



جامعة الأمير سطام بن عبدالعزيز
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Project
“Google Maps”

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Introduction:

This report will discuss many aspects of the application we chose (Google Maps). We are hoping to provide a clear understanding of the system in a simple way by using the following points:

- Feasibility study & Project proposal
- Project requirements
- Activity diagram
- Project Use Case Modeling
- Sequence diagram
- User Interface Design

Problems:

Before Google Maps people were using paper maps which have an extensive list of problems with transportation, location-based information, and navigation. Here are a few cases:

- difficulty in sharing locations
- ignorance of nearby places
- Hard to know the exact directions to the destination
- Paper maps were expensive and hard to find
- Paper maps are hard to update
- Paper maps are not portable since it is large and easily destroyed.

Background:

Google Maps is an application provided by Google company, Google Maps functions simply by allowing users to easily add places they are familiar with, such as stores, cafes, and other destinations, and easily Figure out the shortest path to their destination.

Proposed solution:

Google Maps can provide solutions for finding nearby places of interest by suggesting locations and giving them directions until arriving at their destination in addition to allowing users to share their location in real-time.

Work plan:

Step		Details	Status
1	Before Execution	Planing is the most important thing when deciding to create something. And It contains: (set a business study, create a budget, evaluate risks, and choose team members). Then Create a company, which includes the following steps: (register the business, apply for licenses and permits).	
2	Requirements	<i>In this step, all requirements will be determined and documented.</i> <ul style="list-style-type: none">• Some features will be delayed to focus on what is important.• Requirements will be gathered in multiple ways, such as surveys, brainstorming, and user observation.	
3	Design and Devalopment	<ol style="list-style-type: none">1. Create a UX wireframe: a wireframe is essentially a rough layout of your mobile app.2. Define UI and add interaction: A user interface (UI) is anything a user may interact with.3. Front-end development: the part of the app the user can see and interact with.4. Back-end development: what goes on behind the scenes.	
4	Testing	Testing will test each feature via prototyping, test-case generation, and requirements reviews. Testing will focus on direction,traffic tracking and predictions, and the overall user experience.	
5	Release	<ul style="list-style-type: none">• As a start, the app will only cover SA if a digital map is not available.• The app will only be released on cell phones first, since it has the most demand.	
6	Maintenance	Blue/Green Deployment will be used: The new version of the software runs alongside the old version. After the new version has been tested and certified, the old users will be transferred to the new version.	

Functional Requirements:

User requirements:

1. The program should give users some details about the travel.
2. The program should allow users to add information to the places.
3. The program must allow business owners to add and modify their businesses.
4. The program will allow users to register to get more features.

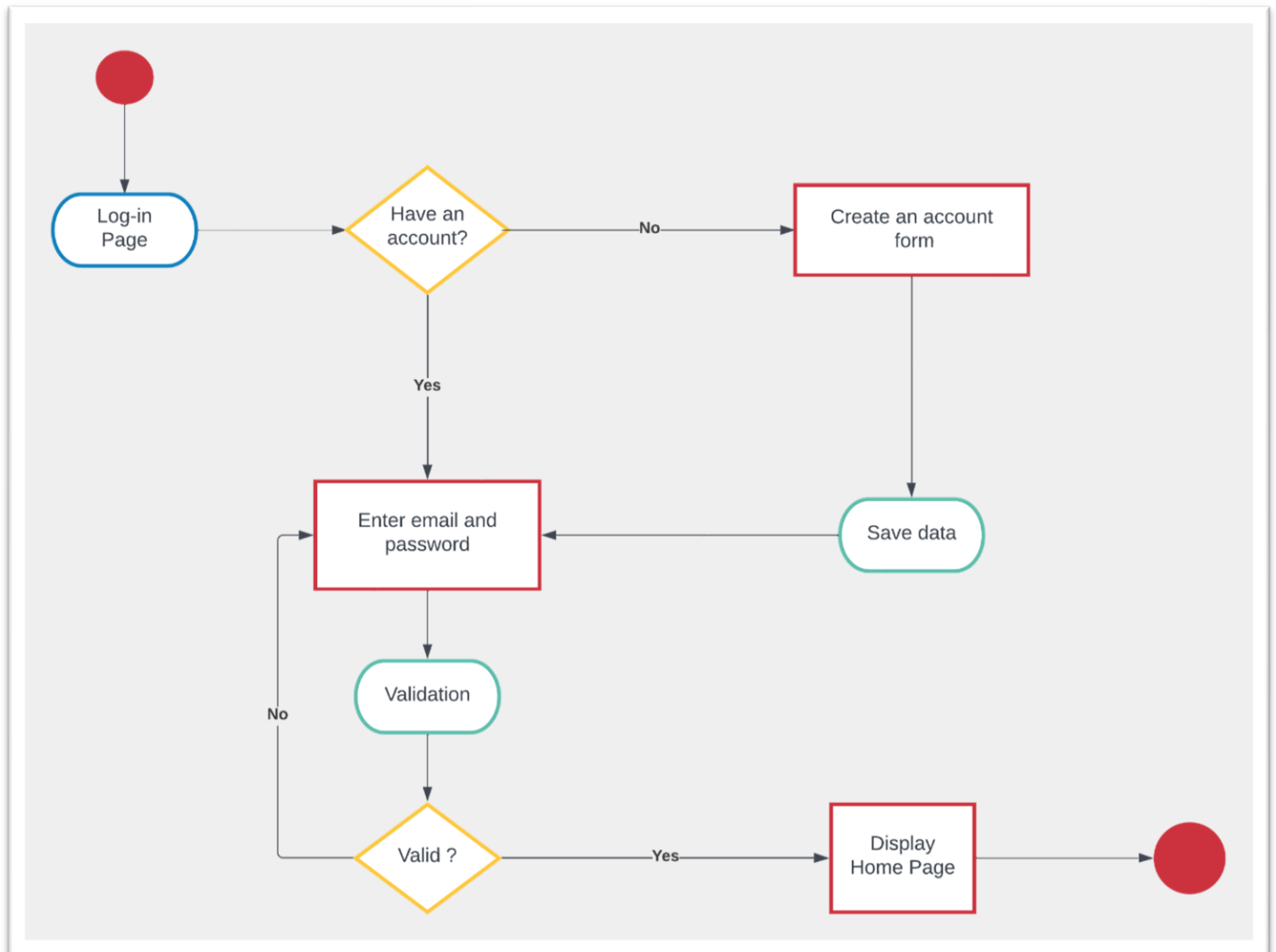
System requirements:

- 1.1 The program should display the ETA while travelling between two points.
- 1.2 The program should display the distance between two points.
- 2.1 The program should allow registered users to add businesses.
- 2.2 The program should allow registered users to add to the business.
- 2.3 The program should allow registered users to add comments and questions about locations.
- 3.1 The program must allow the owners of businesses to adjust their business.
- 4.1 The program will allow users to create new accounts.
- 4.2 The program will allow users to log in with their accounts if they already have an existing account.

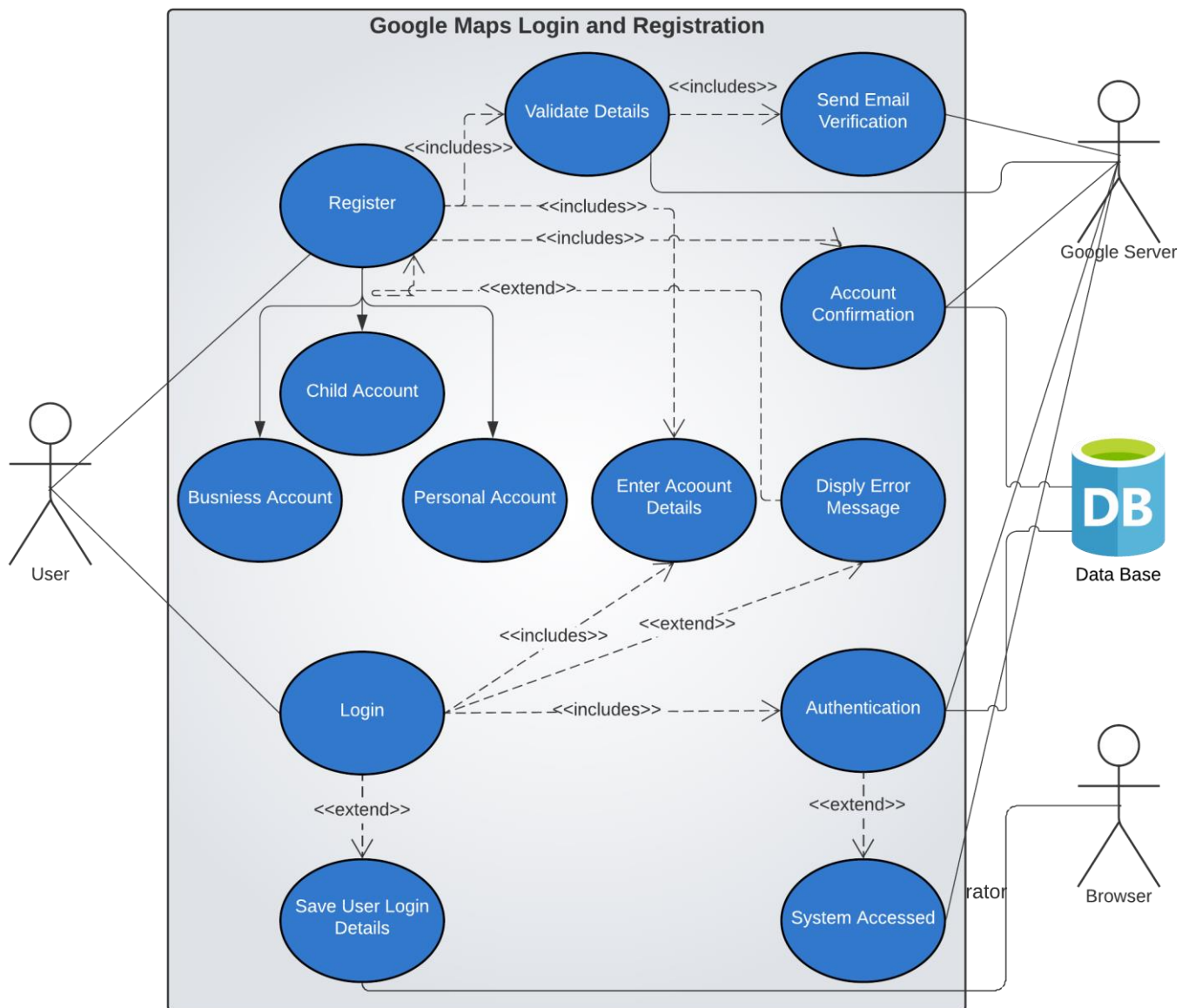
Non-Functional Requirements:

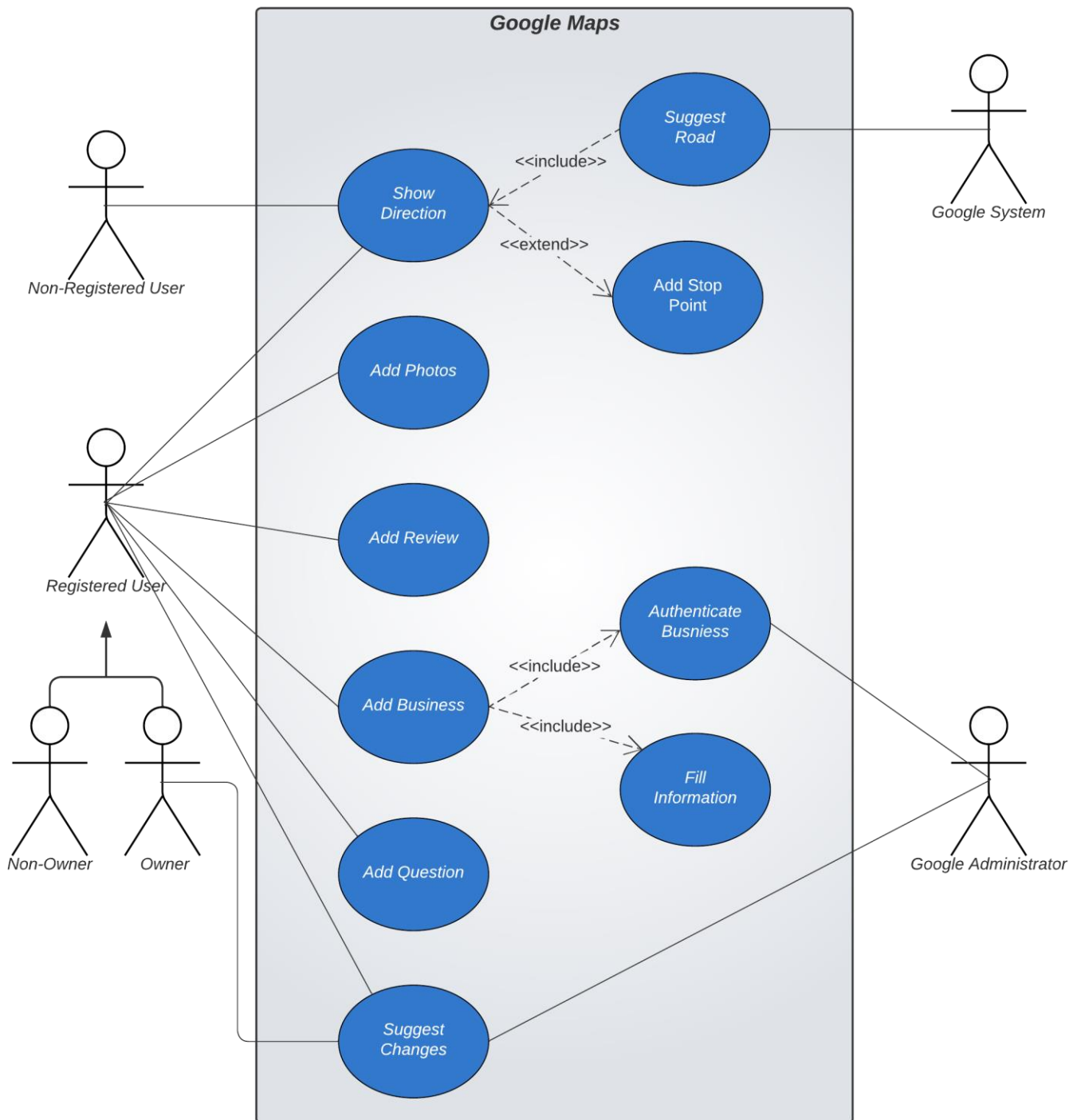
No.	NFR	Goal – Specifying metric
1	High Availability	This system is impervious to failure. We do not want our consumers to become lost in an inaccessible location.
2	Good Accuracy	The predicted journey duration (ETA) is not expected to shift much from the actual travel time.
3	Responds promptly	Within 5 seconds, the response needs to be available.
4	Fast refresh time	Map data provided by Google is updated every second (Update/sec).
5	Auto localization	Google Maps should automatically take you to a country domain and shows place names in a country's local languages.

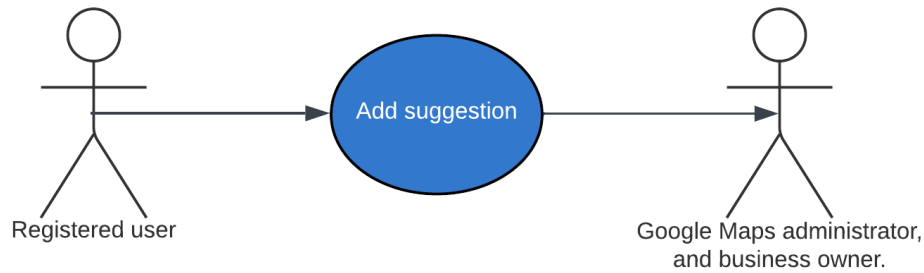
Activity Diagram:



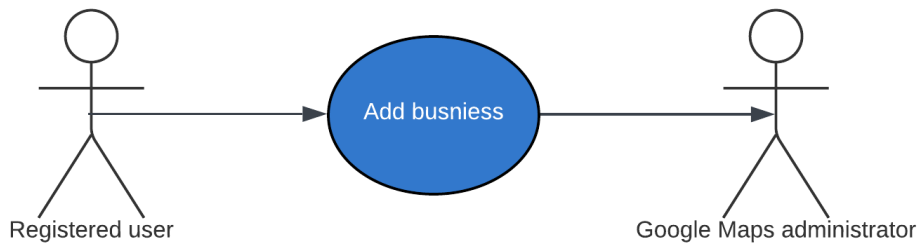
Use Case:





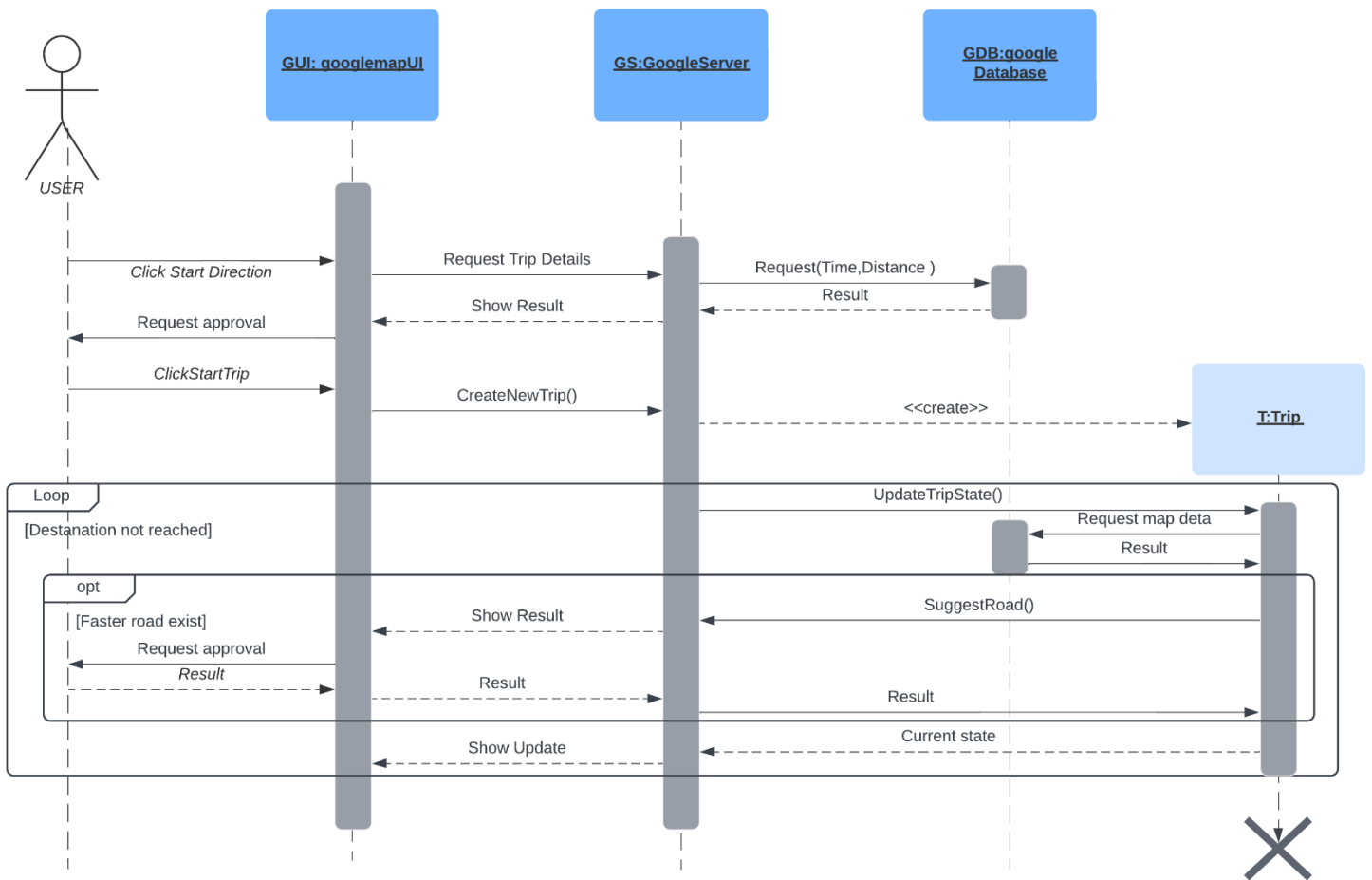


Google Maps: Add suggestion	
Actors	Registered user, Google Maps administrator, and business owner.
Description	<p>Suggestions can be taken from registered users to edit place details like place name, category, phone number, etc., or if the business does not exist.</p> <p>The request will be sent to the business owner to fix the issue. If no response comes, the request will be handled by the business owner.</p>
Data	Issue details (place, type of issue) and a description of the solution.
Stimulus	A place that has incorrect or out-of-date information.
Response	Fix incorrect place information.
Comments	Corrections must be made within three days.

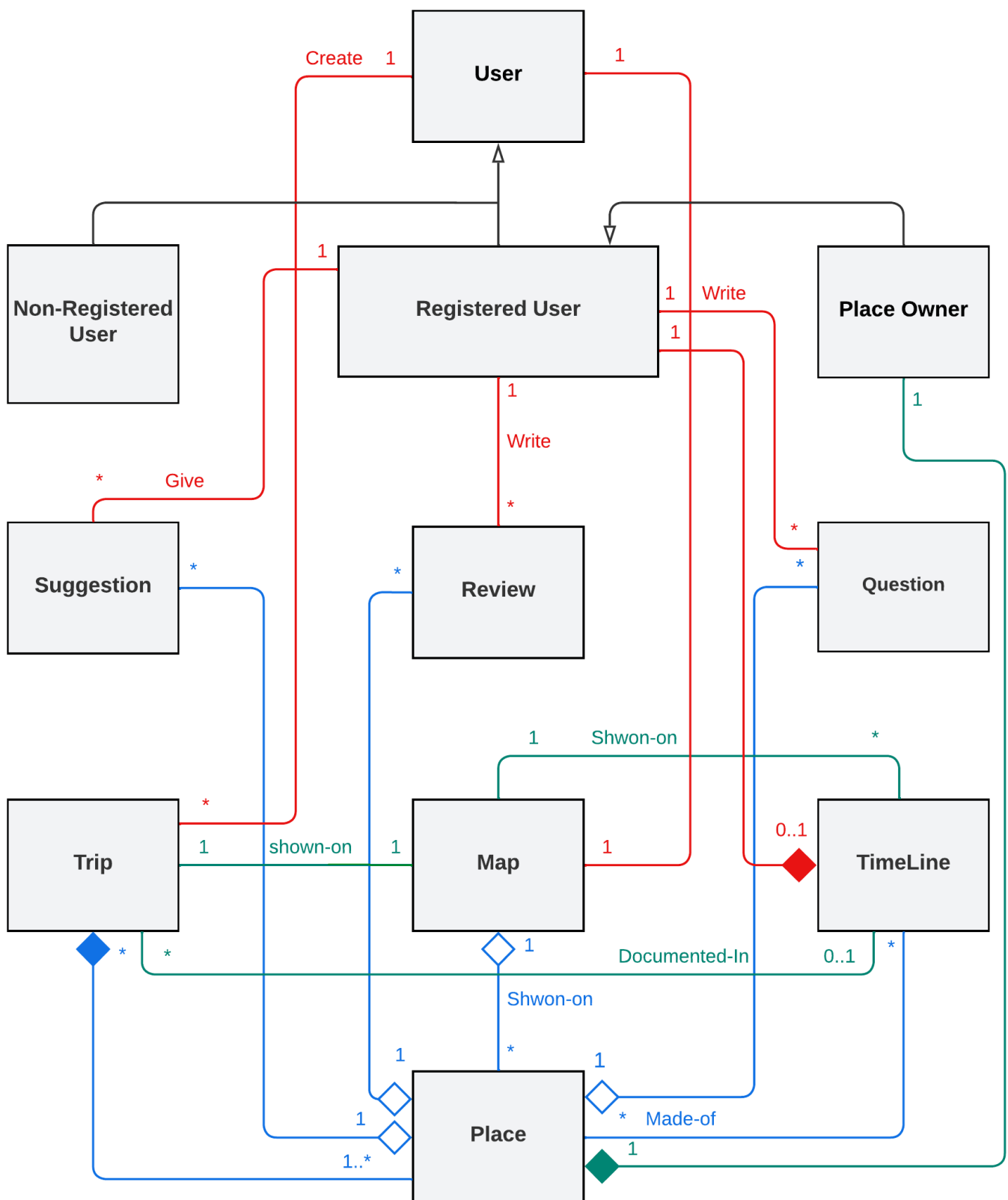


Google Maps: Add business	
Actors	Registered user, Google Maps administrator.
Description	A registered user can apply to add his business by pinning the location. After that, he must enter the required information; the last step is to prove business ownership. Then the administrator will review the request and approve it.
Data	Business owners are struggling with the visibility and accessibility of their businesses.
Stimulus	Business owners struggling with the visibility and accessibility of their business.
Response	Approval will make the business appear on Google Maps.
Comments	If possible, the request will be sent to the administrator in the same region. More information could be required, depending on the type of business.

Sequence Diagram:



Class Diagram:



Trip

User: User
Destanation: Place
StartPoint: Place
StopPoint: Place
TransportationMethod: String
PathToDestanation: String
DistanceToDestanation: Float
DirectionsToDestanation: String
TimeToArrive: Time

CreatNewTrip()
UpdatePath()
UpdateNextDirection()
CalcArriveTime()
CalcDistanceToArrive()
SuggestRoad()
SetTransportationMethod()