

**VALUE TRANSFER PRIVACY REVIEW THROUGH
CRYPTOCURRENCIES**

**Design Manual
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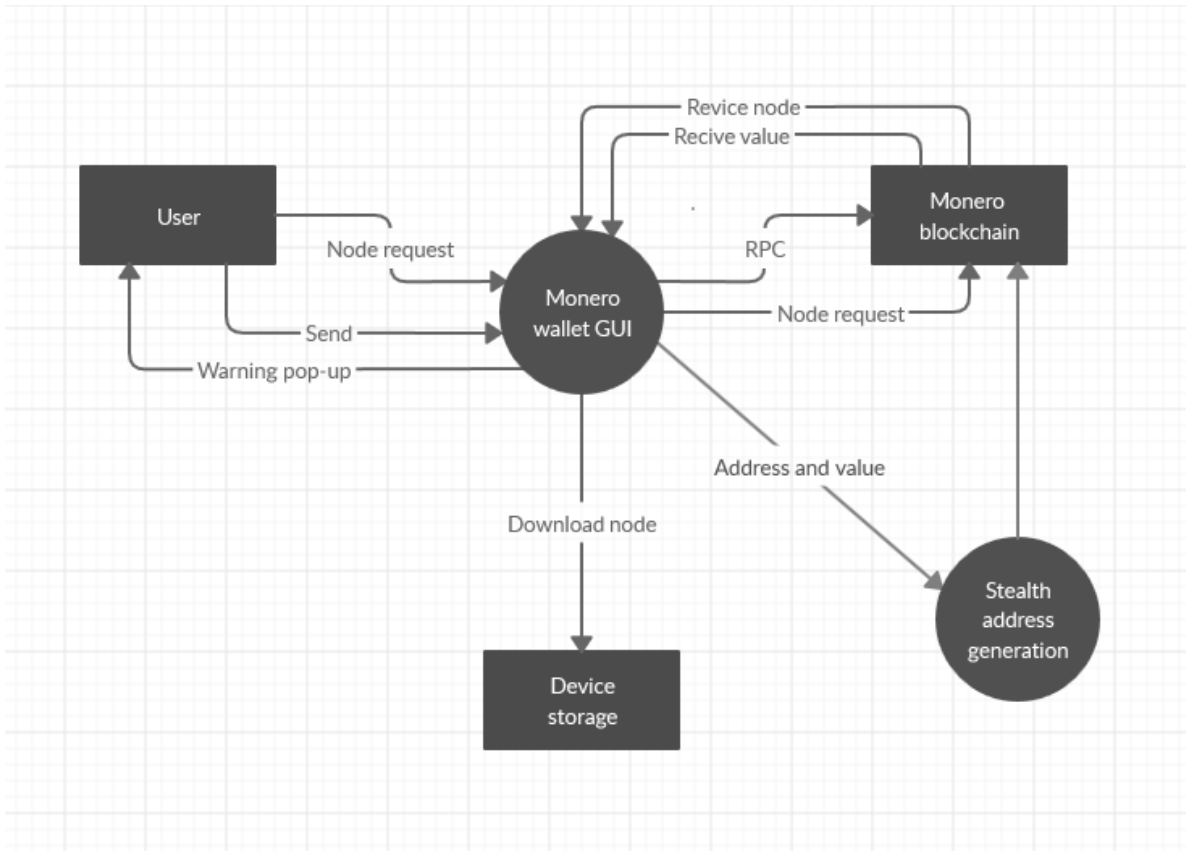
Introduction

This design manual will model the application that I intend to build. It will investigate the technologies that were selected in the research manual. The manual will describe how a user will use the program and how I will design it. I will go through the UML diagrams and the Wireframes that I have created to show case what my program will look like. The technologies chosen include:

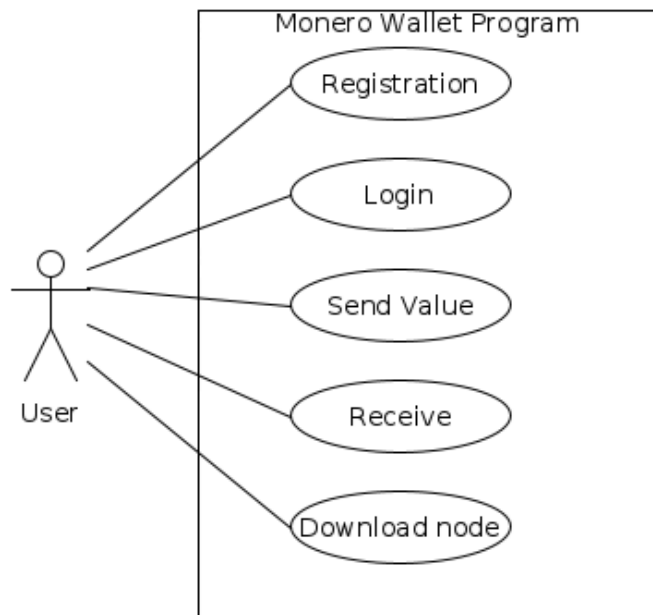
- Python
- PyQT
- MariaDB
- Monero
- monero-python

Diagrams

Below are the context diagram and the use case diagram for the wallet



This diagrams was created on Creately.



This diagrams was created on UMLet.

Steps

Below are the brief use cases for the above use case diagram. In these use cases, the user is the only actor.

Registration

Preconditions: The user has successfully installed the requirements and the launched the application successfully.

1. The program will ask are you a new user or current user.
- 2A. The program will push user to login page in if they select current user.
- 2B. The program will push user to register page if they select new user
3. The register page will request the user to enter the required information to set up an account for them.
- 4A. The user will be pushed to the login page if the they enter info correctly
- 4B. The user will be pushed to a page displaying a generic error message if their information is incorrect.
5. The user will then be pushed back to the register page when they press the button at the bottom of the page.

Consequences: The user will be registered with the system.

Login

Preconditions: The user will be registered with the system.

1. The login page will request the user to enter the username and password.
- 2A. The user will be pushed to the send page if the they enter information correctly.
- 2B. The user will be pushed to page displaying a generic error message if their information is incorrect.

Consequences: The user will be logged in.

Send Value

Preconditions: The user must be logged in

1. The user will enter the address, the amount and the type of fee they are want to use.
- 2A. If the info is correct the value is sent.
- 2B. If the info is wrong then the value is not sent and the user will be told that the info was wrong.

Consequences: The user will send the specified value to the specified address by paying the specified fee.

Receive Value

Preconditions: The user must be logged in

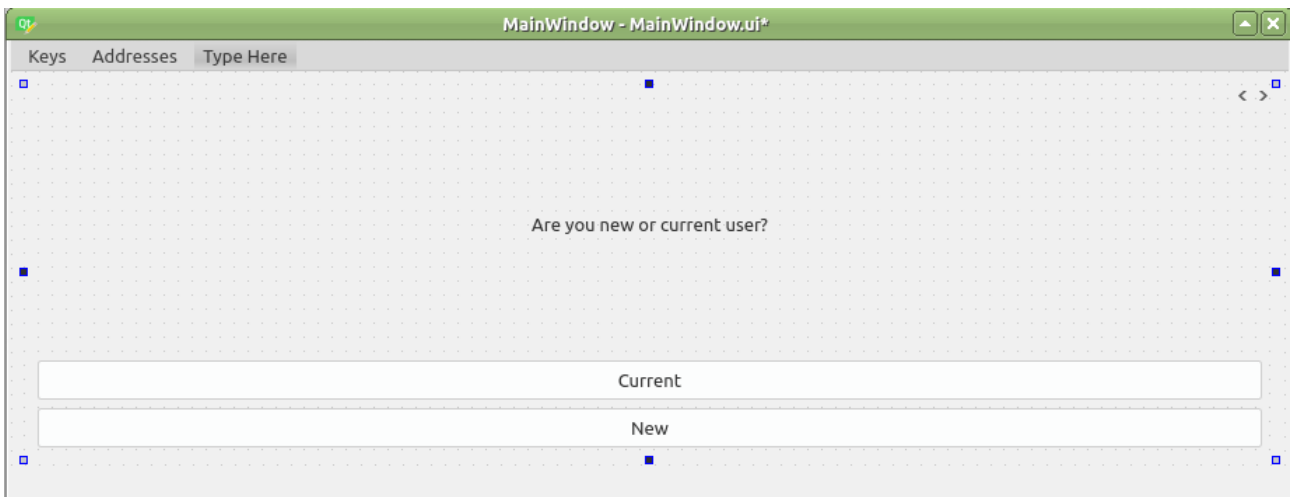
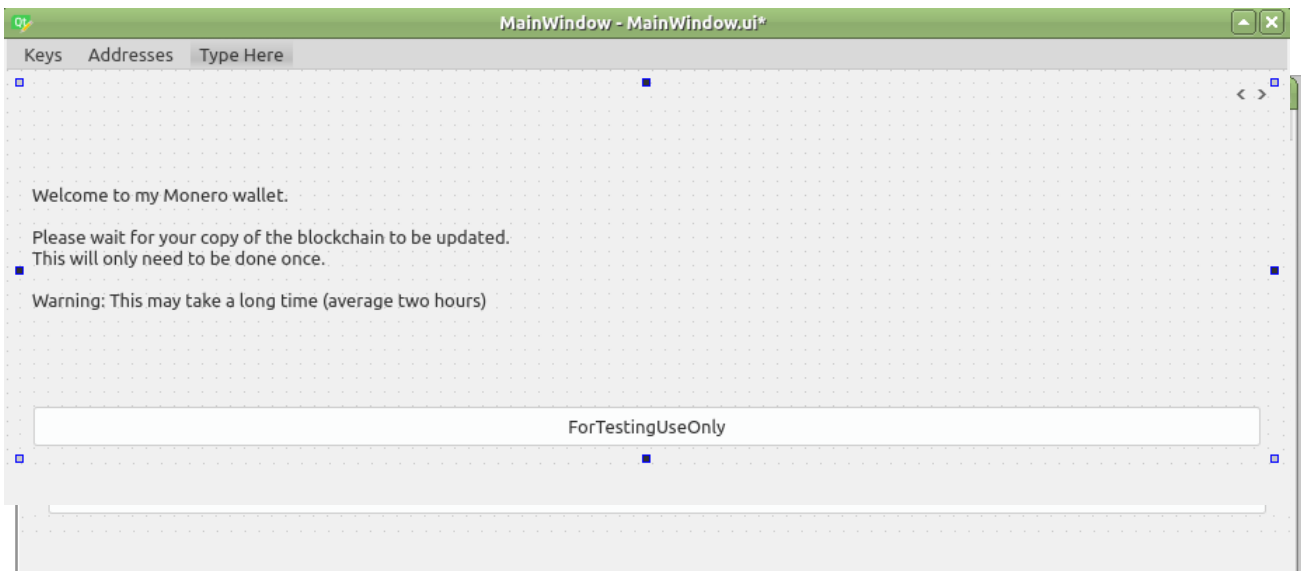
1. The user will log in.
- 2A. If the user is logged in and awaiting value they will press the refresh button on the send page and the program will update the value on that page.

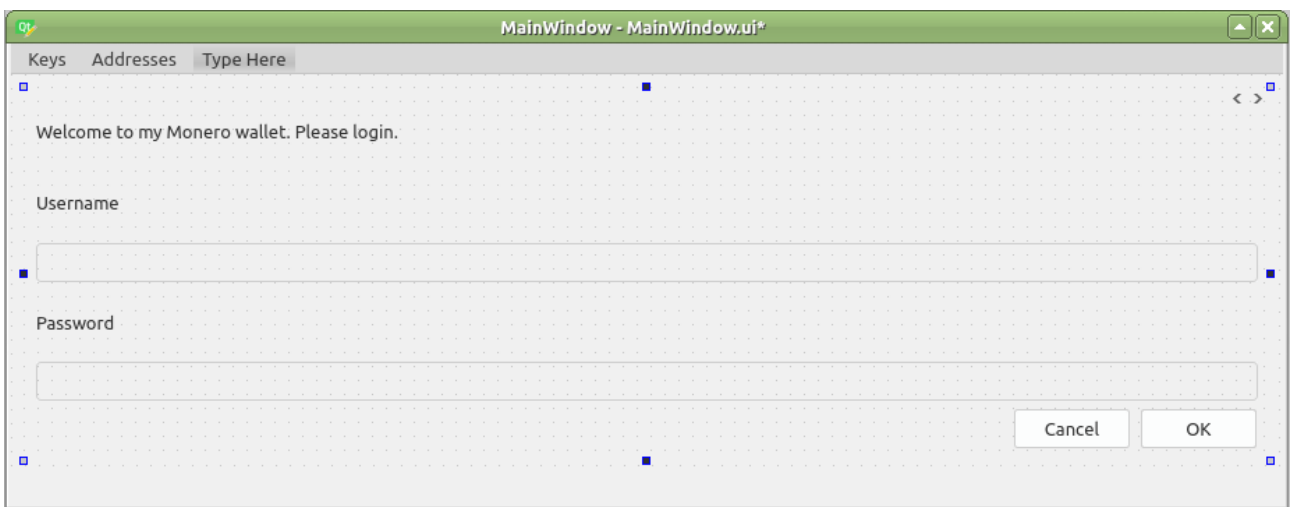
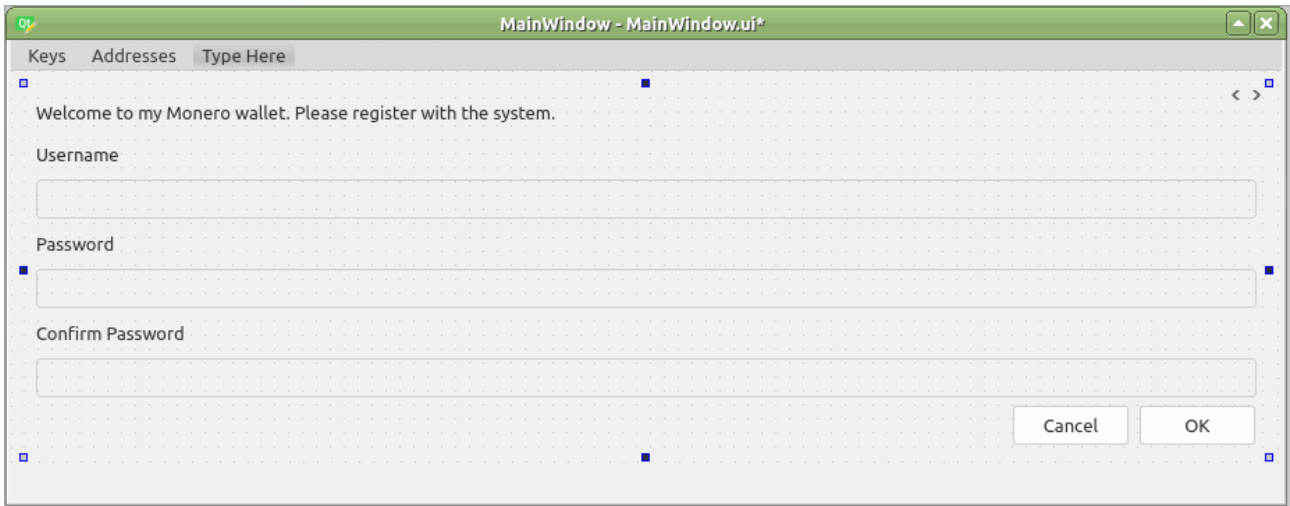
Consequences: The value at the users address will increase by the amount sent minus the fee.

Download Node

1. When the user launches the program it will launch the Monerod and fork it to the background so that it will keep the users node up to date.

Wireframes





The program will be used in the order that I have gone through in the step of the UML diagram above.

Other Parts

The program will be supported by an Xampp web server. If time allows, this will be moved onto a different web server. The Xampp server will handle the users that have registered with the application. When the user registers with the application then they will be added to the list of users if the user information is accepted. The user will not be allowed to create an account if the username is the same as another user or if their password is too weak. When the user logs in they will be allowed to access the page that allows them to send value through this application. The Wallet does not get uploaded to the server; it is just loaded from within the application. If the user wants to use the same wallet on a different PC, then they will have to recreate the wallet using the Monero CLI.

Plan

The timeline plan is that the UIX will be finished by December. The first iteration will be completed by February 2020, and it will use an already created wallet. After that I will be adding in features at each iteration. For example, creating a wallet for a user and QR Code for speed and efficiency.