

CHAPTER 4

ANALYSIS AND DESIGN

4.1 Analysis

This program can help parents in supervising their children while playing outside the home environment in order to be monitored where their children are currently with the help of smart android based smartphone technology. Selection by using android-based smart phone because nowadays almost every person from child or old age already has android-based mobile phones. Google as the main developer android also provide convenience to help other developers in developing their ideas for free and easy because Google provides tutorials and their tools in the Google API used in this system. This system uses Google API maps to get the location of the user with the help of GPS, Firebase used for databases in this system because firebase is a modern database that has a simple look and can be accessed from anywhere as long as there is internet connection.

The Android Studio program is used to create this project because Android Studio is supported directly by Google so it is seen as the best program to build this project.

4.2 Design

4.2.1 General Flow Chart

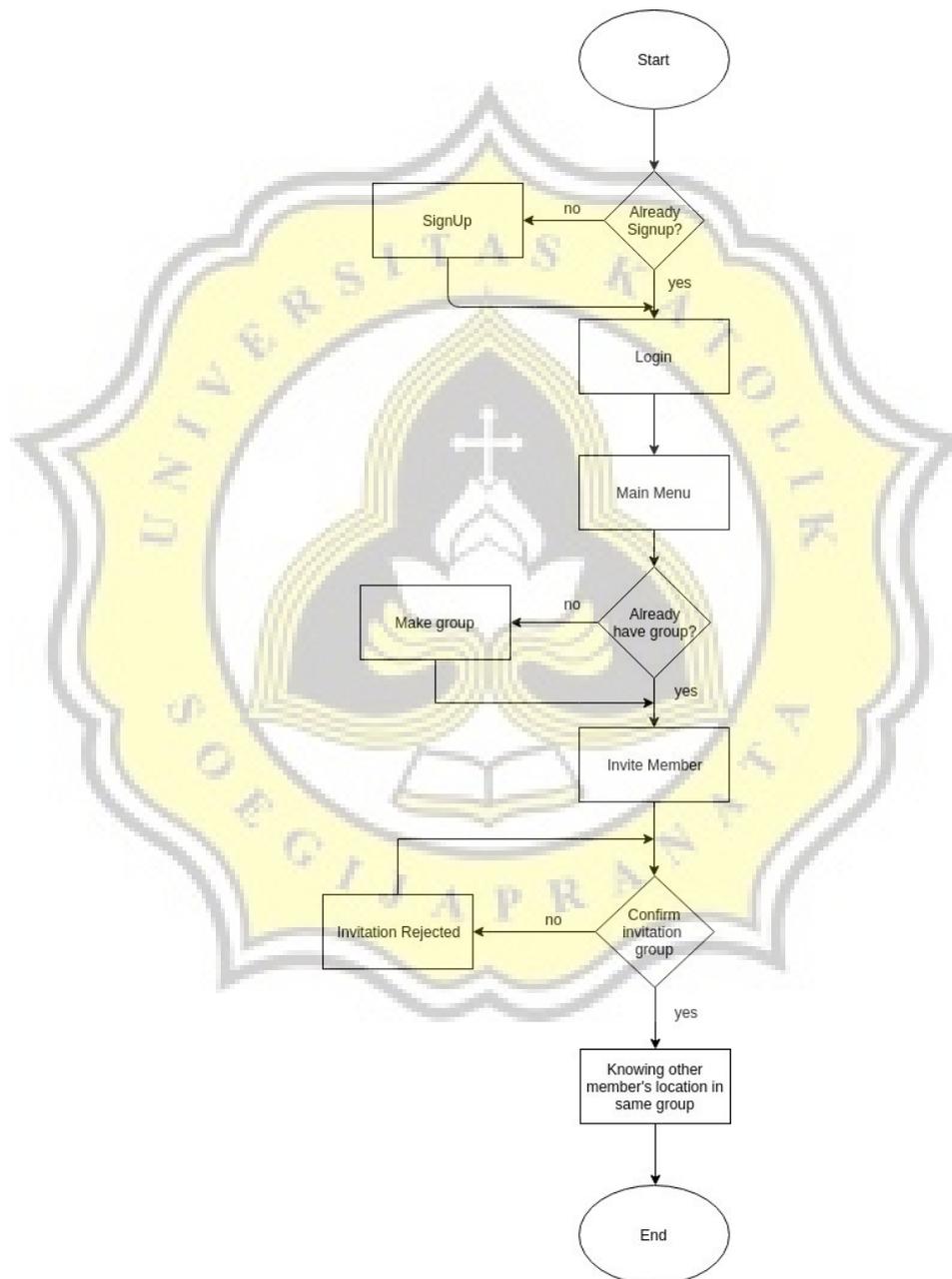


Illustration 4.1: General Flow Chart

First, user must signup and must input their email, password, and phone number. Then user can create group at , after group created user need invite someone to user's group by invite other user by email at "invite member" after that choose group and input email of other user will invite. After inviting member, the invited user must accept invitation for join that group. Then, at "lokasi" user must choose one from other group if that user have some groups for know other member's location. And this program have Help alert for send message contain current location from sender to all members of that group.

4.2.2 Register and Login Flow Chart

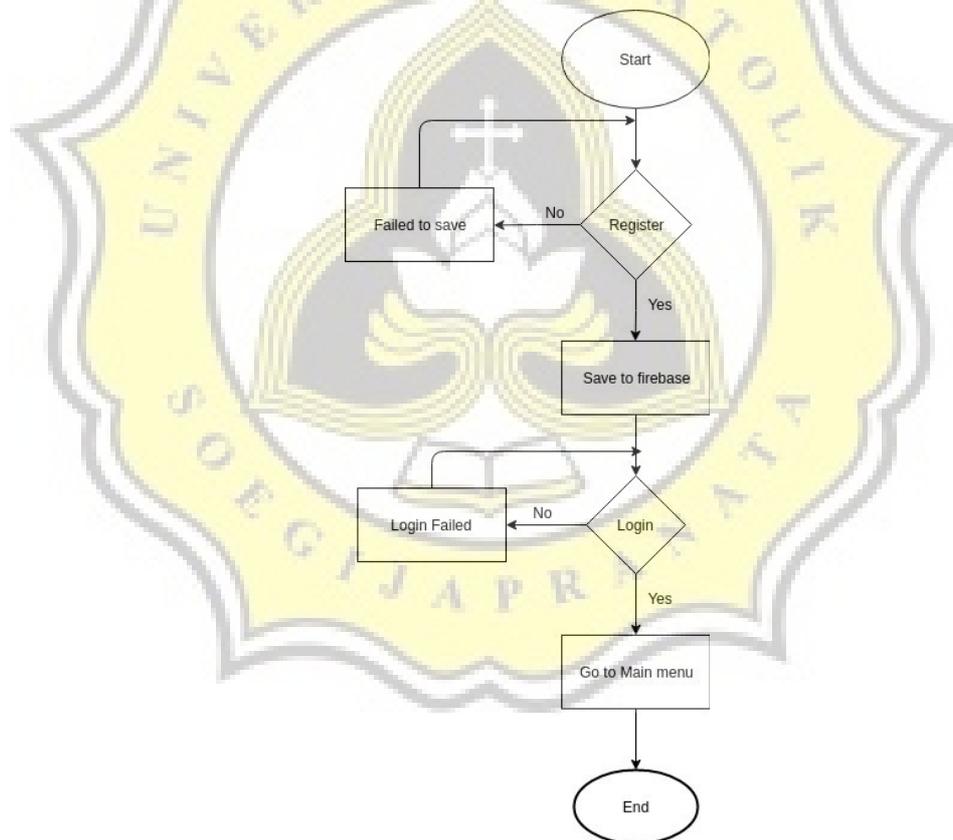


Illustration 4.2: Register and Login Flow Chart

After install this program, user must register by input their email, password, and phone number, and click button register. After that data created at

firebase and automatically direct to Main Menu, if register failed that showing popup register failed.

4.2.3 Create Group Flow Chart

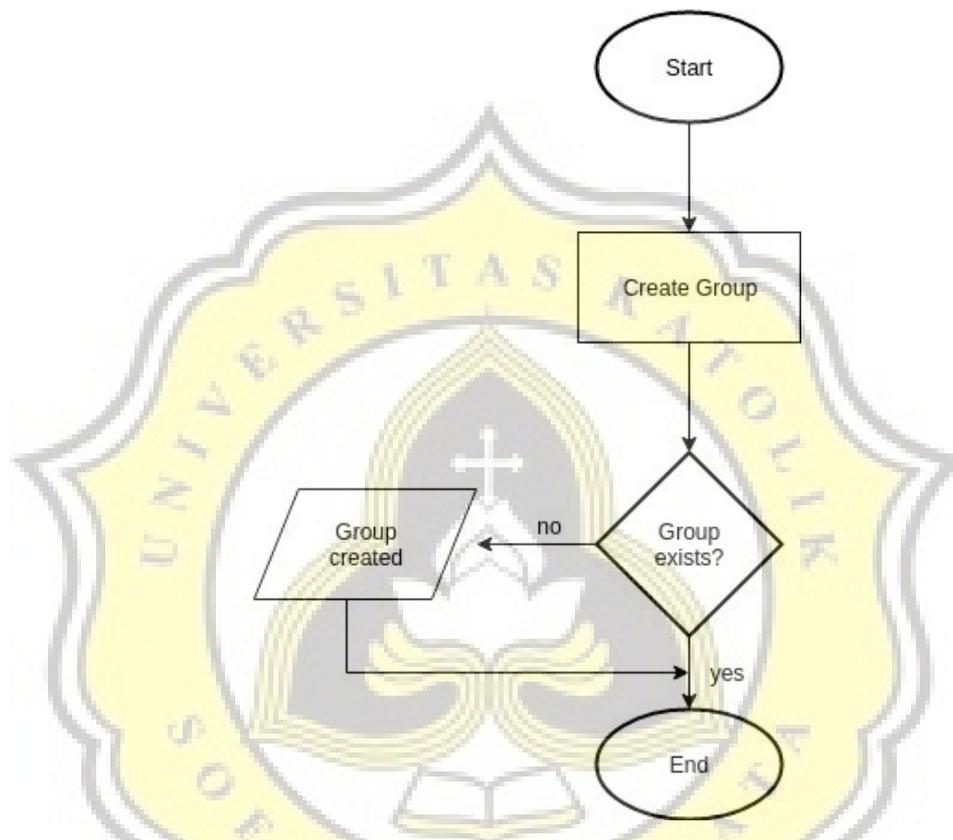


Illustration 4.3: Create Group Flow Chart

After register and login, user must have a group for grouping their family or friends by create a group by button “Buat Grup” then input group name and create it by click button create.

4.2.4 Invite Member Flow Chart

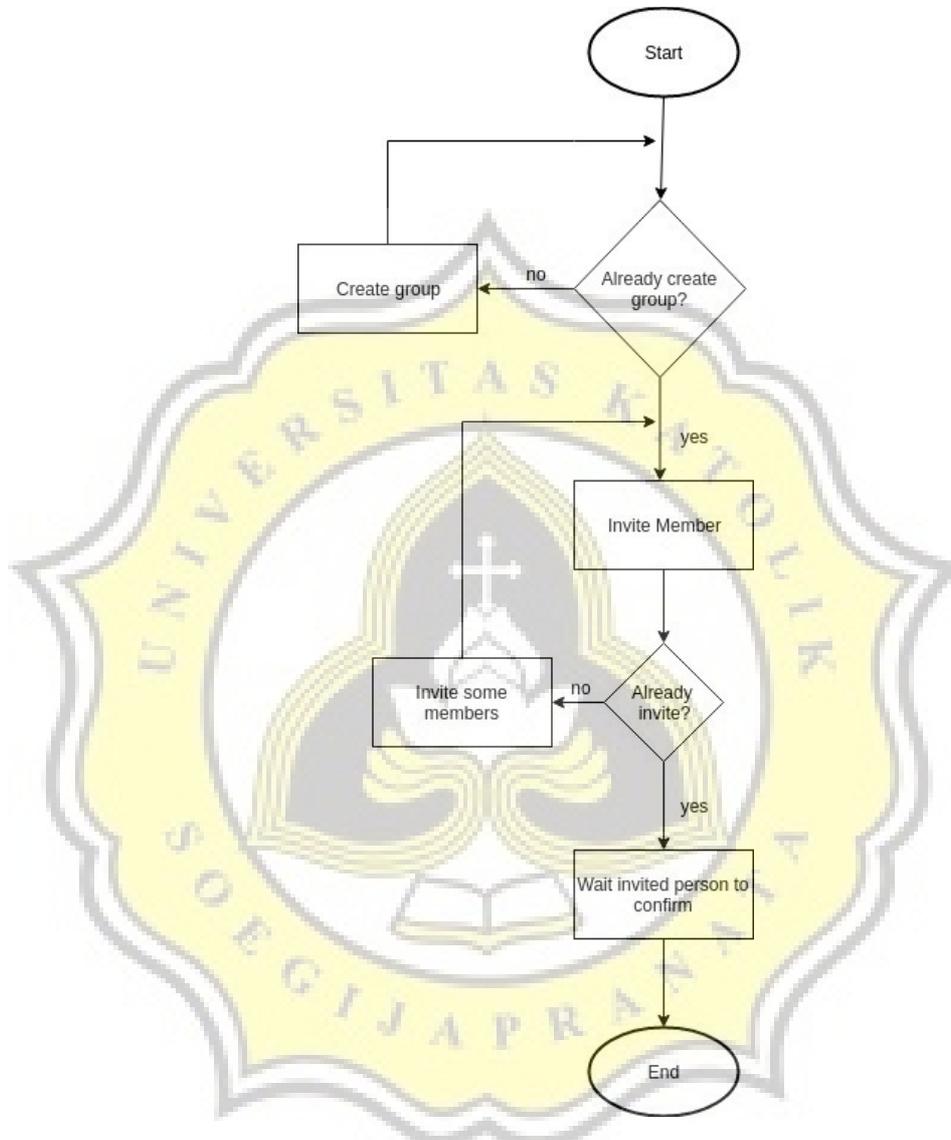


Illustration 4.4: Invite Member Flow Chart

Then user can invite member for their group by click “Invite Member” after that it will display any group user's have and choose one of that, it will show choosen group and click invite member and input the email to be invite. The invitor most wait for the recipient to confirm the invitation to be accepted or not.

4.2.5 Display Other Members Location Flow Chart

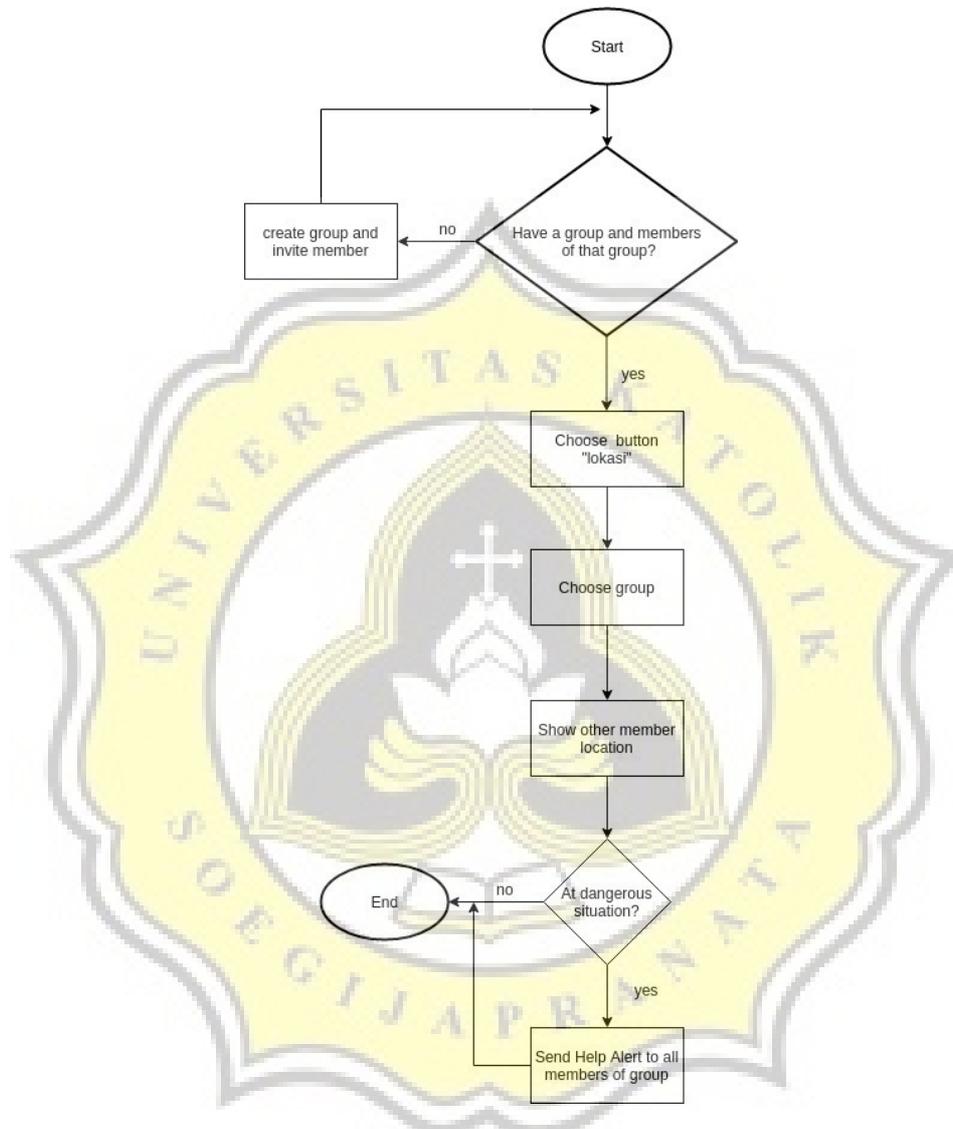


Illustration 4.5: Display Members Location Flow Chart

For display location from other member, user can click button “Lokasi” and choose the group. It will display map, button my location, and button “Kirim sms alert”. At the map, it can display other member by marker, if user click that marker will display email from other member. And if user need help from other member, then click “Kirim sms alert” for give information users's location.

4.2.6 Help Alert Message

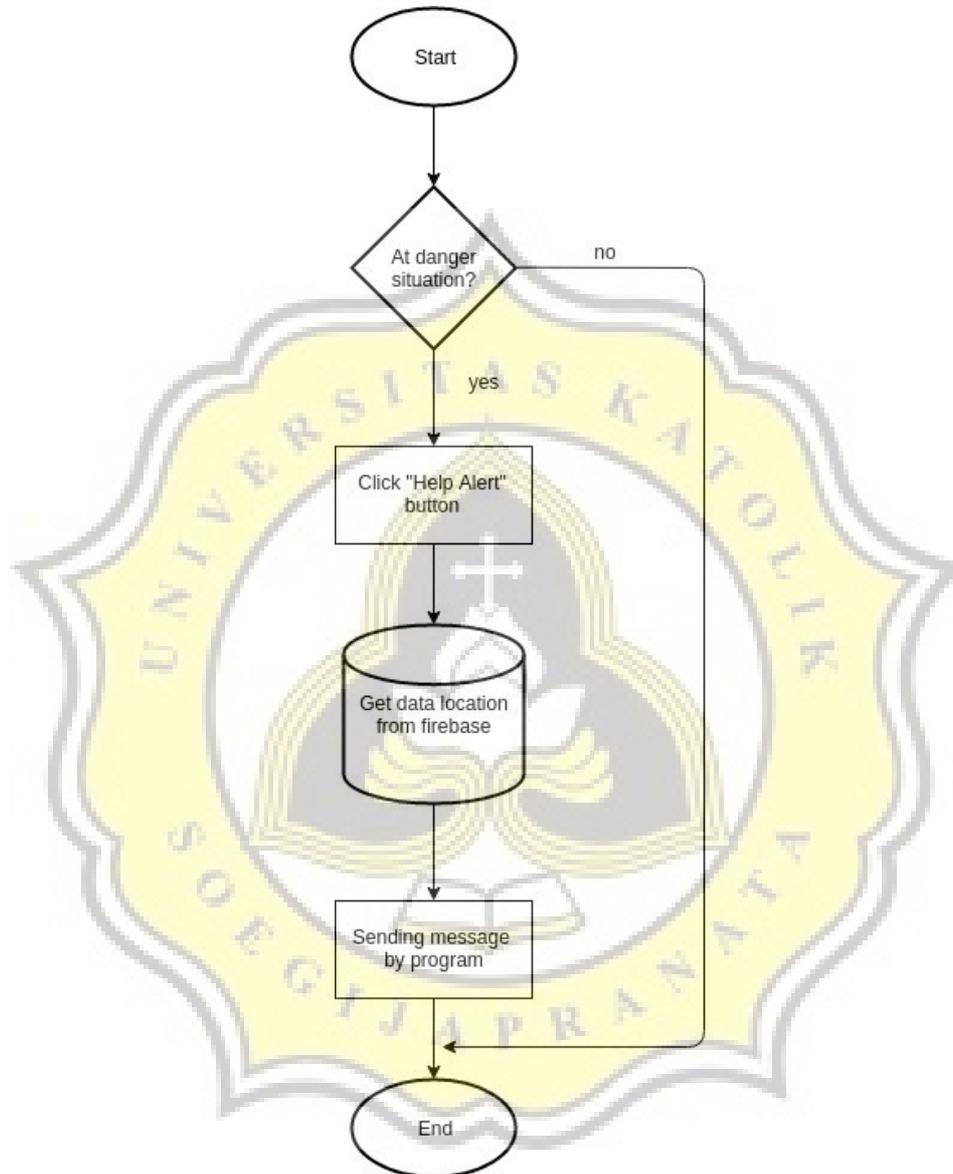


Illustration 4.6: Help Alert Flow Chart

For help alert, user must click button help alert. Then it will send sender location information in firebase using method `sendTextMessage` in the program and send it to all member of the group.