
- Description :** about pencil
- Upload Image :** Choose File red.png

At the bottom of the form are two buttons: "Add New Item" and "Reset". There is also a "DEMO" button. The status bar at the bottom of the browser window shows "9:39 PM" and the date "10/13/2016".

Figure 2-127 IM - Test Case I002 Proof - Add New Item Invalid

## 2.4.2.5 Employee and HR Payroll Management

### 2.4.2.5.1 Test Case E001

The screenshot shows the 'Apply For Leave' page of the SampathEmpWeb application. The URL in the browser is [localhost:8080/SampathBankWebPortal/jsp/employee\\_hr\\_payroll\\_management/EHPM\\_Apply\\_For\\_Leave.jsp](http://localhost:8080/SampathBankWebPortal/jsp/employee_hr_payroll_management/EHPM_Apply_For_Leave.jsp). The page has a header with 'EmpHome', 'MyProfile', 'MyInbox' and 'SampathEmpWeb'. A 'Sign Out' link is in the top right. The main form contains the following data:

Employee ID:	Employee Name:	Employee Designation:
EMPL000001	ISA ISURU HRMANAGER SAMARASEKARA	HUMAN RESOURCE MANAGER
No of Leaves Per Year:	No of Leaves Left:	Last Effective Leave Date:
30	30	2018-10-06

Leave Start Date (Requested):	Leave Duration (Requested):	Leave Type:	Review Speed:
10/10/2018	10	sick leave	emergency

**Leave Description:**  
Need a leave.

Figure 2-128 EHPM - Test Case E001 Proof 01 - Apply\_For\_Leave.jsp Valid form Fill

The screenshot shows the 'Leave Request Confirmation' page of the SampathEmpWeb application. The URL in the browser is [localhost:8080/SampathBankWebPortal/jsp/employee\\_hr\\_payroll\\_management/EHPM\\_Apply\\_For\\_Leave\\_Confirmation.jsp](http://localhost:8080/SampathBankWebPortal/jsp/employee_hr_payroll_management/EHPM_Apply_For_Leave_Confirmation.jsp). The page has a header with 'EmpHome', 'MyProfile', 'MyInbox' and 'SampathEmpWeb'. A 'Sign Out' link is in the top right. The main form displays the employee details and leave request from the previous screen, and provides options to 'Reject' or 'Confirm' the request.

Employee ID:	EMPL000001	Employee Name:	ISA Isuru HRManager Samarasekara
Branch:	branch 01 city	Department:	human resource
Designation:	human resource manager		

Leave Start Date:	2018-10-10	Leave Duration:	10	Leave Type:	sick leave	Review Speed:	emergency
-------------------	------------	-----------------	----	-------------	------------	---------------	-----------

**Leave Request Description:**  
Need a leave.

**Action Buttons:**  
Reject  
Confirm

Figure 2-129 EHPM - Test Case E001 Proof 02 - Apply\_For\_Leave\_Confirmation.jsp

#### 2.4.2.5.2 Test Case E002

The screenshot shows the 'SampathEmpWeb' application interface. At the top, there are navigation links: 'EmpHome', 'MyProfile', 'MyInbox', and 'Sign Out'. The main content area is titled 'Apply For Leave'. It contains several input fields:

- Employee ID:** EMPL000001
- Employee Name:** ISA ISURU HRMANAGER SAMARASEKARA
- Employee Designation:** HUMAN RESOURCE MANAGER
- No of Leaves Per Year:** 30
- No of Leaves Left:** 30
- Last Effective Leave Date:** 2018-10-06

Below these, there are dropdown menus for leave details:

- Leave Start Date (Requested):** 10/10/2018
- Leave Duration (Requested):** 31
- Leave Type:** sick leave
- Review Speed:** emergency

A text area labeled 'Leave Description:' contains the text 'Need a leave.'.

Figure 2-130 EHPM - Test Case E002 Proof 01 - Apply\_For\_Leave.jsp Invalid Form Fill

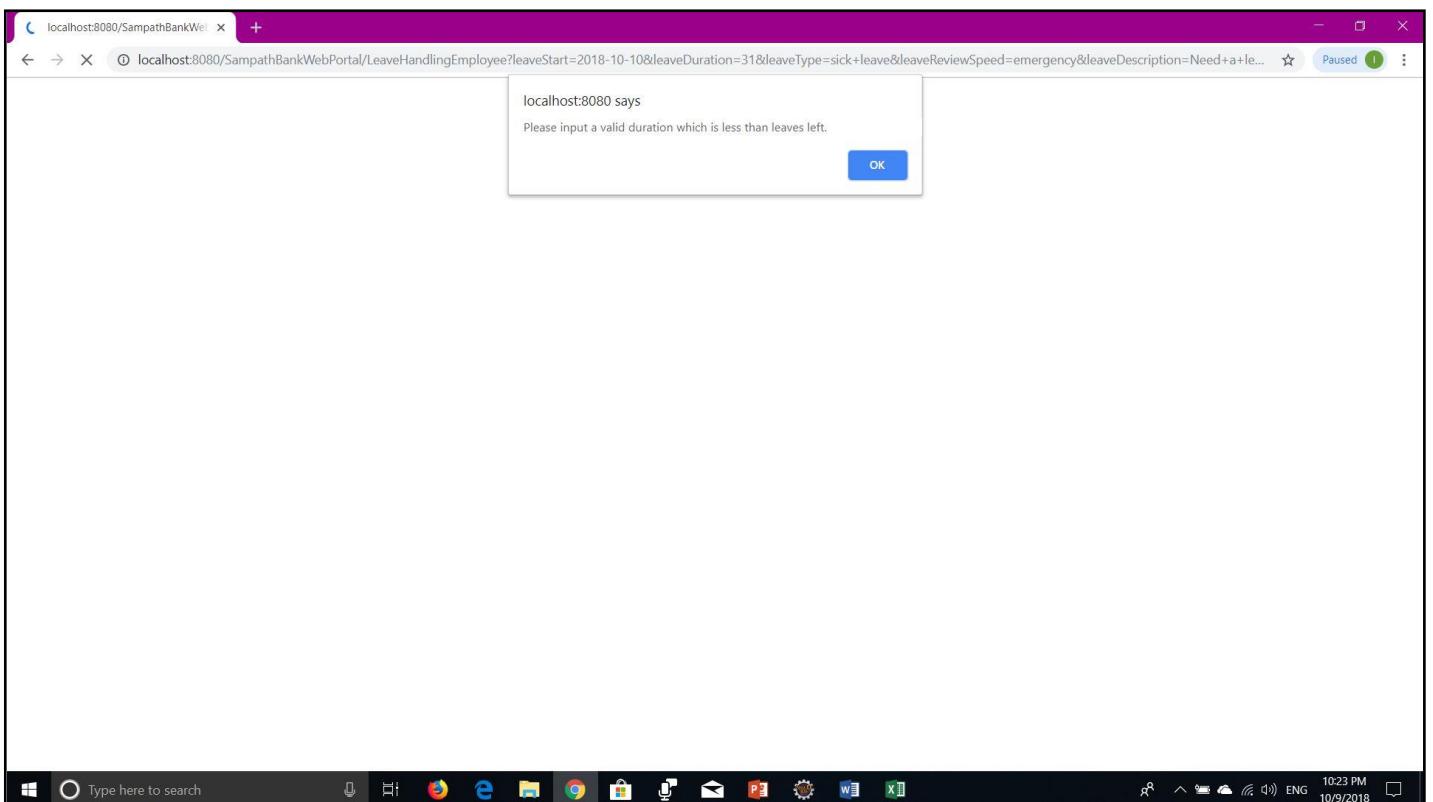


Figure 2-131 EHPM - Test Case E002 Proof 02 - Alert

## 2.4.2.6 Lease Calculator

### 2.4.2.6.1 Test Case LC01

The screenshot shows a web browser window titled "Normal Lease Calculator Employee" with the URL "localhost:8080/Lease\_Calculator/LeaseCalHomeEmp". The page is titled "SampathEmpWeb" and has a header with links for "EmpHome", "CustomerHome", "MyProfile", and "MyInbox". A "Sign Up" and "Login" button are also present.

The main section is titled "Facility Details" and contains the following input fields:

Selling Price (with VAT)	7500000
Effective Rate	10.5 %
VAT on Capital	0.00 %
VAT on Installment	0.00% %
Period	75
Normal Monthly Rental	110500.00
Lease A/C Number	1234567891ad
Lease A/C Opened Date	<p>Please match the requested format. Invalid Format.</p>

Below the form are two buttons: "Reset" and "Add Customer".

The taskbar at the bottom shows the Windows logo, a search bar with "Type here to search", and several pinned icons. The system tray indicates the date as 05/10/2018 and the time as 04:59 PM.

Figure 2-132 Lease Cal – Test Case LC01 Proof

### 2.4.2.6.2 Test Case LC02

The screenshot shows a web browser window titled "+ Add A Customer" with the URL "localhost:8080/Lease\_Calculator/LeaseCalEmp". The page is titled "SampathEmpWeb" and features the Sampath Bank logo and a user profile icon.

The top navigation bar includes links for "Employee Duties", "Leave Request Inquiry", "Salary Inquiry", "Skills Management", "Mailing System", and "Profile Related".

The main section is titled "Customer Registration" and contains the following input fields:

Account Number	123456789123
Date	2018-09-12
Sell Price	9000000
Effective Rate	15.5
Period	60
Monthly Rate	173250.0

A modal dialog box titled "Status" displays the message "Successfully Added" with an "OK" button.

At the bottom right are "Save" and "Back" buttons. The taskbar at the bottom shows the Windows logo, a search bar with "Type here to search", and several pinned icons. The system tray indicates the date as 05/10/2018 and the time as 05:01 PM.

Figure 2-133 Lease Cal – Test Case LC02 Proof

## 2.4.2.7 Fault/Complaint Management

### 2.4.2.7.1 Test Case F001

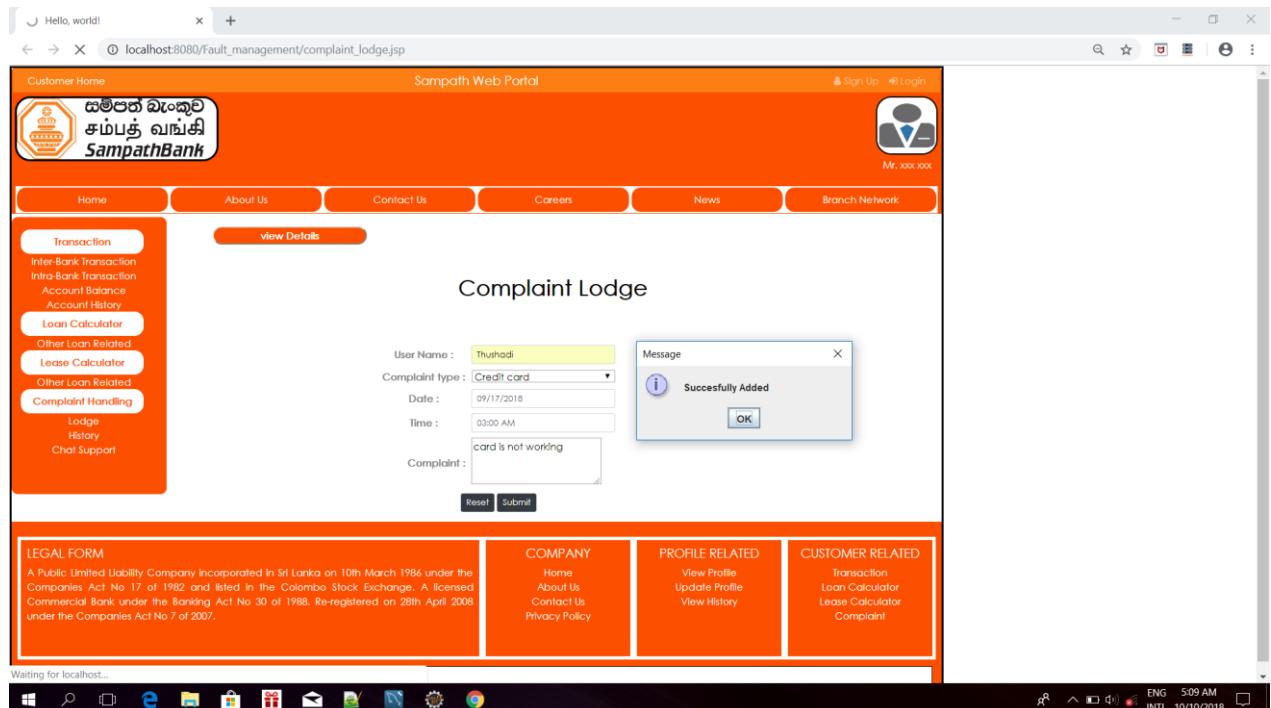


Figure 2-134 FM - Test Case F001 Proof

### 2.4.2.7.2 Test Case F002

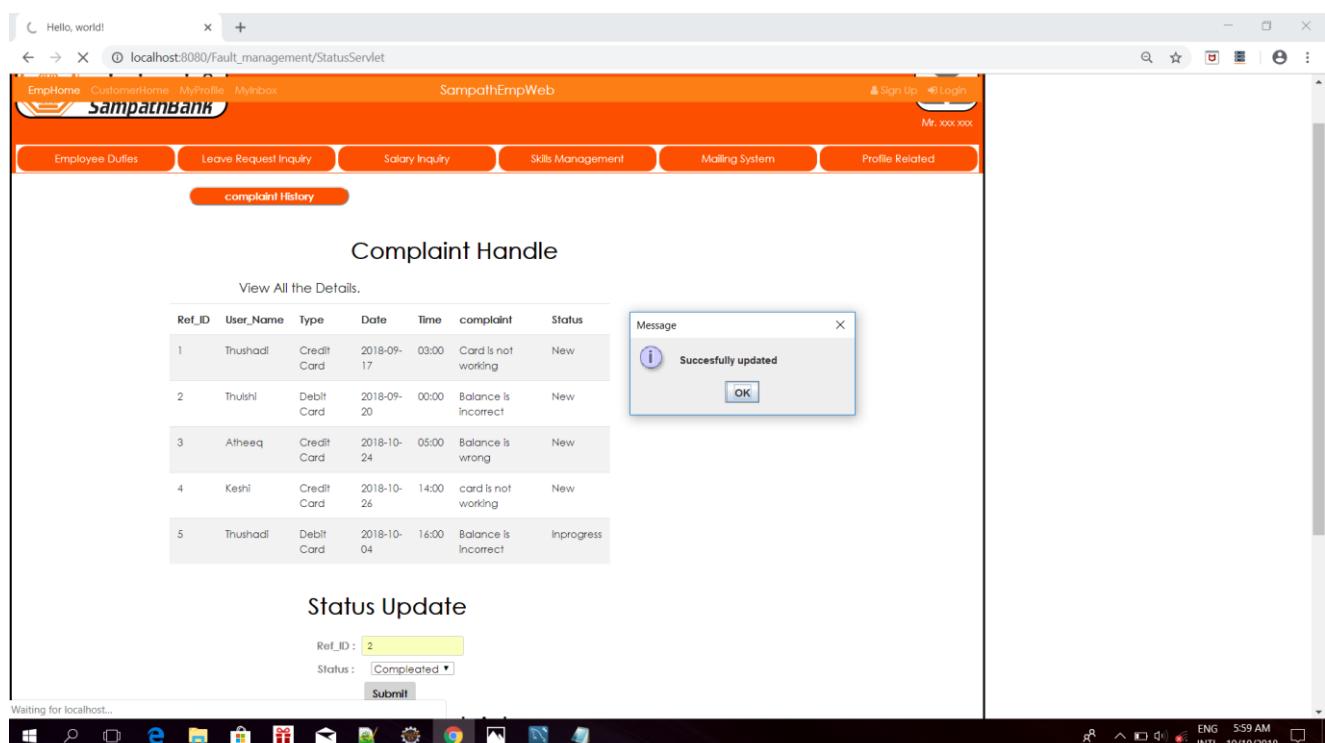


Figure 2-135 FM - Test Case F002 Proof

### 2.4.2.8 Loan Calculator

#### 2.4.2.8.1 Test Case LO01

The screenshot shows the Sampath Web Portal's 'Loan Details' page. The page title is 'Loan Details'. It displays the following information:

- Loan Name : HomeLoan
- Total Loan Amount : Rs. 9000000.0
- Loan Term : 2 years
- Monthly Installment will be : Rs.400916.0
- Anual Installment will be : Rs. 9621990.0

The left sidebar contains a navigation menu with the following items:

- Transaction
  - Inter-Bank Transaction
  - Intra-Bank Transaction
  - Account Balance
  - Account History
- Loan Calculator
  - For Admin Sign IN
  - For Admin Register
  - For Loan Over View
- Lease Calculator
- Other Loan Related
- Complaint Handling
  - Lodge
  - History
  - Chat Support

Figure 2-136 LC - Test Case LO01 Proof

#### 2.4.2.8.1.1 Test Case LO02

The screenshot shows the Sampath Web Portal's 'Loan Calculator' page. The page title is 'Loan Calculator' and it has a sub-instruction: 'Choose your plan and calculate installment for a loan!'. The form fields are:

- Loan Type : Home Loan
- Loan Amount :  (highlighted with a red border)
- Loan Term :  (highlighted with a red border) with a validation message: 'Please fill out this field.'
- Interest Rate % : 6.5

A 'CALCULATE' button is at the bottom of the form.

The left sidebar contains a navigation menu with the following items:

- Transaction
  - Inter-Bank Transaction
  - Intra-Bank Transaction
  - Account Balance
  - Account History
- Loan Calculator
  - For Admin Sign IN
  - For Admin Register
  - For Loan Over View
- Lease Calculator
- Other Lease Related
- Complaint Handling
  - Lodge
  - History
  - Chat Support

Figure 2-137 LC - Test Case LO02 Proof

## 2.4.2.9 Procurement Management

### 2.4.2.9.1 Test Case P001

The screenshot shows the 'Add Supplier' form on the SampathEmpWeb platform. The supplier name is 'Softlogic', address is 'Malabe', and phone number is '076228824'. A validation error message states: 'Please match the requested format. There should be only 10 Numbers without spaces.' The page also includes a 'LEGAL FORM' section with company details and navigation links for 'COMPANY', 'PROFILE RELATED', and 'CUSTOMER'.

Supplier Name: Softlogic  
Address: Malabe  
Phone: 076228824  
E: Please match the requested format.  
There should be only 10 Numbers without spaces.

LEGAL FORM  
A Public Limited Liability Company Incorporated in Sri Lanka on 10th March 1986 under the Companies Act No. 17 of 1982 and listed in the Colombo Stock Exchange. A licensed...

COMPANY  
Home  
About Us  
PROFILE RELATED  
View Profile  
Update Profile  
CUS

Figure 2-138 PM - Test Case P001 Proof

### 2.4.2.9.2 Test Case P002

The screenshot shows the 'Add Supplier' form on the SampathEmpWeb platform. The supplier name is 'Damro', address is 'Tangalle', and email is 'Damro@gmail.com'. A success message box appears stating 'Successfully Added'. The page also includes a 'LEGAL FORM' section with company details and navigation links for 'COMPANY', 'PROFILE RELATED', and 'CUSTOMER'.

Supplier Name: Damro  
Address: Tangalle  
Phone: 0472223880  
Email: Damro@gmail.com  
Message  
i Successfully Added  
OK

LEGAL FORM  
COMPANY  
PROFILE RELATED  
CUSTOMER

Figure 2-139 PM - Test Case P002 Proof

## **3. Evaluation**

### **3.1 Assessment of the Project results**

Though it was initially decided that the project technology should be JAVA in cooperated with Spring Boot framework, due to the time issue and different capability levels of the team members, it was decided later that it would be beneficial for the project scope if it was carried out only using the MVC architecture.

With regarding to the scope, the leader of the group planned to deliver to the module and the company, only four functionalities were implemented which could be considered as, up to the contribution standards. (Namely, Employee HR and Payroll Management System (Section [1.3.2](#)), User Management System (Section [1.3.3](#)), Inventory Management System (Section [1.3.4](#)) and Transaction Management System (Section [1.3.5](#)))

Though this project is far from perfect, considering the planned goals, taking in to account the difficulties we had along the way, time-wise, overall project resulted in a good outcome.

### **3.2 Lessons Learned**

Throughout this project duration we faced various struggles and it led us to find effective solutions for such problems. As a team we learnt how to manage our time where we had a packed academic assignments and exams. We also learnt how planning affects the overall progress of the project, initially we set up a timeline with the completion amount and this tool acted as an yardstick to measure the overall completion.

### **3.3 Future Work**

When considering the overall project, this was implemented for a single user at a time. Being more realistic, the project should abide multiple usability. If we are to develop this system further, the project should be implemented for the use of multiple users which in turn will need more security.

## **4. Conclusion**

In conclusion, original objectives of the projects were only 50% realized through the end. This project represents a mini-ERP system specialized for a bank with the customer side also attached. Even if we are to achieve the original objective level, still, this would not represent a stable and a secure version to go against any mini-ERP systems already in existence. But, with more knowledge along the way, this could potentially be developed up to the standard of a mini-ERP system.

In terms of limitations, Usability and Security poses as the most immediate threats. They could be contained if we are to implement the system for multiple users rather than a single user while providing enough security features for the individual customers and employees separately, and for the both parties combined.

For the reason that only one functionality was developed for the client while all the others being invented for the sake of module requirements, client might have less benefits than they expected. But, since they did not have any idea how to implement the required functionality, now, after inspecting our own implementation, they will have a better understanding of what they need.