

<Banking System>

Programming 3 Homework

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1 DESCRIPTION OF THE TASK

The project I am willing to make is a simple banking system. This program can be used by clients after logging in to withdraw money, make a transaction, deposit money, check their balances or display statistics concerning their spending. Also, it can be used by the bank to make searches concerning their clients or to modify their data if needed or send them notifications that they can receive upon logging in. The banking system will give both the user and the bank the possibility to change the default currency that is being used.

2 STRUCTURAL DESCRIPTION

2.1 DESCRIPTION OF THE CLASSES

<the following section for each class:>

2.1.1 BalancePage

Responsibilities

<This Class is a JFrame that will print out the balance of the user automatically when called>

Attributes

<attribute>	<description>
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Methods

<backButtonActionPerformed()>	<This function will close the BalancePage when the correspondent button is clicked>
initComponents(sum: double)	This function will initialize the GUI of the called class.

2.1.2 User

Responsibilities

<This Class's goal is storing the data of the banking system's users.>

Attributes

-username: String	A String to store the username of the user.
-password: String	A String to store the password of the user.
-firstName: String	A String to store the first name of the user.
-lastName: String	A String to store the last name of the user.
-currency: String	A String to store the currency the user is using.

Methods

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2.1.3 ChangeUserDataPage

Responsibilities

<This Class's goal is to make changes to the user's data he entered when registering..>

Attributes

-currentUsername: String	A String to store the username of the current user.
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Methods

-EnterNewDataActionPerformed()	A method to test the information entered by the user and to modify the data file when the correspondent button is clicked.
- jButtonBackFromChangeDataActionPerformed()	This function will close the ChangeUserDataPage when the correspondent button is clicked.

2.1.4 LoginPage

Responsibilities

<This Class has the JFrame that will encounter the user when he first starts the program.>

Attributes

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Methods

- jButtonExitActionPerformed ()	This function will close the program when the correspondent button is clicked.
- jButtonSpecialAccessActionPerformed ()	This function will direct the user to the special access login page when the correspondent button is clicked.
- jButtonRegisterActionPerformed()	This function will direct the user to the registration page when the correspondent button is clicked.
-jButtonLoginActionPerformed()	This function will check the existence of an account with the same login data entered by the user and if so direct him to the welcome page when the correspondent button is clicked.

2.1.5 SpecialAccessLoginPage

Responsibilities

<This Class has the JFrame that will encounter the users that will login using the special access code.>

Attributes

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Methods

- jButtonBackActionPerformed ()	This function will go back to the initial LoginPage when the correspondent button is clicked.
- jButtonEnterActionPerformed ()	This function will check the correctness of the code entered by the user then direct him to the Special Access welcome page when the correspondent button is clicked.

2.1.6 RegistrationPage

Responsibilities

<This Class has the JFrame that will encounter the users when creating a new account.>

Attributes

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Methods

- jButtonBackActionPerformed ()	This function will go back to the initial LoginPage when the correspondent button is clicked.
- jButtonEnterInfoActionPerformed()	This function will check the validity of the information entered by the user then creates a new account when the correspondent button is clicked.

2.1.7 DepositMoney

Responsibilities

<This Class's goal is to deposit money in the account.>

Attributes

-currentUsername: String	A String to store the username of the current user.
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Methods

- jButtonEnterDepositInfoActionPerformed ()	A method to deposit money when the correspondent button is clicked.
- jButtonBackFromDepositPageActionPerformed ()	This function will close the Deposit Money Window when the correspondent button is clicked.

2.1.8 SpendMoney

Responsibilities

<This Class's goal is to deduct money from the account.>

Attributes

-currentUsername: String	A String to store the username of the current user.
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Methods

- jButtonEnterTransferInfoActionPerformed ()	A method to deduct money when the correspondent button is clicked.
- jButtonBackFromTransferPageActionPerformed ()	This function will close the Spend Money Window when the correspondent button is clicked.

2.1.9 WelcomePage

Responsibilities

<This Class has the JFrame the welcome page the user gets after successfully logging in.>

Attributes

-username: String	A String to store the username of the current user.
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Methods

- BalanceActionPerformed()	A method to open the balance page when the correspondent button is clicked.
-jLogoutButtonActionPerformed()	This function will close the Welcome page and open the initial login page when the correspondent button is clicked.
-jDepositButtonActionPerformed()	A method to open the deposit money page when the correspondent button is clicked.
- jSpendMoneyButtonActionPerformed()	A method to open the spend money page when the correspondent button is clicked.
-changeCurrencyActionPerformed()	A method to open the change currency page when the correspondent button is clicked.
-jHistoryButtonActionPerformed()	A method to open the history page when the correspondent button is clicked.

2.1.10 WelcomePage

Responsibilities

<This Class has the JFrame the welcome page a user with special access gets after successfully logging in.>

Attributes

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Methods

- checkTheBalanceActionPerformed ()	A method to open the balance page when the correspondent button is clicked.
- jLogoutButtonActionPerformed ()	This function will close the Special Access page and open the initial login page when the correspondent button is clicked.
-jDepositMoneyButtonActionPerformed ()	A method to open the deposit money page when the correspondent button is clicked.
- jDeductButtonActionPerformed ()	A method to open the spend money page when the correspondent button is clicked.
- jButtonChangeCurrencyActionPerformed ()	A method to open the change currency page when the correspondent button is clicked.
- jHistoryButtonActionPerformed ()	A method to open the history page when the correspondent button is clicked.
- jSendNotificationButtonActionPerformed()	A method to open the send notifications page when the correspondent button is clicked.
- jButtonChangeDataActionPerformed()	A method to open the change the user's data page when the correspondent button is clicked.

2.1.11 SendingNotificationsPage

Responsibilities

<This Class's goal is to send notifications to a certain user.>

Attributes

-currentUsername: String	A String to store the username of the current user.
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Methods

- jButtonSendActionPerformed ()	A method to send a text entered to a client as a notification when the correspondent button is clicked.
- jButtonBackFromSendingNotificationActionPerformed ()	This function will close the Window for sending notifications when the correspondent button is clicked.

2.1.12 NotificationPopUpWindow

Responsibilities

<This Class has a JFrame for a window for notifications that pops up once the user logs in successfully.>

Attributes

-currentUsername: String	A String to store the username of the current user.
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Methods

- jButtonGetNotificationsActionPerformed() ()	A method to get the notification sent by the bank when the correspondent button is clicked.
- jButtonExitNotificationsActionPerformed() ()	This function will close the Window of printing notifications when the correspondent button is clicked.

2.1.13 ChangingCurrency

Responsibilities

<This Class has a JFrame for a window from which the user can change the default currency he is using.>

Attributes

-currentUsername: String	A String to store the username of the current user.
-previousCurrency: String	

Methods

- getPreviousCurrency ()	A method that extracts the currency the client is using before the change.
- backButtonActionPerformed ()	This function will close the Window of changing notifications when the correspondent button is clicked.
- jButtonNewCurrencyActionPerformed() ()	The method that starts the update of the data based on the required conversion.
- updateCurrency()	The method that applies the changes the client required to be made.

2.1.14 HistoryOfTransactions

Responsibilities

<This Class has a JFrame for a window for printing out the history of transactions.>

Attributes

-currentUsername: String	A String to store the username of the current user.
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Methods

- viewHistoryActionPerformed() ()	A method to get the history of transactions when the correspondent button is clicked.
- backButtonActionPerformed() ()	This function will close the Window of printing the history of transactions when the correspondent button is clicked.

2.1.15 InputIssue

Responsibilities

<This Class has a JFrame for a window that pops up whenever there is a problem related to the user's input.>

Attributes

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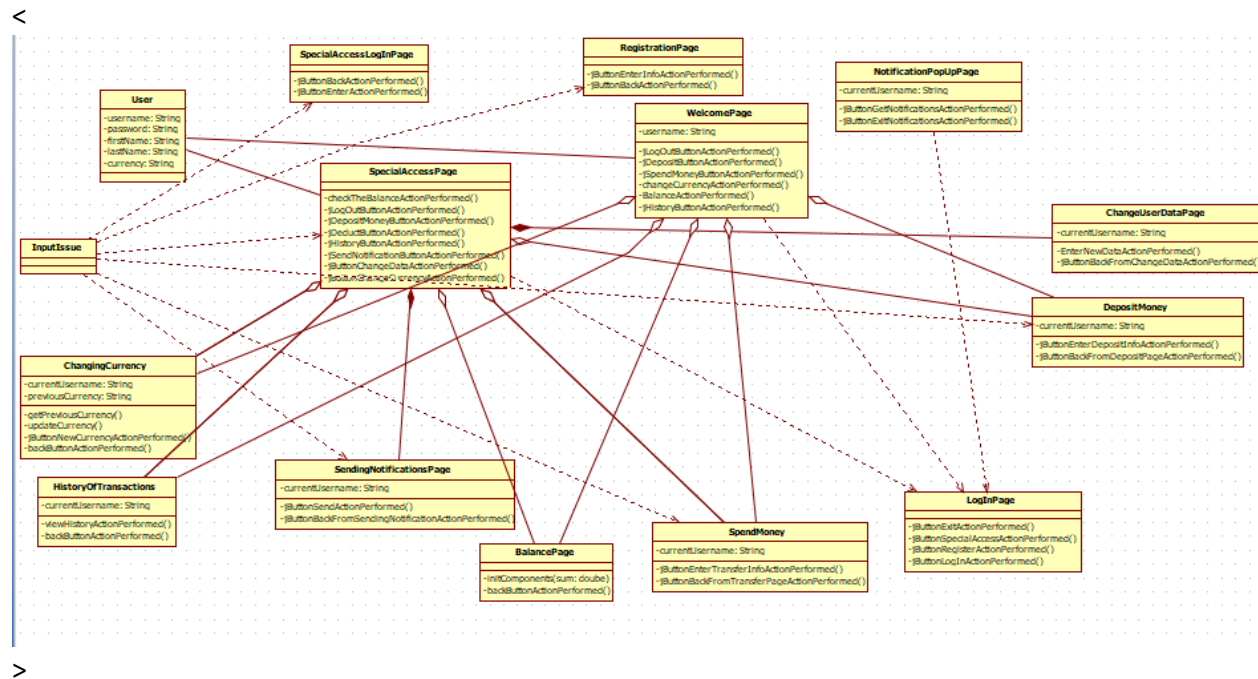
Methods

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JUnit Testing

Description	Testing the change of currency.
Behavior	Testing the extraction of the previously used currency and the result of the currency conversion.

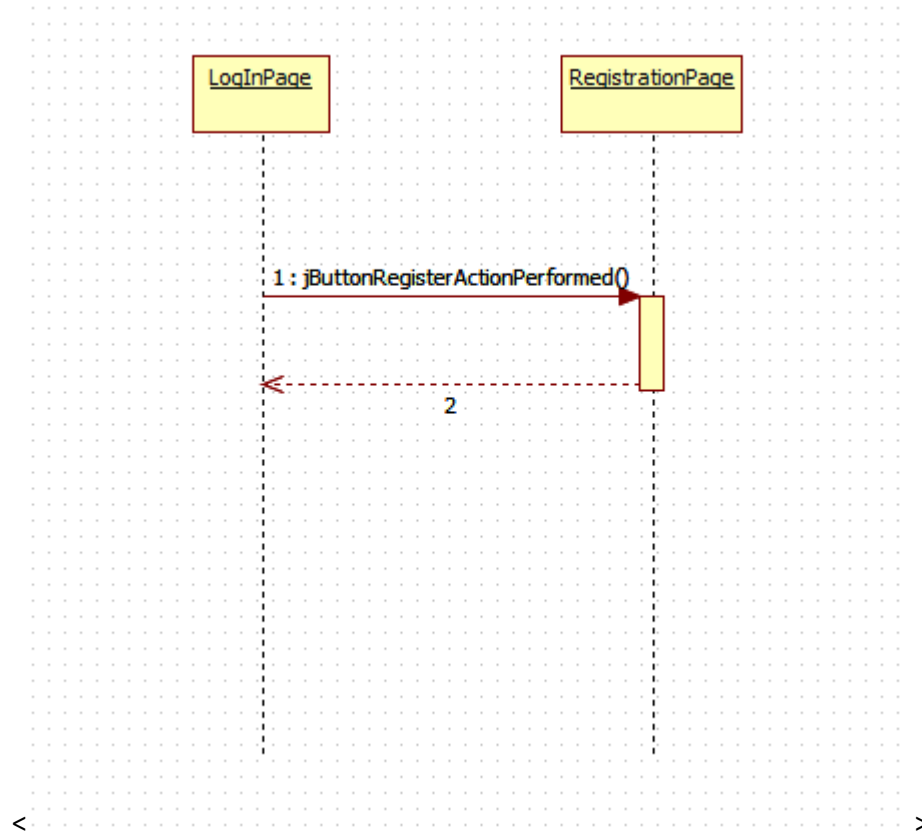
2.2 CLASS DIAGRAM



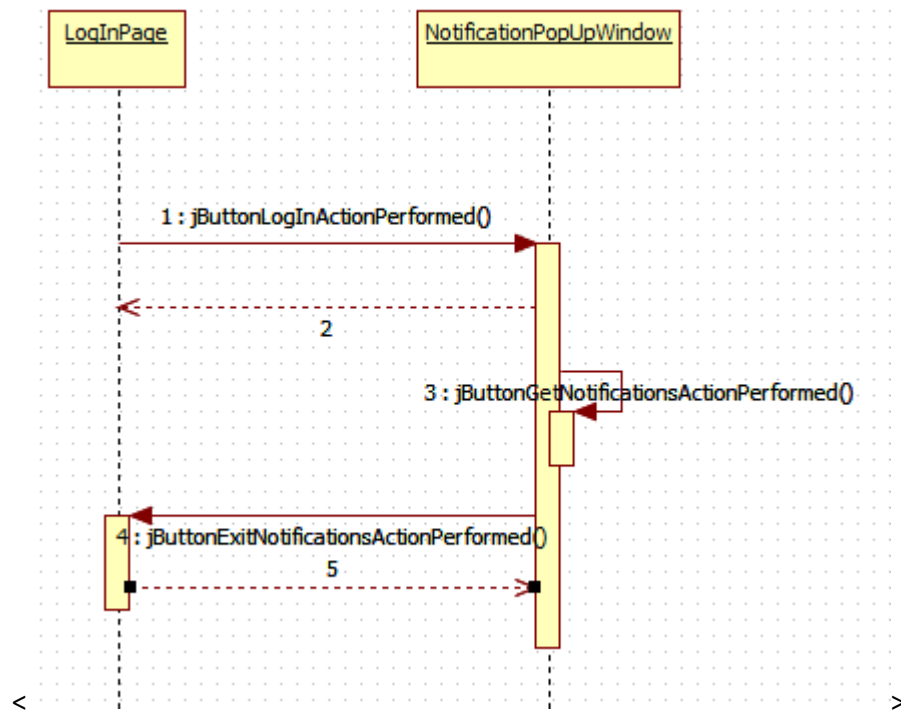
3 BEHAVIORAL DESCRIPTION

3.1 SEQUENCE DIAGRAMS

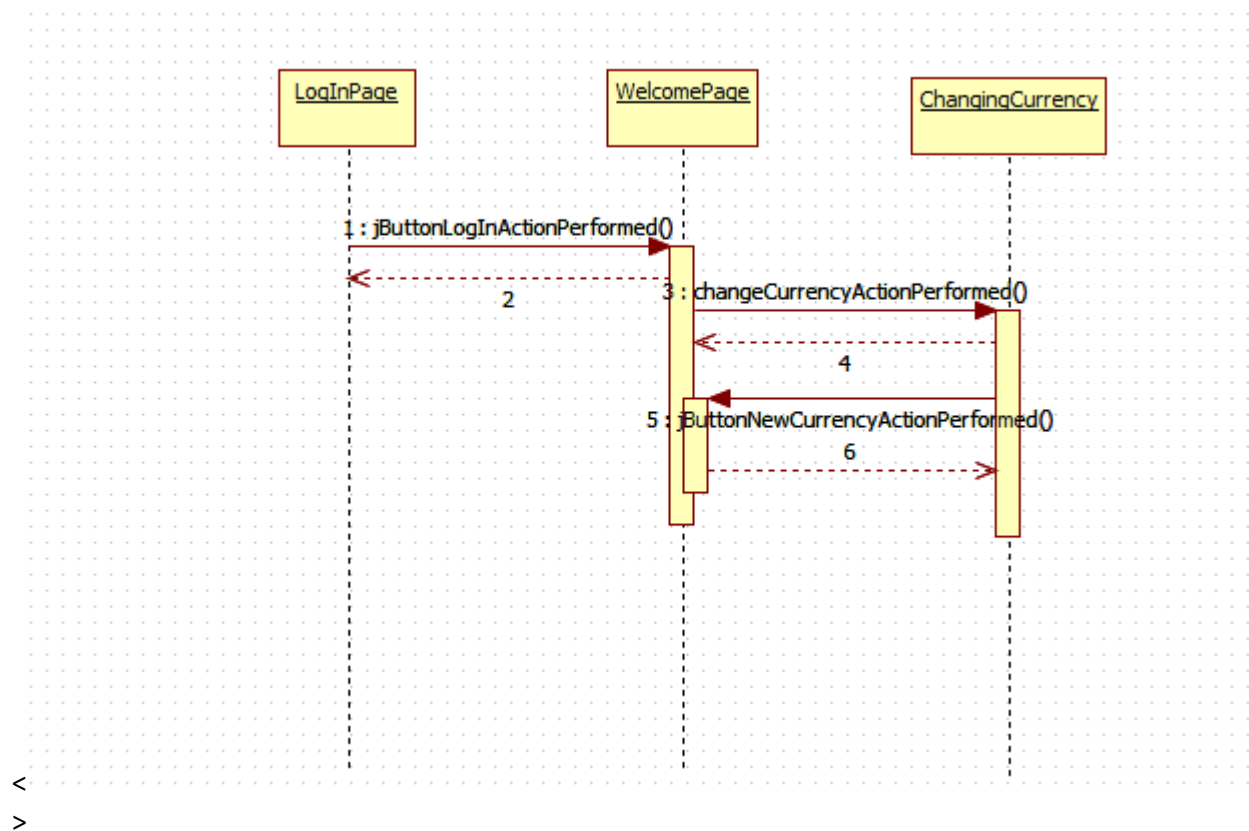
3.1.1 Registration



3.1.2 Receiving Notifications



3.1.3 Changing the default currency



4 JUNIT TESTING

ChangingCurrencyTest

Description	Testing the change of currency.
Behavior	Testing the extraction of the previously used currency and the result of the currency conversion.