## MasSMS

An app designed to help communication specialists to send individual SMS to groups of contacts (Without adding them to the phone contact list) that have been imported from Excel and are stored locally in the app. The app allows users to import Excel spreadsheets with contacts that are parsed into JSON format to store lists of contacts. The contacts are saved in the phone's internal storage. The features of the app include, but not limited to: Import contacts, Create Groups of contacts, Add contacts, Delete contacts, Send a message to a single contact, Send message to a group of contacts, Dark mode. The app is heavily back-end oriented.

Personally, I learned a great deal of Android programming. The things that I explored include navigation, fragments, explicit and implicit intents, inflation of fragments, and other objects, dynamically creating intents from lists. I also learned a lot about the implementation of the MVP patterns.

Concerning the back end of the application, I learned a great deal about storing data in the internal memory, and JSON objects. Especially the gson class. I wrote several custom deserializations that work for general cases of Json objects converted from xlsx and back and forth between object and JSON. I also learned how to work in a team on the same project. We were able to effectively divide responsibilities and accomplish our goals.

## Sliding Puzzle Solver Project

In this project I created classes that read, store and manipulate sliding puzzles or any size n\*m. The interaction with the puzzle is done through the console commands. With the goal to solve the puzzle of any size I implemented A\*, beam, and bi-directional AI search algorithms from scratch.