

Architectural Perspectives

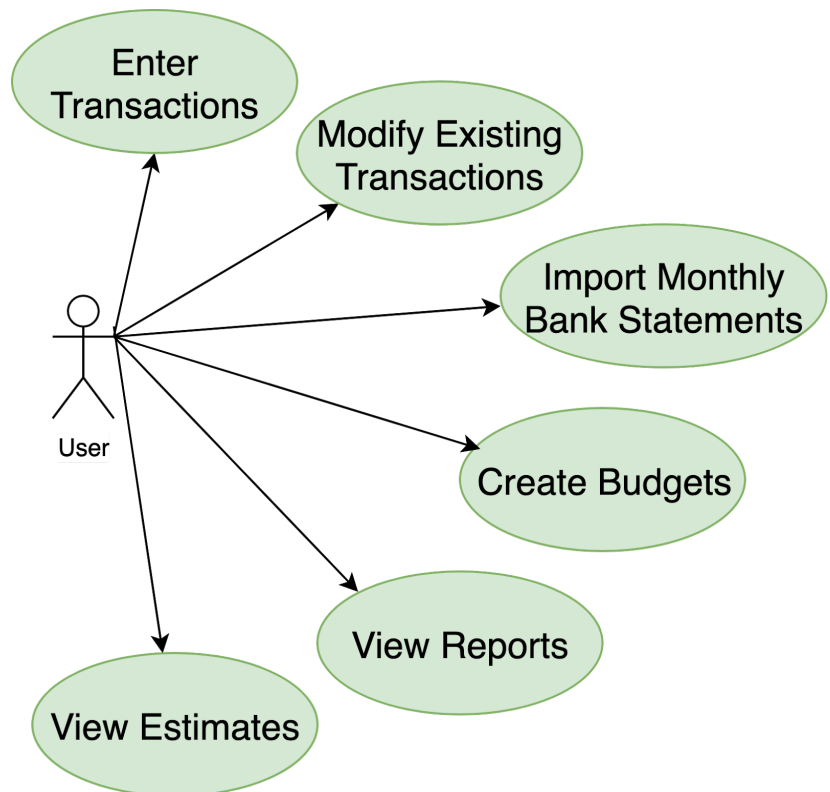
Mission Statement

Monease is targeted towards improving the financial education of individuals and would prepare users in understanding their personal financial health. Many students today carry a heavy burden of debt when they graduate and Monease would be a useful tool to help plan and manage income, expenses, assets, and debt.

Problem Statements

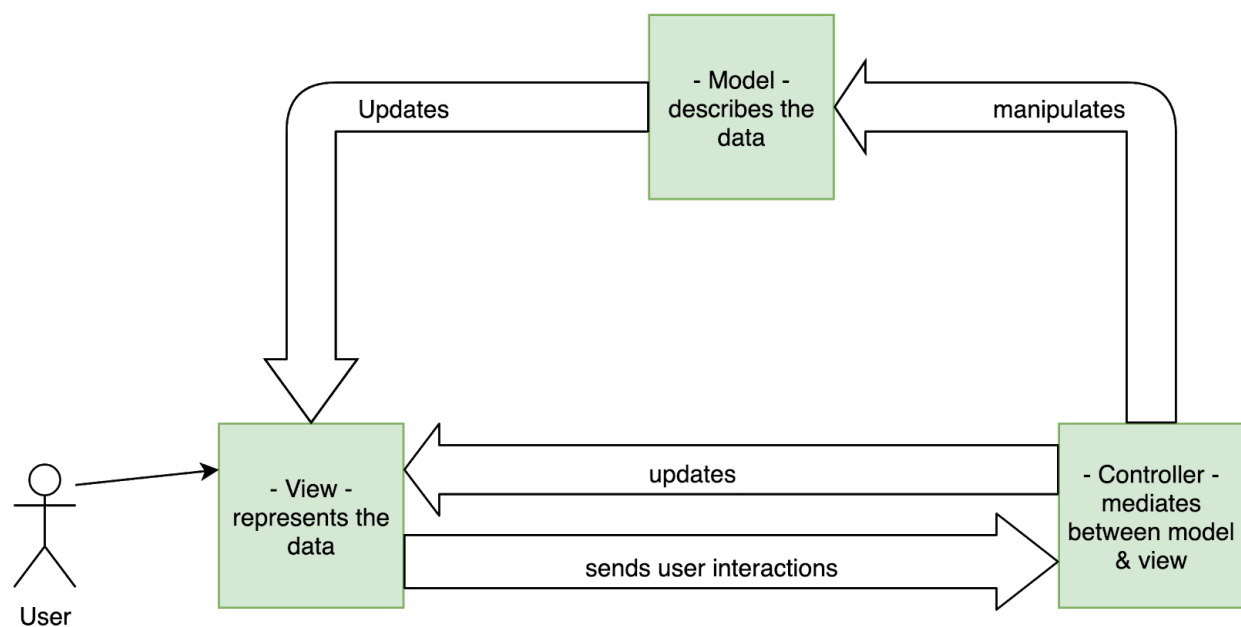
Keeping track of your income and expenses can be time-consuming and overwhelming. This is especially true when you have multiple incomes, bank accounts, and credit cards that are not linked in any way. We propose a simple yet powerful tool that records and analyzes your financial information from various sources in order to assist you in making informed financial decisions for the future.

At the heart of Monease are our users. **Users** are individuals who use Monease to track their finances.



	Feature Name	Description
A user can...	Enter Transactions	As a user, I would like to enter my transactions and relevant information for my day-to-day spending.
	Modify Transactions	As a user, I would like to modify my previous transactions if the information is inaccurate.
	Import Monthly Bank Statements	As a user, I would like to import my monthly bank statements already provided to me by my financial institution.
	Create Budgets	As a user, I would like to create budgets for different areas of my life and classify my transactions accordingly.
	View Reports	As a user, I would like to be able to visualize my spending habits over time through graphical representations.
	View Estimates	As a user, I would like to view estimates of how my current spending habits may impact my future spending.

Model View Controller (MVC)

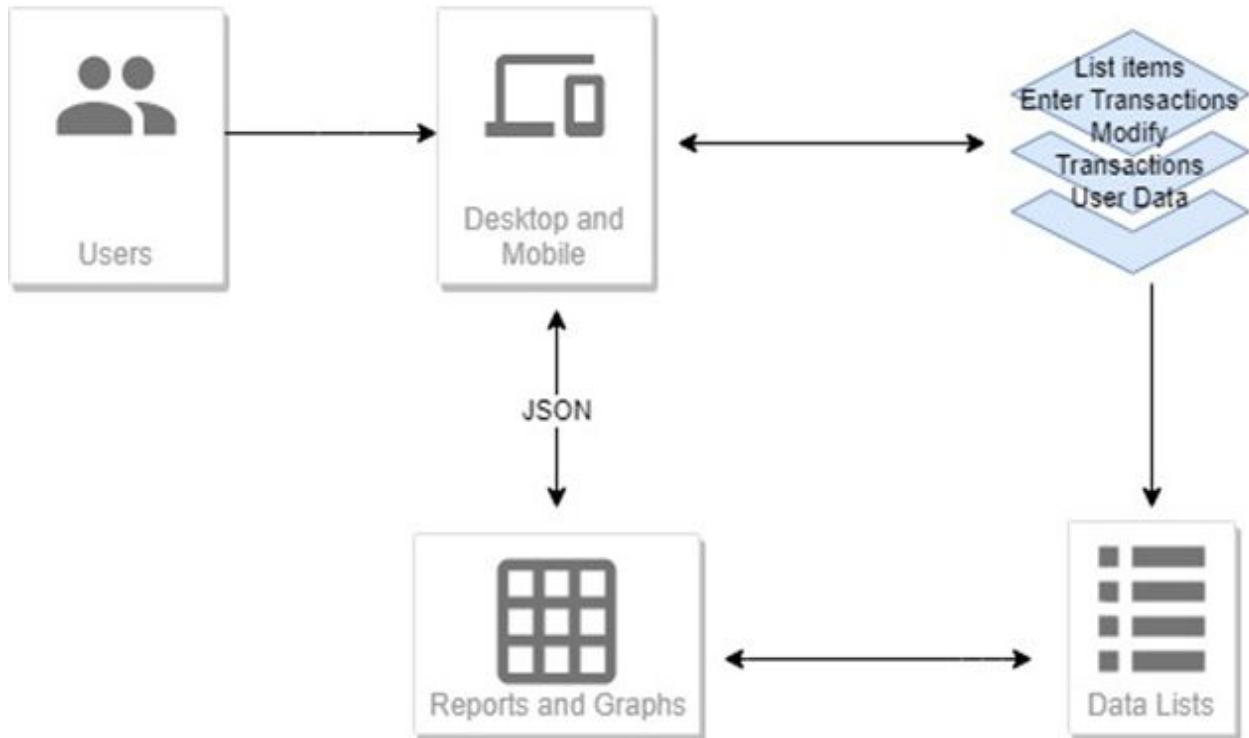


Rationale

We anticipate that as our project grows, users and other stakeholders will want a variety of different views of the user's data in order to facilitate adding different ways to analyze their finances. Our initial view options will include a variety of chart styles, but this architectural decision will allow us to easily expand to incorporate other preferences or requirements, such as different screen sizes and layouts (e.g. tablets, smartphones, etc).

Potential Future Architecture

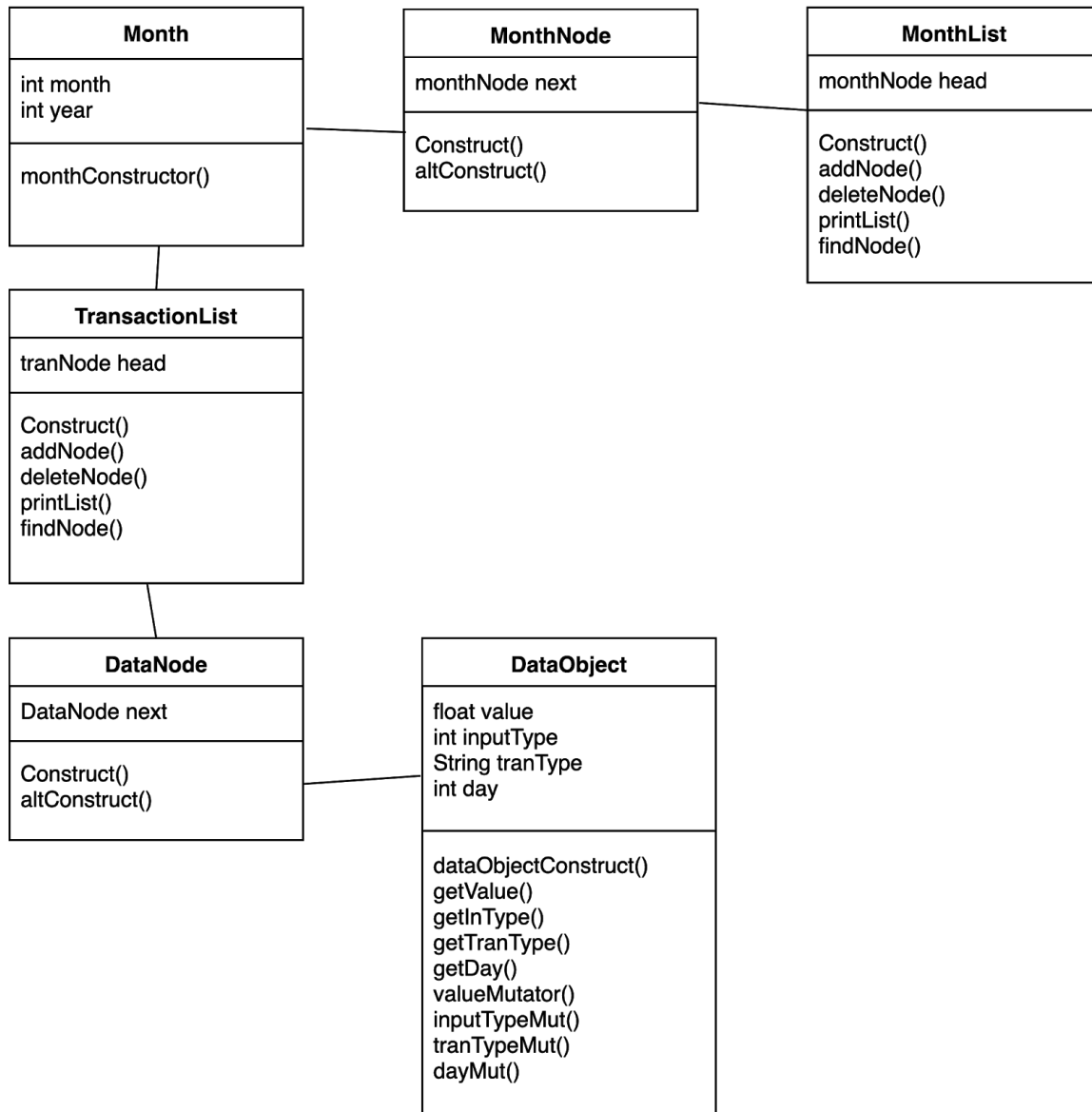
Architecture : Monease Finance



Rationale

We recognize that we live in an era of software that caters to a wide variety of platforms. As a group, we discussed whether or not architecting for mobile and other platforms was essential to the task at hand. Recognizing time and personal constraints, we decided that building a minimum viable product for Monease with consideration of multiple platforms was outside of the realm of possibility. However, for future discussions and as documentation, we decided to include this architecture for consideration and potential implementation at a later date. This architecture would allow for remote access to reports and information on the system.

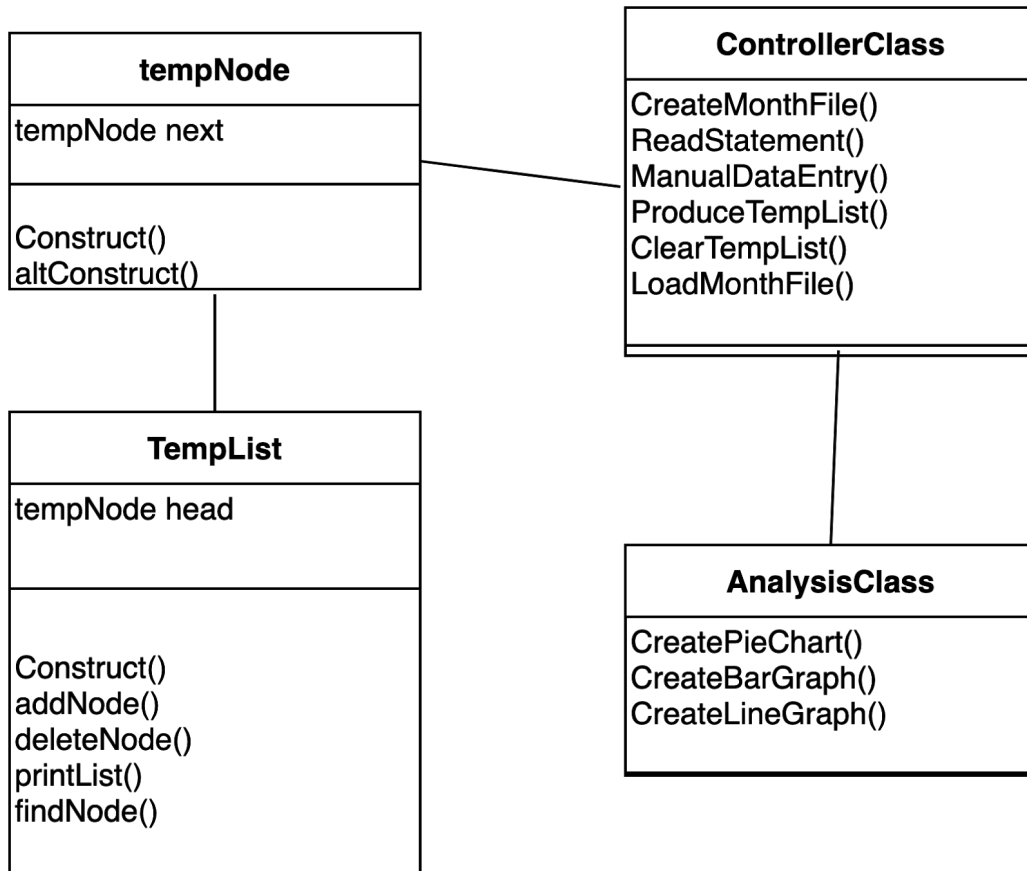
UML of Model



Rationale

Users tend to view their transactions and budget on a monthly basis, therefore we based our data model with a month being the overarching idea. A month list will consist of a linked list of months, which will be a linked list of different data objects representing individual transactions. This is like a layered architecture, only the layers are representing a much smaller scale design than the traditional layered architecture. However, our structure still takes advantage of the layered pattern such as each layer only having to concern themselves with what is directly next to them in the structure. Making this design decision maintains simplicity throughout development and avoids unnecessary complexity.

UML of Controller



Rationale

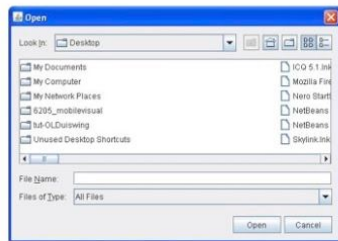
We aimed to keep the controller components functionality to a minimum. The controller is primarily responsible for creating new month files, reading external data (such as bank statements), and producing reporting using the analysis class.

GUI mockups of View

Quick GUI Mockups

Welcome

Import Statement Add New Transaction
Modify Transaction Create Budget
View Graphs View Reports



Create New Transaction/Modify Existing Transaction

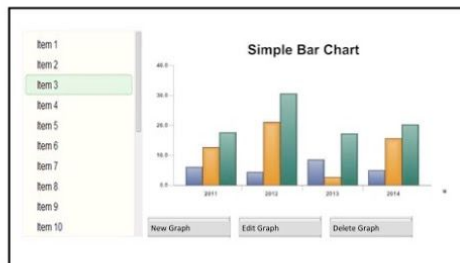
Value:

Transaction Category:

Transaction Type:

Date:

OK Cancel



Create New Graph/Modify Existing Graph

Graph Title:

Categories to Graph:

Start Month:

End Month:

Graph Type:

OK Cancel

Rationale

While we have created a handful of GUI mockup slides, we have decided that it is too early to specify our view component in more detail. We will reevaluate the structure once we have further explored the various GUI libraries available to us.

Security

Monease design and implementation at this phase calls for a localized use with individual computer installation. The financial records will be fed into the program at the point of use and not over the web. Security would lie in the hands of the individual user and the permissions and access will be up to the user at the computer terminal. In the future, when automatic web download of financial statements is implemented, we would implement rigorous security measures to protect our clients' data and privacy.