



Bilkent University

Department of Computer Engineering

Senior Design Project

Touravel: The Ultimate App for Traveling & Activities

Analysis Report

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1. Introduction

There is a highly populated community in the world: The traveling people. Traveling is a passion for some. Many backpackers have placed the idea of being on the road to the center of their lives and that is the motivation that directs them in their survival. With a slightly milder approach, considering not only the radicals but also all the outgoing and active people who like traveling; then there is an even greater amount of people to talk about. Sightseers, vacationers, travel bloggers, social media users, event-goers and much more - all those people are currently in a need of a technological solution to carry on their interest in the best way, which would solve their various problems using the state-of-the-art advances at the cutting edge.

People with high mobility have some requirements, constraints and preferences. There are many issues to think about such as transportation, accommodation, catering, entertainment and so on when traveling is the matter. Even if there is some service to solve all the problems, there are some constraints with the device, like the mobility, power concept, accessibility, etc. Furthermore, as experienced travelers, we can state that some usability goals and other details should also be met in order to satisfy the demands of the active people. Touravel is the one to solve travel-related problems of such people.

2. Current system

There exist some systems available in the market currently, for the users who are also targeted by Touravel. The one with the highest similarity to Touravel is a mobile application called Rove. Basically, Rove is an application to keep track of the activities of the user and record data about it. Although the process inside is different, the aim of the application is in fact similar to Touravel, in terms of individual activity tracking. One other application similar to ours is Moves. Moves counts steps and has a focus rather in diets and healthy life concerns; but still it surely has some common points that can be related to some features of Touravel.

However, there is one big difference between Touravel and any other current systems; the social side of the system, which is the main power of the proposed solution. Both Rove and Moves lack having a common social platform for its user and thus, they have very limited sharing capability. The users of those systems can share their experiences over other social platforms such as Facebook; yet, they do not have the ability to share a platform for traveling people over those systems. The significance of Touravel project is that traveling people will have an interactive environment among themselves and the data collected will worth something meaningful.

3. Proposed system

3.1 Overview

Touravel is the ultimate mobile application designed to be used for all kinds of traveling and go-outs. Apart from backpackers, globetrotters and the low-budget travelers who have been primarily targeted as main users, all the active and out people are the potential users for the app.

Basically, the idea is to generate content out of the tour experiences of the users and enable them to share that content, which includes various data and stats such as the path followed, places visited, activities done and so on. The vision behind the

mechanism is that all the data gathering process will be automatized as much as possible so that the app meets the usability goals in the highest level. Furthermore, the social platform side of the app will uniquely serve for any traveling and activity purposes. Touravel is hopefully going to be the all-in-one service that satisfies any kind of demands on the road.

To have a better idea on what Touravel does and how, let us imagine that one downloads the app to the mobile device in use. After the first launch, the app starts to run in the back ground automatically. Collects, parses, processes, evaluates data without requiring any intervention. Creates a path from the area that the user covers, filling it with other details such as where they stop, what they do and the pictures they take. Optimizes the power and any other sources with the minimum possible amount of interaction. In the end, Touravel offers its user a great variety of data and statistics regarding the traveling stories of one, in a neat way. In the next step, Touravel offers a social platform in which people can share their experiences, look for others', ask for advice, exchange knowledge, give tips and useful information with the rest of the community.

3.2 Functional Requirements

- The system shall have an authorization system that allows the users to log into their accounts.
- The system shall ask the users permission for being able to use location info, camera usage, photo gallery access and data transfer. For a proper usage of the system, all the permissions should be achieved from the users.
- The users shall be able to see their traveling experiences in a map view and also in a storyboard.
- The users shall be asked to identify frequently visited places by push notification messages sent periodically.
- The system shall prepare a travel history of a place for the user when requested.
- The system shall allow the users to built social circles with different features and different sharing and privacy preferences.
- The system shall provide an effective communication service to maintain the interaction between the users of the system.
- Users should be able to select privacy settings about their travel history.
- The system should be able to work in offline mode, and buffer the information rather than posting immediately. Then the user should be able to post all buffered information when network is available.

3.3 Nonfunctional Requirements

- The system shall run on Android platform.
- The app shall take place in Google Play Store and the price of the app shall not exceed \$3, which is the statistically upper limit for similar most popular travel apps.
- The system shall have a cloud server where most of the operations are done.
- The upload of the pictures and other large-sized files should be ensured with wi-fi connection only.
- The response time for any task in the system shall not exceed 2 seconds.
- The users shall be provided a chance to visit desktop website of the app as well, to update their profiles and view their extended statistics.

3.4 Pseudo requirements

- As it is an Android project, *Java* implementation language will be used.
- *Eclipse* platform will be the IDE used in the project.
- *Android SDK* will also be used.
- *Bitbucket* will be used as the git repository.
- The project requires a server and a domain name. Those are available already. The server and the *touravel.org* [1] domain; which is purchased from *GoDaddy, Inc.* [2], will be used for the project.
- *MySQL Server* will be used for the server side of the system as *MySQL* will be used as the primary database [3].
- *HTML* and *CSS3* will be used for a better visual-style in the website [4].
- *Spring MVC* will be used for the model-view-controller patterns in the system [5].
- *Adobe Photoshop* will be used for generating GUI components [6].

3.5 System models

3.5.1 Scenarios

Scenario 1

Scenario Name: Register

Participating Actor Instance: Jamal, a person who downloaded application but not registered.

Flow of events:

- 1- Jamal starts the Touravel mobile application
- 2- Jamal fills register form on the first screen
- 3- Jamal clicks the 'register' button
- 4- Jamal is registered
- 5- Jamal is redirected to login screen

Scenario 2

Scenario Name: Login

Participating Actor Instance: Jamal, a person who is registered to application, but not logged in.

Flow of events:

- 1- Jamal starts the Touravel mobile application
- 2- Jamal fills login form on the first screen with his credentials
- 3- Jamal clicks 'login' button
- 4- Jamal is logged in
- 5- Jamal is redirected to main page

Scenario 3

Scenario Name: Profile Update

Participating Actor Instance: Jamal, a person who is already logged into the system using mobile application.

Flow of events:

- 1- Jamal clicks 'Profile' tab on the main screen
- 2- Jamal clicks 'Edit Profile' button on the Profile tab
- 3- Jamal fills the form that contains relevant fields to his profile
- 4- Jamal clicks 'Save Profile' button
- 5- Application saves his information

Scenario 4

Scenario Name: Post a Route to Timeline

Participating Actor Instance: Jamal, a person who is already logged into the system using mobile application.

Flow of events:

- 1- Jamal clicks 'Activity' tab on the main screen
- 2- Jamal selects a route via clicking it on the map
- 3- Application pops-up a small screen that contains a small set of selections
- 4- Jamal clicks 'Share' button
- 5- Jamal is shown a form that contains privacy options
- 6- Jamal chooses a privacy setting then clicks 'share' button
- 7- Application posts selected route on to timeline

Scenario 5

Scenario Name: Delete an Existing Route

Participating Actor Instance: Jamal, a person who is already logged into the system using mobile application.

Flow of events:

- 1- Jamal clicks 'Activity' tab on the main screen
- 2- Jamal selects a route via clicking it on the map
- 3- Application pops-up a small screen that contains a small set of selections
- 4- Jamal clicks 'Delete' button
- 5- Jamal is shown a form that asks 'Are you sure to delete?'
- 6- Jamal clicks 'yes' button
- 7- Application deletes selected route from application

Scenario 6

Scenario Name: Add People to Circles

Participating Actor Instance: Jamal, a person who is already logged into the system using mobile application. Chris, the person that Jamal wants to add to his circles.

Flow of events:

- 1- Jamal clicks 'Timeline' tab on the main screen
- 2- Jamal clicks 'Add Friend' button on the timeline tab
- 2- Jamal enters username of Chris
- 3- Jamal clicks 'search' button
- 4- Application lists relevant users to Jamal
- 5- Jamal selects Chris in the list
- 6- Jamal clicks 'Add to Circles' button
- 7- Application adds selected Chris to Jamal's circles

Scenario 7

Scenario Name: Get Route Advice

Participating Actor Instance: Jamal, a person who is already logged into the system using mobile application.

Flow of events:

- 1- Jamal clicks 'Activity' tab on the main screen
- 2- Jamal clicks 'Search For Places' button on the Activity tab
- 3- Jamal enters name of the place that wants to get advice about
- 4- Jamal clicks 'Search' button
- 5- Jamal is shown a list of suggestions based on his friends, suggested similar acts that he might be interested in, top-rated routes of others

Flow of Events:

- 1) User opens the application.
- 2) User click register button.
- 3) Register page is displayed to user.

Exit Conditions: User closes the application

Alternative Flow of Event: Invalid sign up attempt

2.

Use Case Name: viewTimeline

Participating Actors: User

Entry Condition: User opens the application.

Flow of Events:

- 1) User opens the application.
- 2) User automatically sign in the application since he or she already registered.
- 3) User clicks the viewTimeLine button.
- 4)The timeline of the other users are displayed

Exit Conditions: User logs out and closes the application

3.

Use Case Name: manageActivity

Participating Actors: User

Entry Condition: User opens the application.

Flow of Events:

- 1) User opens the application.
- 2) User automatically sign in the application since he or she already registered.
- 3) User clicks the manageActivity button.
- 4)His or her map and routes are displayed

Exit Conditions: User logs out and closes the application

4.

Use Case Name: updateProfile

Participating Actors: User

Entry Condition: User opens the application.

Flow of Events:

- 1) User opens the application.
- 2) User automatically sign in the application since he or she already registered.
- 3) User clicks the updateProfile button.
- 4)His or her map profile page is displayed

Exit Conditions: User logs out from his profile.

5.

Use Case Name: addContent

Participating Actors: User

Entry Condition: User opens the application.

Flow of Events:

- 1) User opens the application.
- 2) User automatically sign in the application since he or she already registered.
- 3) User clicks the viewTimeLine button.
- 4)The timeline of the other users are displayed
- 5)User decides to post image to his or her timeline
- 6) After confirmation his or her images added to timeline.

Exit Conditions: User logs out and closes the application

6.

Use Case Name: viewEvent

Participating Actors: User

Entry Condition: User opens the application.

Flow of Events:

- 1) User opens the application.
- 2) User automatically sign in the application since he or she already registered.
- 3) User clicks the viewTimeLine button.
- 4)The timeline of the other users are displayed
- 5) Then user clicks to view other events.
- 6) Events in the timeline are displayed.

Exit Conditions: User logs out and closes the application

Alternative Flow of Event: No Content in Timeline

7.

Use Case Name: deleteRoutes

Participating Actors: User

Entry Condition: User opens the application.

Flow of Events:

- 1) User opens the application.
- 2) User automatically sign in the application since he or she already registered.
- 3) User clicks the manageActivity button.
- 4)His or her map and routes are displayed
- 5)Then user clicks manageRoute button
- 6) Then user decides to delete the old route.
- 7) After confirmation the old route is deleted.

Exit Conditions: User logs out and closes the application

Alternative Flow of Event: No route available

8.

Use Case Name: commentOnPost

Participating Actors: User

Entry Condition: User opens the application.

Flow of Events:

- 1) User opens the application.
- 2) User automatically sign in the application since he or she already registered.
- 3) User clicks the viewTimeLine button.
- 4) The timeline of the other users are displayed
- 5) Then user decides to comment on another route in his or her timeline.
- 6) After confirmation he commented on another route.

Exit Conditions: User logs out and closes the application

3.5.3 Object and class model

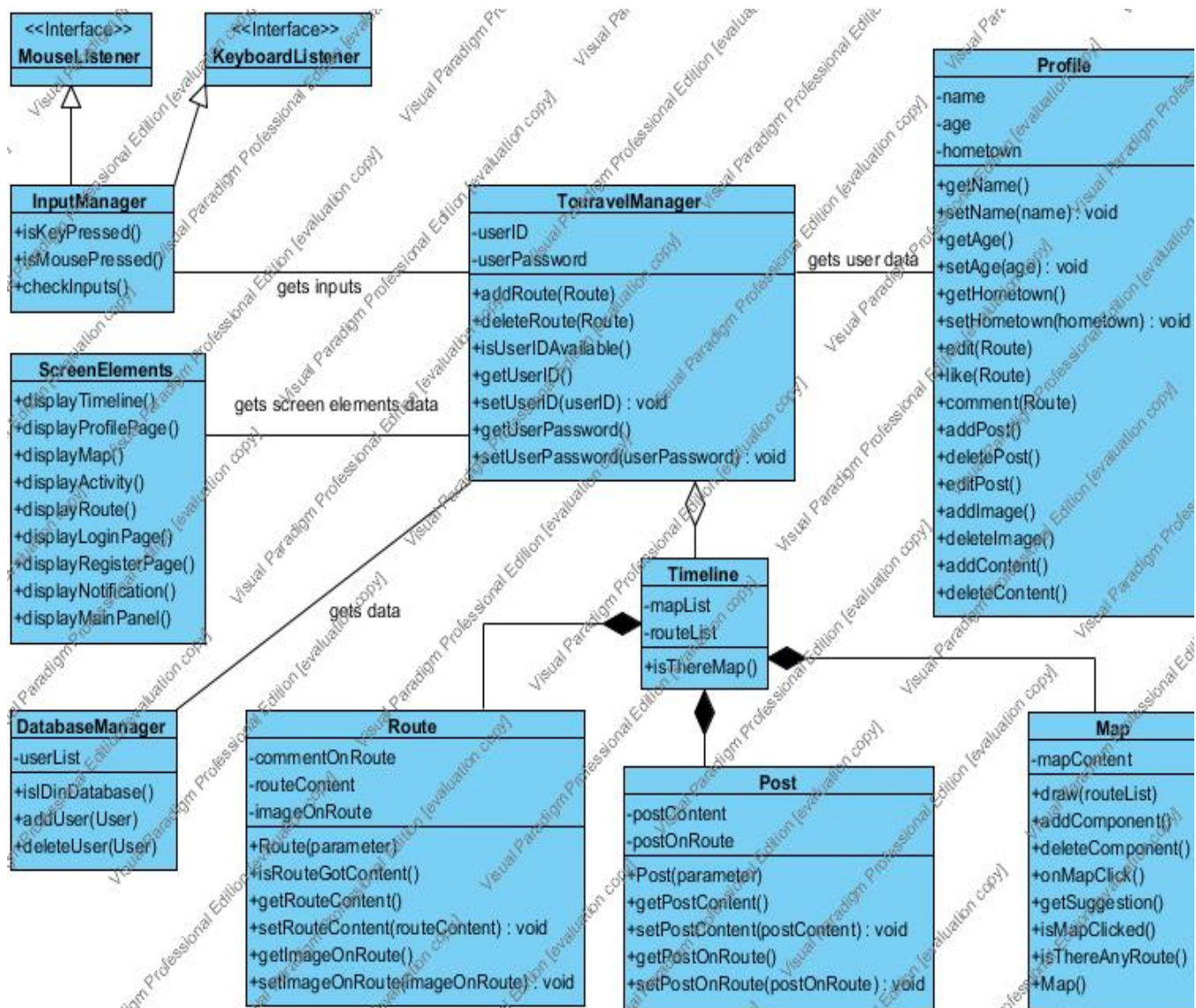


Figure 2: Class Diagram

3.5.4 Dynamic models

3.5.4.1 Scenario-1 Registration

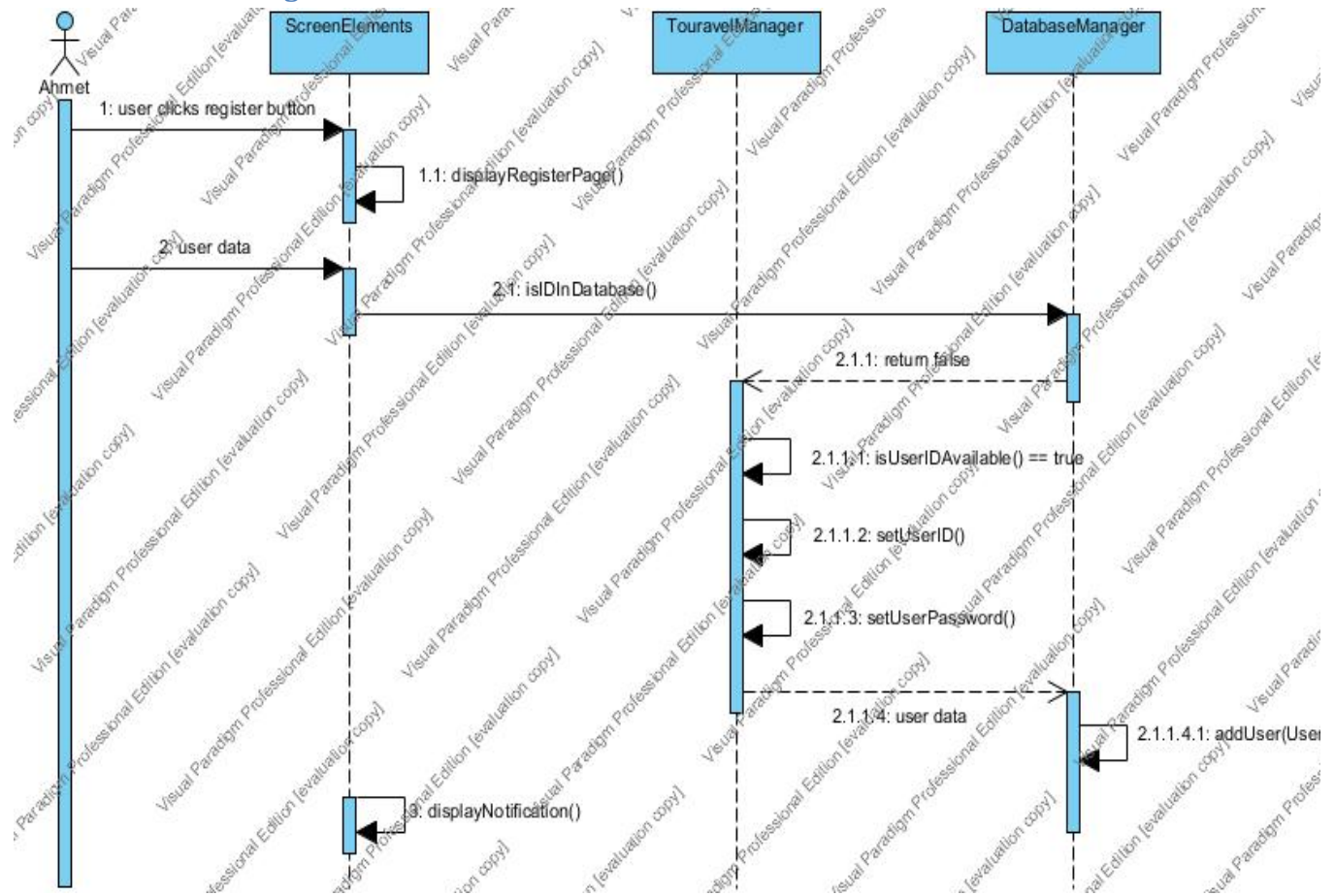


Figure 3: Sequence Diagram for Registration

3.5.4.2 Scenario-2 Post comment on timeline

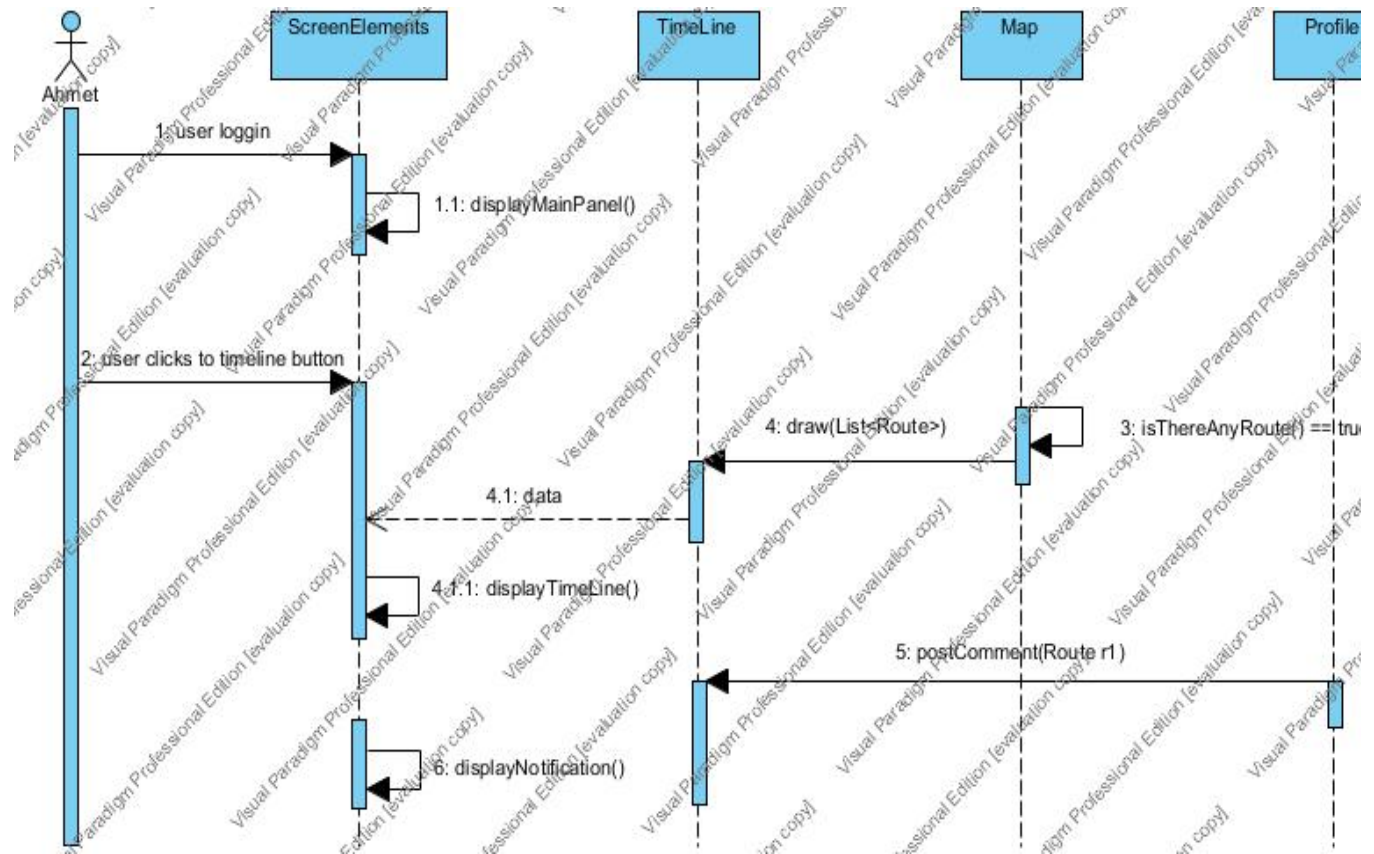


Figure 4: Sequence Diagram for posting comment

3.5.4.3 Scenario-3 Add route

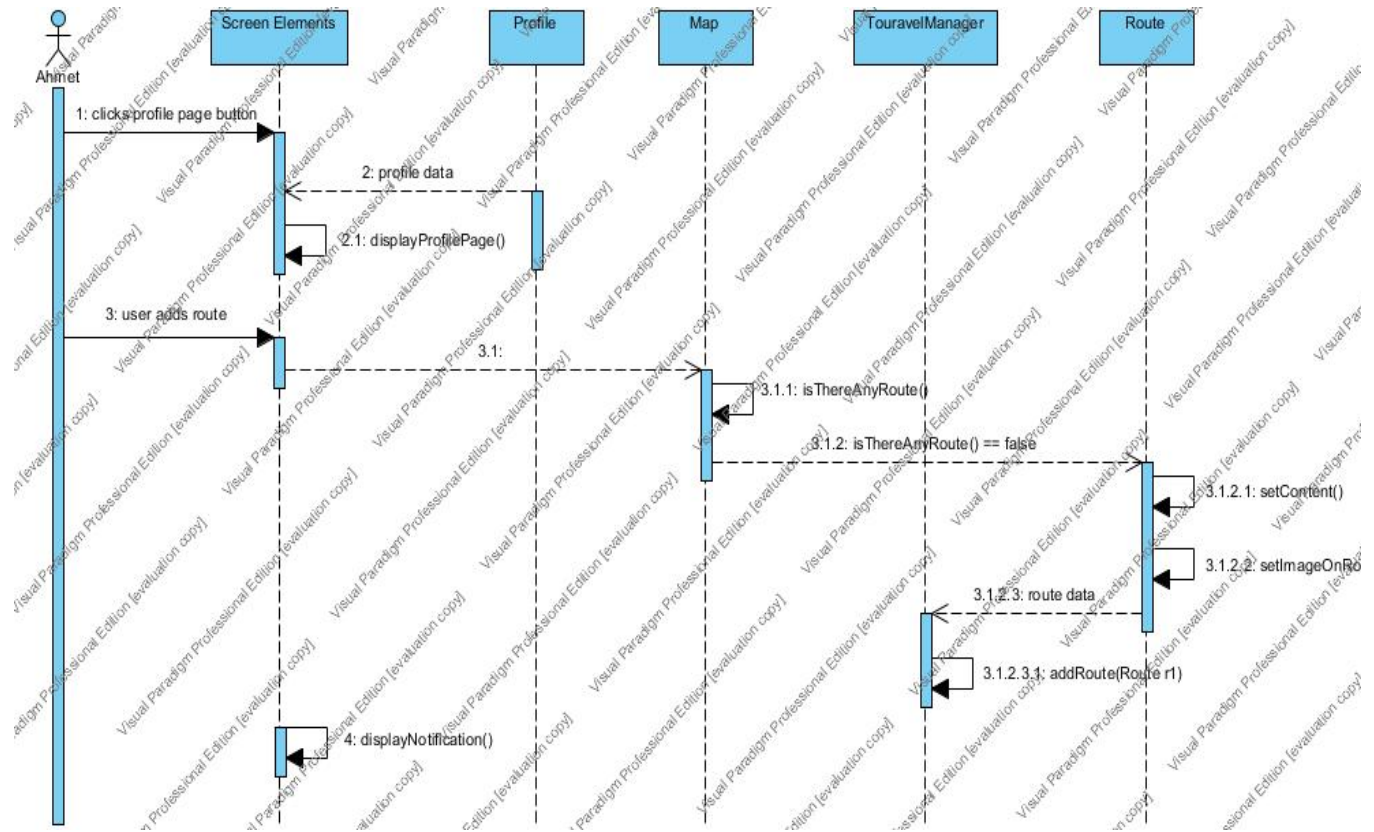


Figure 5: Sequence Diagram for adding route

Activity Diagram 1

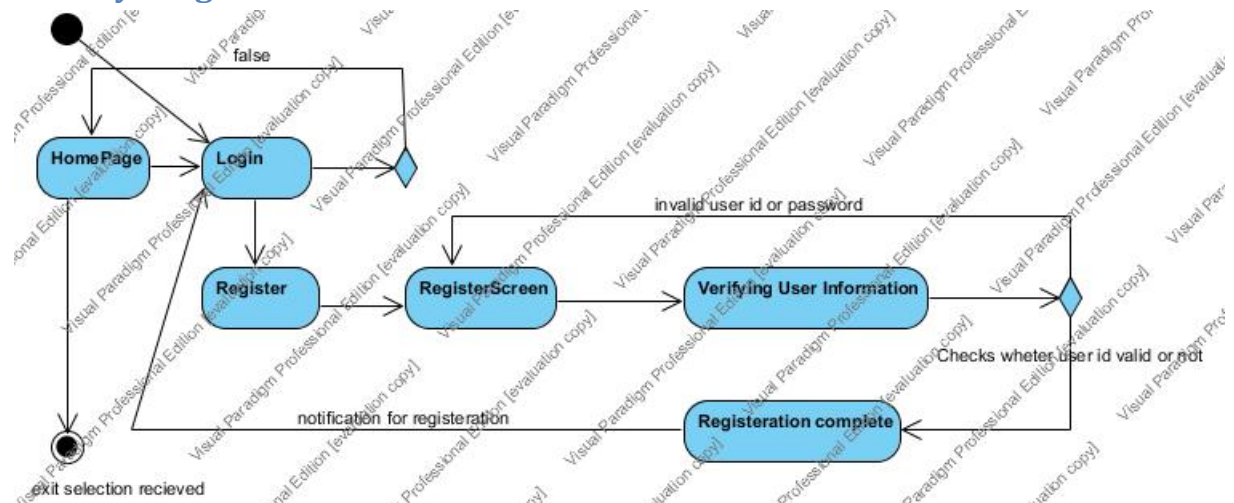


Figure 6: Registration Activity Diagram

3.5.5 User interface - navigational paths and screen mock-ups

3.5.5.1 Registration UI

The image is a hand-drawn sketch of a mobile phone screen displaying a registration interface. The phone has a classic design with a circular home button at the bottom and a status bar at the top showing 'AT&T', signal strength, Wi-Fi, and the time '4:46 PM'. The app title 'Touravel' is centered at the top of the screen. Below the title is a section with a heart icon and the text 'Create an Account Now and Start Exploring Touravel's Features'. The registration form consists of four input fields: 'Name' (containing 'John Doe'), 'E-Mail' (containing 'jdoe@gmail.com'), 'Password' (containing seven dots), and 'Re-Password' (containing seven dots). A 'Register' button is positioned below these fields. At the bottom of the form, there is a link that says 'Or, do you already have an account? Click here to log in!'. The entire mockup is rendered in a simple, sketchy line-art style.

Figure 7: Registration UI

3.5.5.2 Login Page



Figure 8: Login Page

3.5.5.3 User Profile Page

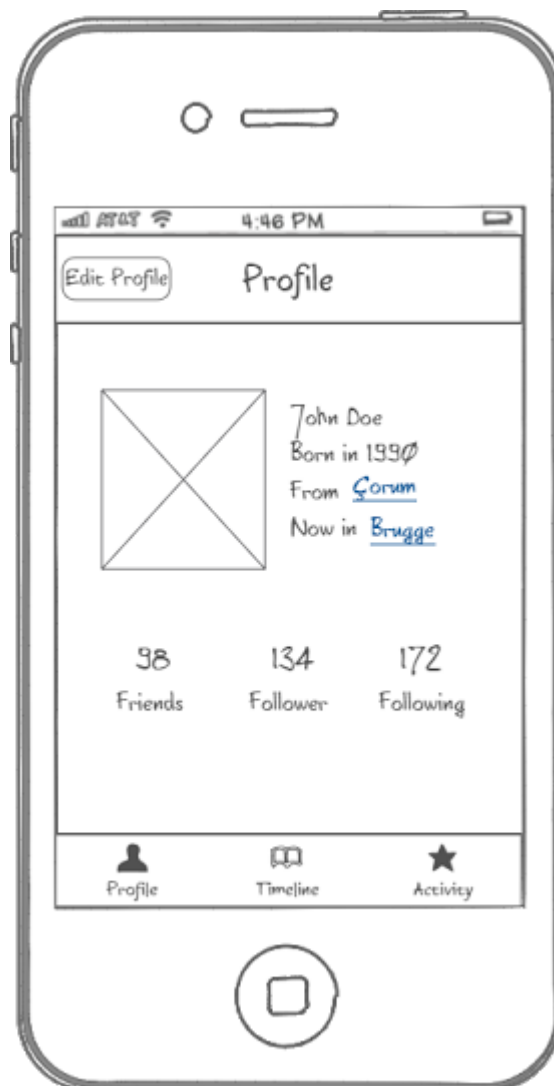


Figure 9: User Profile Page

3.5.5.4 Edit Profile

Profile Edit Profile

Profile Picture
URL of the picture

Password
Password
E-mail

Born In
Place

Born at
Date

Save

Profile Timeline Activity

Figure 10: Edit Profile Section

3.5.5.5 Timeline



Figure 11: Timeline

3.5.5.6 Add Friend



Figure 12: Add friend

3.5.5.7 Map View & Activity

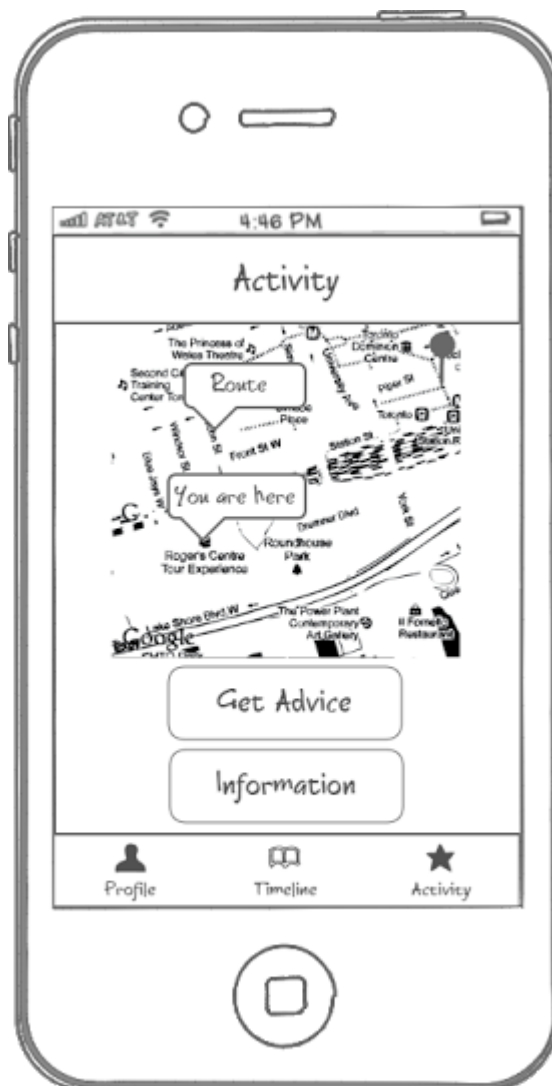


Figure 13: Activity

4. References

- [1] touravel.org
- [2] godaddy.com
- [3] <http://www.sqlite.org/>
- [4] <http://www.w3schools.com/>
- [5] <http://docs.spring.io/spring/docs/2.0.8/reference/mvc.html>
- [6] <http://www.adobe.com/tr/products/photoshop.html>