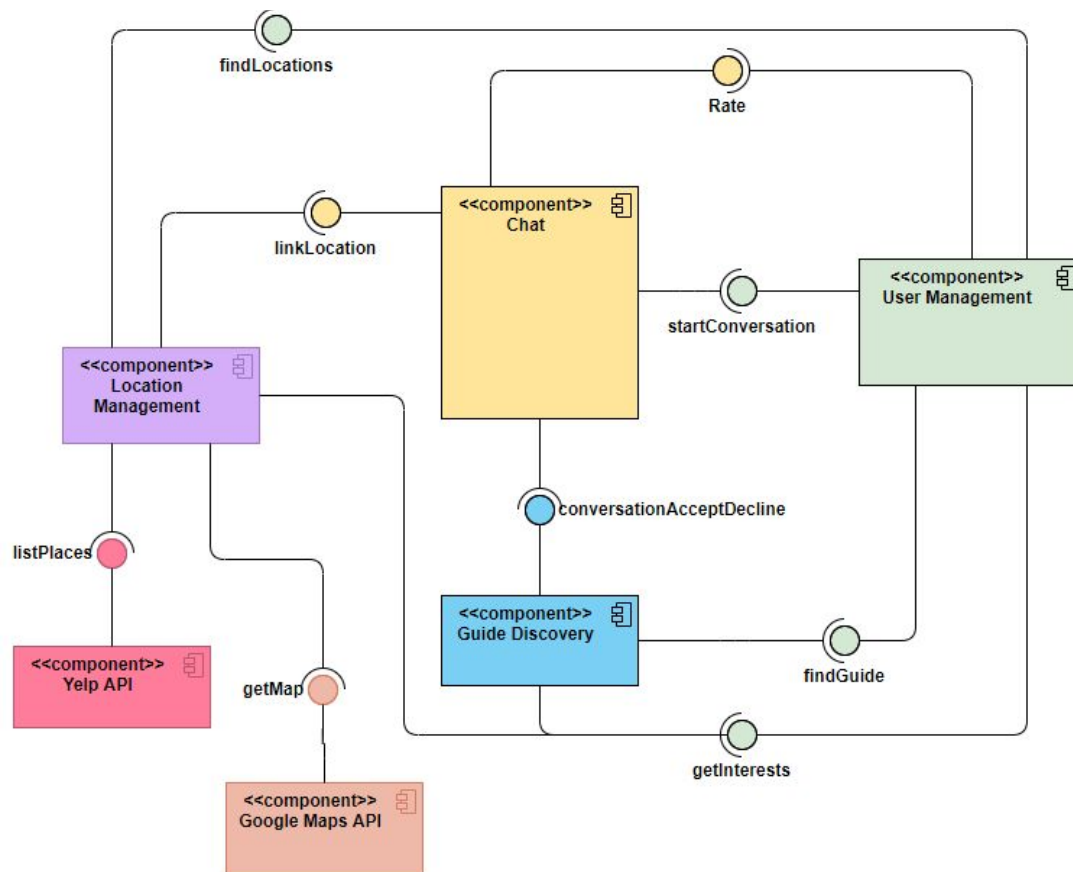# Requirement Specification
& Functional Specification

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# Component Diagram

The four main components are User Management, Chat, Location Management, and Guide Discovery. User Management will encompass all the aspects involved with each user's accounts. This will include storing and retrieving all the data that is associated with a particular user as well as modifying any of that information. The Guide Discovery component connects to the User Management to retrieve guides as well as the preferences of the user looking for guides in order to present a list of appropriate guides. Chat is the connection between a guide provided by the Guide Discovery component as well as the user provided by User Management. The functions for rating connect back into the User Management component in order to store and log the appropriate information. Chat can also access the Location Management component whose role is to supply detailed information about particular locations. It does this by connecting to two external components: Yelp API and Google Maps API. These two components allow us to gather necessary information to supplement our Location Management. The Location Management can also be used to provide a list of suggestions to the user based upon the user preferences supplied by the User Management component.

Use Case #1: Account
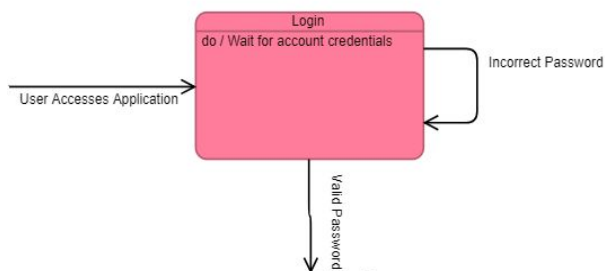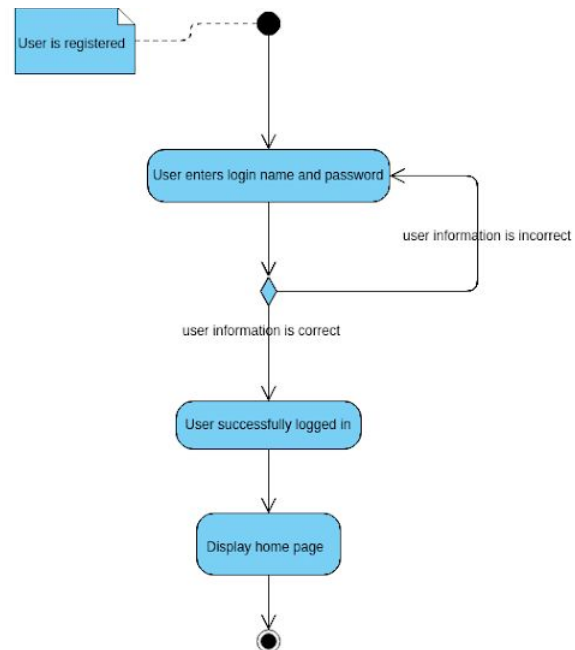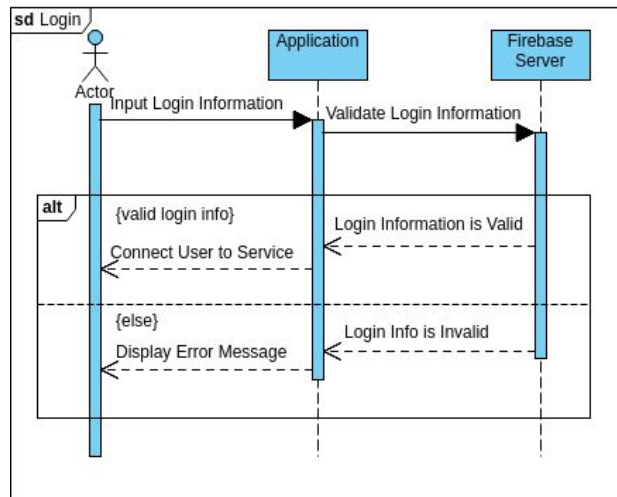
The login process for the user shall be very straightforward and simple. After having already created a valid account with our system, the data shall be stored within the database for comparison later. When the user is prompted, they enter their login information which is then compared for validity and security. If the information is correct, they are granted access to the application state with their own personal saved settings, profile, etc. However, if the information does not match, they will be shown an error message letting them know that they have entered the information incorrectly.

Use Case #2: Modify Profile
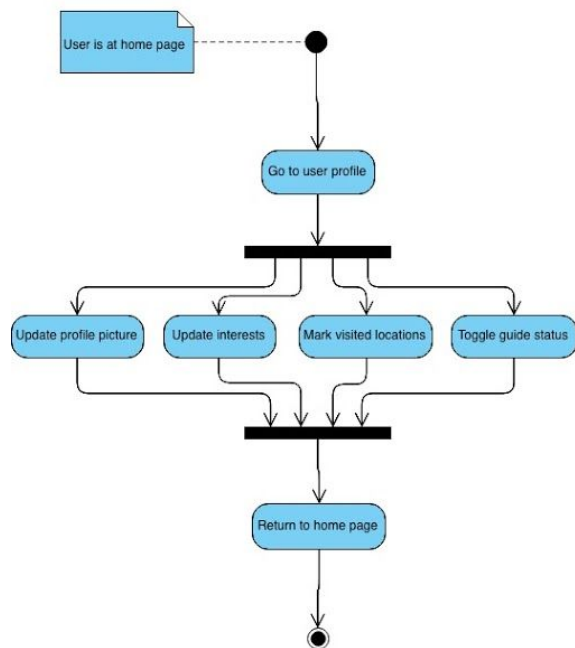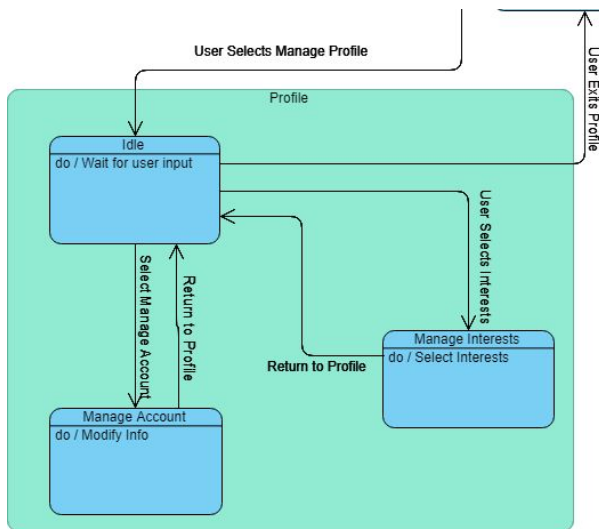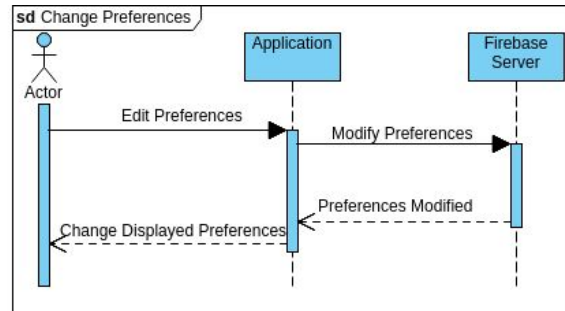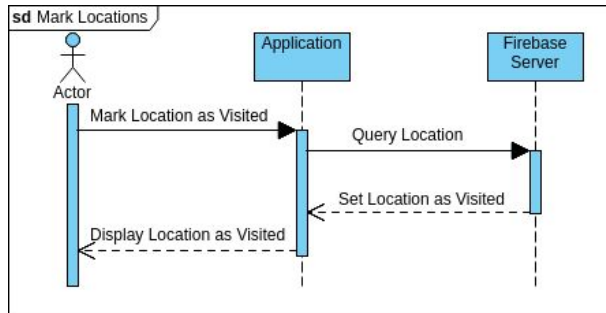
We aim to have an experience that is customizable so that the user is able to cater it to the experience that they would personally like to have. Users should be able to mark locations as visited which will help users find guides for particular locations as well as help discovery by taking into account which locations the user has already visited. Changing the preferences of their profile serves to help the user find more activities that relate to their interests as well as opt-in/opt-out of being a guide. These settings will be stored on our database server that is provided by the Firebase system that we are implementing.

Use Case #3: Discovery
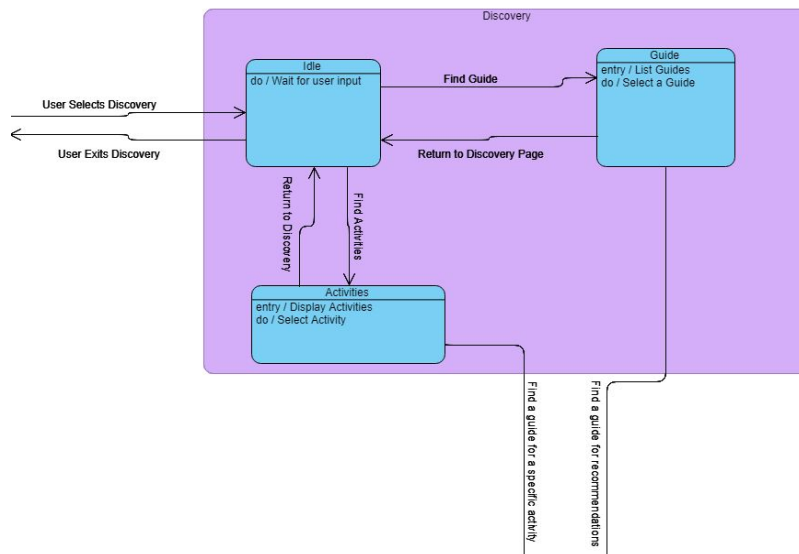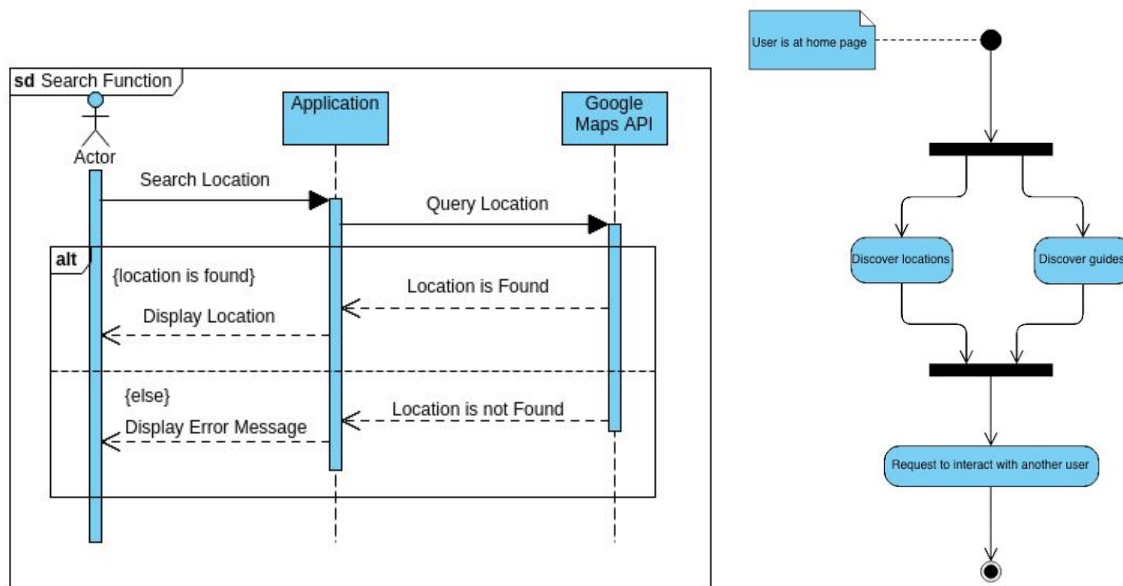
Discovery is one of the most important aspects of our application with users allowed to discover locations or guides. Discovering locations should return a list of locations that are based upon the user's preferences as well as locations visited in the past. When selecting a location, below the location's basic general info (address, phone number, average rating, hours, etc.) the application should display a list of guides who have visited that location. This list of guides should allow users to request a conversation with a particular guide. The list of guides should have very similar functionality where the list of guides should be generated based upon similar preferences and allow the user to request a conversation with a particular guide.

Use Case #4: User Interactions
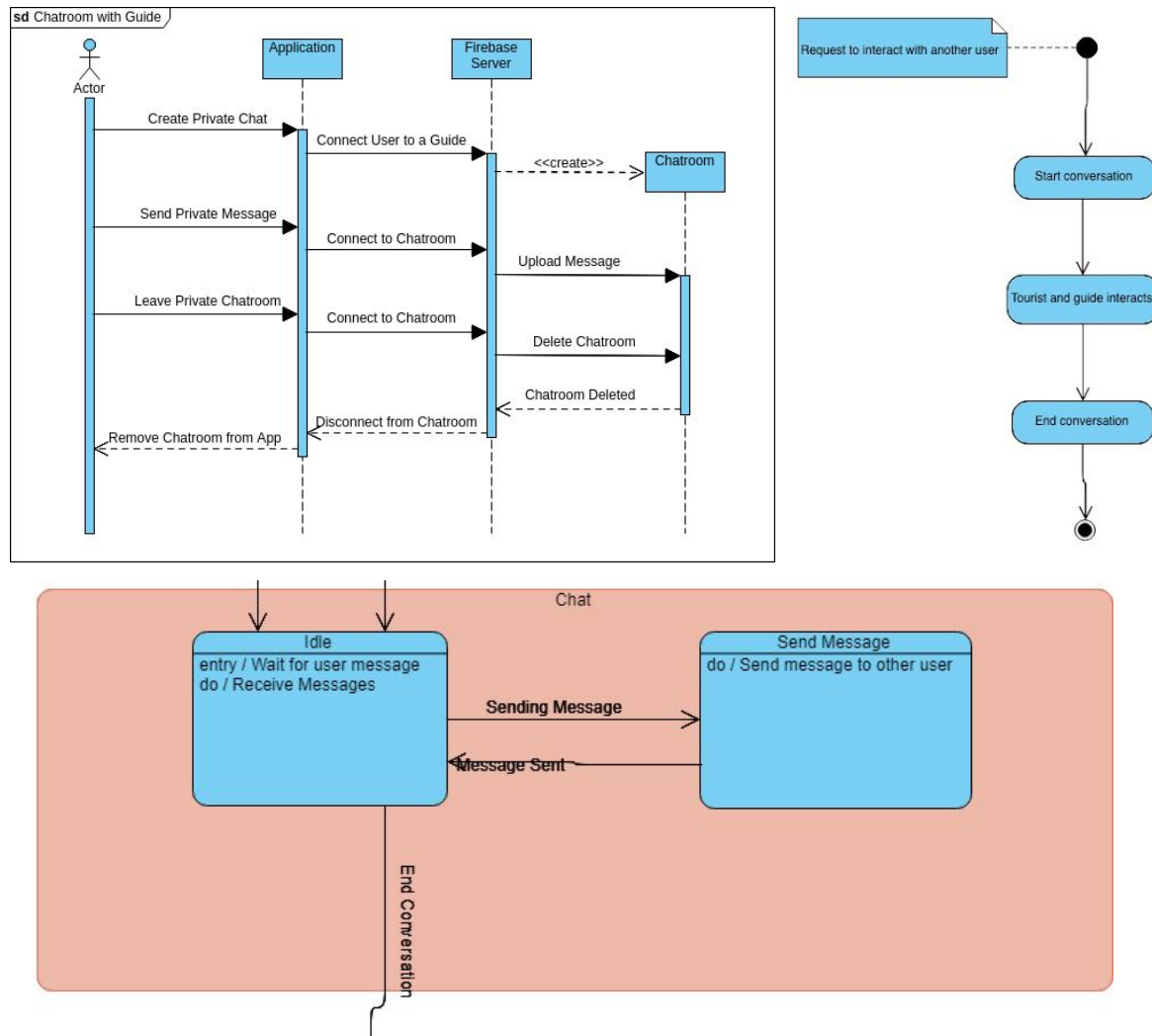
The main function of our app lies within the interactions that different users will have with each other. A user that is interested in a specific location that a guide knows about can send a message to the guide to start a conversation. This creates a private chat-room that is not accessible to anyone but the two of them. The users are able to send messages back and forth to each other for as long as they would like. After either party feels that they no longer need to talk to the other, they can end the private chat which will lead to the post-chat user interaction section.

Use Case #5: Post-User Interactions
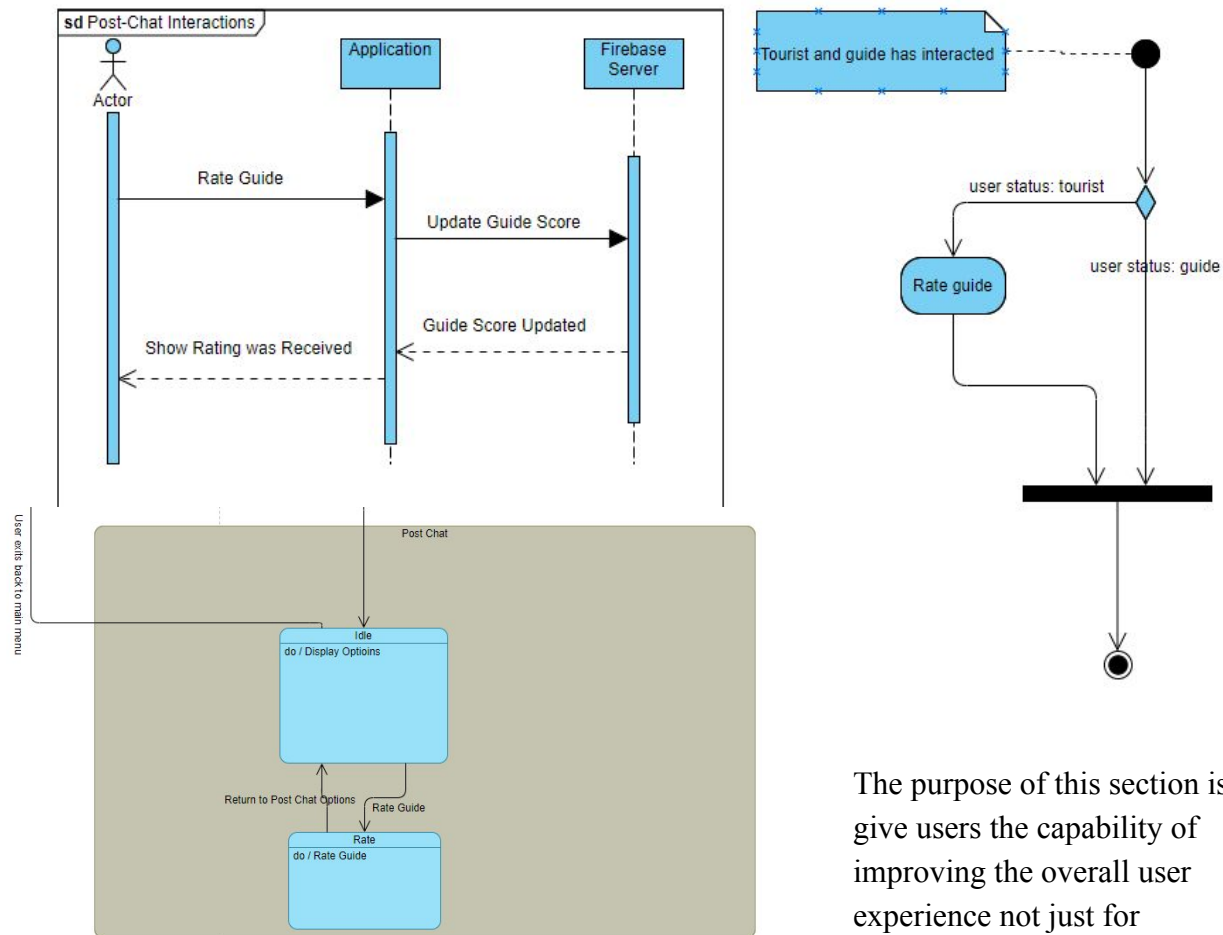
The purpose of this section is to give users the capability of improving the overall user experience not just for themselves, but for the entire community that will be harbored by our application. Users can rate the guide user based upon the quality of information and recommendations provided. They will be encouraged to rate their guide on a system from 1 - 5 so that we can calculate an overall rating for the guide. This overall rating will be displayed on the guide's page, allowing other users to make a more informed decision on if the guide is an individual that they feel they would like to interact with and get their information.

Class Diagram
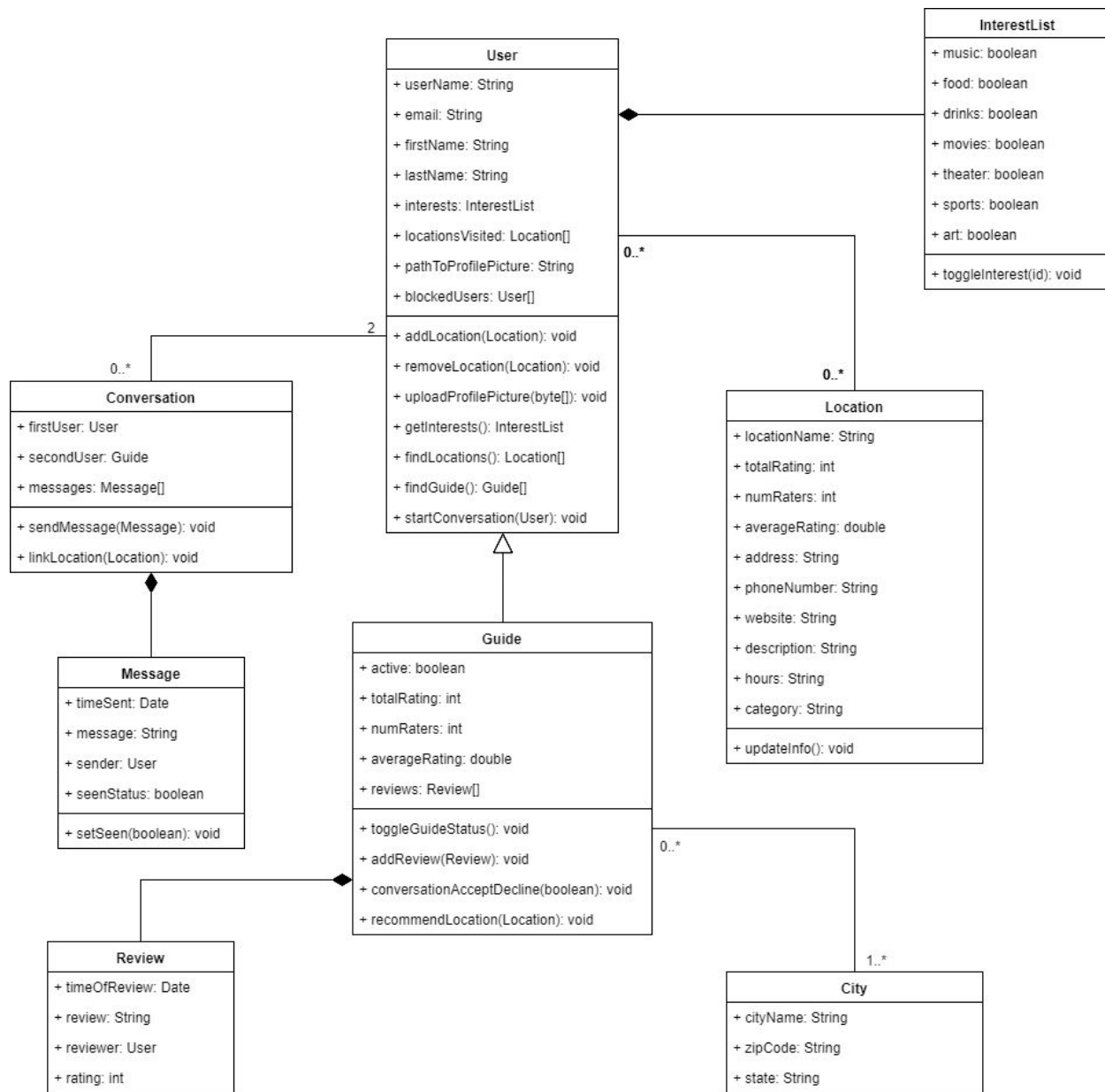
The classes involved in our project primarily revolve around the User and Guide classes that will make up the user-base, with Guides being a subclass of the User class. This allows us to provide Guides additional functionality (being reviewed and locations that they are guides for, and toggling their guide status). This is also shown in that the bulk of the methods involved with the project belong to the User and Guide classes. Reviews are associated with Guides because only Guides can be reviewed. The other associated classes are all connected to the User class to show each user's interactions with Locations they've visited, their InterestList, and Conversations they're involved in.