**Software Plan G13**

1. **Scope**

Our goal is to create a fully functioning live chat web application, users will be able to easily create their own accounts and quickly interact with other users in a variety of ways, most notably: chatting, sending files, and hosting calls. Users will also have access to a profile page. On said page they can change their display name, as well as, picture. All features will be easily accessible via a sleek and easy to use graphical interface.

A database will be implemented to store user data for logging into our platform, chat history, profile data, and contact data. We will use SQLite because it is simplistic and lightweight. To share messages between users, we will use WebSocket.

When reaching our web application, a user will arrive at the login page which will have the common capabilities, including a reset password option. Upon login the user will arrive to our main application. This will be separated into three parts: options bar, contacts bar, and messaging. The options bar will have the choices between chats, profile, and stories; navigating between them will change what is displayed in the messaging area.

The contacts bar will allow the user to choose which friend or group chat to message. After choosing who to contact, a user can add other contacts to the room, send messages, send files, or initiate a call. When profile is selected, the message space will change to a profile space, allowing the user to change his display name, picture, personal info, or post a status. When status is selected, the message space will change to a status space, which will display the status of the contact selected.

**1.1 Functions**

The application will provide the following functionality:

* Look up other users
* Send friend requests
* Accept/deny friend requests
* Delete friends
* Block friends
* Send and receive messages
* Send files
* Create group chats
* Receive notifications
* Review chat history
* Initiate voice calls
* Profile page
* Set display name
* Set picture
* Customize privacy settings
* Post status updates
* View status of other users
* Delete status

**1.2 Performance**

Our software will create a live chat system with minimal delay between sending and receiving messages. Users will be able to view their chat history which will be available to download in a compressed format to reduce memory requirements and reduce the burden on the network; however, the user will have to decompress it. SQLite will be used to manage our database; it is 35% faster than using the filesystem. It is also very portable and reliable. Our application will be server-heavy and relatively light on the user’s computer. JavaScript will be run on the user’s computer to navigate our application. The user will have to upload and download any messages, which may result in high internet traffic with multiple users.

**1.3 Limitations**

The amount of chat history readily available to download will be limited to the past seven day. Our users will be unable to view each other’s screens and there will be no global status feed to display all the viewable status updates in a consolidated space, users will have to navigate to profile pages to view status updates. The application will have no option to add custom extensions.