MINISTRY OF EDUCATION
IMAM ABDULRAHMAN BIN
FAISAL UNIVERSITY
COLLEGE OF COMPUTER
SCIENCE
& INFORMATION
TECHNOLOGY

وزارة التعليم
جامعة الإمام
عبدالرحمن بن فيصل
كلية علوم الحاسب
وتقنية المعلومات

جامعة الإمام عبد الرحمن بن فيصل
IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY

CS 526: Mobile Application Programming
First Semester 2018-2019

AL-Khobar Tourism Guide

Report Submitted to:

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Al-Khobar Tourism Guide

Declaration statement:

I certify that the project report titled "Al-Khobar Tourism Guide" is our original and has not been published or submitted for any similar titles elsewhere. This has undertaken for partial fulfilment of class project for android development course at Imam Abdulrahman Bin Faisal University.

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Problem Statement:

People like to visit new places to spend their good time with their families or friends, they may remain at the same city or travel to new place to discover it. The availability of mobile applications that provide a full knowing about a specific place could help tourists or residents to discover these places. People get affected by the others' experiences and their comments and rating about the places, Therefore, we tried to make a mobile application for Al-Khobar to help people who want to discover this amazing city.

Project Goals and Objectives/Deliverables:

- Tourists and Residents:
  - Add place to favorite.
  - Add rating and comments to the visited places.
  - View location of the place.
  - Sign up / Log in.
  - Edit profile.
  - Recommended touring plan.
  - View description about AL-Khobar city.
- Admin:
  - Add/Delete/Update places.
  - Add/Delete/Update touring plan.

Introduction:

Al-Khobar Tourism Guide is a mobile application for Android platform that guide the tourist and residents in AL-Khobar city by showing the popular places such as; hotels, restaurants, malls, coffee shops, entertainments, fitness centers, corniche, beach and museums. In this report we will discuss about the project through several points such as the factors and benefits, limitations and restrictions, explain how the system will work through sequences and flowchart diagrams, screen shots from the application, relation schema, database ER diagram, and finally the source code.

Project Scope:

This project aiming to guide the tourists and residents in Al-Khobar city to help them spend good time by choosing the right place to visit. We tried to make the usage of application easy for people even if they are not familiar with dealing with applications very well. The navigation menu at the left side make a quick access for the most important components which are; profile, bookmark, suggested tours, and different categories of places such as; Hotels, Restaurants, Malls, Fitness Centers, Markets, Entertainments, and Museums. People can see the comments below the places and the rating which are made by the others' experiences, also, they can rate the places and add comments or question to be answering by other users.

In this application we have different users, first user who is the Admin, he is responsible for add new places or tours, update the places and tours information, and delete them. Admin has his own profile and can edit his information. Second user is anyone who want to use this application, normal users can use the application either with or without registering, but there will be some features for users who registered. The table below explain the difference between the admin and the different users.

Tasks \ User	Admin	User with registering	User without registering
Show the places and tours	✓	✓	✓
Profile	✓	✓	✗
Add places to bookmark	✗	✓	✗
Rate the places and add comments	✗	✓	✗
Add new places, edit, and delete	✓	✗	✗
Add new tours, edit, and delete	✓	✗	✗

Table 1 The difference between the admin and the different users

Success Factors and Benefits:

- **Success Factors**
  - Trying to find solutions for the problems when it occurs.
  - The work is distributed equally between the group members so that teamwork skills are improved.
  - Collaborative skills help the group members to help each other when anyone faced any problems.
  - Using the cloud services to manage the teamwork.
  - The workflow diagrams helped the progress of the project.
  - Starting the project with the prototype sketches using Balsamic program which give us a general image about how the application will work.
- **Benefits**
  - Different Android App components are applied on Al-Khobar Tourism Guide App, such as activities, fragments, content provider, and intents.
  - Learned the Google Map and applied in our application.
  - Learned how to access the photo gallery by using the content provider.
  - Learned how to save the images from the gallery to SQLite database.
  - SQLite is applied in the application to manipulate with data by writing different queries.
  - Learned how to make the same activity work for both admin and the normal user by deal with flag variables and the hidden items.
  - Learned how to make code with less lines.
  - Learned the navigation menu and applied in our application.

Limitations/Restrictions:

- The user cannot add the places to bookmark and cannot add comments/rate to the places without having an account.
- The username should be more than five characters/numbers.
- The password should be more than eight characters/numbers.
- When the user creates a new account, the format of the email will be validated.
- Admin should fill all the fields when add new record or update its information.

Project details step by step including relevant diagrams or screen shots:

Starting Page:

The first page the user will see, it will be automatically disappeared after 3 seconds and the home page will be started.

Figure 1 Starting page

Home Page:

The home page contains automatic slideshow of some scenes from AL Khobar city. Navigation menu appears in the toolbar.

Figure 2 Home page

Navigation Menu:

Al-Khobar application supported with a slide menu from the left, it is providing a quick access for all activities that user may need. The slide menu contains two parts, the top part contains Home, Profile, Bookmark, Tour, and About Al-Khobar. The second part contains all categories of places.

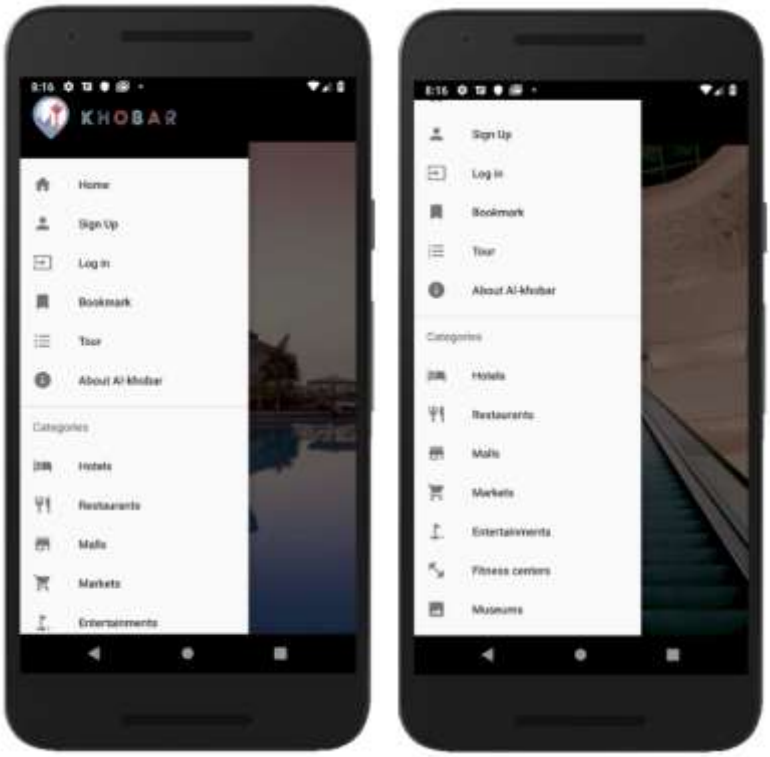

Figure 3 Navigation Menu (not registered user)

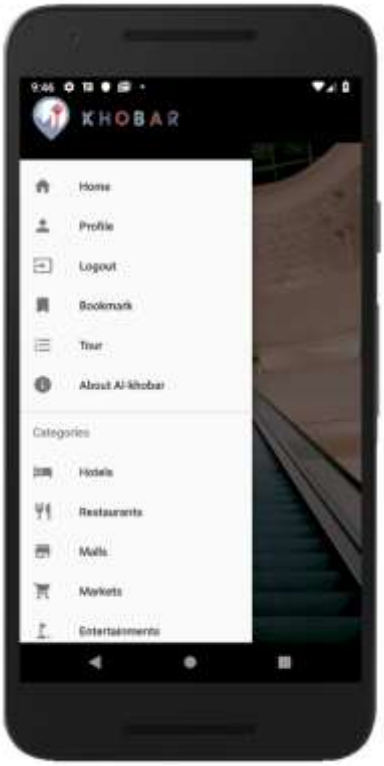

Figure 4 Navigation Menu (registered user)

Login Page:

The user can login to the application by entering a valid username and password. This interface contains 2 fields, these fields enable the user to enter his/her username and password.

When the user clicks on (Login) button after filling all fields with the correct username and password, the user will be able to login to the application. On the other hand, when the user clicks on (login) button without filling the fields or when the user enters an incorrect username and password, the error message will directly appear.

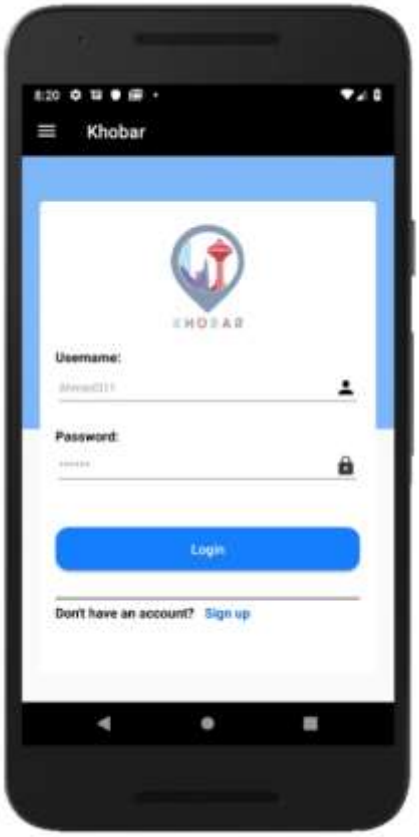

Figure 5 Login page

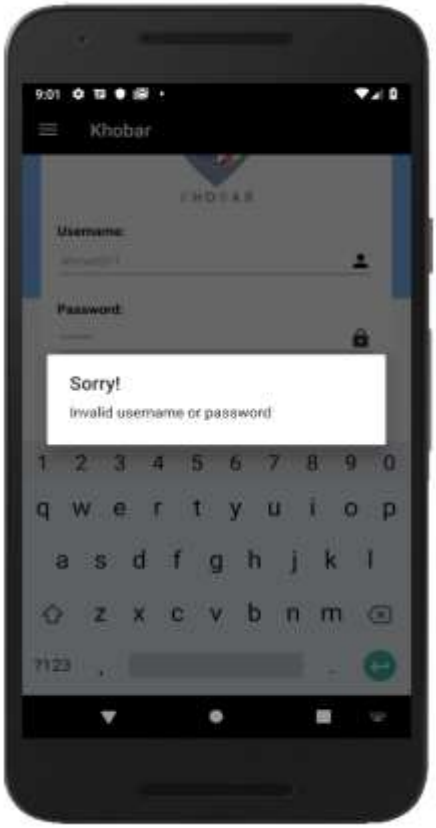

Figure 6 Checking the username

In addition, if the user does not have an account in this app, then he/she can create a new account by clicking on (Sign up) text that appears in the bottom.

Log in sequence diagram:

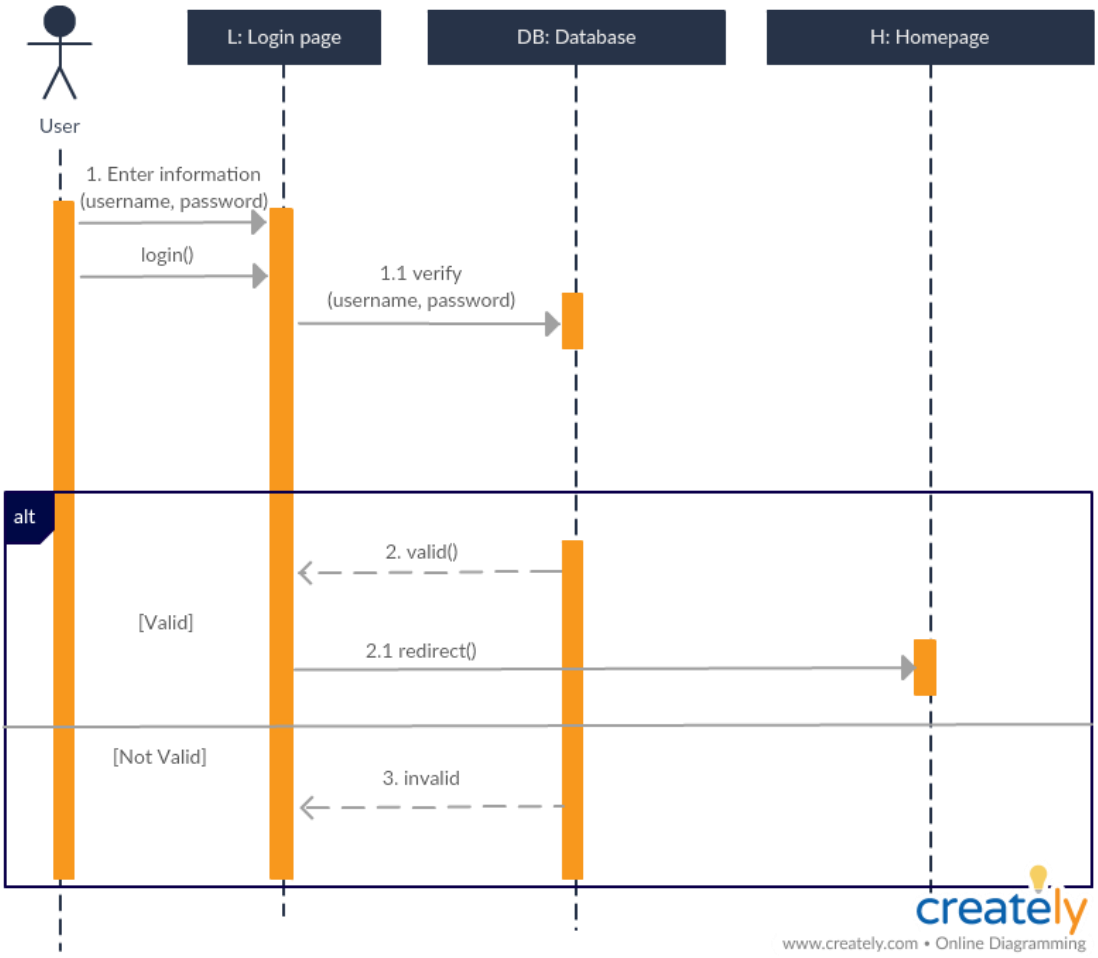

Figure 7 Log in |Sequence diagram

Sign Up Page:

In this page, the user can create an account in this app by filling all fields that appear in Figure below. Also, he/she can choose the profile image by clicking on (Profile Photo) text that appears under the image view. So, when the user clicks on (Profile Photo) text, the photo gallery will be opened, and the user can choose the photo. When the user clicks on (Sign up) button with filling all fields and choosing the image, then a new user account will be created, and all this information will be added in the database.

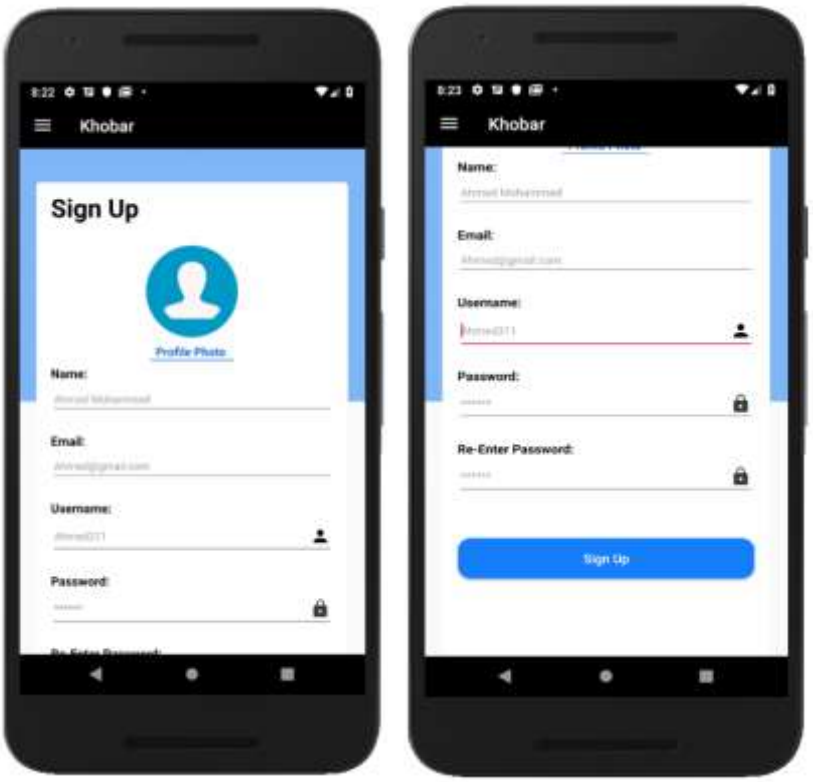

Figure 8 Sign Up page

When the user clicks on (Profile Photo) text that appears in Figure above, the photo gallery will be opened, and the user can choose the image for his/ her profile. The Figures bellow show this process.

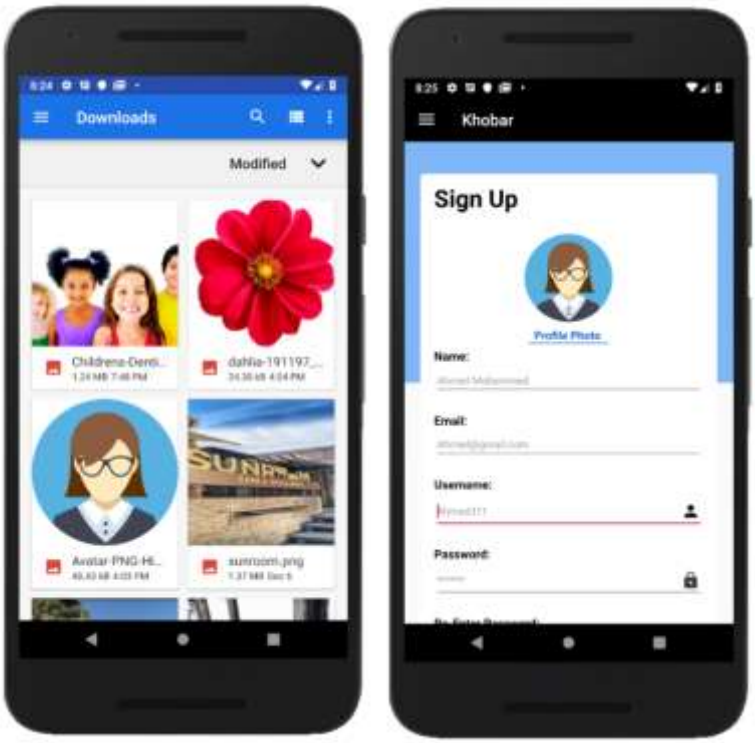

Figure 9 Open photo gallery and choose the image

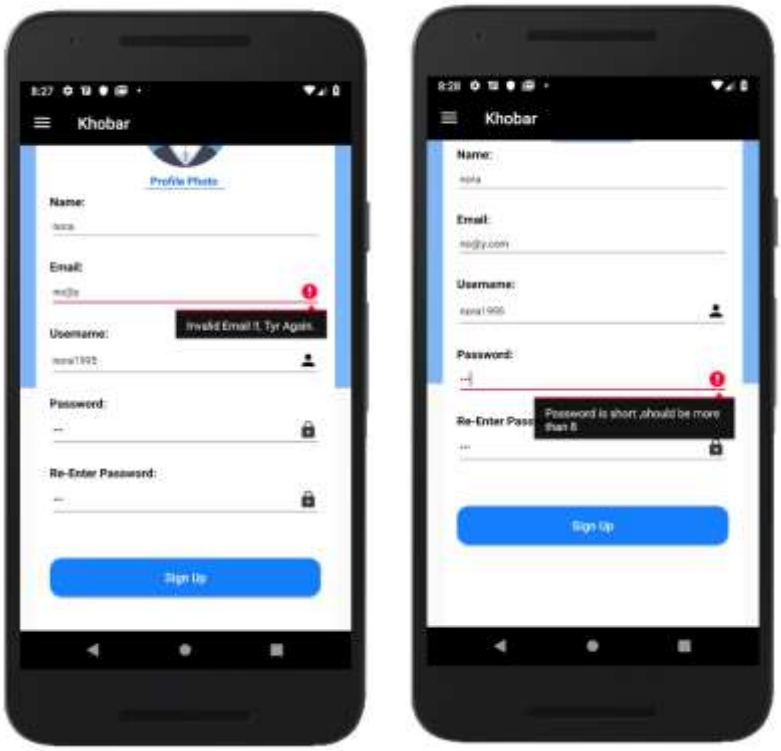

Figure 10 Sign Up Form validation

Sign Up sequence diagram:

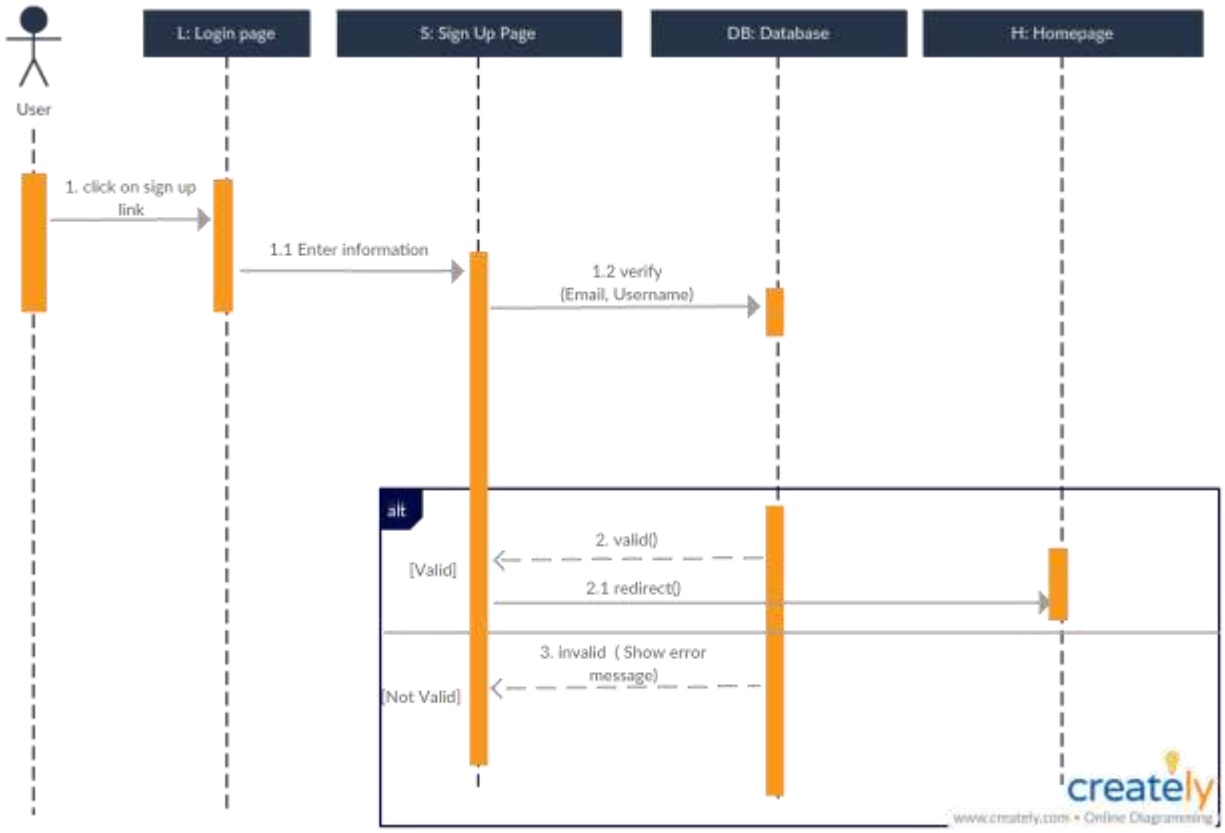

Figure 11 Sign Up |Sequence diagram

Log in & Sign up activity diagram:

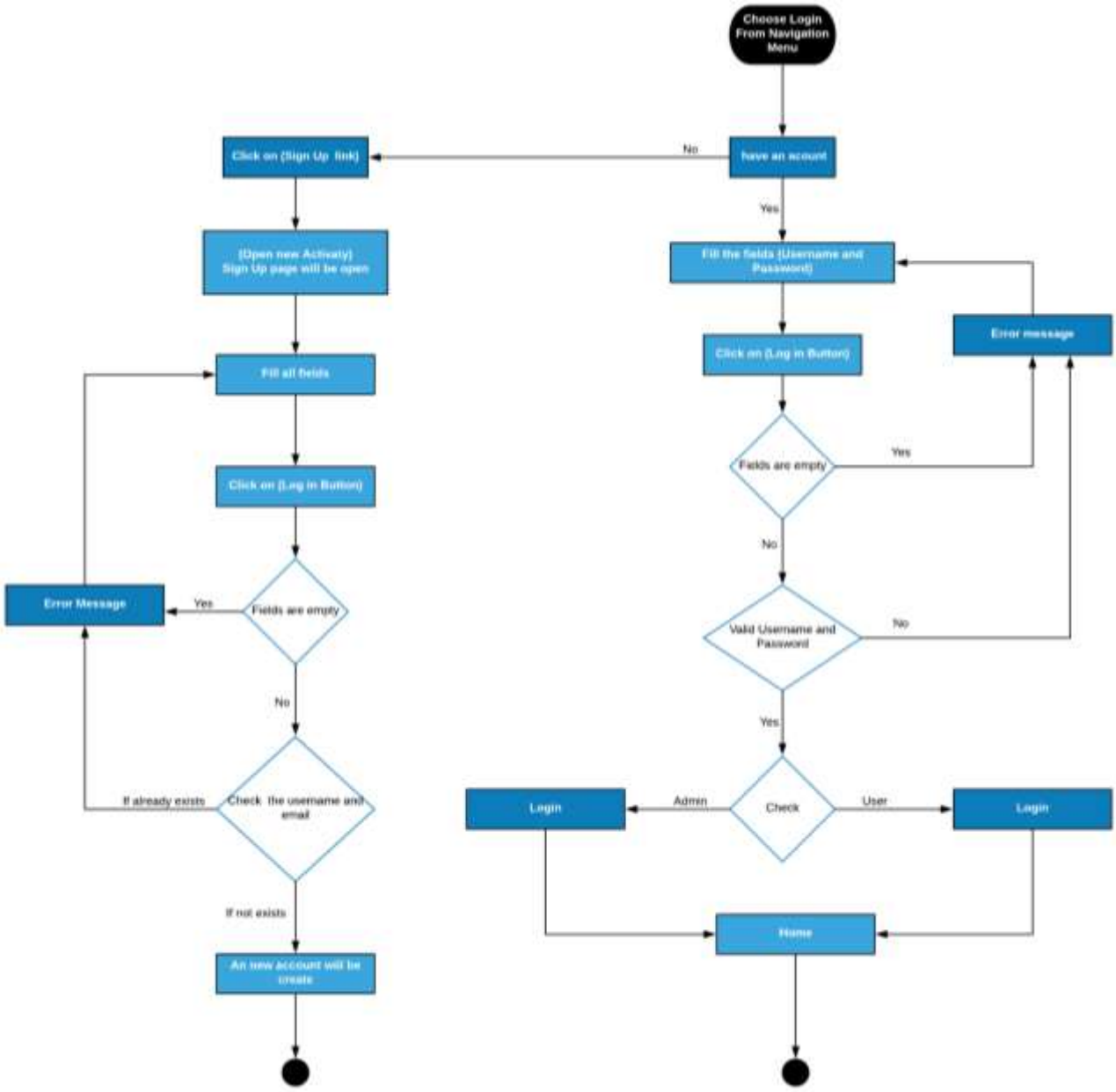

Figure 12 Log in and Sign Up |Activity diagram

About us Page:

In this page, the user can see the important information about AL Khobar.

Figure 13 About Us page

Tour Page:

Tours page is one of the key features in a mobile guide. in this interface the tours it will be listed in listview, the tour has name, image and description. If the user clicks on the tour it will open the tour details page that has list of places and place described by name, image and rate. If the user clicks on the place it will take the user to place details page.

Figure 14 Tours page

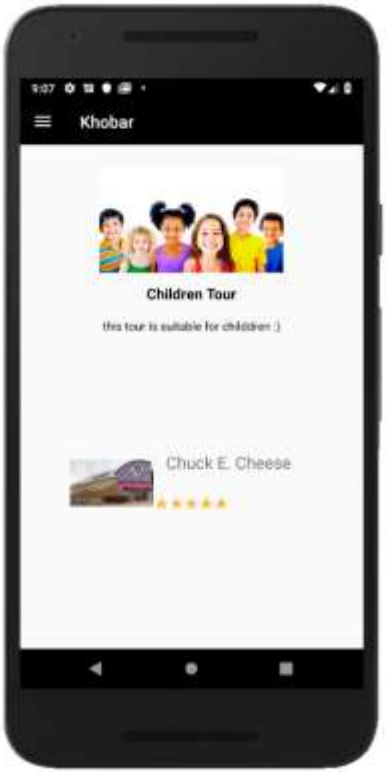

Figure 15 Tour details page

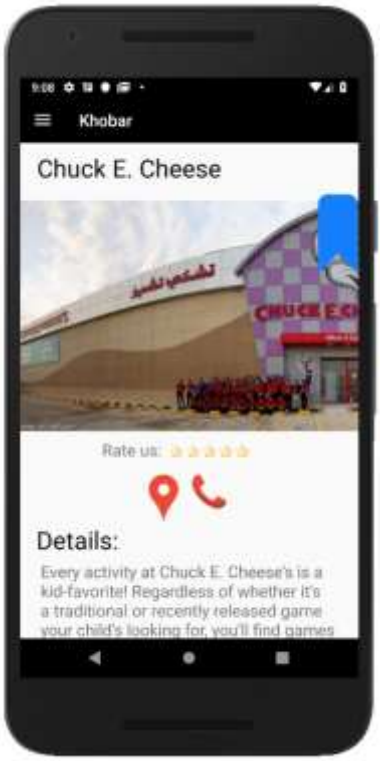

Figure 16 Place details page

Tour sequence diagram:

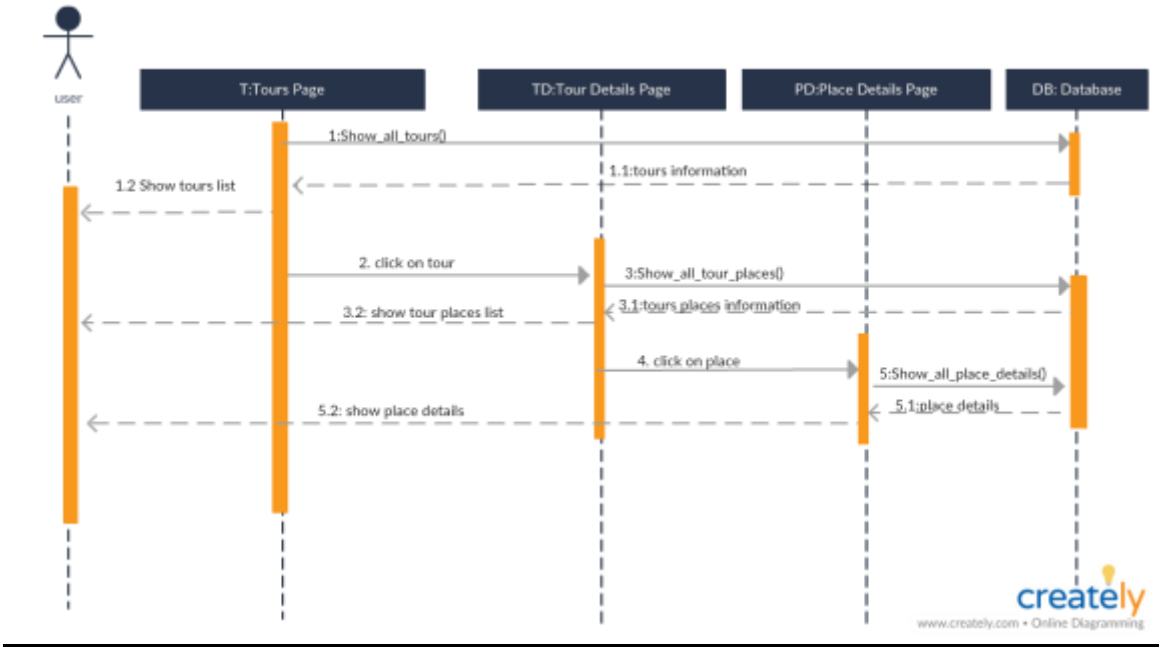

Figure 17 Tour |Sequence diagram

Tour Activity Diagram:

Figure 18 tour pages activity diagram

Admin Tour Page:

The Tours are listed in list view and name, image and description are displayed for each tour. The add icon allow the admin to go to add tour page. If the user clicks on remove icon it will open the delete tour page. If the admin clicks on edit icon it will open update tour page.

Add Tour Page:

In add tour page admin can create new tour. The admin should enter all the needed information such as the image, name and description of the tour.

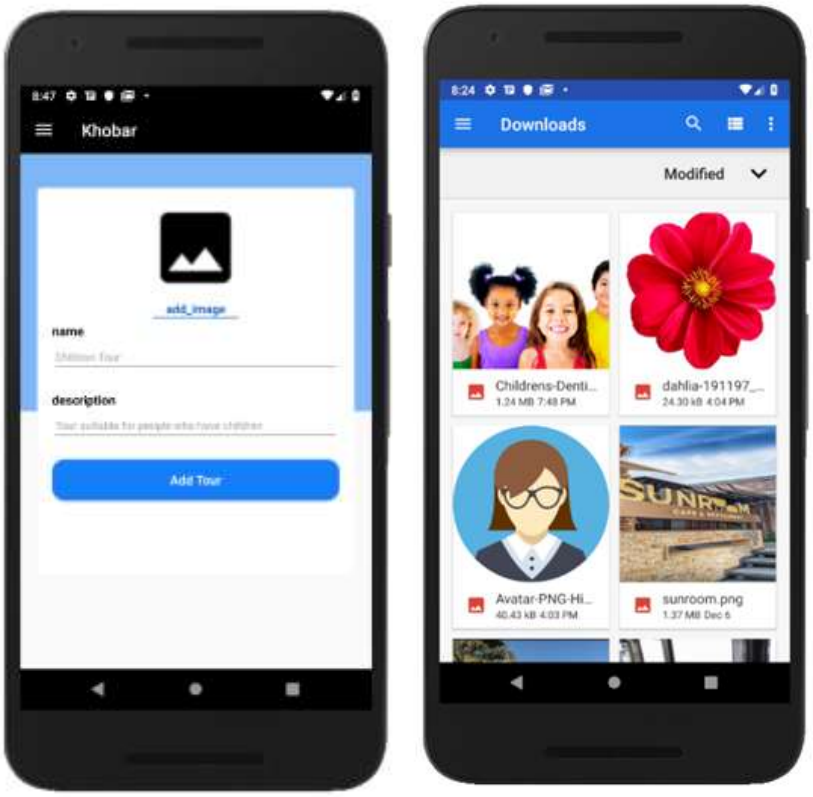

Figure 19 Add tour page - Open photo gallery and choose the image

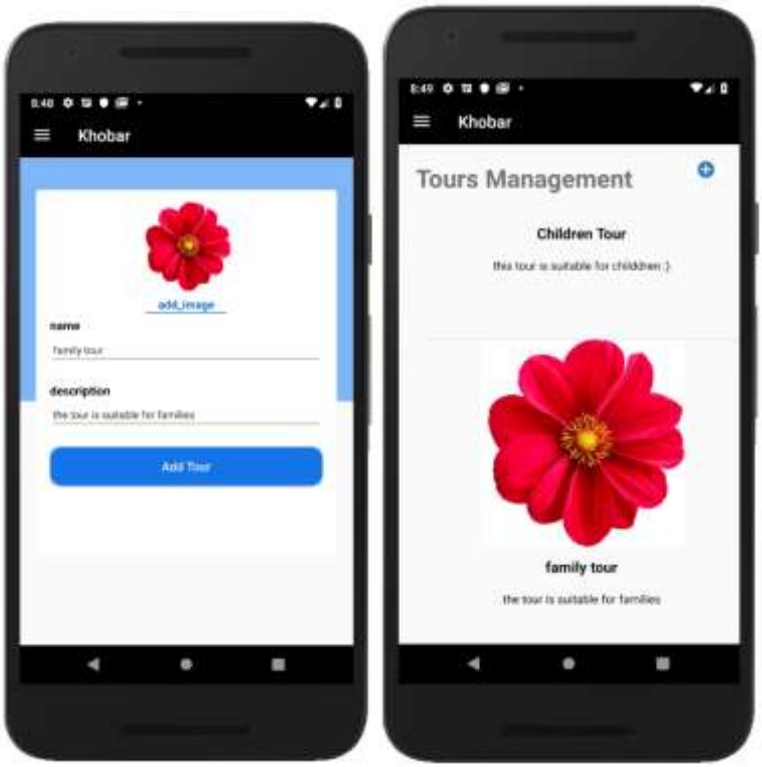

Figure 20 Add tour page

Update Tour Page:

In update tour the admin able to update the image, name and description. Also, he/she able to add or remove place from the tour.

Figure 21 Update tour page

Delete Tour Page:

In delete tour the admin able to delete the tour.

Figure 22 Delete tour page-a

Figure 23 Delete tour page-b

Figure 24 Tour Deleted

Admin Tour sequence diagram:

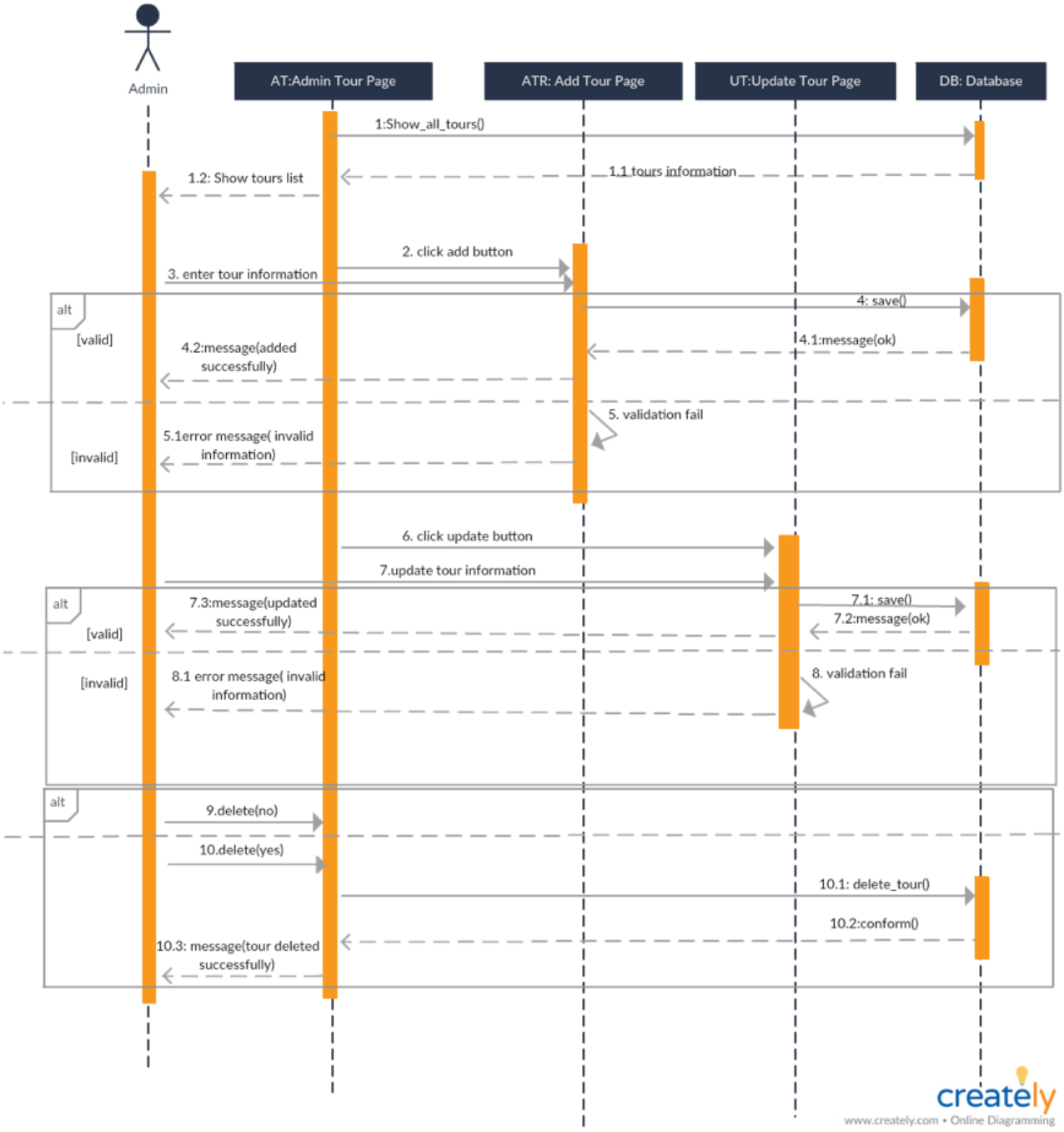

Figure 25 Admin tour |Sequence diagram

Admin Tour Activity Diagram:

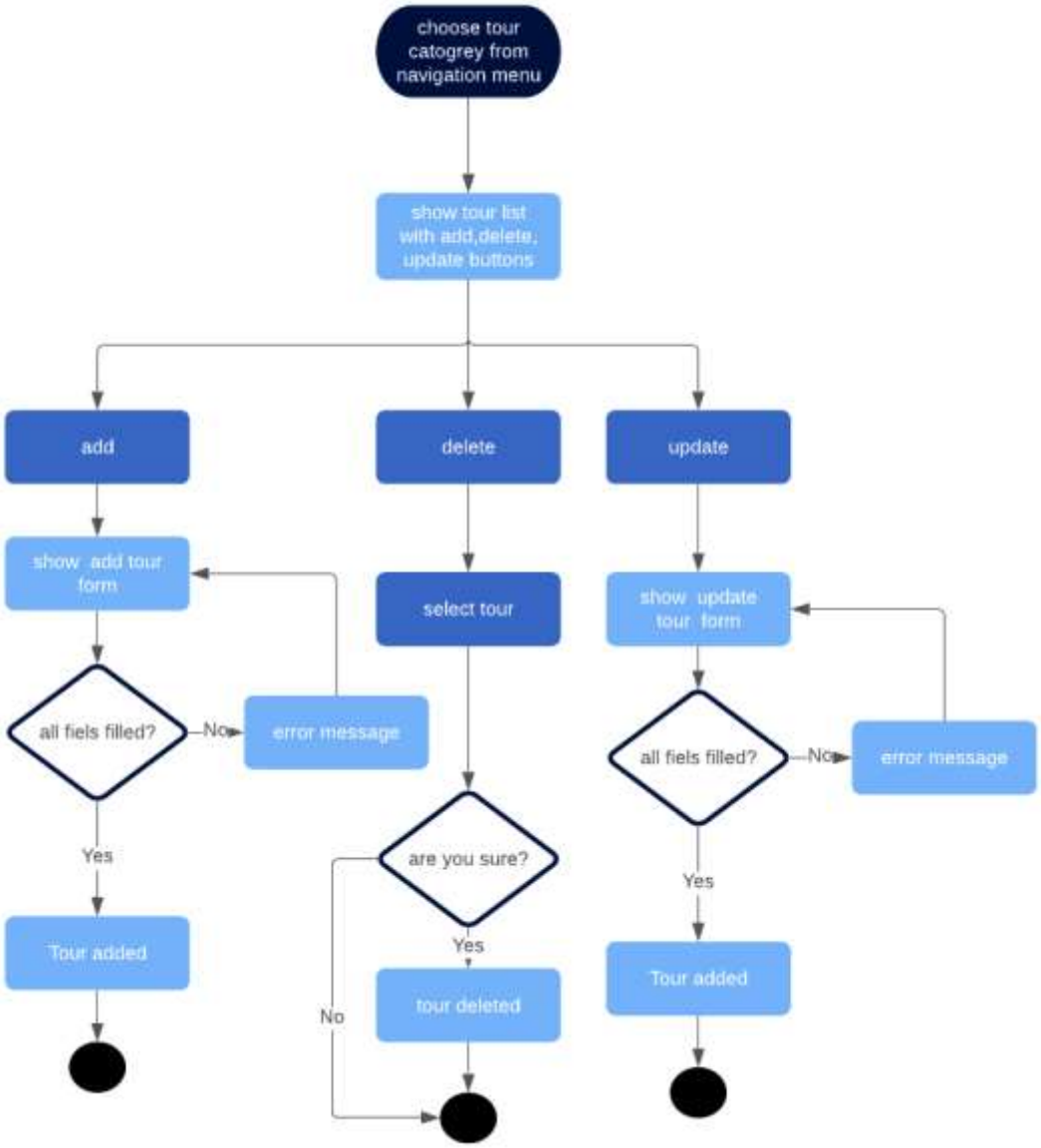

Figure 26 admin tour pages activity diagram

Profile Page:

After the user login to the application, the user will be able to change/update his/her information by clicking on (Profile) option in the menu. Then (Profile) page will be opened and the user now can update his/her information.

In this page, the user can update some information such as name and password, also he/she can change the profile photo by clicking on (Profile Photo) text and choosing the image from the photo gallery. So, when the user clicks on (Save changes) button with filling all fields and choosing the image, the user information will be updated.

Figure 27 Profile page

Profile sequence diagram:

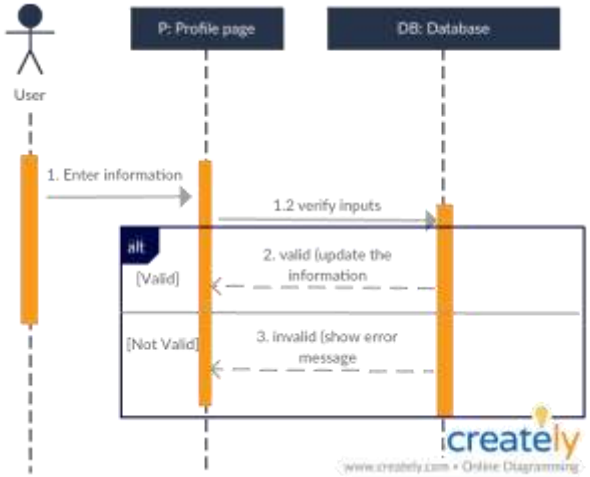

Figure 28 Profile| Sequence diagram

Profile activity diagram:

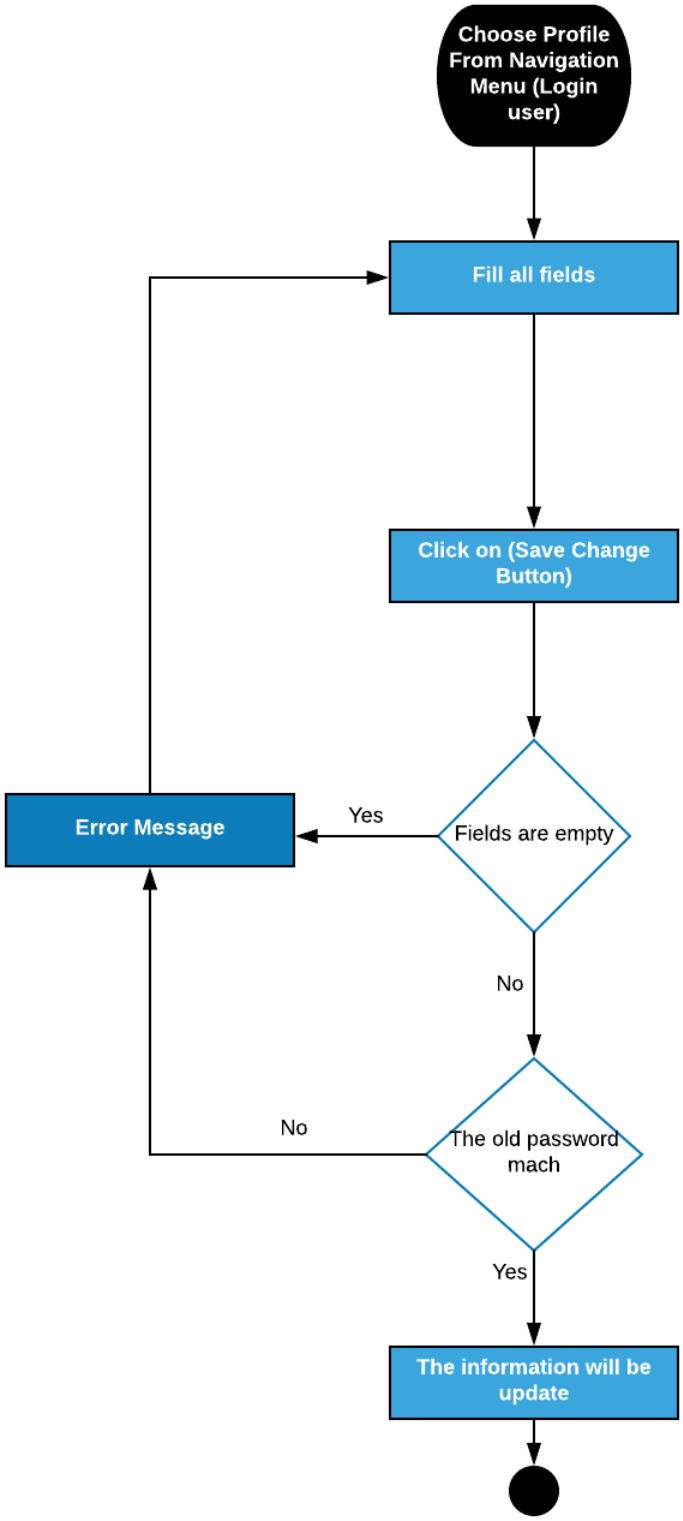

Figure 29 Profile |Activity diagram

Places list page:

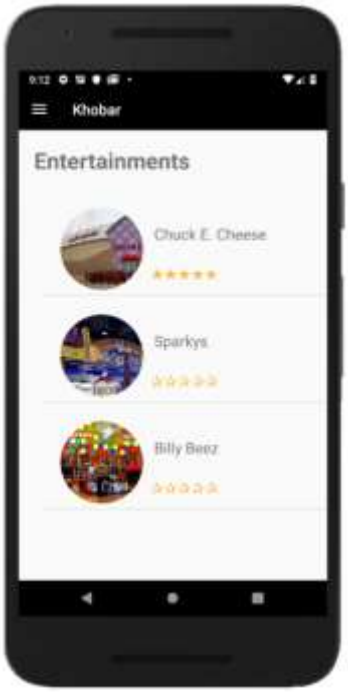

Figure 30 Places list page

The places are listed in list view and the average rate is displayed for each place. The list title and content are changed according to the user choice from the navigation menu, when the user click on any item the place details will be displayed.

Admin Places List Page:

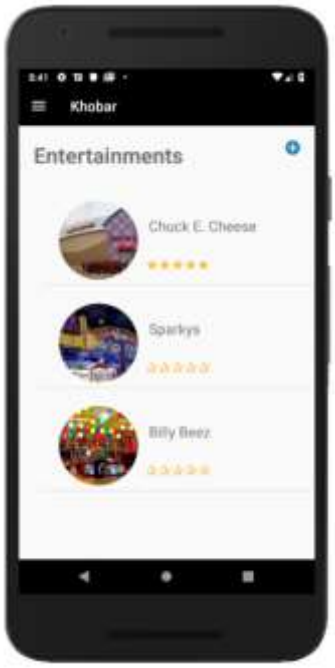

Figure 31 Admin places list page

Add and edit Places Page:

When admin click on the plus and edit buttons, he will move to the add and edit places page, in the add case the input texts will be empty and he will fill all, then save them, but in the edit case, the input text will be filled with the clicked place details and he can edit them, then save the changes.

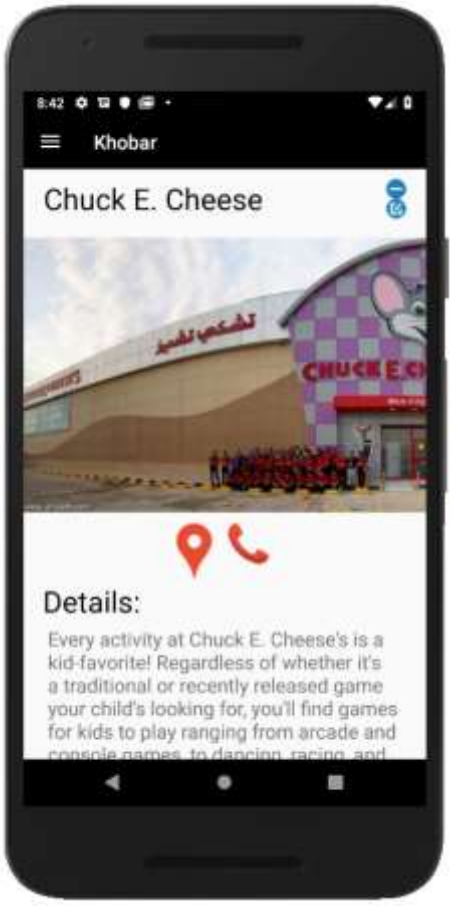

Figure 32 Add and edit Places Pag

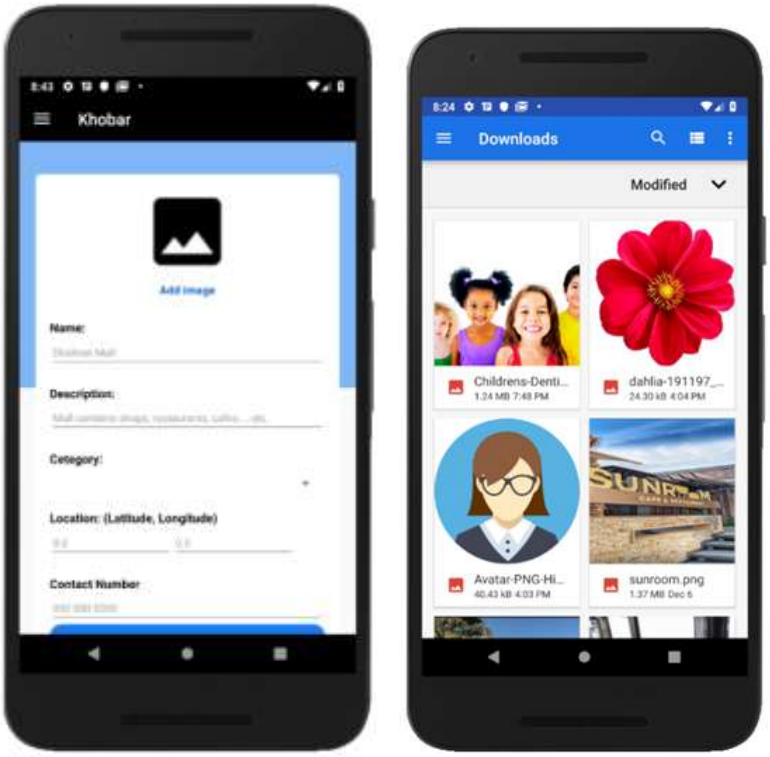

Figure 33 Add places page- Open photo gallery and choose the image

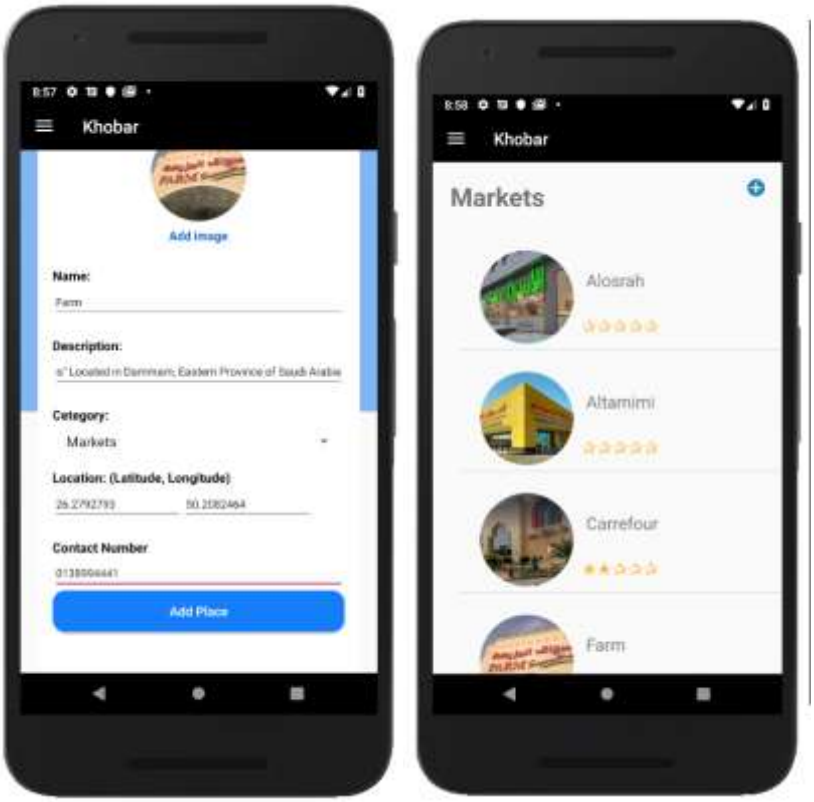

Figure 34 Add places page

Figure 35 Edit places page

Remove Place Pages:

After the admin chooses to delete a place the places list page called again, and the item selected will be deleted.

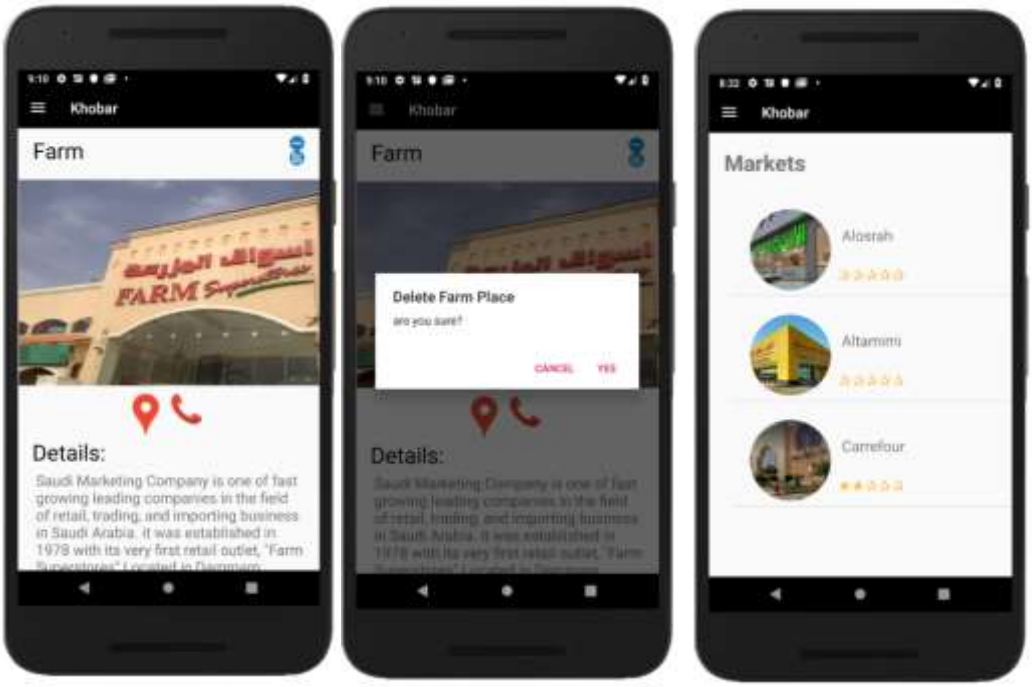

Figure 36 Remove place page

Place list sequence diagram:

Figure 37 Place list | Sequence diagram

Place list activity diagram:

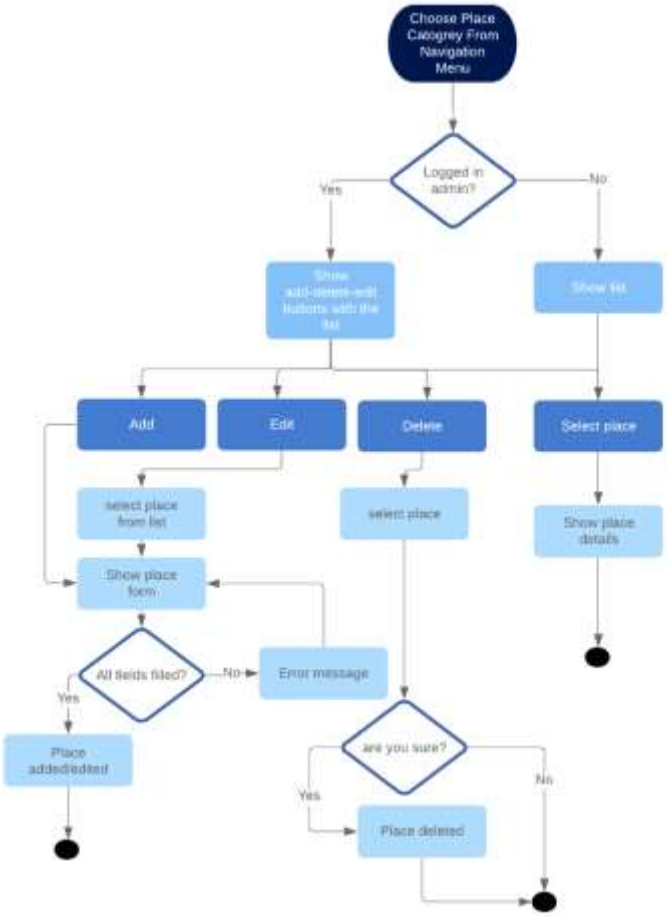

Figure 38 Place list |Activity diagram

Place Details Page:

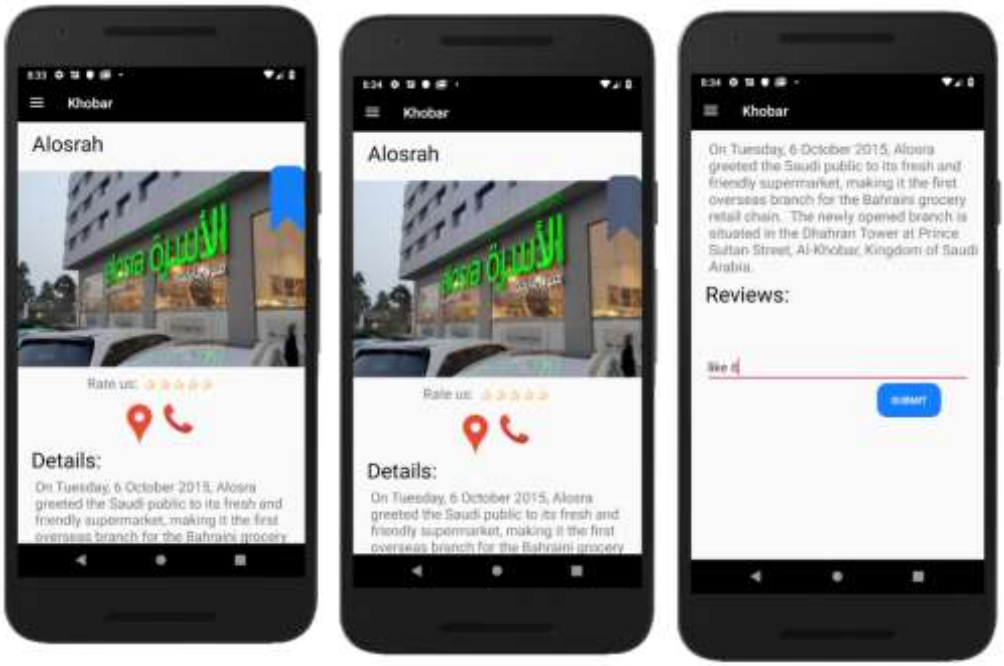

Figure 39 Details page

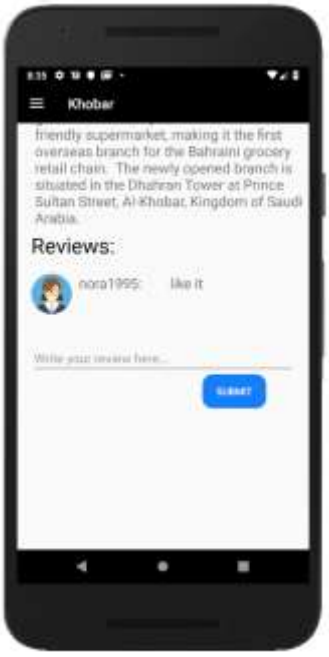

Figure 40 comment added

Figure 41 View location

Figure 42 Dial up

In the place details page the user will view a photo of the place and its name, the user can add the place to bookmark and rating to the place and change the rate as he/she wants. Two buttons under the photo, the first one to call the place and the second one to view the place location on Google map. After that there is more details about the place and the users' reviews. The user can add a review also. Only registered users can add to bookmark, add rating and add reviews. The places are displayed from the places list for example (Hotels list) as mentioned previously.

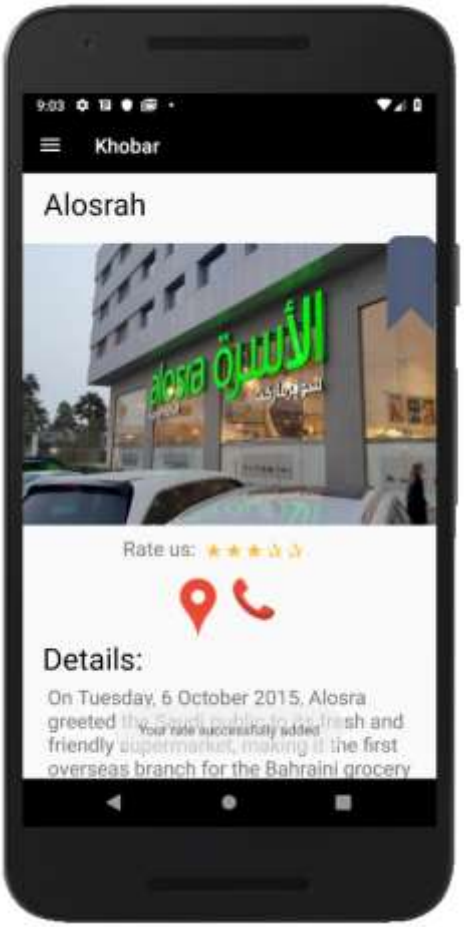

Figure 43 Add rate

Place details sequence diagram:

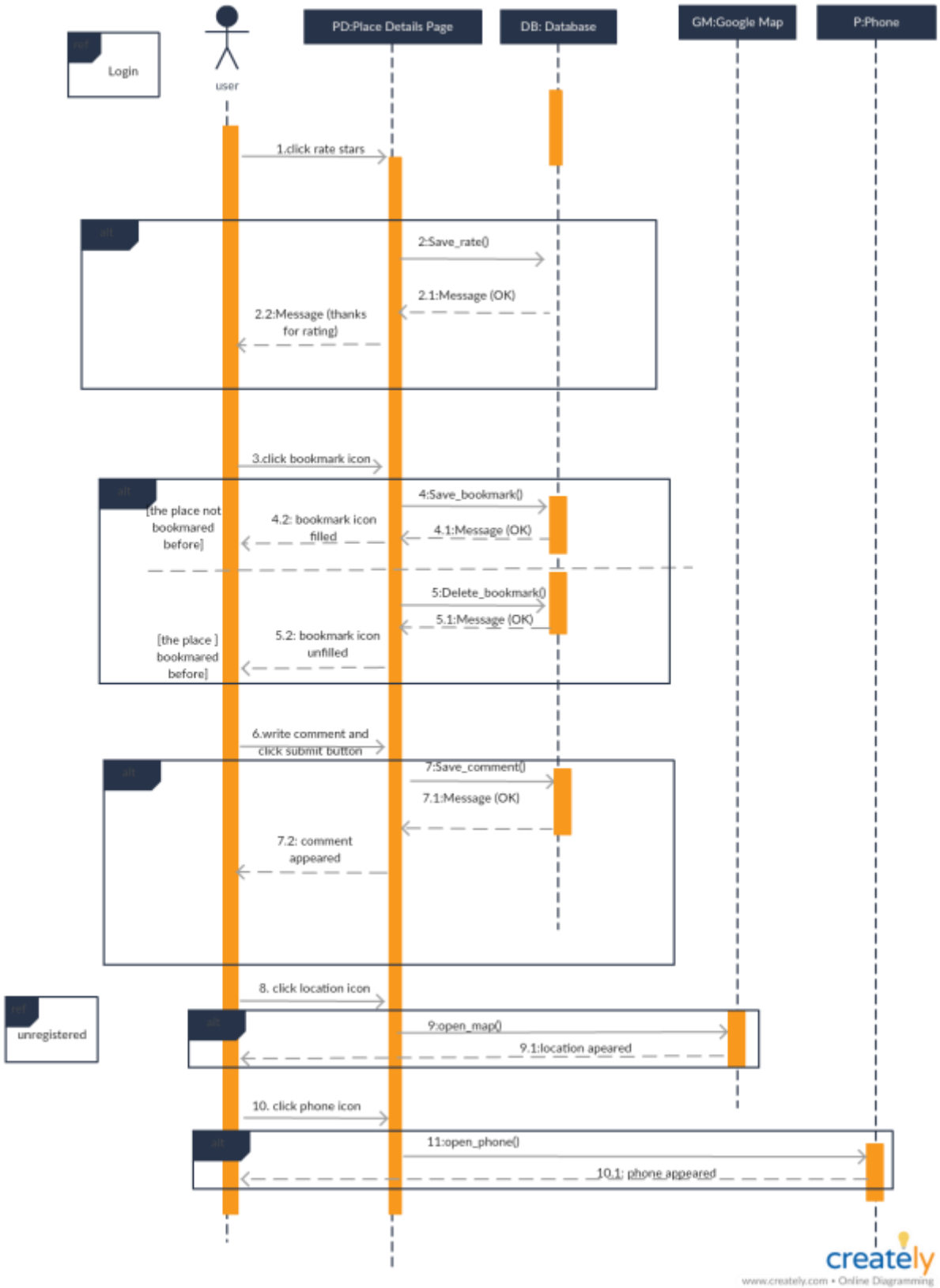

Figure 44 Place details |Sequence diagram

Place details activity diagram:

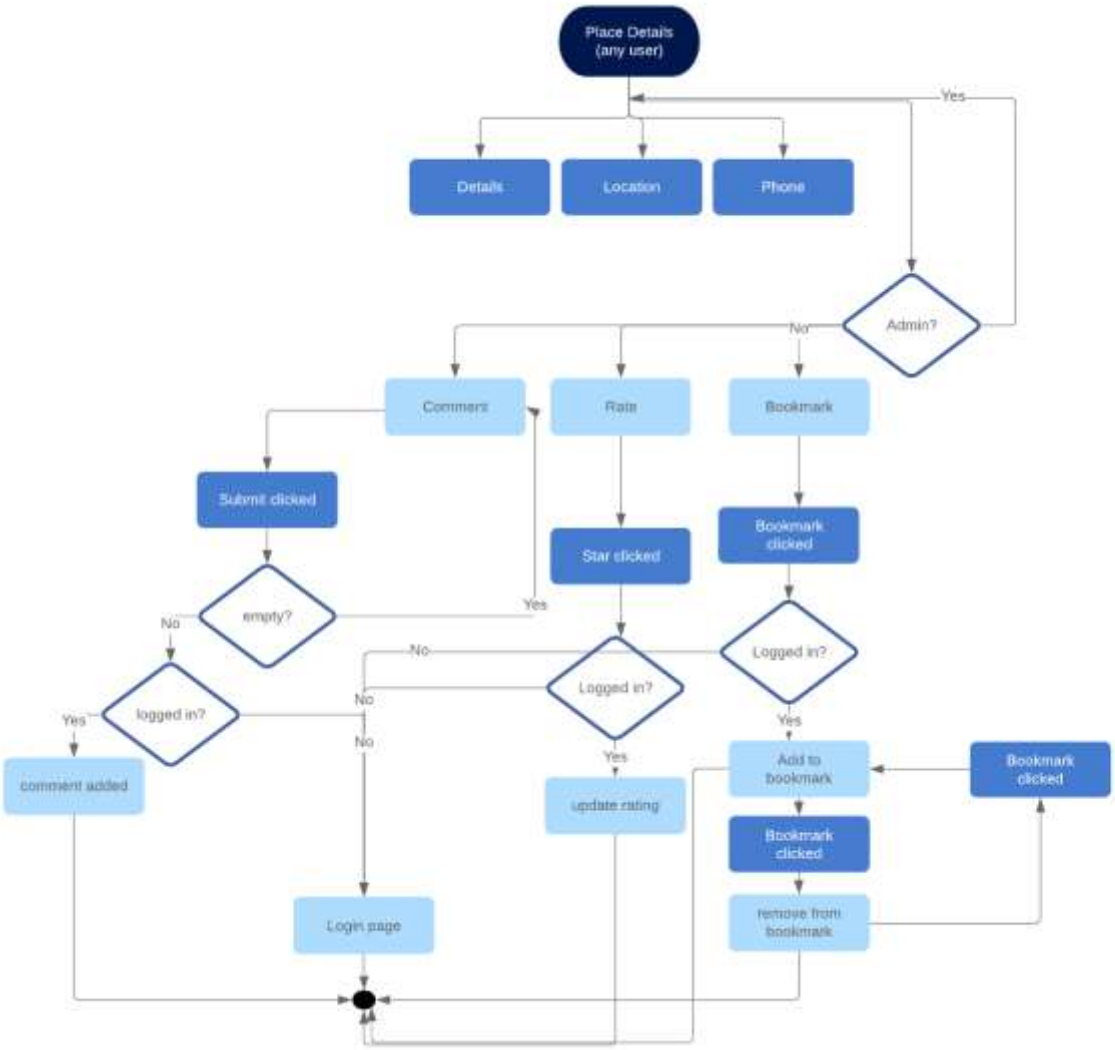

Figure 45 Place details |Activity diagram

Bookmark Page:

Bookmarks added by the user is listed in one page to remove the book mark click on the bookmark and click the bookmark icon again.

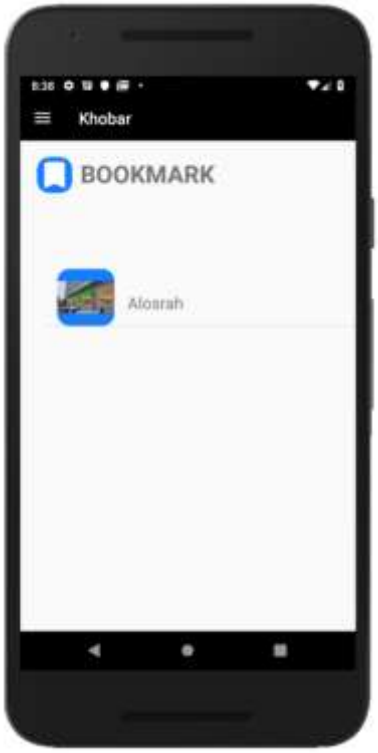

Figure 46 Bookmark page

Database ER diagram:

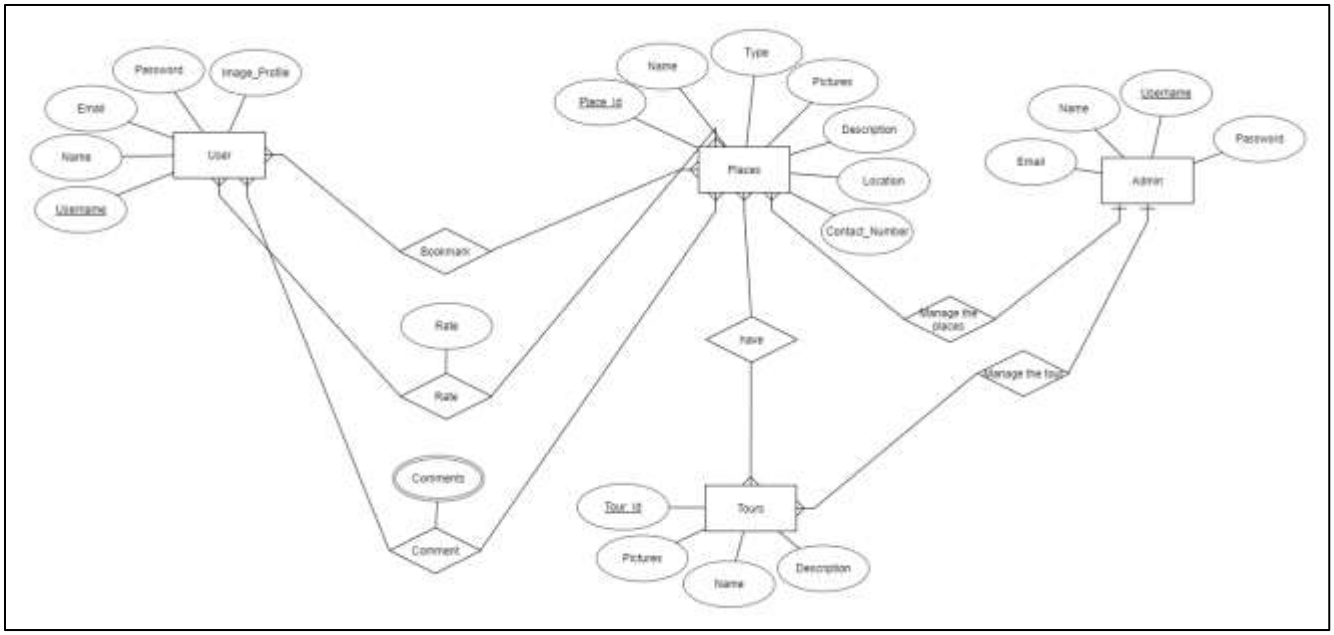

Figure 47 ER diagram

Relation Schema:

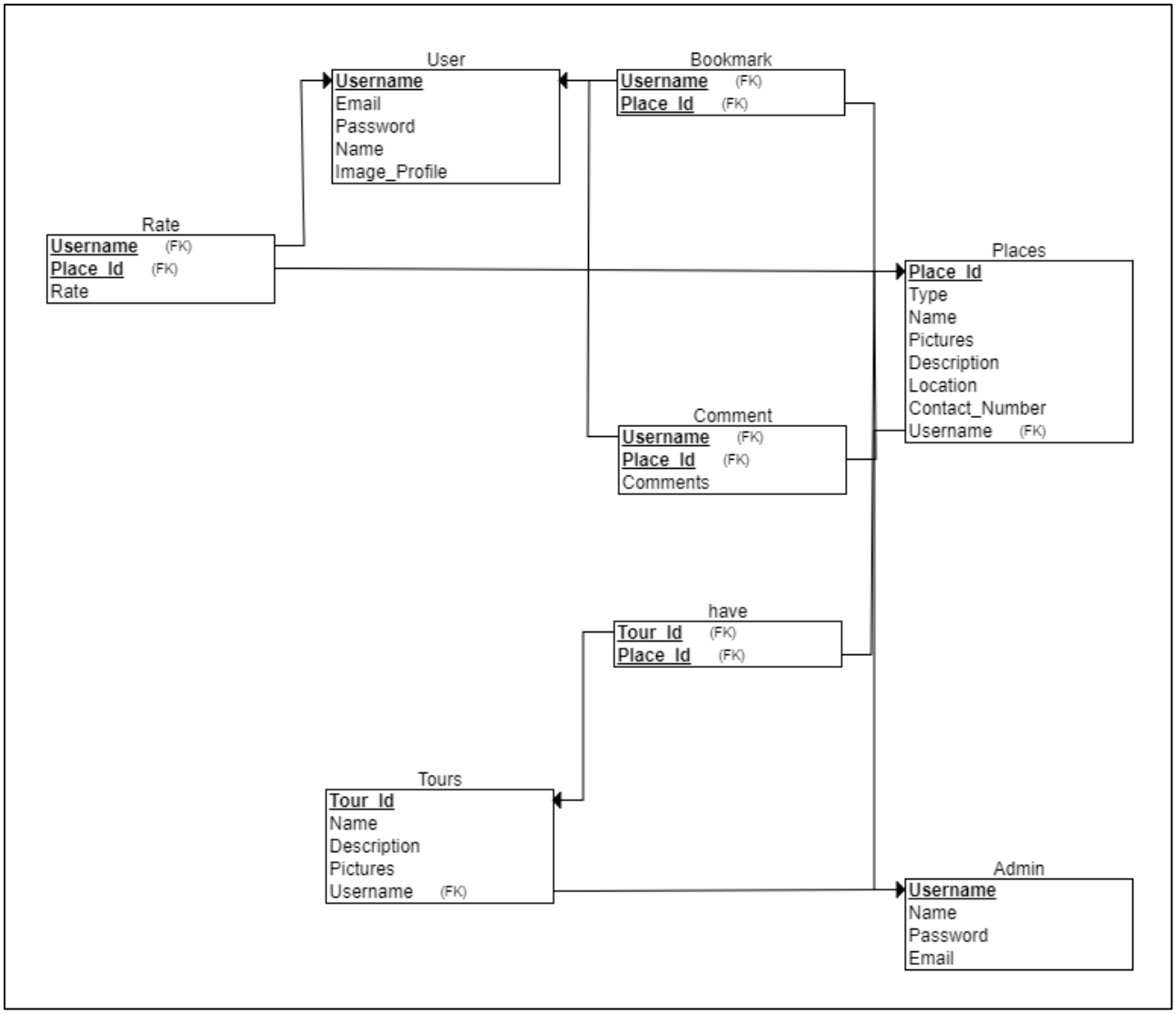

Figure 48 Relation Schema