

Installing Monease

The Monease application has a single external dependency that needs to be installed before being able to run our application. To run Monease you must have Java installed on your computer. If you do not have Java installed on your computer go to the [Java Download](#) site and follow their instructions on how to install Java to your machine. Once Java is installed on your computer you can install Monease. To do this you simply need to copy the Monease.jar file to your desired location. The suggested location is your Desktop or in your Documents.

Starting Monease

To start our application you can do one of two actions. First you can go to the location of the Monease.jar file on your computer using the File Explorer. This location will be where you copied the file in the [Installing Monease](#) section of the document. Once you navigate to the file simply double click on it to start the application. The second way to start the application is to open a command prompt, on Windows, or a terminal window, on Linux, and navigate to the location where you installed Monease to. Then you simply run the following command

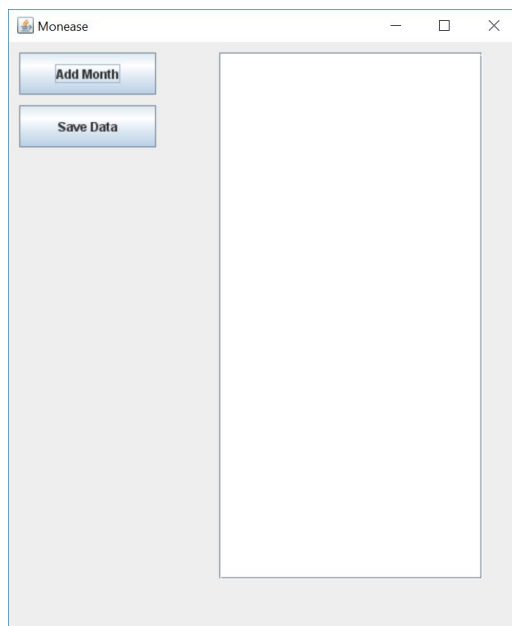
```
java -jar Monease.jar
```

which will then start the application for you. You are now ready to run Monease and track your finances.

Running Monease

Adding a Month

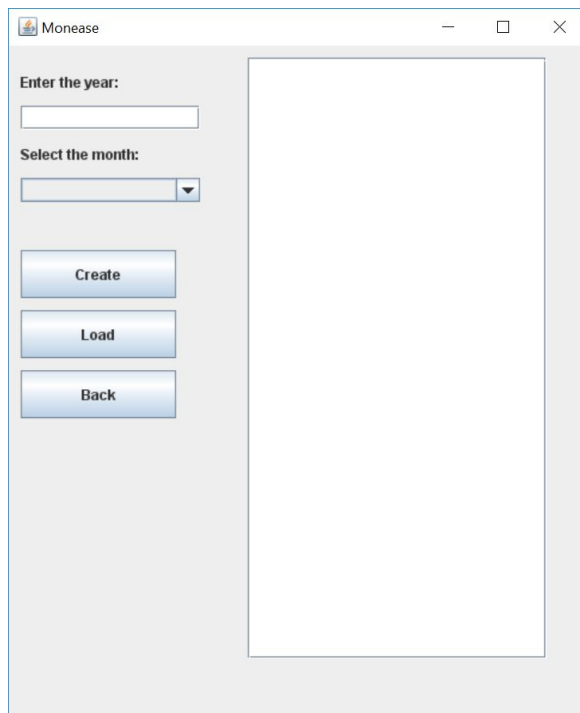
Image 1



When Monease starts a GUI, [Image 1](#), will appear which will show you the list of all Months that you are currently tracking your finances for in the chart on the right side as well as two buttons, Add Month and Save.

The top button, Add Month, will allow you to create a new Month. This button allows you to create a new month from scratch or load one from a [file created](#) in a previous Monease instance. When you select the Add Month button a new GUI, [Image 2](#), will appear for you to enter the month information.

Image 2

The image shows a window titled "Monease" with standard Windows window controls (minimize, maximize, close). The window is divided into two main sections. On the left, there is a form with the following elements: a label "Enter the year:" followed by a text input field; a label "Select the month:" followed by a dropdown menu; and three buttons labeled "Create", "Load", and "Back" stacked vertically. On the right side of the window, there is a large, empty rectangular area, likely intended for a chart or data visualization.

To create a month from scratch you need to enter the year which this month occurred in, in the top text box, as well as select the month number from the combo box below. Once you have entered in the the desired month and year you select the Create button. Once you do this you will be taken back to the main GUI, [Image 3](#), but the chart on the right side will be updated with the new month that was created. The value that is entered for the year must be an integer number. If it is not and you try to save the month then a dialog, [Image 4](#), will appear warning you about invalid data and clear what you have entered without saving it.

Image 3

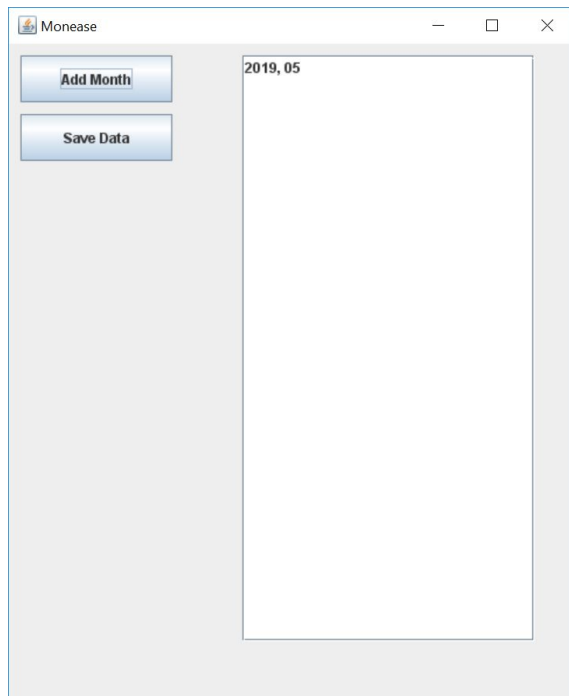
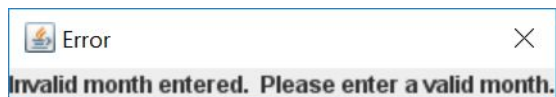
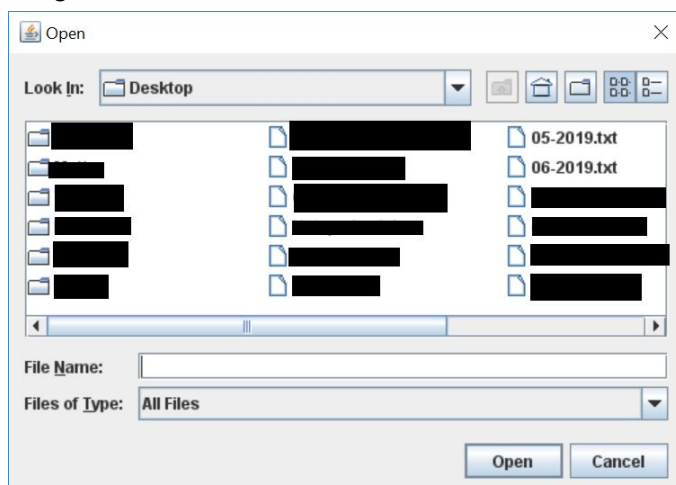


Image 4



The second way to add a new month is to load a month from a file, [created elsewhere in the program](#). To do this select the Load button in the add month GUI, [Image 2](#). This will give you a file explorer to select which file you want to load in for the month, [Image 5](#).

Image 5



We can see in [Image 5](#) that we have two different files to choose from, 05-2019.txt and 06-2019.txt, which were created in the instructions in [Saving Data](#). Monease will read this file, contents in [Image 6](#), and add the month that is defined in the name of the file and will add all the transactions defined in the file. The file is not designed to be readable by the users but instead to be able to save a month, reload it and continue to add transactions to it later. If you would like to know more about the structure of the file please refer to [File Formats](#). In this example we are reading in the month May 2019. After we select the file the we will now have the month in the list of months, [Image 7](#), and all of the four transactions defined in the file in the list of transactions for that month, [Image 8](#). You can not continue with [Adding Transactions](#) or [Analyzing your Transactions](#).

Image 6

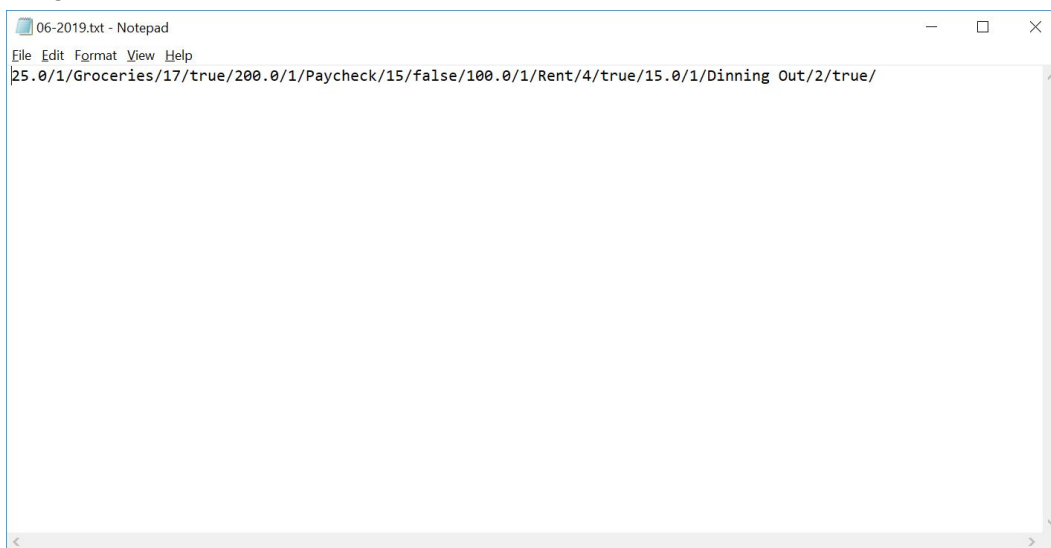


Image 7

Monease

Enter the year: 2019

Select the month: 06

Create

Load

Back

Image 8

Monease

Add Transaction

Save Transactions

Category Analysis

Chage Over Time

Read Statement

Back

Expense -- 2: \$15.0 ---- Dinning Out

Expense -- 4: \$100.0 ---- Rent

Income -- 15: \$200.0 ---- Paycheck

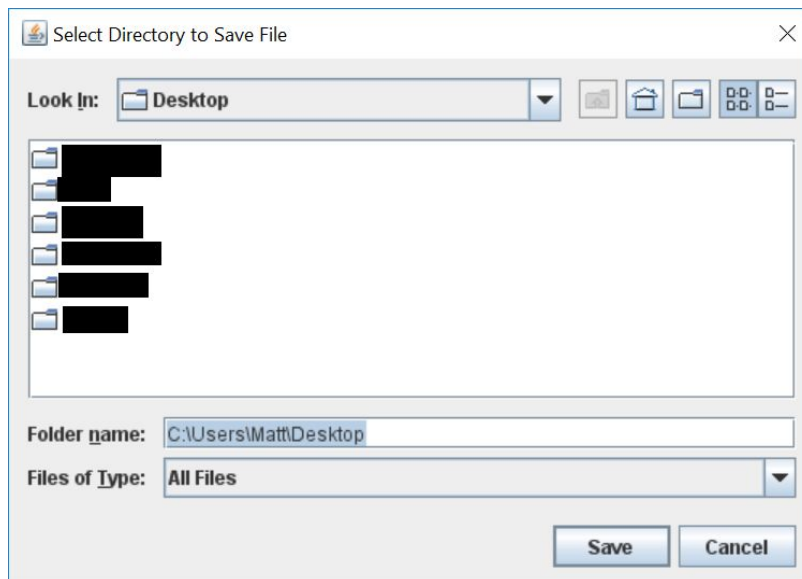
Expense -- 17: \$25.0 ---- Groceries

The final button in the Add Month GUI is a Back button. This will take you back to main GUI page without saving and month information that you may have entered.

Saving Data

Once you have months and transactions entered you can save your data to a file on your local machine. This file can be [read back into Monease](#) to continue to [add transactions](#). To do this you go to the Main GUI page and select the Save Data button, [Image 3](#). This will bring up a file explorer, [Image 9](#), where you will be able to select the directory where you would like the files saved. A different file will be created for each month that you have created, with the name of the file created being the month and year of the transactions written in that file. The file is formatted according to the [Monease file format standards](#).

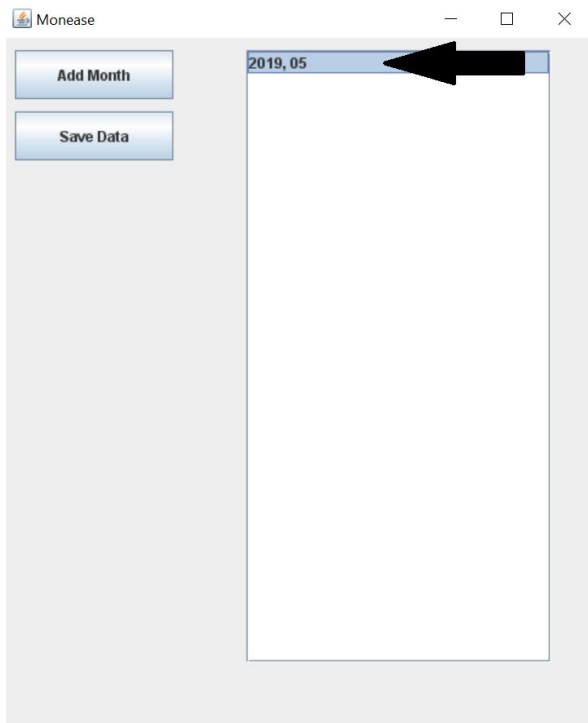
Image 9



Managing Transactions

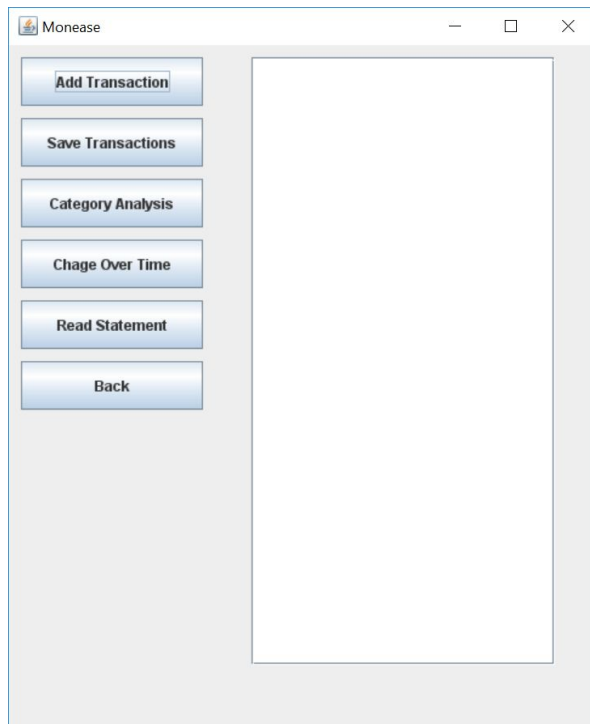
Once you have created a month you can add transactions to it. To manage the transactions of an individual month you double click on the month in the chart on the right, [Image 10](#).

Image 10



This will take you to the Manage Transaction GUI, [Image 11](#), as seen below.

Image 11

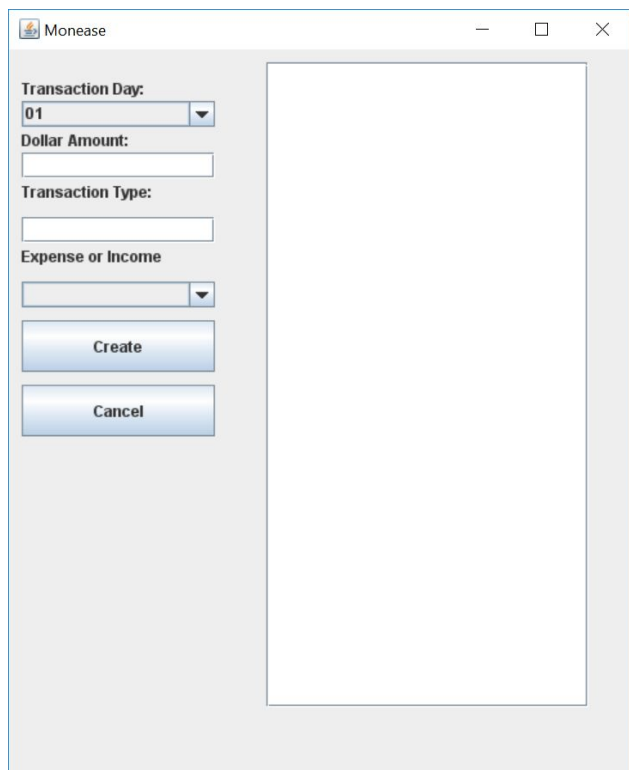


In this GUI you have six buttons on the left side as well as a chart on the right. This chart, much like the one in the Main GUI and the Add Month GUI, will show you the transactions that are part of the month that you selected. For a new month this will be empty since there are not any transaction yet.

Adding Transactions

Just like there was two ways to add a new month there are two ways to add transactions to a month, entering in the information or reading them from a file. To create a new transaction by entering in the information first you will select the Add Transaction button. This will open up the Add Transaction GUI, [Image 12](#).

Image 12

The image shows a window titled "Monease" with a standard Windows-style title bar (minimize, maximize, close buttons). The window is divided into two main sections. On the left is a form for creating a transaction. It contains the following fields and controls: a "Transaction Day:" label followed by a dropdown menu showing "01"; a "Dollar Amount:" label followed by a text input field; a "Transaction Type:" label followed by a text input field; an "Expense or Income" label followed by a dropdown menu; a blue "Create" button; and a blue "Cancel" button. On the right side of the window is a large, empty rectangular area, likely intended for a chart or graph.

Each transaction is composed of four pieces of information; Transaction Day, Dollar Amount, Transaction Type and Expense or Income. The Transaction Day is the date in the month that the transaction took place. Dollar Amount is the amount of the transaction. When entering this number it should always be positive. Transaction Type is a description of the transaction, for example groceries, rent, pay check. The Transaction Type is used for some of the [graphs that can be created](#). Finally the Expense or Income combobox allows the user to select if the transaction is money going in or money going out. Because of this we require that all of the Dollar Amount values be positive. Once you have entered all of the required information about the transaction you select the Create button which will add the transaction to the month and bring you back to the Manage Transaction GUI. The chart on the right will be updated with the new transaction, [Image 13](#). If you enter invalid data and try to save the transaction a dialog, [Image 14](#), will appear informing you of the error and it will then clear the data you have entered in the transaction without saving it.

Image 13

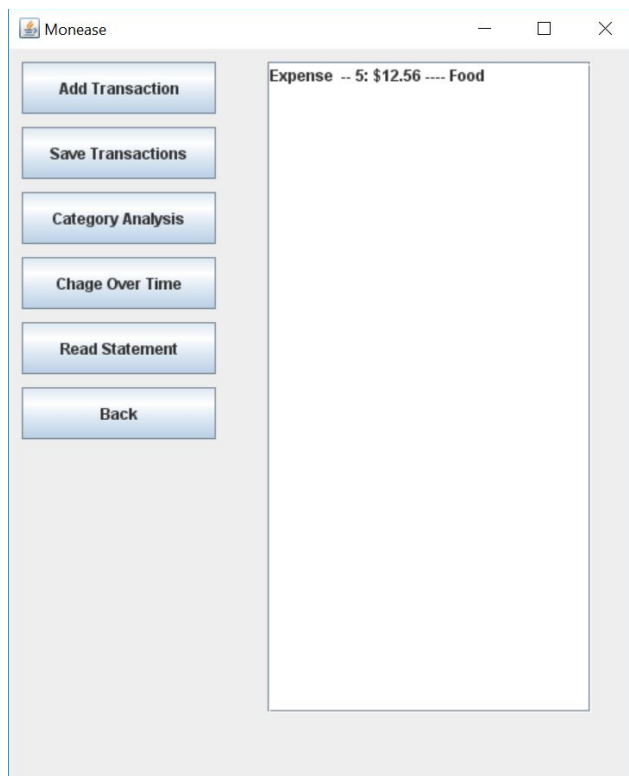
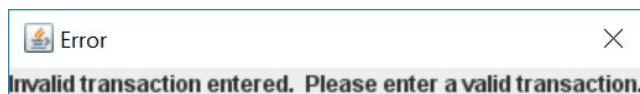


Image 14



If while adding a transaction you change your mind and do not want to add the transaction anymore you can simply click on the Cancel button to return you back to the Manage Transaction GUI without saving the transaction.

Reading Statements

Once you have a month created you can read in a statement with a list of all of the months transactions. Currently the statement must follow the [file formats](#) specified in this document, but this will change in future versions of Monease. To do this select the Read Statement Button in the Manage Transaction GUI, [Image 11](#). This will have a file explorer GUI appear, [Image 15](#), where you can select the statement. This will then populate the transactions into the transaction list, [Image 16](#).

Image 15

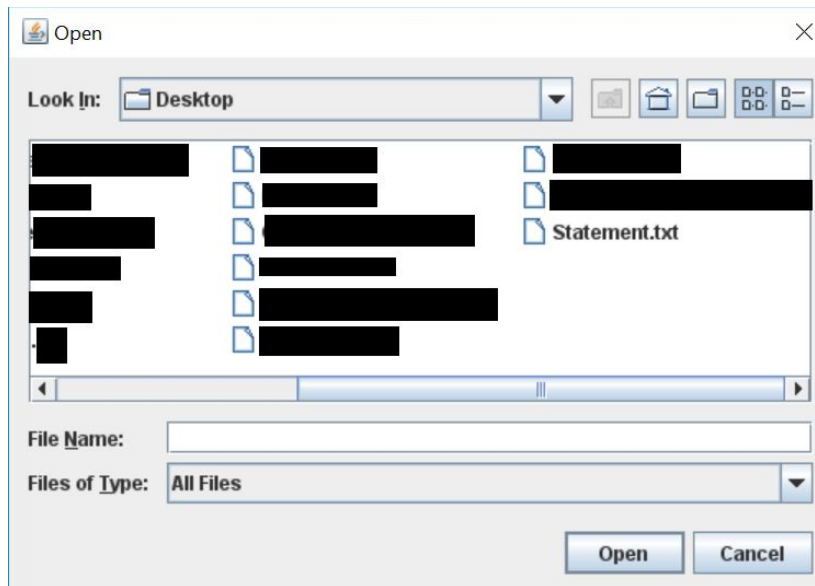
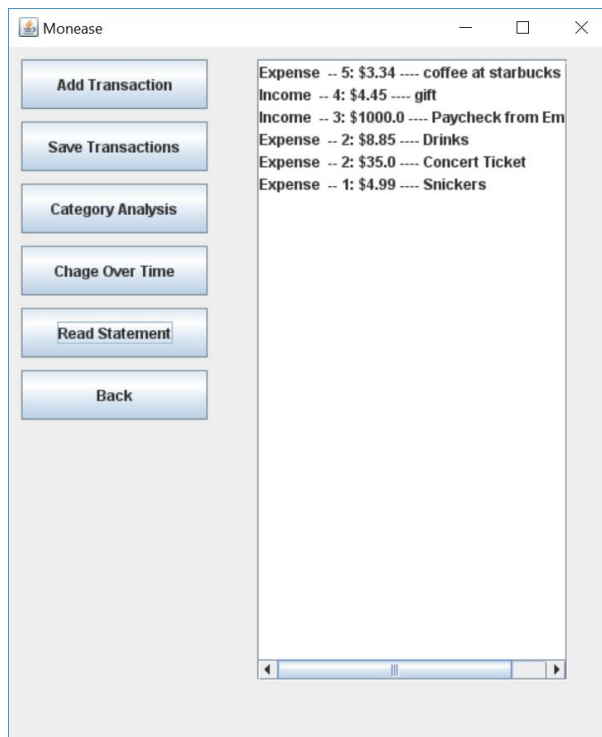


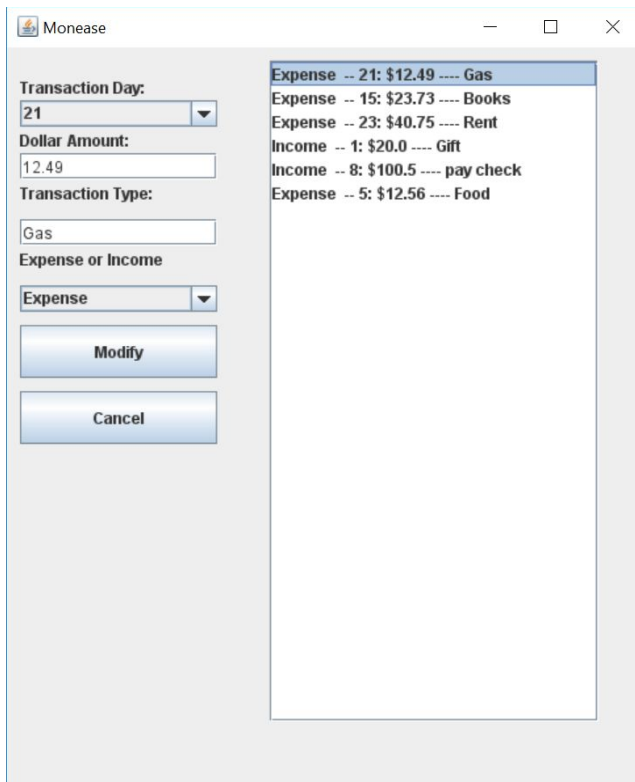
Image 16



Editing Transactions

If you would like to edit a transaction that already exists you need to select the transaction in the chart on the right and double click on it. This will pull up a GUI, [Image 17](#), that allows you to change the transaction information.

Image 17



The screenshot shows the Monease application window. On the left is a form for modifying a transaction. It includes fields for 'Transaction Day' (set to 21), 'Dollar Amount' (set to 12.49), 'Transaction Type' (set to Gas), and 'Expense or Income' (set to Expense). Below these fields are 'Modify' and 'Cancel' buttons. On the right is a list of transactions. The first transaction is highlighted: 'Expense -- 21: \$12.49 ---- Gas'. Other transactions in the list include 'Expense -- 15: \$23.73 ---- Books', 'Expense -- 23: \$40.75 ---- Rent', 'Income -- 1: \$20.0 ---- Gift', 'Income -- 8: \$100.5 ---- pay check', and 'Expense -- 5: \$12.56 ---- Food'.

Transaction Day	Dollar Amount	Transaction Type	Expense or Income
21	12.49	Gas	Expense

Modify

Cancel

- Expense -- 21: \$12.49 ---- Gas
- Expense -- 15: \$23.73 ---- Books
- Expense -- 23: \$40.75 ---- Rent
- Income -- 1: \$20.0 ---- Gift
- Income -- 8: \$100.5 ---- pay check
- Expense -- 5: \$12.56 ---- Food

You can change any of the four pieces of information of the transaction here and then select the Modify button to save the changes. If you would like to disregard the pending changes simply click on the Cancel button and the changes will not be saved.

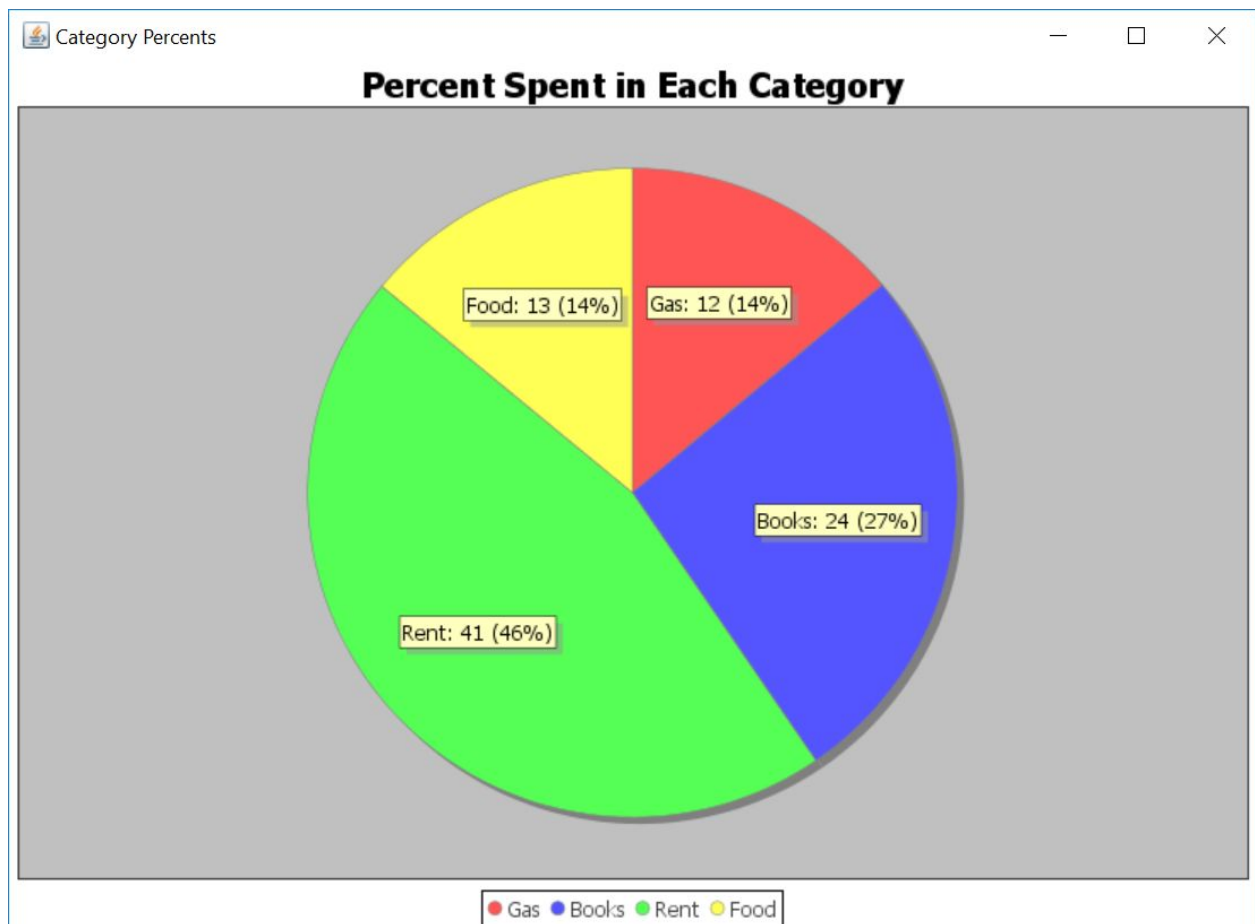
Saving Transactions

If you want to save the transactions of the current month that you are looking at you can press the Save Transactions button, [Image 16](#). This will bring up a file explorer, [Image 9](#), where you can select the directory where you want to save the file. A single file will be created for the month that you have selected, with the name of the file created being the month and year of the transactions written in that file. The file is formatted according to the [Monease file format standards](#). This is very similar to when you [Save the Data](#) but this only does one month while Saving the Data saves all the months.

Analysis of Transactions

In Monease there are two different graphs that are provided to allow you to analyze your transactions and better manage your finances. The first graph is a pie chart that shows your expenses based on Transaction Type. To view this graph select the Category Analysis button and the graph will appear, [Image 18](#).

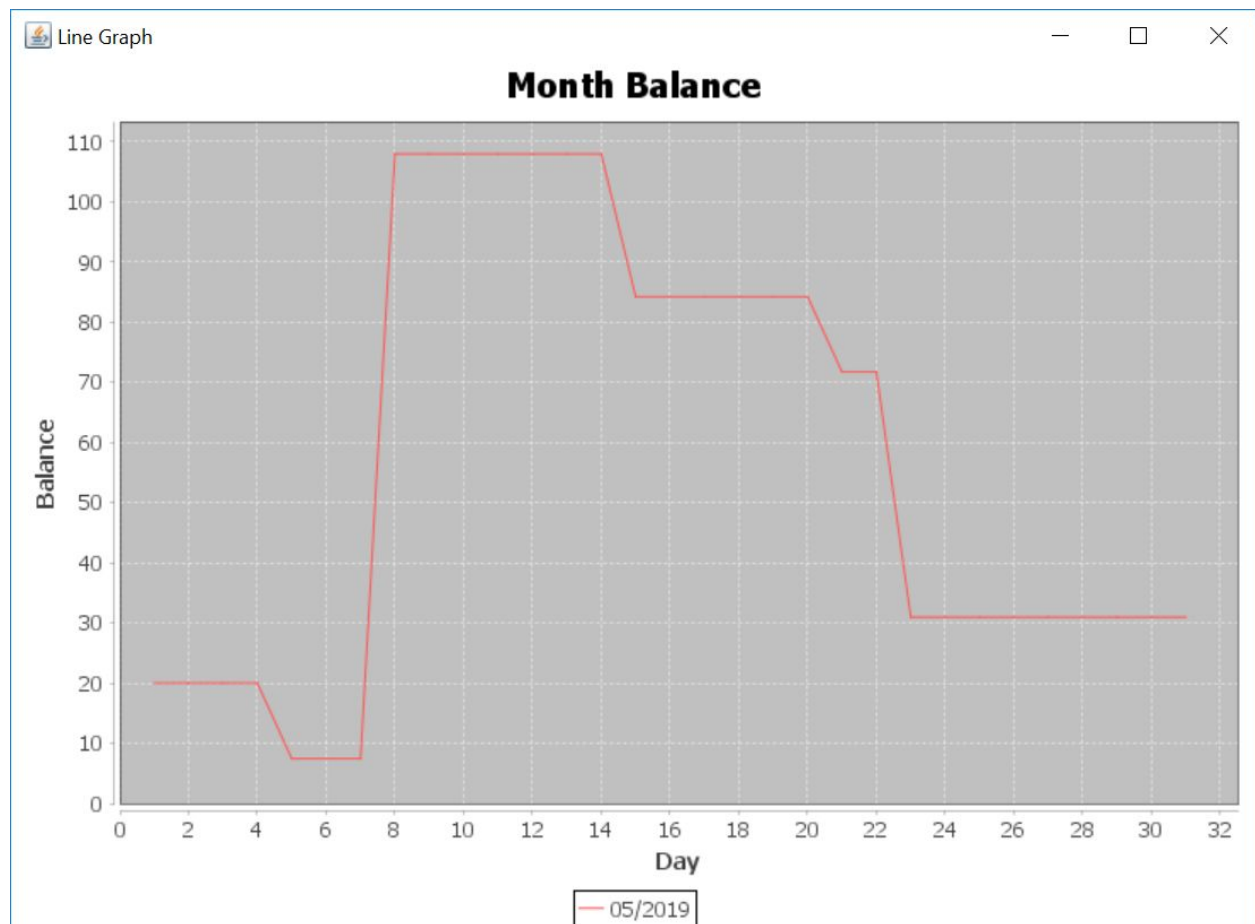
Image 18



The chart is broken down by the Transaction Types that are defined in each transaction. If multiple transactions have the same Transaction Type their Dollar Amounts will be added together for the graph. The graph shows both the cumulative dollar amount spent for each Transaction Type as well as the percent of expenses that month that are in that Transaction Type.

The second graph that Monease will create is a line graph that shows the end of day balance for the month. To access this graph select the Change Over Time button and this graph will appear, [Image 19](#).

Image 19



Each month starts at 0 and will change the value based on the transactions entered for the month. A transaction that is an expense will cause the end of day value to go negative while income transactions will cause the end of day value to go positive. This is a good graph to track when you are spending more than you are taking in.

File Formats for Reading In Months and Transactions

File Format for Statements

For a statement it needs to be a txt file where each line is a different transaction. It must follow the format Month/Day followed by the transaction amount and finally the description for the transaction. Each of these values should be separated by a space between them.

File Format for Monease Files

The files that are created by Monease use the following format.

Amount/1/Description/Date/ExpenseOrIncome. The Amount and Date are both numbers, the description is a string and the expense or income is a true or false value, true for expense and false for income.