Deign Document: System Structure

Yujia Li ([liyj070707@gmail.com](mailto:liyj070707@gmail.com))

Hang Yuan ([hyuan211@gmail.com](mailto:hyuan211@gmail.com))

Version: 0.3 (09/05/19)

**1 Goals**

This design document is aimed to describe the entire system frame at a high-level view. This design only contains basic and brief descriptions to the system structure in different layers and associated functions.

The entire project will be separated into two parts, client side and server side, even though all these two parts have a similar structure.

**2 Design**

This is a general structure design for both client side and server side. Though on client side, there is only one protocol module exists in Manager Layer.

Based on the functional needs designed for this project, we split the entire program into five layers, consisting of fourteen function units (ten on client side). Followed with the development procedure, we adopt a bottom-up approach, where the base functional layer is upper and abstract functional layer lower. The diagram of the layer distribution is shown below:

**Front End**

**Layer**

User Interface

**Event Layer**

Event Handler

**Function Layer**

Send Email

Read Email

Search Engine

System Control

Delete Email

**Manager Layer**

Protocol Manager

Email Data Manager

System Info Manager

Email Data Cache

User Info Manager

Only on server

**Basic**

**Layer**

File I/O

TCP (socket) Interface

Bottom-up approach as the development procedure