**Encrypted Email**

**Detailed Design**

**COP4331, Fall 2015**

Team Name: Encrypted Email

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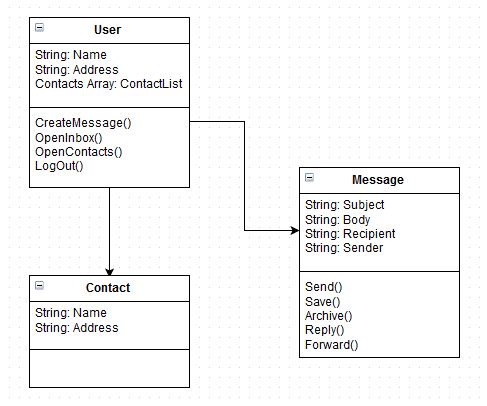
**Detailed Design Issues**

* Reusability
  + This is expected to be a one-time use for this project, but further development may occur after the class is over.
* Maintainability
  + Maintenance early in the development process would be the most difficult.
    - We will create a set way to communicating ideas between the developers so each one knows what the other was doing or intended to do with the code segments.
    - Issues may arise if developers do not communicate properly in this set way.
  + Maintaining the server on which the data for each user will be stored, if the development process reaches this far.
* Performance
  + HTML5 is light enough that memory management is negligible.

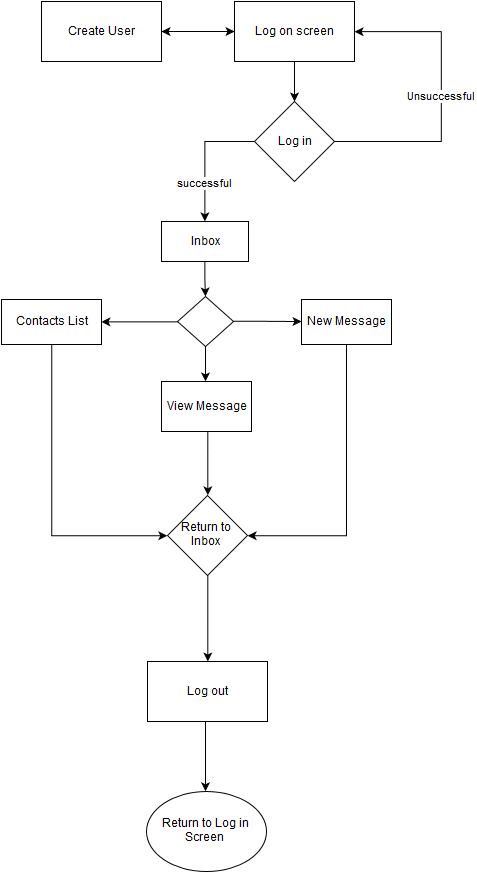
* Testability
  + We plan on testing at each step of the development process.
  + Developers and the rest of the team will do testing and report any bugs or issues found.
    - This is intended to be a continuous activity until we’ve reached a final product good to deliver.
  + We plan on also doing open beta testing.
  + Any issues they can find or design flaws we notice will be noted and sent back to the developers.
* Portability
  + Our application is intended to work on the internet as a stand-alone client.
    - We expect to be able to run this on Android OS version 4 or higher.
* Prototypes
  + Each time a new functionality or class we implemented, there will be prototyping of what was just implemented.
    - This will allow for easier finding of bugs and other issues that can cause the system to fail.
* Technical Difficulties
  + Network connectivity between the client and the server.
  + Learning algorithms for encrypting messages
* Trade-offs in Design Architecture
  + We want to allow for this to be on Android or Apple products, but due to time constraints it may not get finished for those systems.
* Rationale for the Architecture
  + Working with Web based applications increases portability
  + Developers have different computer operating systems, but all systems allow programming HTML5

**Detailed Design Information**

Class Diagram



Activity Diagram



**Trace of Requirements to Design**

|  |  |
| --- | --- |
| Requirement | Trace to design |
| 3.1.1 Messages | The Web Application shall be able to send and receive electronic messages between system users |
| 3.1.3 New User | Users shall be able to create account which they will be able to log in and out of the system |
| 3.8.1 Accounts | Messages shall only be accessible by accounts that the message was sent |