Software Design Document

Social trip

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TABLE OF CONTENTS

1. INTRODUCTION

1.1 Purpose

This software design document describes the architecture and system design of "Social Trip" app. Social Trip is designed to connect between groups of travelers and within them.

1.2 Scope

Social Trip goals are to provide an easy to use platform for travelers to connect and create traveling groups, in order to do so, a few major functions are required: First, to enable users to sign in (as a user or as a group leader user), Second is to allow users to locate each other within the group, and Third is to interact with each other with a chat feature. Another important feature is an SOS button, in case of emergency/injury.
Social Trip should be beneficial to every travelers group, both young and old, and even for organized groups such as school trips or work trips.

1.3 Overview

Social Trip is an app for travelers, created as a final year's project in Computer Science B.Sc.

2. SYSTEM OVERVIEW

Social Trip will contain 3 different type of users:

Traveler – can chat with a group member (which is a traveler) or a Tour Guide, can see the guide on map, can leave a group, can ask to join a group, can use an SOS button in case of danger.

Tour Guide – can do everything a Traveler Does, can chat with all group members, can see all group members on the map, can send an announcement to group members.
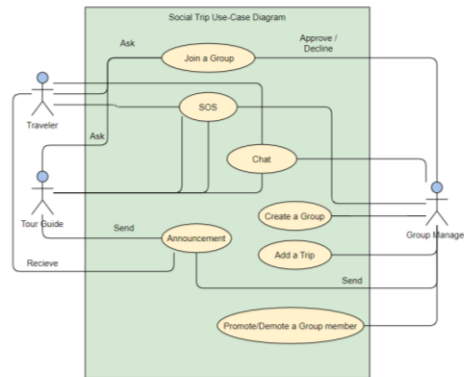
Group Manager - can do anything a Tour Guide does, can approve new travelers to the group, can turn a basic Traveler user into a Tour Guide or a Tour guide into a Traveler.

The system will contain: Login page, Groups page, Search page, Map page based on GPS, Chat page.
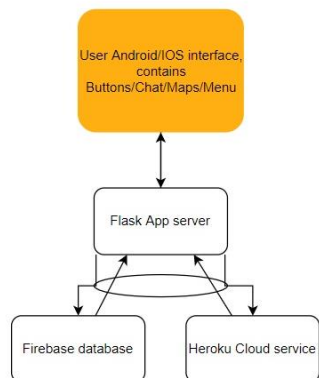
3. SYSTEM ARCHITECTURE
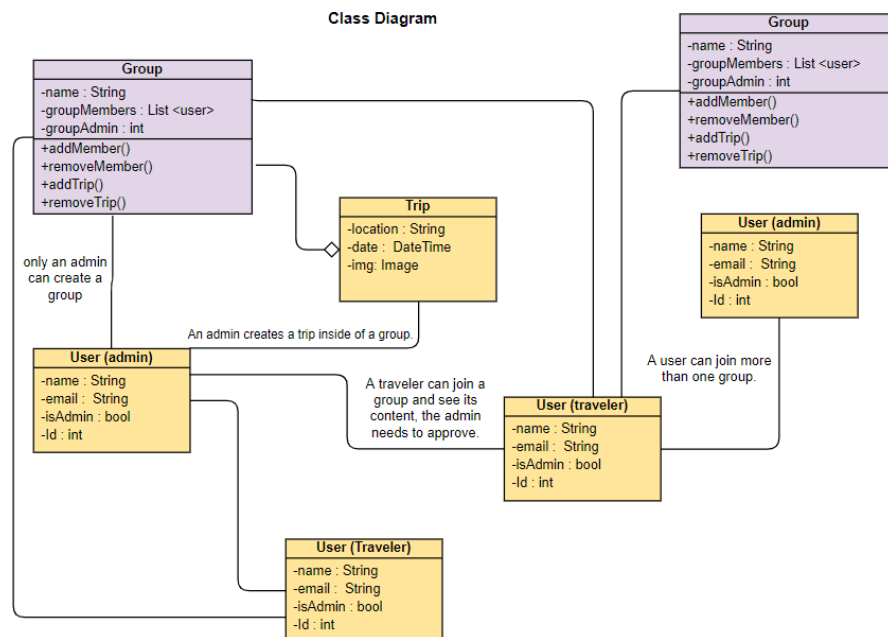
3.1 Architectural Design

User Level:

As can be seen in the Diagram above, the system will contain 3 types of users – Traveler, Tour Guide and Group Manager.

System Level:

Front end will be provided using Flutter & Dart.

3.2 Decomposition Description

Class Diagram

As can be seen above – there is a group leader user, who can create a group, in which he can add new trips and user to (they can ask to join or he can search and send them an invitation), once those users are inside the group they can see its content.

Each user can be in more than one group (same thing applies for an Admin or a Tour Guide who decides to join other groups).

3.3 Design Rationale

At the beginning, the System was intended to have a Traveler and a Group Leader users only, after some thinking it has been decided to divide the "Group Leader" user into a Tour guide and a Group Manager. The system was designed this way to give room for changes and upgrades in the user's hands, and create a more reasonable Hierarchy. It is important to note that there is a connection of "heritage" in between the different kinds of users (Traveler -> Tour Guide -> Group Manager).

4. DATA DESIGN

4.1 Data Description

Data will be divided by 3 main objects:

Users – Travelers / Tour Guides / Group Leaders.

Trip Group.

Trips.

Groups – contain the different user inside, where each user can perform some actions.

4.2 Data Dictionary

Traveler – a basic app user, can ask to join a group, can chat with a Tour Guide, can use SOS button, can participate in trips.

Tour Guide – an advanced app user, can do anything a Traveler does, can send an announcement to the group members, can see all group members on the map.

Group Manager – a super user, can do anything a Tour Guide does, can add members to the group, can promote Travelers into Tour Guides or demote Tour Guide into Travelers, can add a new Trip for the group to participate in the future.

Trip Group – a group consist of Travelers and at least one Tour Guide and/or one Group Leader.

Trip – a pre-defined map of a track, may contain data such as starting/end point or any other important point on the track.

5. HUMAN INTERFACE DESIGN

5.1 Overview of User Interface

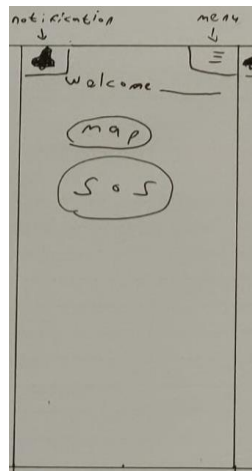|	Home Screen	Chat Box	Map	Groups	Search Groups
Traveler	Login/Sign up*/Logout. while logged in - SOS button, and menu bar.	Chat is available within the group members.	Live Map data using GPS. Specific Tracks can be selected and shown in the map.	This screen shows groups this user is a part of, can click on a group and see the upcoming trips. Also contain a leave group button.	Search for groups, ask to join button.
Tour Guide	Login/Sign up*/Logout. while logged in - SOS button, and menu bar.	Chat is available within the group members. Announcement is also available through this page.	Live Map data using GPS. Specific Tracks can be selected and shown in the map.	This screen shows groups this user is a part of, can click on a group and see the upcoming trips. Also contain a leave group button.	Search for groups, ask to join button.
Group Manager	Login/Sign up*/Logout. while logged in - SOS button, and menu bar.	Chat is available within the group members. Announcement is also available through this page.	Live Map data using GPS. Specific Tracks can be selected and shown in the map.	This screen shows groups this user is a part of, can add an upcoming trip for the other users to see. Can approve requests to join the group. Contain a promote/demote user button.	Search for groups, ask to join button.

- * - Sign up option is available as a Traveler/Tour Guide/Group Manager.
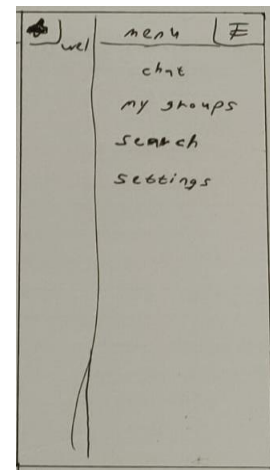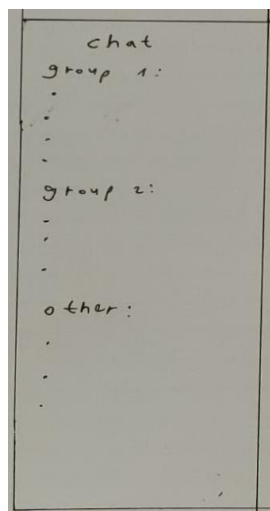
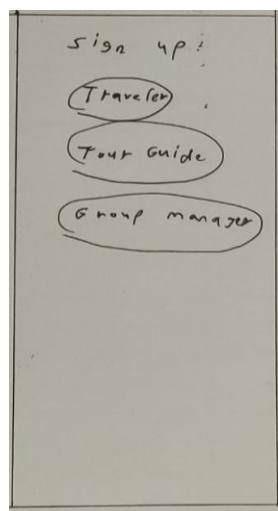## 5.2 Screen Images
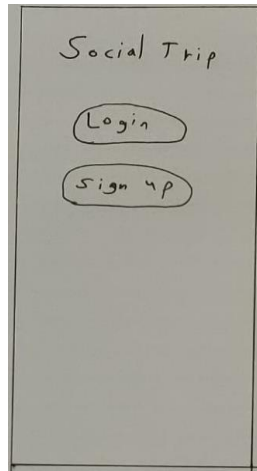
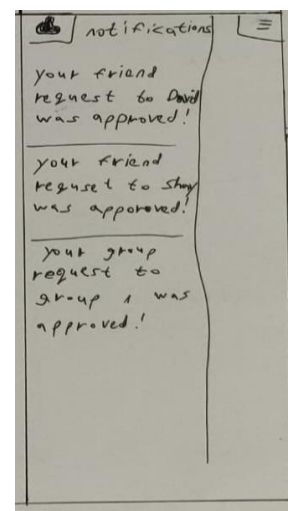Login page: Home page after logging in: Menu button clicked:
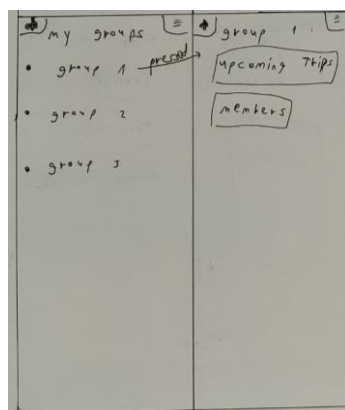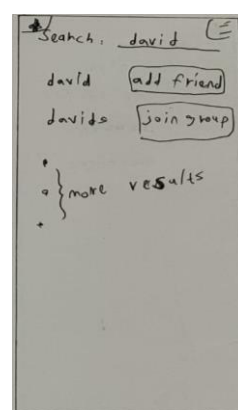

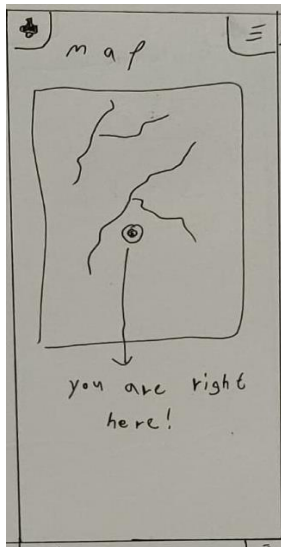Chat page: Sign up: Notifications button clicked:

Groups page + selceted group homepage: Search for groups/friends:

Map page:

SOS button clicked:

map

you are right
here!

SOS

are you sure
you want SOS?
yes   no

sends
location
and sos
message
to group leader/tour
                    guide
and/or friends