

**Vanier College**  
**Computer Science Department**



**User Manual**

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420-331-VA : Application Development (Sec-01)

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Friday, December 05, 2025

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## **Introduction:**

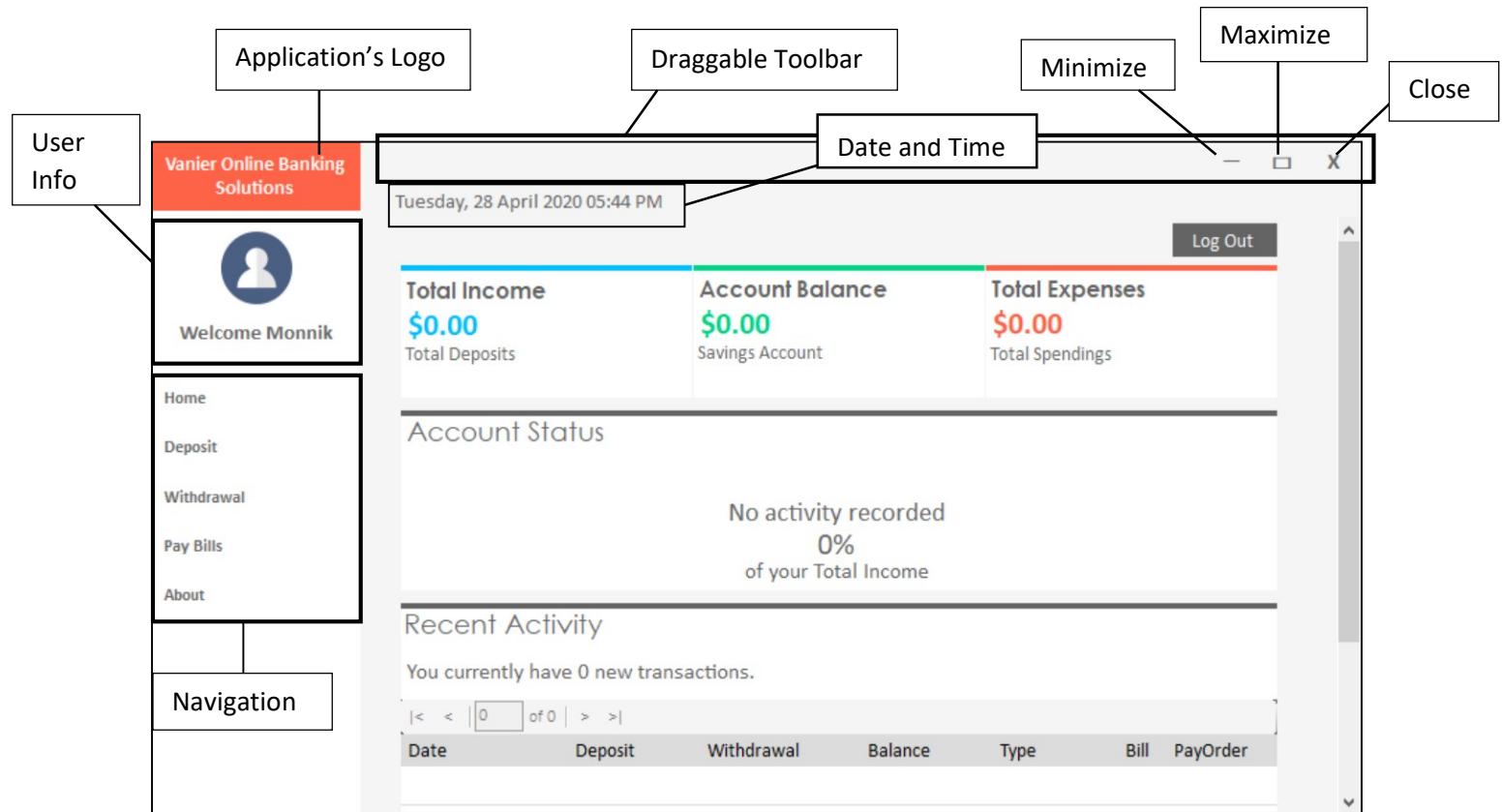
**Vanier Online Banking Solutions** is an application designed to simulate a real-world online banking application. This program provides common transaction features such as bank accounts with their own balances, the ability to deposit paychecks, withdrawing cash, and paying bills. This user's manual will provide a detailed explanation of all features included in this online banking application.

## **Interactive Features:**

In recent years, online banking has become widely popular across the nation due to its ability to perform online transactions on the Web with only the click of a button. The Vanier Online Banking Solutions app provides just the right amount of convenience for your everyday banking transactions. Some of the major features of this applications include:

- the **Account Balance** being displayed and constantly updated every time a transaction is performed
- the **Total Income** which is the sum of all deposits
- the **Total Expenses** which is the sum of all withdrawals
- the **Transaction History** which keeps an entire record of previous deposits and withdrawals
- the **Account Status** which keeps track of the percentage amount on how much the user spends from his total income
- the ability to **print** a receipt of all statements whether they are deposit, withdrawal, or bill payment statements.

# Graphical User Interface:



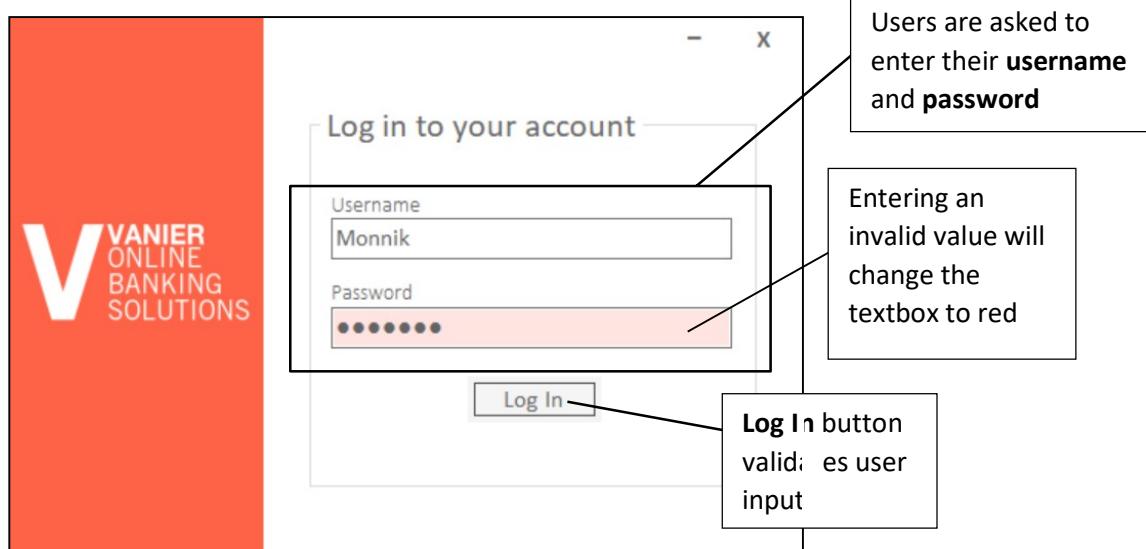
## Basic UI:

This application is programmed using the C# language and comes with a very simple user interface and has a light design. The UI is inherited from one single form called **InheritedForm.cs** and as the user clicks on one of the **navigation** buttons, the same placement of each UI module can be seen on every form.

Additionally, when the user **logs in**, the **user info** is updated, and the welcome message is accompanied by the entered username that was entered during the **log in screen**. We can also see the **date and time** dynamically displaying the current date and time of the day.

## Application Features:

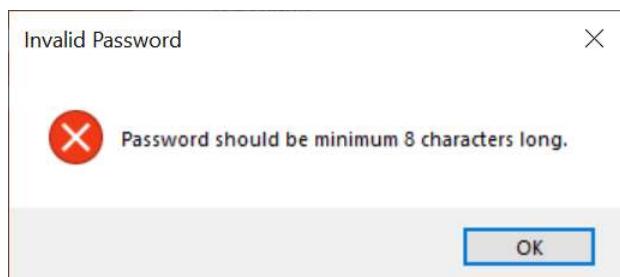
### Log In Screen



In the **Log In** screen, the user must enter a username and a password in order to access his or her account. Once the information has been entered, the **Log In button** verifies if the entered data is valid.

## Exception Handling:

- The username must be a **minimum of 4 characters long**.
- The password must be a **minimum of 8 characters long** and must contain the following:
  - At least **one special character**
  - At least **one uppercase character**
  - At least **one lowercase character**



## Dashboard:

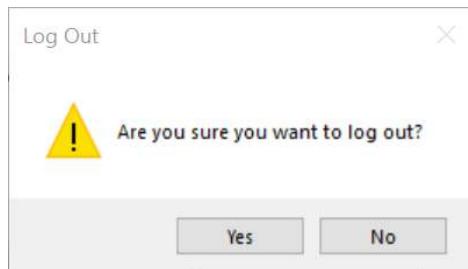
The screenshot shows the Vanier Online Banking Solutions dashboard. At the top right, there is a "Log Out" button. Below it, a summary box displays "Total Income \$500.00" (Total Deposits), "Account Balance \$450.00" (Savings Account), and "Total Expenses -\$50.00" (Total Spendings). To the right of this summary, a callout box states: "Users can log out and switch to another account". Below the summary is an "Account Status" section with a progress bar indicating 10% spent on total income. To the right of this, another callout box states: "Dynamically display the Total Income, Account Balance, and Total Expenses". Further down is a "Recent Activity" section showing two new transactions. The table header includes columns for Date, Deposit, Withdrawal, Balance, Type, Bill, and PayOrder. The transactions listed are: 2020-04-28 19:30 Deposit 500.00 0.00 0.00 Deposit N ... and 2020-04-28 19:31 Withdrawal 0.00 50.00 450.00 Withdrawal N ... A "Print Transaction History" button is located at the bottom of this section. To the right of the transaction history section, three callout boxes provide additional information: "Account Status displays the percentage of expenses spent on total income", "Keeps a record of all previous transactions", and "Print entire Transaction History".

Date	Deposit	Withdrawal	Balance	Type	Bill	PayOrder
2020-04-28 19:30	500.00	0.00	0.00	Deposit	N ...	
2020-04-28 19:31	0.00	50.00	450.00	Withdrawal	N ...	

The **main menu** of this application includes an interactive **dashboard** that displays and updates the **Total Income, Account Balance, and Total Expenses** after every transaction the user performs. These three values are automatically provided by the **Transaction Database** meaning that the data is stored inside a table. As we can see in the **Recent Activity** section, the current amount of new transactions is equal to the **number of rows** added to the database. The table header includes valuable information about each transaction such as, **date, deposit, withdrawal, balance, type, bill, pay order, and description**.

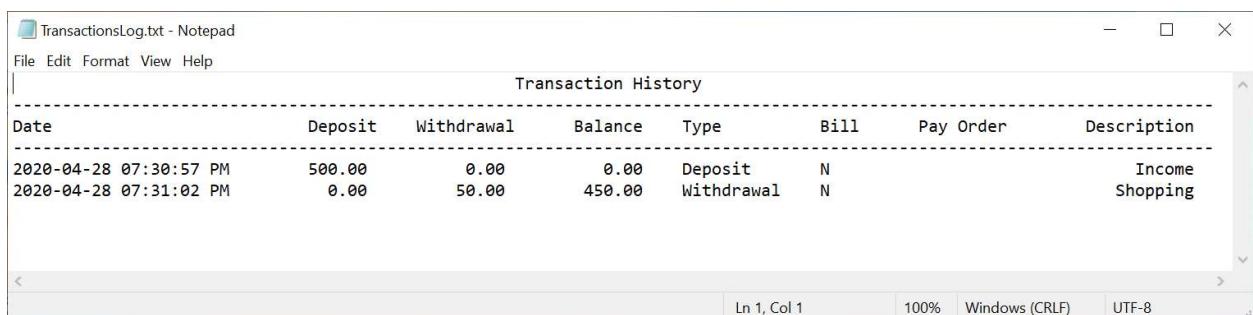
## Log Out Button:

The **Log Out** button simply clears the Transactions database, meaning it clears all data entries to the **data grid view**.

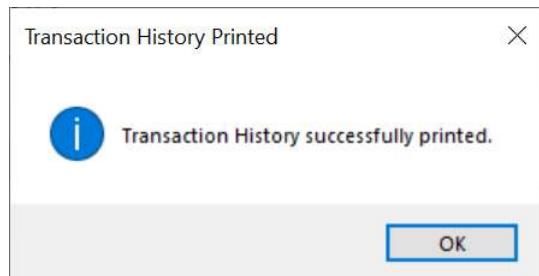


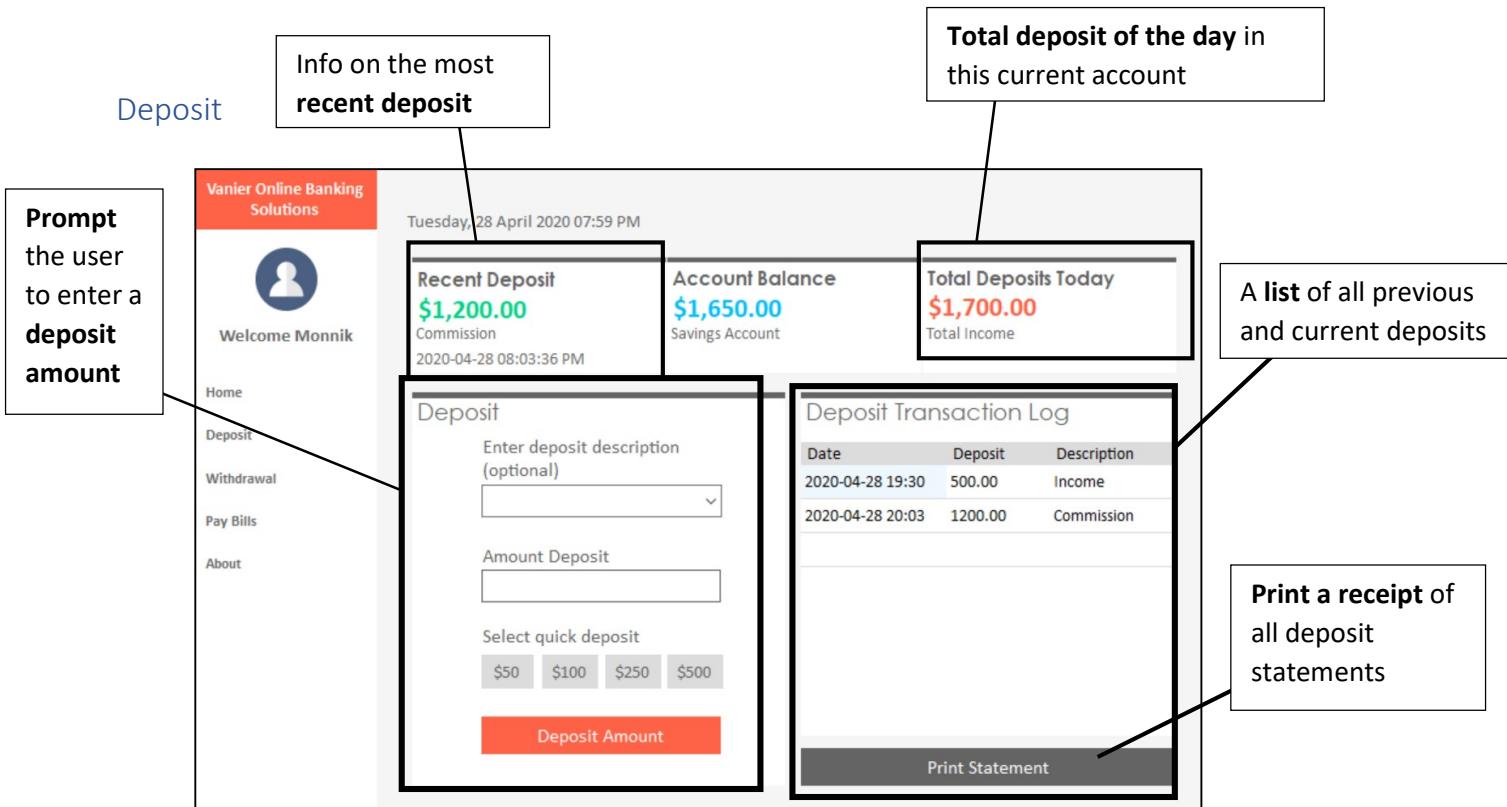
## Output Transaction Log.Txt:

Furthermore, the **Print Transaction History** outputs a text file called **TransactionLog.txt** in the user's **Desktop** with all the current bank account's transactions.



Date	Deposit	Withdrawal	Balance	Type	Bill	Pay Order	Description
2020-04-28 07:30:57 PM	500.00	0.00	0.00	Deposit	N		Income
2020-04-28 07:31:02 PM	0.00	50.00	450.00	Withdrawal	N		Shopping

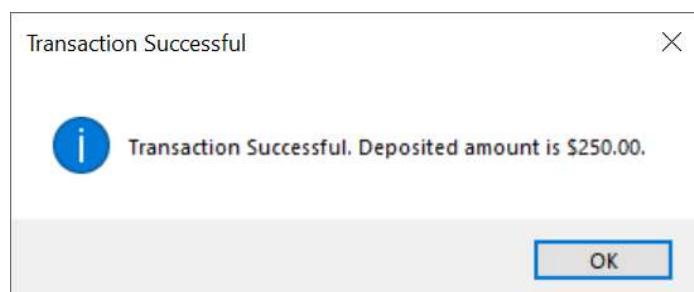




Users can enter a **specific amount** or a **quick deposit** amount (which consists of **radio buttons** of predetermined values) to deposit into their bank accounts. The amount deposited is **incremented** to the user's **Account Balance**. Once the deposited amount is added to the database, information such as **date**, **deposit**, and **description** are made available through the **Deposit Transaction Log** and the **Recent Deposit**.

## Exception Handling:

- A popup box will display whether the transaction was successful or not.



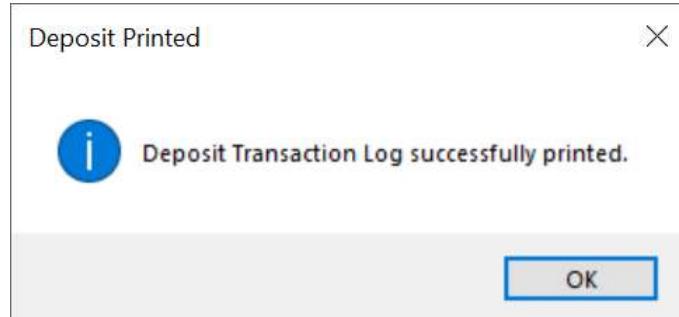
- If a negative value is entered in the deposit amount an error message will be displayed.

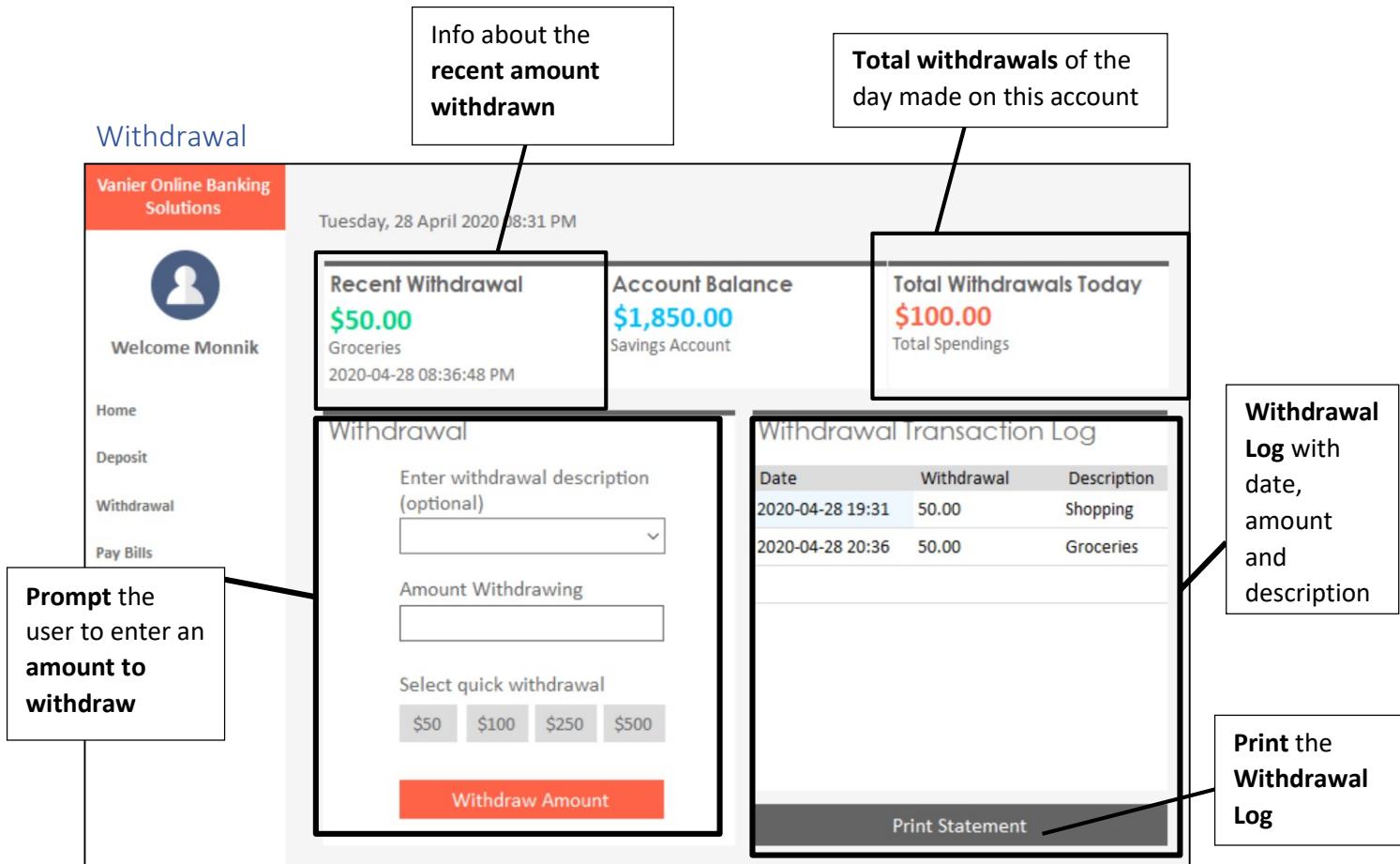


## Output Deposit Log.txt:

Users of this application can click on the **Print Statement** button to retrieve a receipt with all previous and current deposits. The application will output a text file named **DepositLog.txt** on the user's Desktop.

Deposit Transaction Log		
Date	Deposit	Description
2020-04-28 07:30:57 PM	500.00	Income
2020-04-28 08:03:36 PM	1200.00	Commission
2020-04-28 08:17:04 PM	250.00	

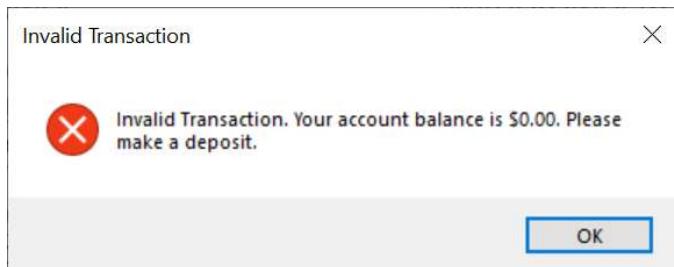




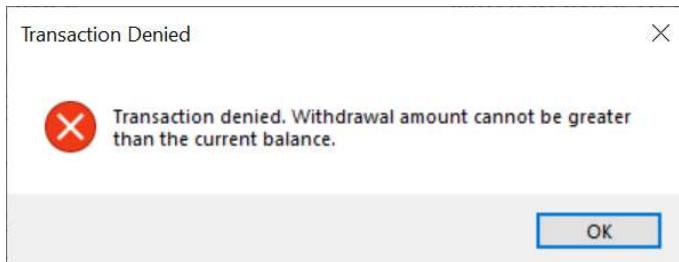
In the **Withdrawal** form, the user can enter a **specific amount** or a **quick amount** to withdraw from their accounts. Once the withdrawn amount is added to the database, information such as the **date**, **withdrawal**, and description are made available through the **Withdrawal Transaction Log** and the **Recent Withdrawal**. The withdrawn amount is **subtracted** from the user's **Account Balance**.

## Exception Handling:

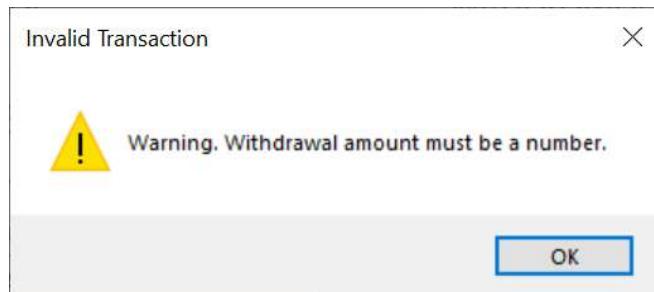
- There must first be a balance in order to withdraw.



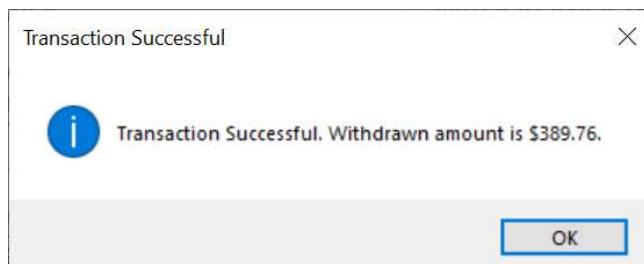
- The withdrawn amount must not be greater than the account balance.



- The withdrawn amount must be a number.

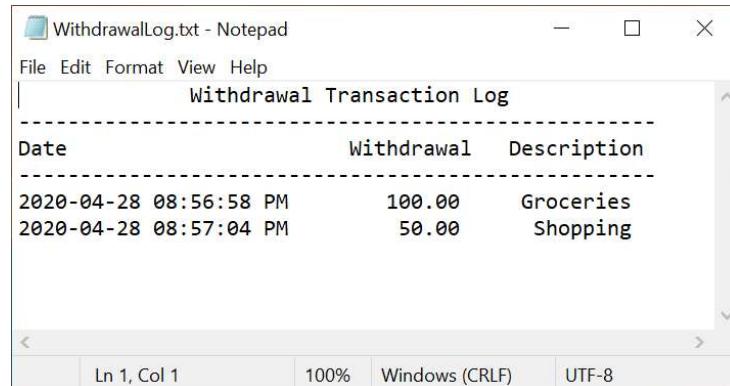


- If the withdrawal is successful, a popup message will display the withdrawn amount.



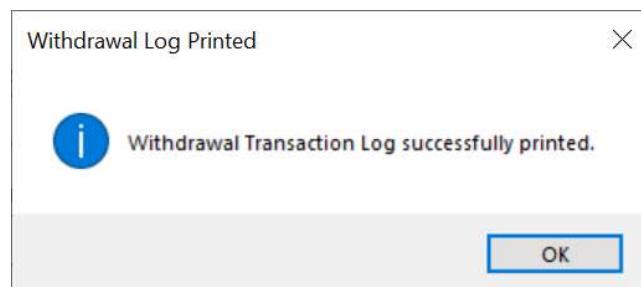
## Output Withdrawl Log.Txt:

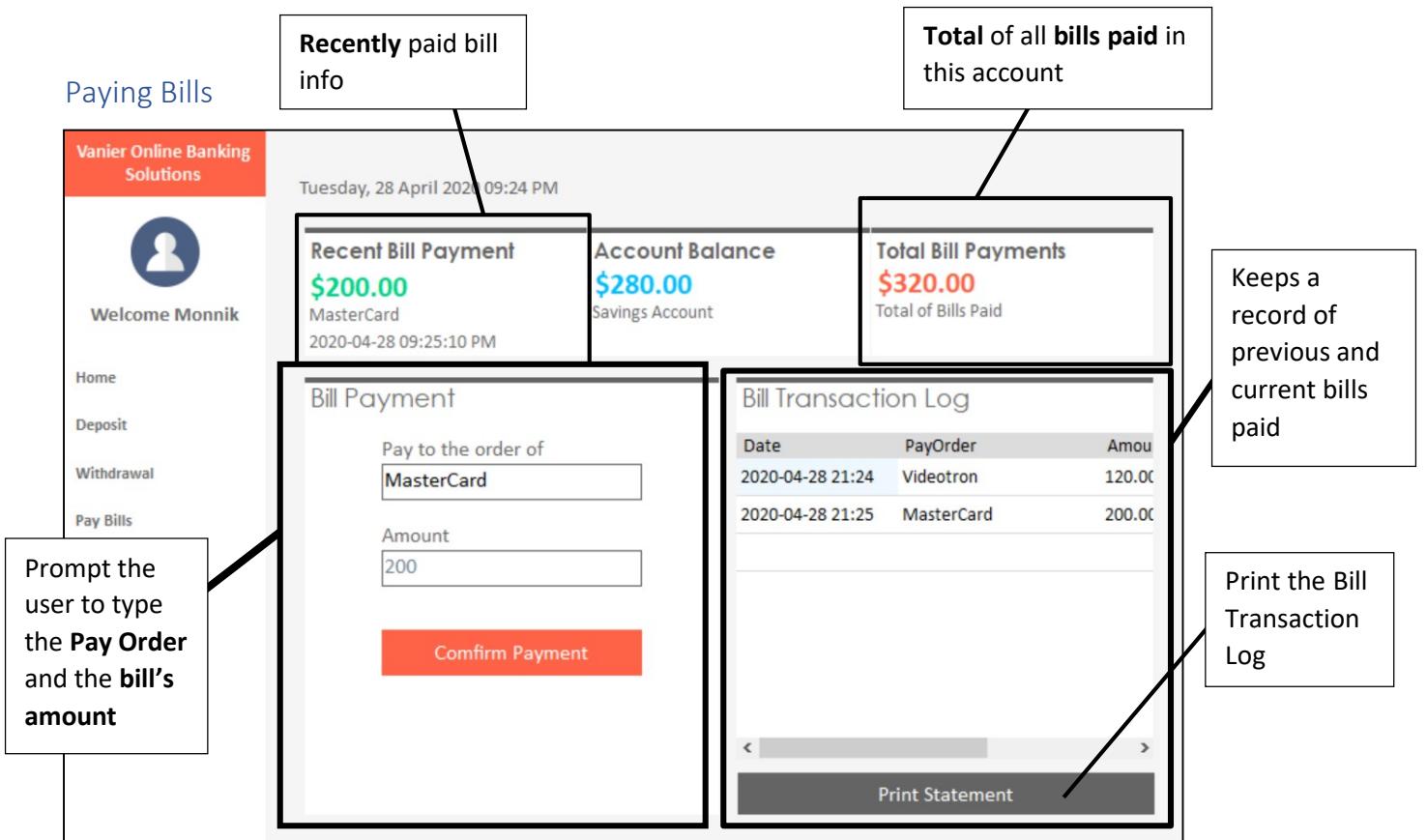
Users of this application can click on the **Print Statement** button to retrieve a receipt with all previous and current withdrawals. The application will output a text file named **WithdrawalLog.txt** on the user's Desktop.



The screenshot shows a Notepad window titled "WithdrawalLog.txt - Notepad". The window contains a table titled "Withdrawal Transaction Log" with three columns: Date, Withdrawal, and Description. The data in the table is as follows:

Date	Withdrawal	Description
2020-04-28 08:56:58 PM	100.00	Groceries
2020-04-28 08:57:04 PM	50.00	Shopping

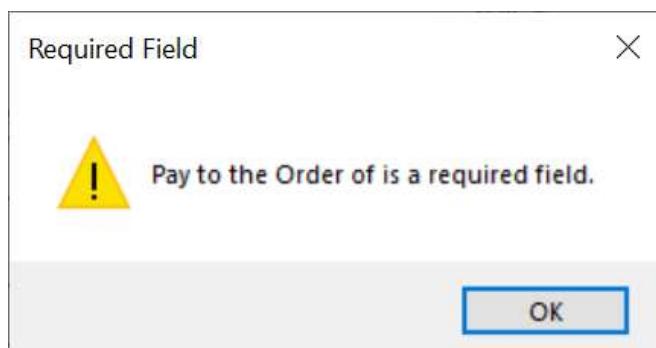




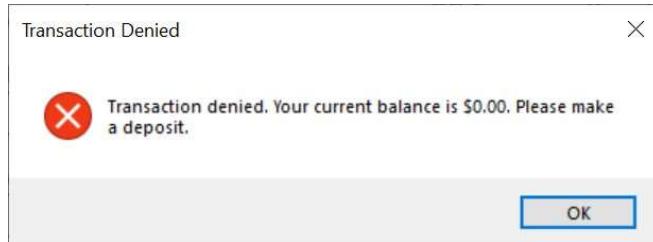
In online banking, having the ability to **pay your bills online** is a necessary feature. In the **Bill Payment** section, the user is asked to type in the name of the **entity** (which is a mandatory field) they must **transfer their funds to**. After the user enters the **amount**, the bill payment is stored in the database and information such as **date, pay order, amount, and description** are made available through the **Bill Transaction Log** and the **Recent Bill Payment**.

## Exception Handling:

- The **Pay to the Order of** is a required field.



- There must be an **account balance** before paying your bills.



- The bill's amount must not be greater than the account balance.



- The bill's amount must be a number.

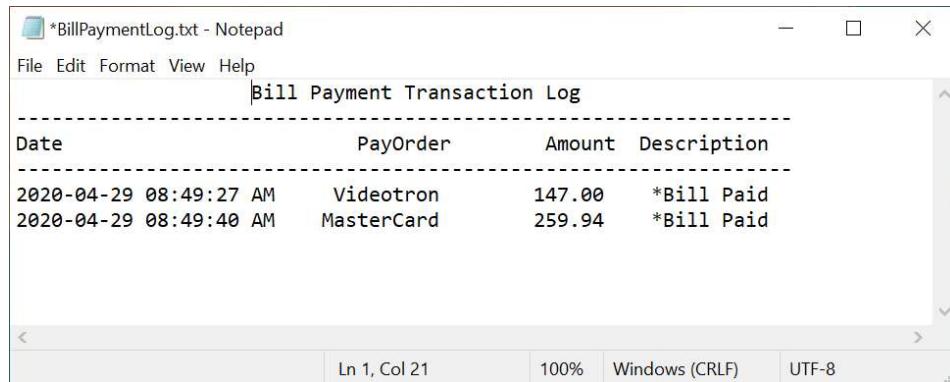


- If transaction is successful, a popup message will show that the funds have been transferred to the entity.



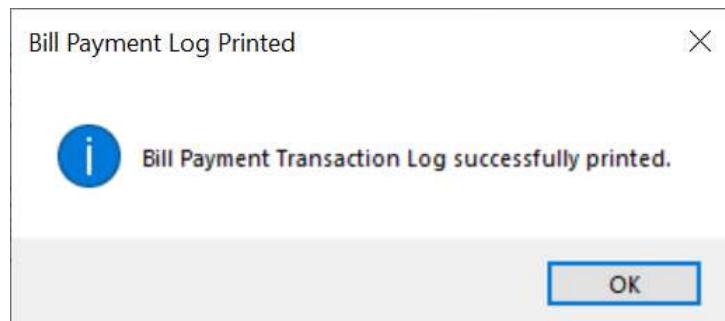
## Output BillPayment Log.txt:

Users of this application can click on the **Print Statement** button to retrieve a receipt with all previous and current **bill payments**. The application will output a text file named **BillPaymentLog.txt** on the user's Desktop.



The screenshot shows a Notepad window titled '\*BillPaymentLog.txt - Notepad'. The window contains a table titled 'Bill Payment Transaction Log' with four columns: Date, PayOrder, Amount, and Description. There are two entries in the log:

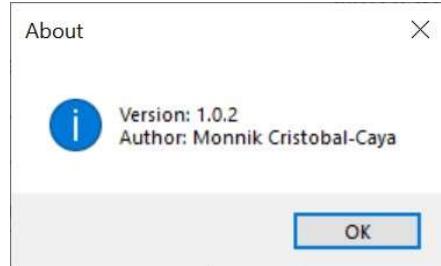
Date	PayOrder	Amount	Description
2020-04-29 08:49:27 AM	Videotron	147.00	*Bill Paid
2020-04-29 08:49:40 AM	MasterCard	259.94	*Bill Paid



## Miscellaneous:

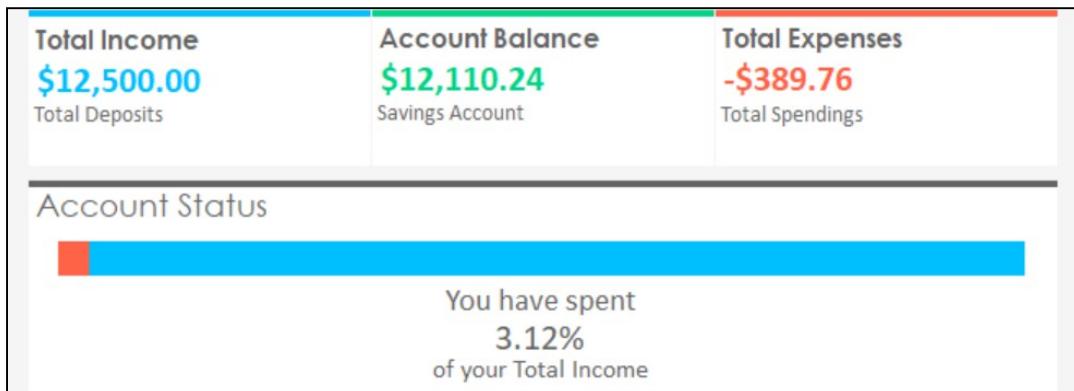
### About

The **About** button in the navigation section simply displays a popup **message box** with the program's **author** and **current version**.



## Account Status Bar:

The **Account Status** bar dynamically displays a **percentage** that represents the **total spending** divided by the **total income**. This is an interactive feature of this program since the percentage is constantly updated after every transaction the users makes on his or her bank account. The Account Status bar also helps keep track of the **user's spending habits**.



## Previous Versions:

### Version 1.0.0

The screenshot shows a web application interface for 'Vanier Online Banking Solutions'. On the left is a dark sidebar menu with the following items: 'Home' (selected), 'Check Balance', 'Deposit', 'Withdrawal', 'Pay Bills', and 'About Us'. The main content area has a header 'Welcome Monnik'. It displays three summary boxes: 'Total Income \$122.00' (blue), 'Total Spendings -\$0.00' (red), and 'Current Balance \$122.00' (green). Below this is a section titled 'Recent Activity' with the message 'You currently have 2 new transactions.' A table follows, showing two transactions:

Recent Activity				
You currently have 2 new transactions.				
< <   1 of 2   > >				
ID	Date	Deposit	Withdrawal	Transaction Type
3	2020-04-24 7:54	111.00	0.00	Checking
4	2020-04-24 7:54	11.00	0.00	Checking

## Version 1.0.1

The screenshot shows the user interface of the Vanier Online Banking Solutions application. On the left, a sidebar menu lists navigation options: Home, Check Balance, Deposit, Withdrawal, Pay Bills, About, and Log Out. The main content area is divided into two sections: 'Dashboard' and 'Recent Activity'. The 'Dashboard' section features three colored boxes: blue for 'Total Income' (\$0.00), red for 'Total Spendings' (\$0.00), and green for 'Current Balance' (\$0.00). The 'Recent Activity' section displays a message stating 'You currently have 0 new transactions.' Below this, there is a table header with columns for Id, Date, Deposit, Withdrawal, and Type, followed by a blank table body.

Vanier Online Banking Solutions

Welcome Monnik

Home

Check Balance

Deposit

Withdrawal

Pay Bills

About

Log Out

Dashboard

Total Income  
\$0.00

Total Spendings  
\$0.00

Current Balance  
\$0.00

Recent Activity

You currently have 0 new transactions.

Id	Date	Deposit	Withdrawal	Type