TAREEQI

Introduction to Software Engineering

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(Group 1)
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Introduction

TAREEQI is a mobile app that helps Parents ,with children using the school bus, track their children & know the bus current

location and arrival time. And also allows the school admin to track the whole buses fleet, on one screen. And all of that only by using the drivers' smartphones.

USERS

- **Parents.**
- **Drivers.**
- **School Admins.**

Functions

1)Parent functions:

a) Signup: where the parent can create a new account and choose the school of his children.
b) Sign in: where the user can get access to his account.
c)Enter activation code: where the user enters the activation code of his bus line , in order to track it.
d)Edit profile: where the user can edit his information.
e) Tracking: where the user can track his bus & know its arrival time.
f) Call: where the user presses on in order to call the driver .

2)Driver Functions:

a)Signup : enter his phone number in order to see his route on the map.

b) sign in.
c)Edit profile: where the user can edit his personal information.
d) Strat trip: where the driver starts the trip in order to allow the parents to track the bus.
e) check in : where the user announces that a certain student has enters the bus.
f) arrive at station: where the driver announces that he has arrived to a certain station.
g) check out : where the user announces that a student has left the bus.
h) End Trip : where the driver announces that he has finished the trip successfully.

3)Admin functions:

a) sign up
b) Sign in
c) Create route: where he creates a bus route (ex maadi route).
d) Add driver: where he adds a new driver to the system.

e) Add Bus : where he adds a new vehicle to the system.
f) Create Trip: where he creates a certain trip (with a certain time) on a Certain route , and assigns a driver and a bus to this trip.
g) Add passenger : where he adds the students who are supposed to ride & track this bus.
h) Create Verification code: where he create the verification codes that allows the parents to track the buses of their children.

Non-Function Requirements

- **Usability:**

  where the app needs to be user friendly in order to encourage the users to use it on the daily basis.

- **Performance:**

The app needs to perform well, since the app requires accuracy in both the bus location & the arrival time.

- **Reliability:**

Since the app must be reliable in order to make the parents trust using it.

- **Maintainability :**

The app need to be maintainable since people depend on it on the daily basis , so any error will affect these people.

- **Security:**

The app needs to be highly secured since it has the data of schools and its students which is very valuable information.

Users Scenarios

- **Parents:**
- Scenario 1:

Mahmoud creates an account , chooses the school of his children , entering the verification code of their buses and then tracks their bus.

- Scenario 2:

Ali receives a notification , opens the App , Tracks the bus and Sees the estimated arrival time .

- Scenario 3:

Ahmed opens the App , Tracks the bus , And then presses on the call button and calls the driver on his phone.

- **Driver:**
- Scenario 1:

Sayed creates an account , sees his assigned trips and its time & closes the app.

- Scenario 2:

Wael opens the app starts the Trip , arrives at stations , checks in the students and ends the trip after arriving to the school.

- Scenario 3:

Mina opens the app & Starts the trip , Presses on the navigation button to see his route , Arrives in stations , checks out the students and Ends the trip after finishing his route.

- **Admin:**
- Scenario 1:

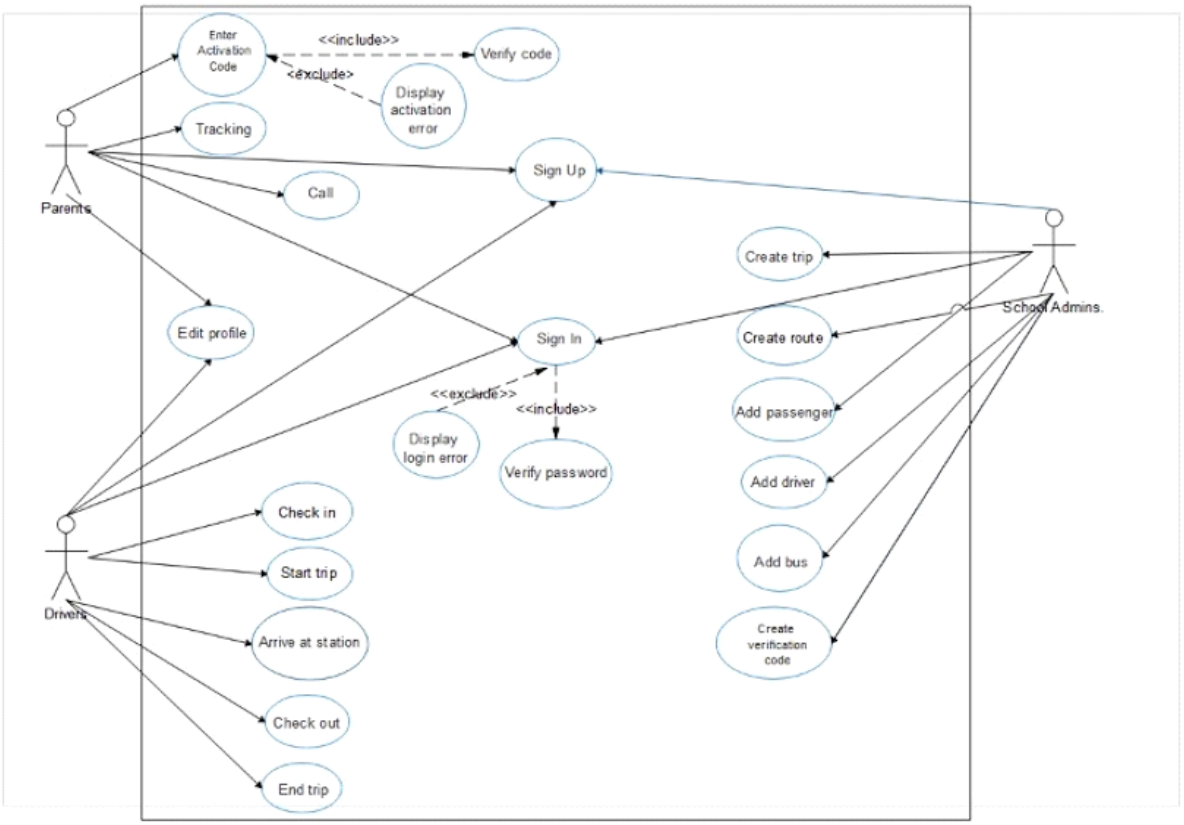
Mahmoud Opens the Admin panel , creates an account , creates a Trip , adds a bus , adds a driver.

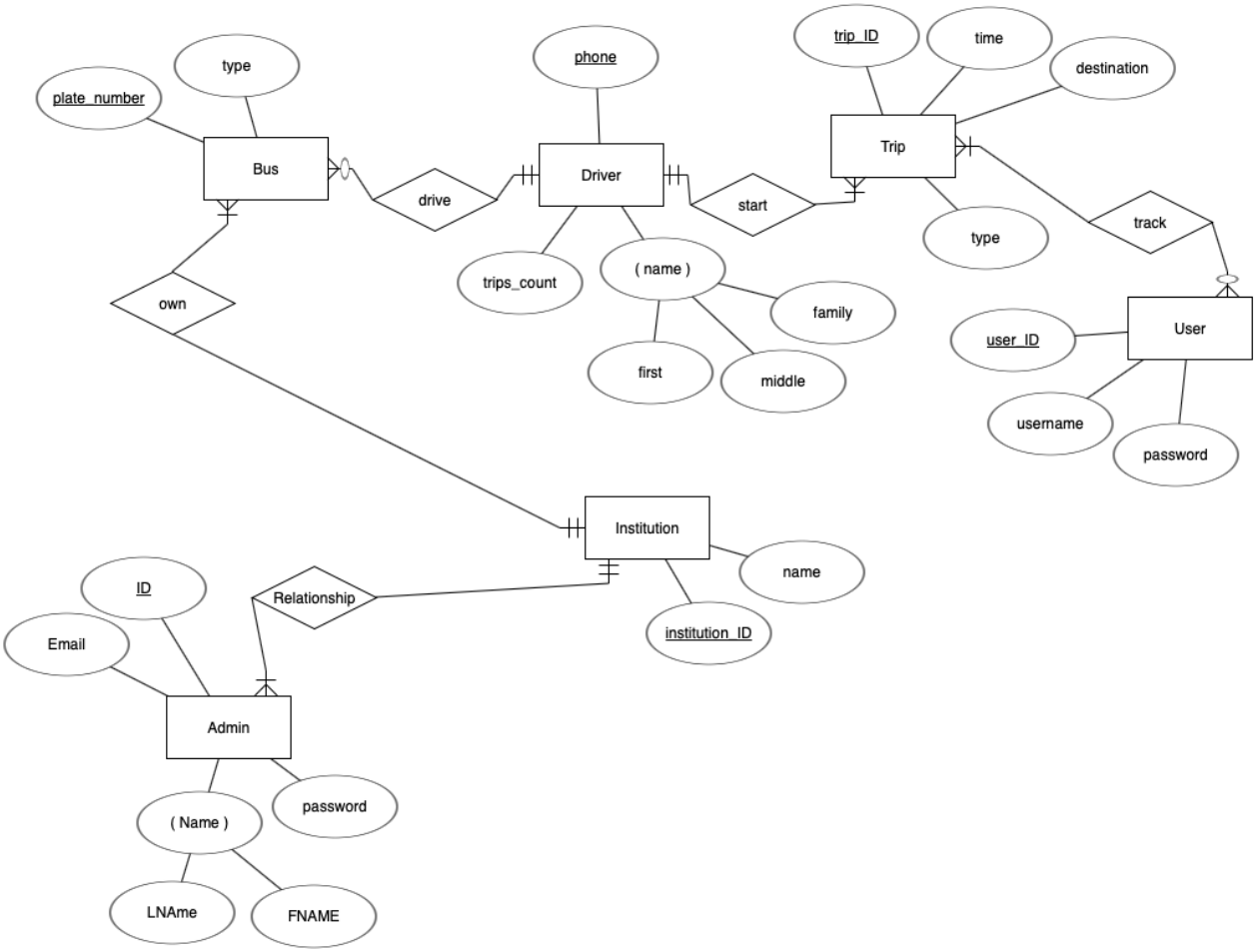
- Scenario 2:

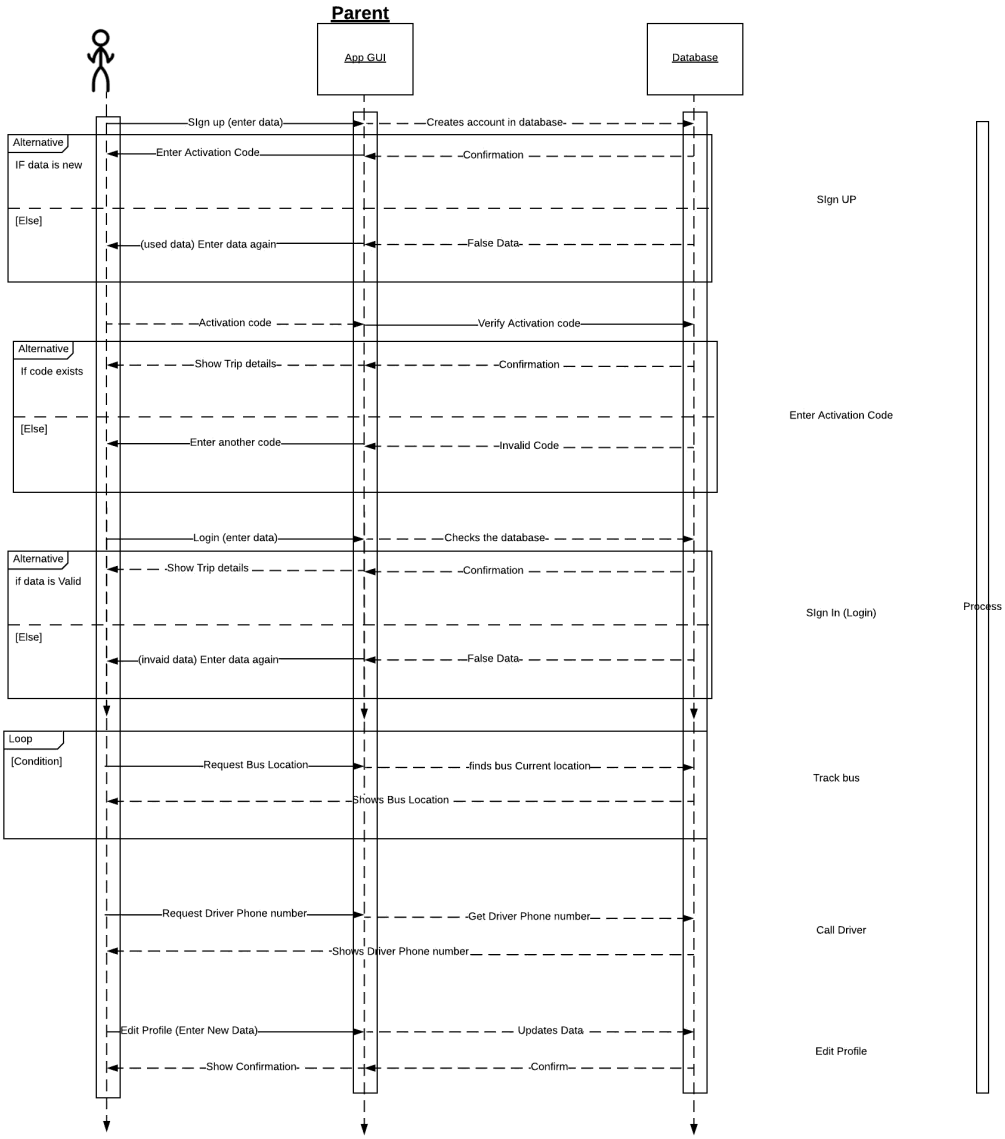
Marwan Opens the Admin panel , Creates a trip on a route and assigns a driver and a bus to this trip.

- Scenario 3:

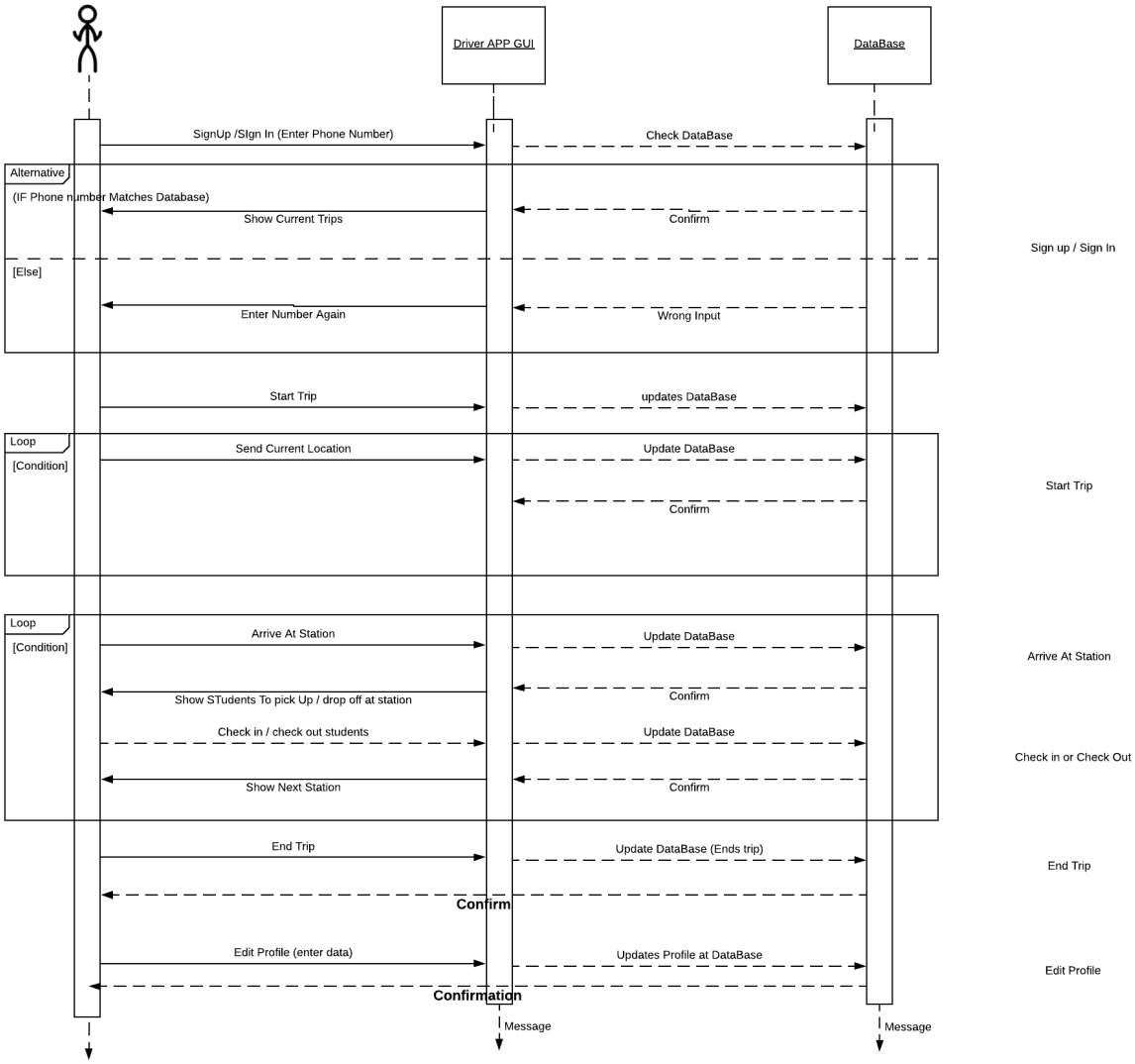
Hany Opens the Admin Panel and Tracks the active buses.

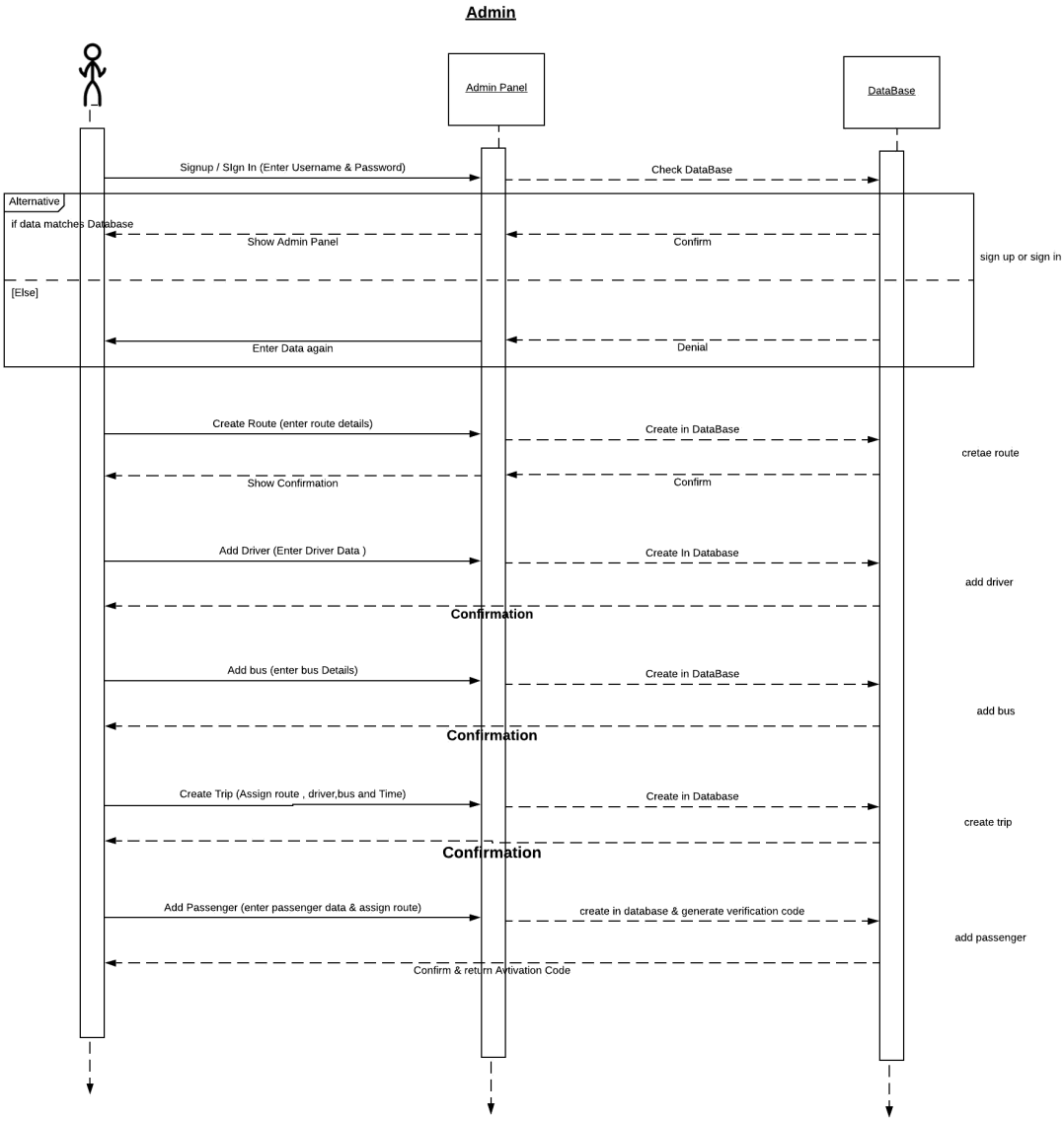

Enter Activation Code
<<include>>
Verify code
<<exclude>>
Display activation error
Tracking
Call
Sign Up
Parents
Edit profile
Sign In
<<exclude>>
<<include>>
Display login error
Verify password
Create trip
Create route
Add passenger
Add driver
Add bus
Create verification code
School Admins.
Check in
Start trip
Arrive at station
Check out
End trip
Drivers

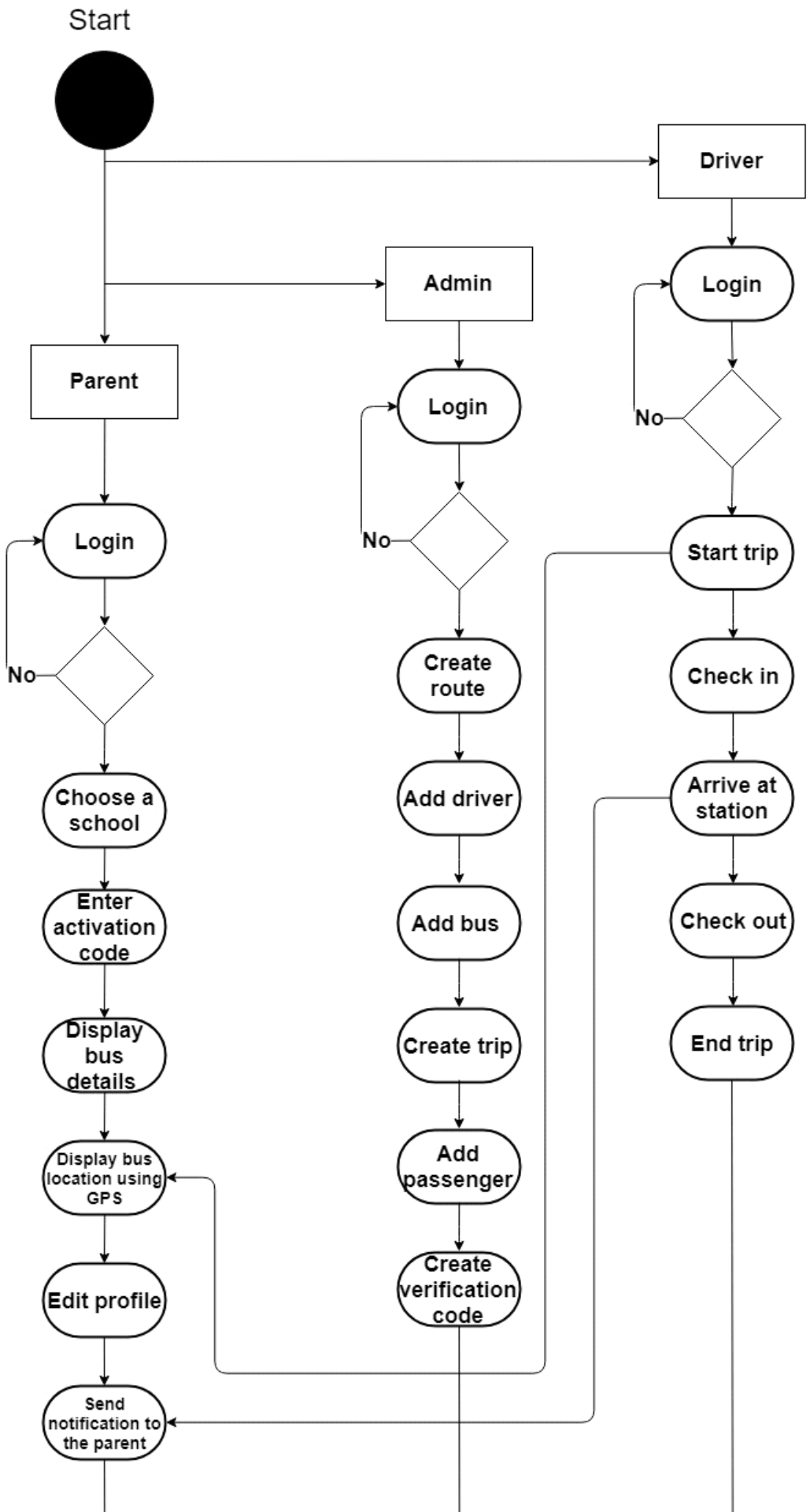

type
plate_number
Bus
drive
phone
Driver
trip_ID
time
destination
Trip
start
type
track
trips_count
(name)
family
first
middle
own
user_ID
User
username
password
Institution
name
institution_ID
Relationship
ID
Email
Admin
password
(Name)
LNAme
FNAME

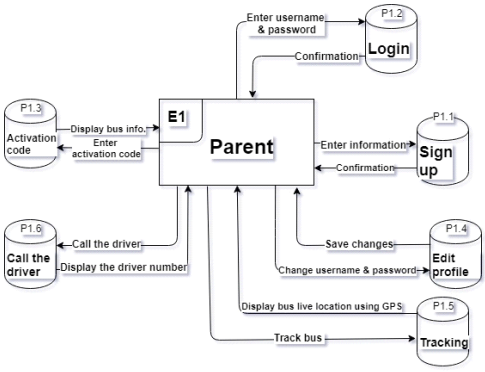

Parent
App GUI
Database
SIgn up (enter data)
Creates account in database
Alternative
IF data is new
Enter Activation Code
Confirmation
[Else]
(used data) Enter data again
False Data
SIgn UP
Activation code
Verify Activation code
Alternative
If code exists
Show Trip details
Confirmation
[Else]
Enter another code
Invalid Code
Enter Activation Code
Login (enter data)
Checks the database
Alternative
if data is Valid
Show Trip details
Confirmation
[Else]
(invaid data) Enter data again
False Data
SIgn In (Login)
Process
Loop
[Condition]
Request Bus Location
finds bus Current location
Shows Bus Location
Track bus
Request Driver Phone number
Get Driver Phone number
Shows Driver Phone number
Call Driver
Edit Profile (Enter New Data)
Updates Data
Show Confirmation
Confirm
Edit Profile

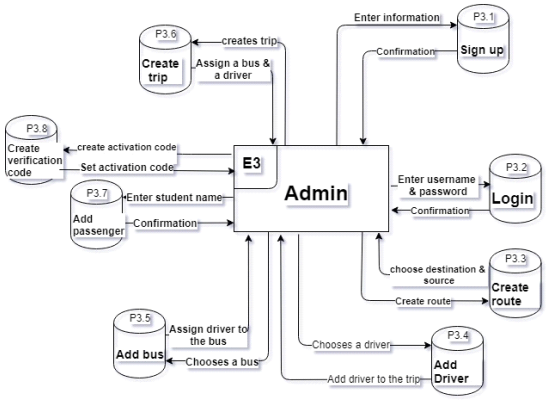
Driver

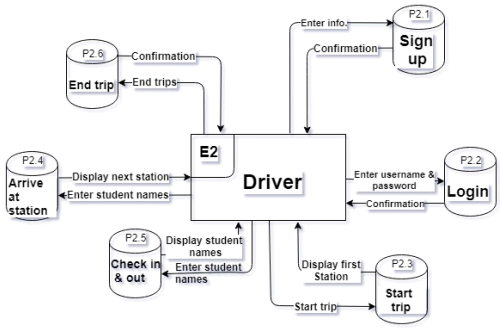

Driver APP GUI
DataBase
SignUp /SIgn In (Enter Phone Number)
Check DataBase
Alternative
(IF Phone number Matches Database)
Show Current Trips
Confirm
Sign up / Sign In
[Else]
Enter Number Again
Wrong Input
Start Trip
updates DataBase
Loop
[Condition]
Send Current Location
Update DataBase
Confirm
Start Trip
Loop
[Condition]
Arrive At Station
Update DataBase
Arrive At Station
Show STudents To pick Up / drop off at station
Confirm
Check in / check out students
Update DataBase
Check in or Check Out
Show Next Station
Confirm
End Trip
Update DataBase (Ends trip)
End Trip
Confirm
Edit Profile (enter data)
Updates Profile at DataBase
Edit Profile
Confirmation
Message
Message

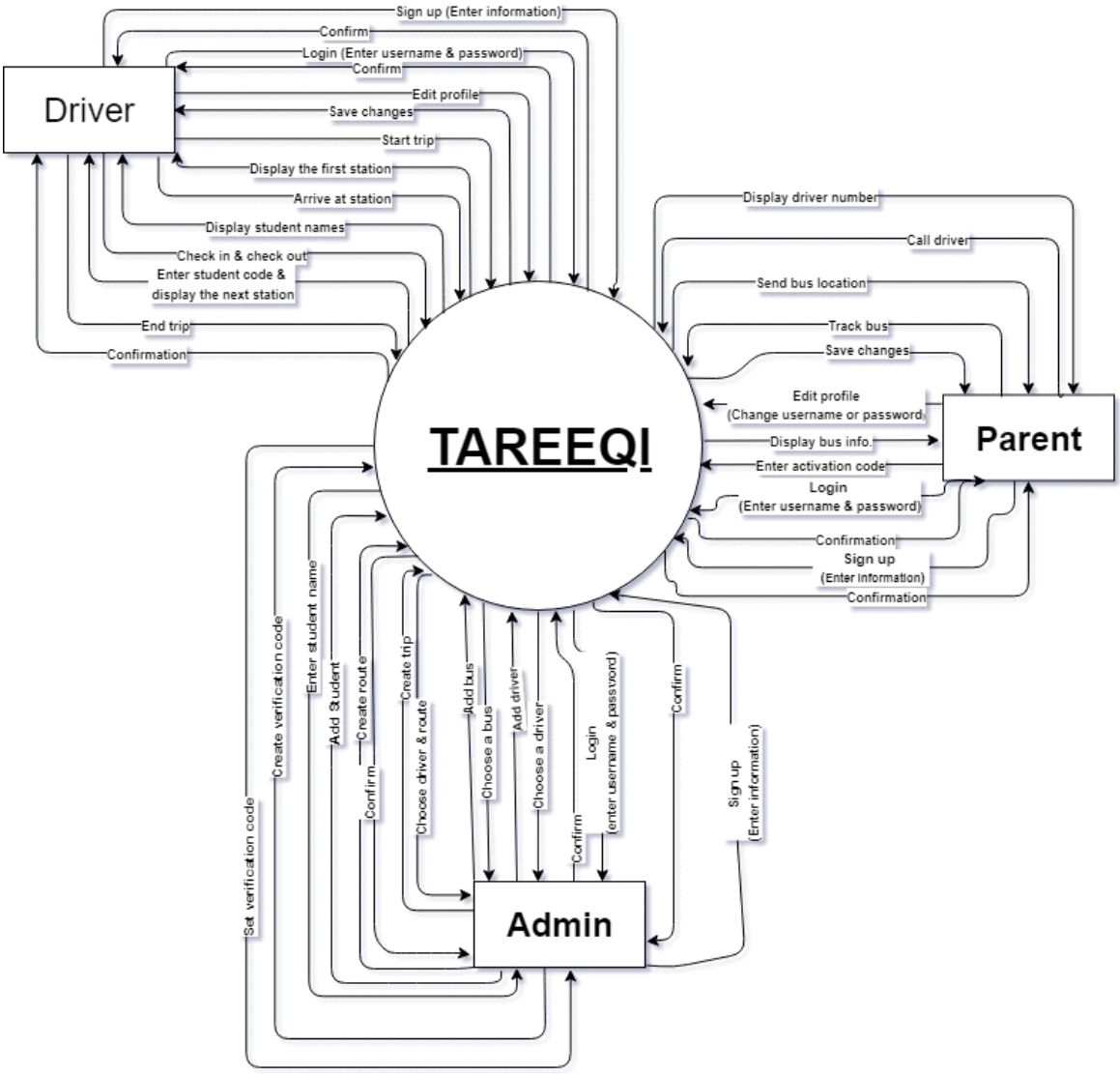

Admin
Admin Panel
DataBase
Signup / SIgn In (Enter Username & Password)
Check DataBase
Alternative
if data matches Database
Show Admin Panel
Confirm
sign up or sign in
[Else]
Enter Data again
Denial
Create Route (enter route details)
Create in DataBase
cretae route
Show Confirmation
Confirm
Add Driver (Enter Driver Data)
Create In Database
add driver
Confirmation
Add bus (enter bus Details)
Create in DataBase
add bus
Confirmation
Create Trip (Assign route , driver,bus and Time)
Create in Database
create trip
Confirmation
Add Passenger (enter passenger data & assign route)
create in database & generate verification code
add passenger
Confirm & return Activation Code


Start
Driver
Admin
Parent
Login
No
Login
No
Login
No
Start trip
Create route
Check in
Choose a school
Add driver
Arrive at station
Enter activation code
Add bus
Check out
Display bus details
Create trip
End trip
Display bus location using GPS
Add passenger
Edit profile
Create verification code
Send notification to the parent


Enter username & password
P1.2
Login
Confirmation
P1.3
Activation code
Display bus info.
Enter activation code
E1
Parent
Enter information
P1.1
Sign up
Confirmation
P1.6
Call the driver
Call the driver
Display the driver number
Save changes
P1.4
Edit profile
Change username & password
Display bus live location using GPS
P1.5
Tracking
Track bus


P3.6
Create trip
creates trip
Assign a bus & a driver
Enter information
P3.1
Sign up
Confirmation
P3.8
Create verification code
create activation code
Set activation code
E3
Admin
Enter username & password
P3.2
Login
Confirmation
P3.7
Add passenger
Enter student name
Confirmation
choose destination & source
Create route
P3.3
Create route
P3.5
Add bus
Assign driver to the bus
Chooses a bus
Chooses a driver
P3.4
Add Driver
Add driver to the trip


Enter info.
P2.1
Sign up
Confirmation
P2.6
End trip
Confirmation
End trips
E2
Driver
P2.4
Arrive at station
Display next station
Enter student names
Enter username & password
P2.2
Login
Confirmation
P2.5
Check in & out
Display student names
Enter student names
Display first Station
P2.3
Start trip
Start trip


Driver
Parent
Admin
TAREEQI
Sign up (Enter information)
Confirm
Login (Enter username & password)
Confirm
Edit profile
Save changes
Start trip
Display the first station
Arrive at station
Display student names
Check in & check out
Enter student code & display the next station
End trip
Confirmation
Display driver number
Call driver
Send bus location
Track bus
Save changes
Edit profile (Change username or password)
Display bus info.
Enter activation code
Login (Enter username & password)
Confirmation
Sign up (Enter information)
Confirmation
Set verification code
Create verification code
Enter student name
Add Student
Create route
Confirm
Create trip
Choose driver & route
Add bus
Choose a bus
Add driver
Choose a driver
Confirm
Login (enter username & password)
Confirm
Sign up (Enter information)