

Project Part 2 – GROUP

Team:

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Title: Ebank

Project Summary:

An online banking website that allows customers to register for an account, login and view their checking or savings accounts. It will also allow customers to submit loan applications. Once the loan application is approved, customers will be able to access their loan account by simply logging into the system. The system will also implement a feature that allows bank managers to login and view open loan applications to make an informed decision to accept or deny the release of funds.

The Ebank application can perform the functions below:

- Customers can register for an account
- Customers can login
- Customers can view their checking account balance
- Customers can view their checking account transactions
- Customers can view their savings account balance
- Customers can view their savings account transactions
- Customers can view the balance of their approved loan
- Customers can transfer funds between their checking and savings accounts
- Customers can deposit money to their checking and savings accounts
- Customers can submit a loan application
- Managers can login
- Managers can view the open registration applications
- Managers can accept or deny the open registration applications
- Managers can view the open loan applications
- Managers can accept or deny a loan application

➤ **Project Requirements:**

Business Requirements				
ID	Requirement	Topic Area	Actor	Priority
BR-01	Customer account created only after Manager's approval	Authentication	Manager	Critical
BR-02	Customer should be able to transfer money only after answering the security question	Security	Customer	Critical
BR-03	Each customer should have at least a savings account	Business	Customer	Medium
BR-04	Customers can transfer money, only if they are aware of the other customers routing and account numbers	Security	Customer	Medium
BR-05	Customers must have a valid checking and savings account before they will be approved for a loan.	Security	Customer	Medium

User Requirements				
ID	Requirement	Topic Area	Actor	Priority
UR-01	As a customer, I want to submit an application to open an account, so that I can maintain my financial transactions in the bank	Registration	Customer	High
UR-02	As a customer, I want to login after setting up an account, so that I can view my account and perform transactions	Login	Customer	High
UR-03	As a customer, I want to view the checking account balance, so that I can be updated with the latest balance	Profile	Customer	High
UR-04	As a customer, I want to view savings account balance, so that I can be updated with the latest balance	Profile	Customer	High

UR-05	As a customer, I want to view checking transaction details, so that I can verify all of my checking transactions	Information storage	Customer	Medium
UR-06	As a customer, I want to view saving transaction details, so that I can verify all of my checking transactions	Information storage	Customer	Medium
UR-07	As a customer, I want to transfer money from the savings and checking accounts, so that I can save money or get money from savings.	Business	Customer	Medium
UR-08	As a customer, I want to transfer money to other customer's accounts, so that I can transfer money to friends and creditors.	Business	Customer	Medium
UR-09	As a customer, I want to upload an image of a cheque, so that I can deposit funds	Business	Customer	High
UR-10	As a customer, I want to submit a loan application, so that I can borrow money.	Business	Customer	Medium
UR-11	As a customer, I want to see the remaining balance on the loan, so that I am updated on the latest balance	Business	Customer	Medium
UR-12	As a customer, I want to see the payments made on the loan, so that I can verify my loan transactions	Business	Customer	Medium
UR-13	As a customer, I want to pay on my loan using funds from my checking account, so that I can repay the loan easily without using a check	Business	Customer	Medium
UR 14	As a customer, I want to pay my loan using funds from my savings account, so that I can repay the loan easily without using a check	Business	Customer	Medium
UR-15	As a Manager, I want to Login, so that I can perform the admin operations such as accepting account requests and loan	Login	Manager	High

	requests			
UR-16	As a Manager, I want to see all the account opening requests with customer details after I Login, so that I can perform accept/deny task	Information	Manager	High
UR-17	As a Manager, I want to see all the Loan opening requests with customer details after I Login, so that I can perform accept/deny task	Information	Manager	High
UR-18	As a Manager, I want to accept the account opening applications, so that I can allow loyal customers to have an active account	Approval	Manager	High
UR-19	As a Manager, I want to deny the account opening applications, so that I can prevent disloyal customers for the bank	Approval	Manager	High
UR-20	As a Manager, I want to accept the Loan applications, so that I can release loan to the loyal and deserving customers	Approval	Manager	Medium
UR-21	As a Manager, I want to deny the Loan applications, so that I can prevent releasing loan to disloyal and non-deserving customers	Approval	Manager	Medium
UR-22	As a customer, I want to check if the account has not been accepted, so that I can follow up with the bank to provide necessary documents	Business	Customer	Medium

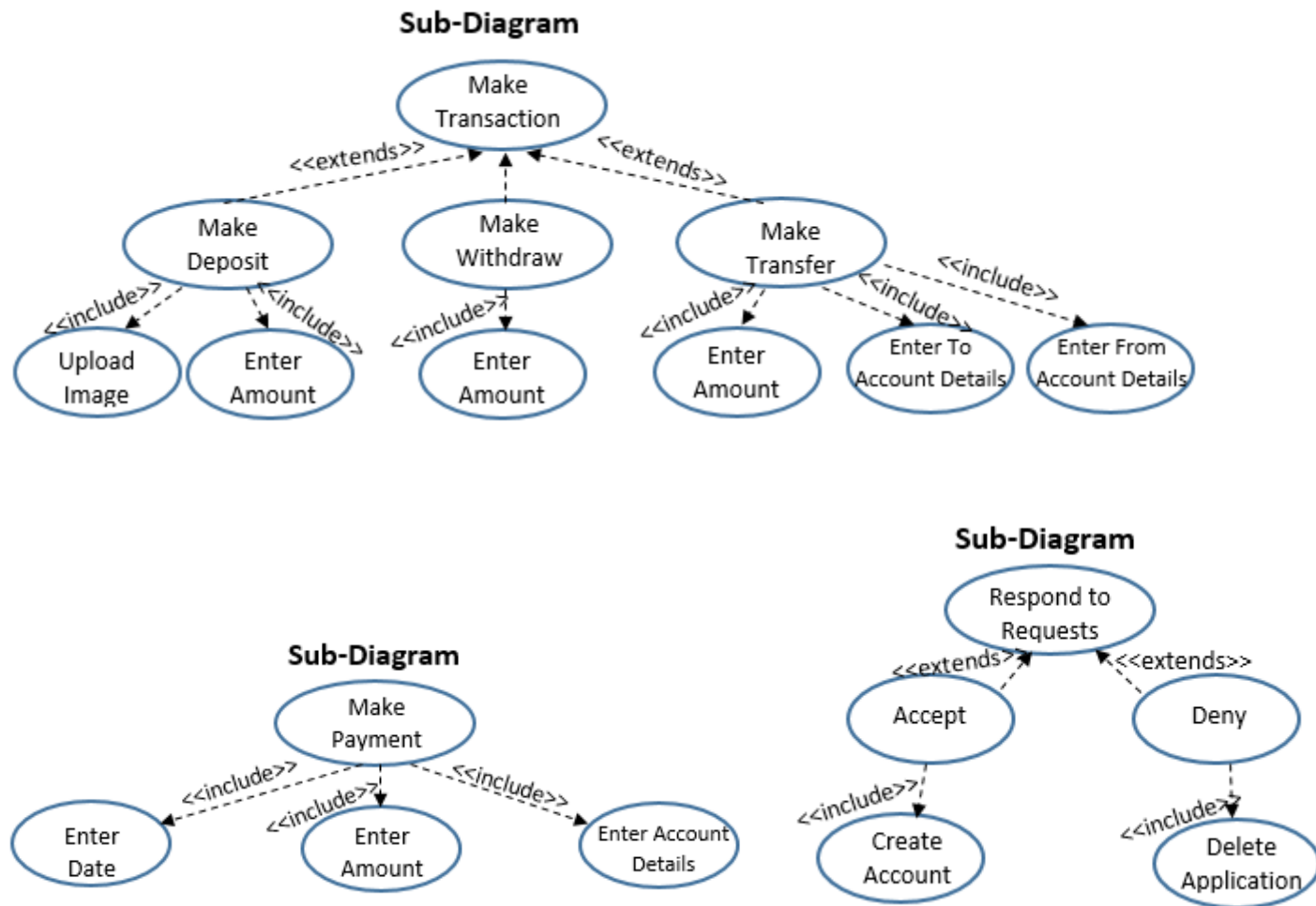
Functional Requirements				
ID	Requirement	Topic Area	Actor	Priority
FR-01	Manager should be able to view all the account opening requests, after Login	Business	Manager	Critical
FR-02	Manager should be able to view all the loan requests from the customers, after Login	Business	Manager	Medium
FR-03	All the customer and transaction details of every customer should be stored	Business	Customer	Critical

Non-Functional Requirements				
ID	Requirement	Topic Area	Actor	Priority
NFR-01	The operations should be performed in real time. No operation should take more than 4 seconds	Performance	Developer	Critical
NFR-02	The data should be backed up in case of any loss or failure	Data Backup	Developer	Medium

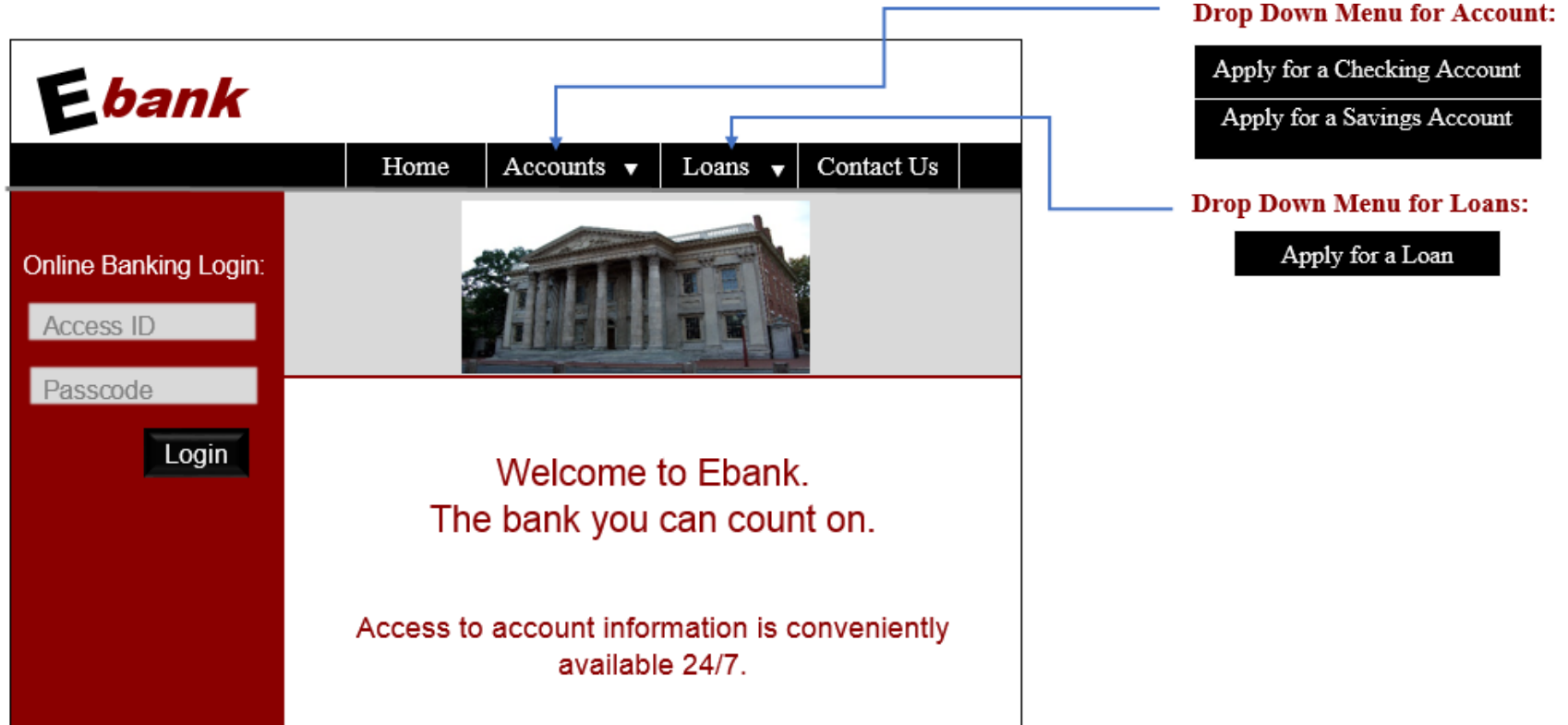
➤ Use Case Overview Diagram



➤ Use Case Sub-Diagrams:



UI Mockups:



UI Mockups Continued:



Account Application

Type of account applying for: Checking ☐ Savings ☐

Applicant Information

Last Name: First Name:

Birthdate: SSN:

Street Address:

City: State:

Postal Code:

Submit

Scroll Wheel

The application form will allow customers to upload an image of an approved form of identification.

It will also have a checkbox that customers will need to select to confirm that they acknowledge that their electronic signature is the legally binding equivalent to their handwritten signature.

After a user has selected the submit button, the user will be directed to a confirmation page.

UI Mockups Continued:



Loan Application

Note: In order to be approved for a loan, you must have a valid checking or savings account through our bank.

Type of Loan: Consolidation ☐ Auto ☐ Home ☐
eBank Checking or Savings Account Number:

Applicant Information

Last Name: First Name:

Birthdate: SSN:

Street Address:

City: State:

Postal Code:

Submit

Scroll Wheel

The application form will allow customers to upload an image of an approved form of identification.

It will also have a checkbox that customers will need to select to confirm that they acknowledge that their electronic signature is the legally binding equivalent to their handwritten signature.

After a user has selected the submit button, the user will be directed to a confirmation page.

UI Mockups Continued:



[Home](#) [Logout](#)

Accounts:

Checking ...8905	\$1,578.25	➔
Savings ...9845	\$15,547.04	➔

Loans:

Auto ...2358	Principle Balance Remaining: \$4,678.20	➔
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Customers are navigated to this page after they log into their account using the login on Ebank's home page.

Customers can click an account, and they will be navigated to that account's page.

Note: Only the accounts that the customer has been approved for will show on the accounts home page.

UI Mockups Continued:

[Logout](#)[Home](#)[Deposit](#)[Withdraw](#)[Transfer](#)

Checking ...8905

Current Balance \$1,578.25

Transactions:

Date	Description	Amount
01/24/17	SPROUTS FARMERS AURORA CO	\$22.56
01/24/17	STARBUCKS STORE #2345 DENVER CO	\$7.65
01/24/17	TARGET T- 1001 E 120th Thornton CO	\$173.56
01/24/17	BEDBATH&BEYOND NORTHGLENN CO	\$245.54
01/23/17	CHILI'S TOWER RD AURORA CO	\$24.54
01/23/17	ALAMO LITTLETON RE LITTLETON CO	\$16.82
01/23/17	CHIPOTLE AURORA CO	\$14.11
01/22/17	CU BLDR PRKG SVCS BOULDER CO	\$8.74

The checking and savings account pages will be similar.

Scroll Wheel

UI Mockups Continued:

[Logout](#)[Home](#)[Deposit](#)[Withdraw](#)[Transfer](#)

Checking ...8905

Current Balance \$1,578.25

Deposit:

An image of the check you would like to deposit is required.

Amount:

Image:

The checking and savings account deposit pages will be similar.

UI Mockups Continued:

[Logout](#)[Home](#)[Deposit](#)[Withdraw](#)[Transfer](#)**Checking ...8905****Current Balance \$1,578.25****Withdraw:**

Please input the amount you would like to withdraw. It will be delivered to your address on file within 1 business day.

Amount:**Confirm Amount:****Submit Withdraw**

The checking and savings account withdraw pages will be similar.

UI Mockups Continued:

Ebank[Logout](#)

Home	Deposit	Withdraw	Transfer
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Checking ...8905

Current Balance \$1,578.25

Transfer:

To:	From:
Routing #: <input type="text" value="#####"/>	Routing #: <input type="text" value="#####"/>
Account #: <input type="text" value="#####"/>	Account #: <input type="text" value="#####"/>

Amount:

Confirm Amount:

Submit Transfer

The checking and savings account transfer pages will be similar.

When the Submit Transfer Button is pressed, a pop up menu similar to the one below will open asking the user to enter the answer to their security question for added protection.

What is your mother's maiden name?

Cancel

Submit

UI Mockups Continued:

E bank[Home](#) [Logout](#)

Loan ...2358**Principle Balance Remaining \$4,678.20**

Make a payment
Date: Amount: Account:

Payment History:

Date	Description	Amount
01/24/17	MADE FROM CHECKINGS ...8905	\$372.52
12/24/16	MADE FROM CHECKINGS ...8905	\$372.52
11/24/16	MADE FROM CHECKINGS ...8905	\$372.52
10/24/16	MADE FROM SAVINGS ...9845	\$372.52

When the Make Payment Button is pressed, a pop up menu similar to the one below will open asking the user to confirm their payment.

Please confirm that you would like to submit a payment.

Cancel

Confirm

Scroll Wheel

After the user has confirmed their payment details, the user will be directed to a page that displays the details for the payment they just made.

UI Mockups Continued:



[Home](#) [Logout](#)

Open Applications:

Checking and Savings Account



Loans



Managers are navigated to this page after they log into their account using the login on Ebank's home page.

Managers can select which type of open applications they would like to view.

UI Mockups Continued:



[Home](#) [Logout](#)

Open Checking and Savings Applications:

1/24/17	Jessie Batson	➤
1/23/17	Jane Doe	➤
1/23/17	Paden Wood	➤
1/22/17	John Smith	➤
1/22/17	Crystal Klaver	➤
1/22/17	Jason Stowell	➤
1/21/17	John Doe	➤

The open loan applications page is similar to the open checking and savings applications page.

UI Mockups Continued:



[Home](#) [Logout](#)

Type of Application: Checking and Savings

Name: Crystal Klaver

Birthdate: 11/24/1993

SSN: 123-45-6789

Street Address: 123 ABC Lane

City: Englewood **State:** CO

Postal Code: 80110

Phone: (123)456-7890

Yearly Salary: \$91,346

Deny

Confirm

Once an application is selected from the open checking and savings applications page or from the open loan applications page, managers will be navigated to this page where they will view the contents of the application that was submitted.

Scroll Wheel

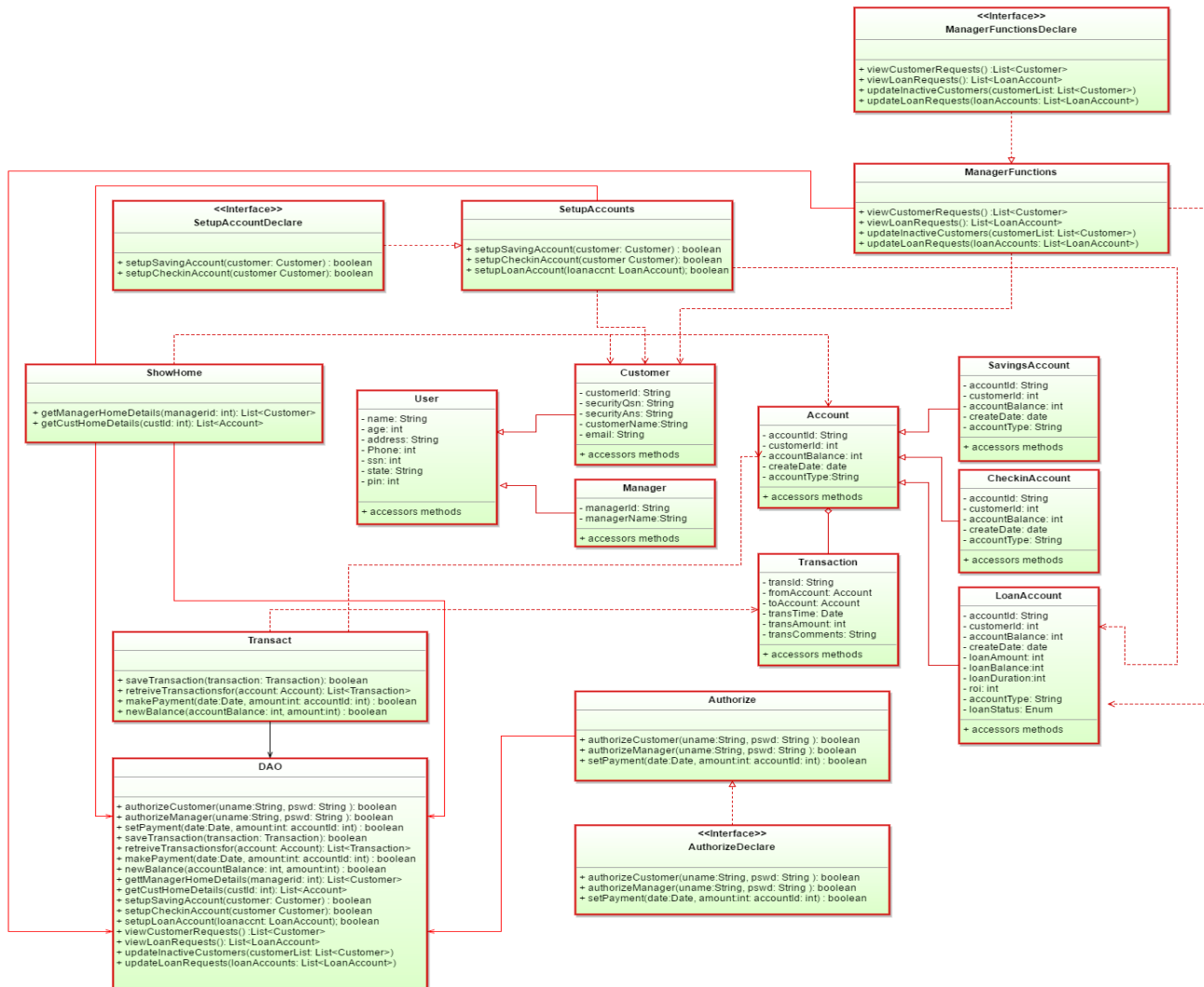
When either the confirm or deny button is pressed, a pop up menu similar to the one below will open asking the manager to confirm their

Please confirm your selection.

Deny

Confirm

➤ Class Diagram:



➤ Storage:

Oracle MySQL is used for data storage for this project.

The design of the database is shown in the below diagram.

