# Chat Application

Alex Wu, Andre Lungu, Dylan Zhou, Levy Lin, Yi Chen

## Project Stack

- JavaFX
- Spring Boot
  - HTTP Requests
  - WebSocket Server
  - Spring Data JPA: storing messages, users, groups
- Jakarta EE
  - WebSocket Client for app
  - JSON processing
  - HTTP Requests
- Gradle for building



- Gradle
  - Setup the initial project and structure for server and application
- Spring boot
  - Created websockets for users to message each other
  - Created HTTP requests for the application to register users, add groups, etc
  - Setup the initial JPA database using H2, created some of the models used

- JPA Models
  - Expanded the initial database to implement group chats
  - Created Group and GroupChat models for database
- JPA Repositories
  - Added query function to determine if a group chat exists
  - Added query function to return all users of a group chat
  - Added query function to return all groups a user is a member of

- Login/Register
  - Designed a minimal login and register user interface
  - HTTP requests to allow creation and logging in of accounts
- Chat Window
  - Fixed visual bugs and fixed issues with sending/receiving messages
  - Created a notification popup similar to Discord

- Chat Window
  - Designed and implemented UI with FXML
  - HTTP requests for loading a user's chats and groups on startup, adding users to a group chat
- Websocket Client Class
  - Handle sending messages to websocket server from user input
  - o Handle receiving messages from websocket server

- Documentation
  - Adding Javadoc comments to all public functions
  - Writing Testing Manual and User Manual

#### Demo

