# Features Developed

## Android

### General

1. Register for new account.
2. Login to app.

### Study Groups / Chats

1. See all enrolled study groups.
2. Tap on study group to view/send messages in the group.
3. New message notifications. Either tap on notification to open the group to view the message or navigate to the group manually.
4. Able to send/receive multimedia messages containing images, videos, or attachments files.
5. Able to view images/play videos in full screen by tapping on them from the chat screen.
6. Able to download files sent.
7. Supports Gboard (Google Keyboard) and is able send reaction gif images or stickers built into the Keyboard by choosing them from the keyboard.
8. Long pressing on any chat message will copy its contents to the clipboard.
9. Search for users to chat one to one.
10. Tapping on the user will open a private chat group with the selected user.
11. Tapping on own name in the list will also open their profile page.

### Events

1. View all available events.
2. Join events. Joining event will also enrol the user in the study group.
3. Create new events to host.

### Books

1. View books recommended by ML based on selected interests & groups joined.
2. Search for books to read.
3. Bring to the books page by tapping on the book.

### Profile

1. View user profile.
2. Upload new profile photo by tapping on the profile image.
3. Edit interests.
4. Change password.
5. Logout.

## React

### General

1. Register for new account
2. Login to app

### Study Groups / Chats

1. Study groups with chatting.
2. Able to send images/videos/files.
3. Able to view images/play videos in full screen by tapping on them from the chat screen.
4. Able to download files sent
5. Search for users to chat 1 to 1
6. Both light mode and dark mode available
7. Mobile responsive for small device
8. Auto scroll to last message when click on each chat list.
9. Display message send time based on current timestamp.
10. Emoji supported
11. Hover on the user photo will pop up user profile and tapping on user profile will open private chat with user.

### Events

1. View all available events with Calendar View
2. Join events or View Discussion (already member of group) by clicking each event
3. Create new events based on Date and Time
4. Have Month View, Week View, Day View and Agenda View.

### Books

1. View books recommended based on interests & groups joined
2. Search for books with autocomplete feature
3. View books

### Profile

1. View current profile
2. Change profile photo by clicking upload photo (Drag and Drop supported)
3. Edit interests, email, display name
4. Change password
5. Logout

## ML(Python)

### Sentiment Analysis using BERT model

### Book recommendation order using:

1. Picked interests
2. Cosine similarity of interests and latest event joined against textbook descriptions
3. Supported by scraped textbook data from <https://open.bccampus.ca/browse-our-collection/find-open-textbooks/>

### Book search top 5 results using:

1. Cosine Similarity against textbook descriptions and title

## Java Backend API

Before using the resource API endpoints, please make sure your account is registered in the server as one of the users. If not register yet, you can use "Register user " endpoint to register.

### Authentication (JWT Token)

1. JWT is used for communications between clients and server. The client needs to have correct username and password when getting token from server. When the username and password is correct, server will give token for authentication purposes. The client needs to use the JWT token every time when communicating with resources API. The JWT token expiration time is 90 days.
2. You can get the JWT token from folder name "JWT generate token" and use "generate token".

### User

1. To register the new user, use "register user".
2. To update the user information, use "update user".
3. To update the password, use "update password".
4. To edit user interest, use "edit user interest".

### Message

1. To send the message for both public and private group, use "create message in group".
2. To retrieve messages in both public and private group with limit and offset, use "retrieve messages by groupId with limit and offset". OR to retrieve all messages in both public and private group, use "find Messages by groupId".

### Group (PUBLIC, PRIVATE)

1. To create PUBLIC Group, use " create new group".
2. To create PRIVATE Group, use "create new or retrieve existing individual group with two users". (NOTE: It will give existing group when private with two participants exist)
3. To search the group which user join as participant, use "search group by single user as participant".

### Event

1. To create Event, use "Create Event". (NOTE: It will also create public group)
2. To join the event as user, use "user join event".
3. To search the specific event, use "search event by Id".
4. To get all existing events, use "get all events".

### Book

1. To search the book, use "find book by Id".
2. To add new book, use "create book".
3. To search the book by "title", use " search book with title".
4. To search the book ordered by use, use “get user ordered book”

## Deployment on Oracle Cloud

1. Easy deployment to cloud with 3 easy commands (given “git” and “docker” pre-installed)

git pull

docker compose build

docker compose up -d

1. Created custom Docker files for building
   1. Java Spring Boot application
   2. React JS on node.js
   3. Python on flask
2. Created docker-compose.yml file to stack the docker containers along with MySQL and build bridged networks between
   1. Java Spring Boot and MySQL server
   2. Java Spring Boot and Python ML server
   3. phpMyAdmin DB manager to MySQL server

# Improvements Planned

1. Ability to edit and delete messages
2. Filter and hide swear words
3. Dark mode on Android
4. Improve dashboard UI on React
5. Able to kick out user from group