

CSP 586 - Requirement and Design Document

Team 11 - Topic 2

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Features List

Features	Actions
Search for places using zip-code and street name, and display list of restaurants.	Implemented
Dashboard to view Line chart and Bar Chart	Implemented
Line Chart between review counts and different restaurants	Implemented
Bar Chart between review ratings and different restaurants.	Implemented
View nearby divvy dock stations	Implemented
Stacked Bar chart between Available bike, available docks and stations	Implemented
Use Log stash for Real Time graph for 1 hour, 24 hours and 7 days which gets updated in asynchronous manner	Implemented
Use logs stash for Simple Moving Average (SMA) chart for 1 hour and 24 hours.	Implemented
Alert table – pushing data from log stash asynchronously.	Implemented

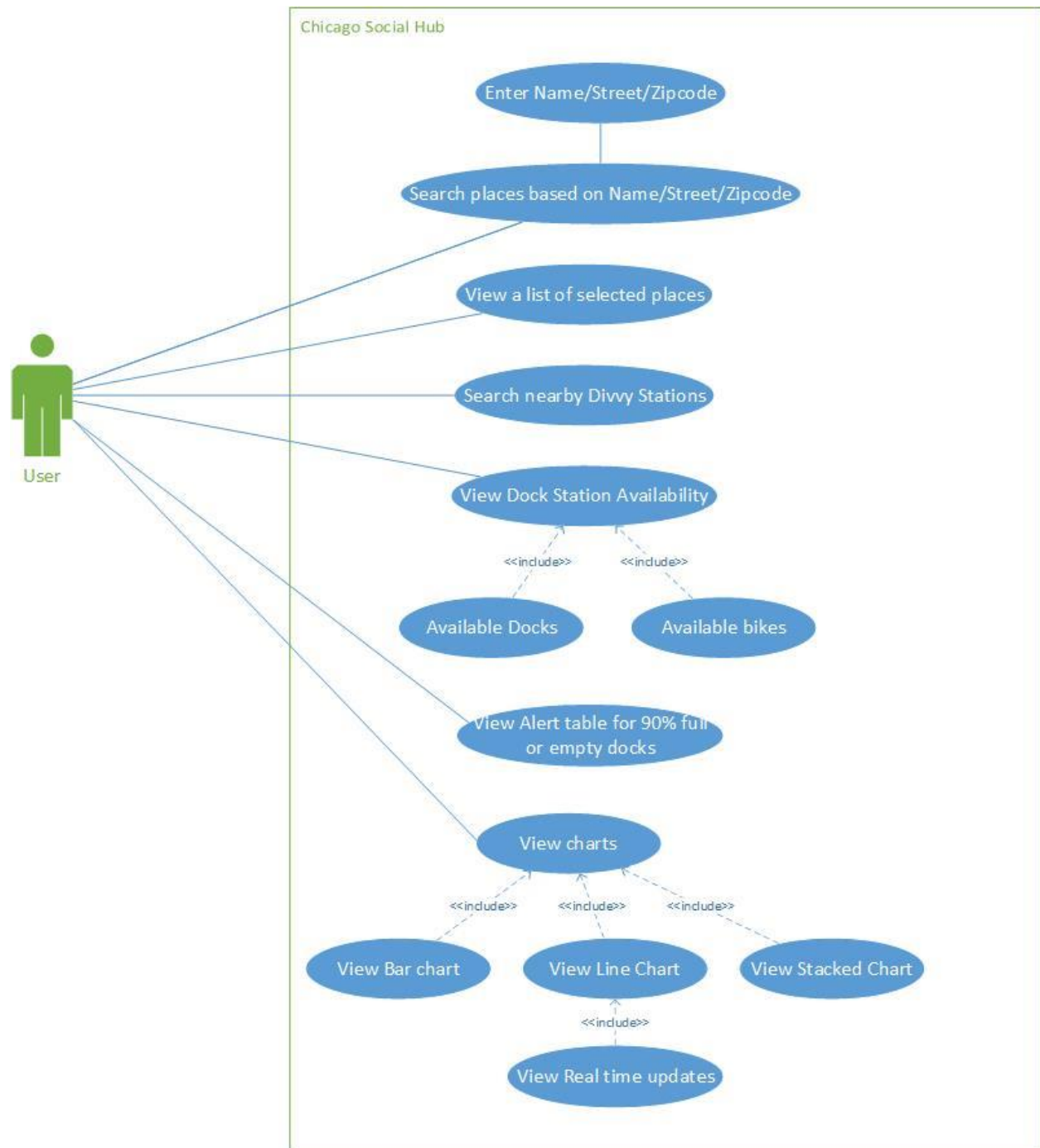
Brief project overview statement

- Chicago Social hub is a Web based real time app that uses MVC architecture.
- This is an application for searching and charting restaurants in Chicago.
- The Application will search for places in a zip-code and show divvy nearest dock stations for a selected place.
- Dashboard to show the different review counts and ratings using line-chart, bar-char, stacked-chart, pie-chart etc. for the search results per zip code for the entire city of Chicago.
- We have also implemented real time graphs to show the number of available docks using log-stash which will update for every 5 minutes.
- A simple moving average graph will overlap the real time chart and it will display the SMA for 1 hour and 24 hours.
- The application contains an alert table to display the divvy stations which are 90% or above full and 90% or above empty with red and green color respectfully.

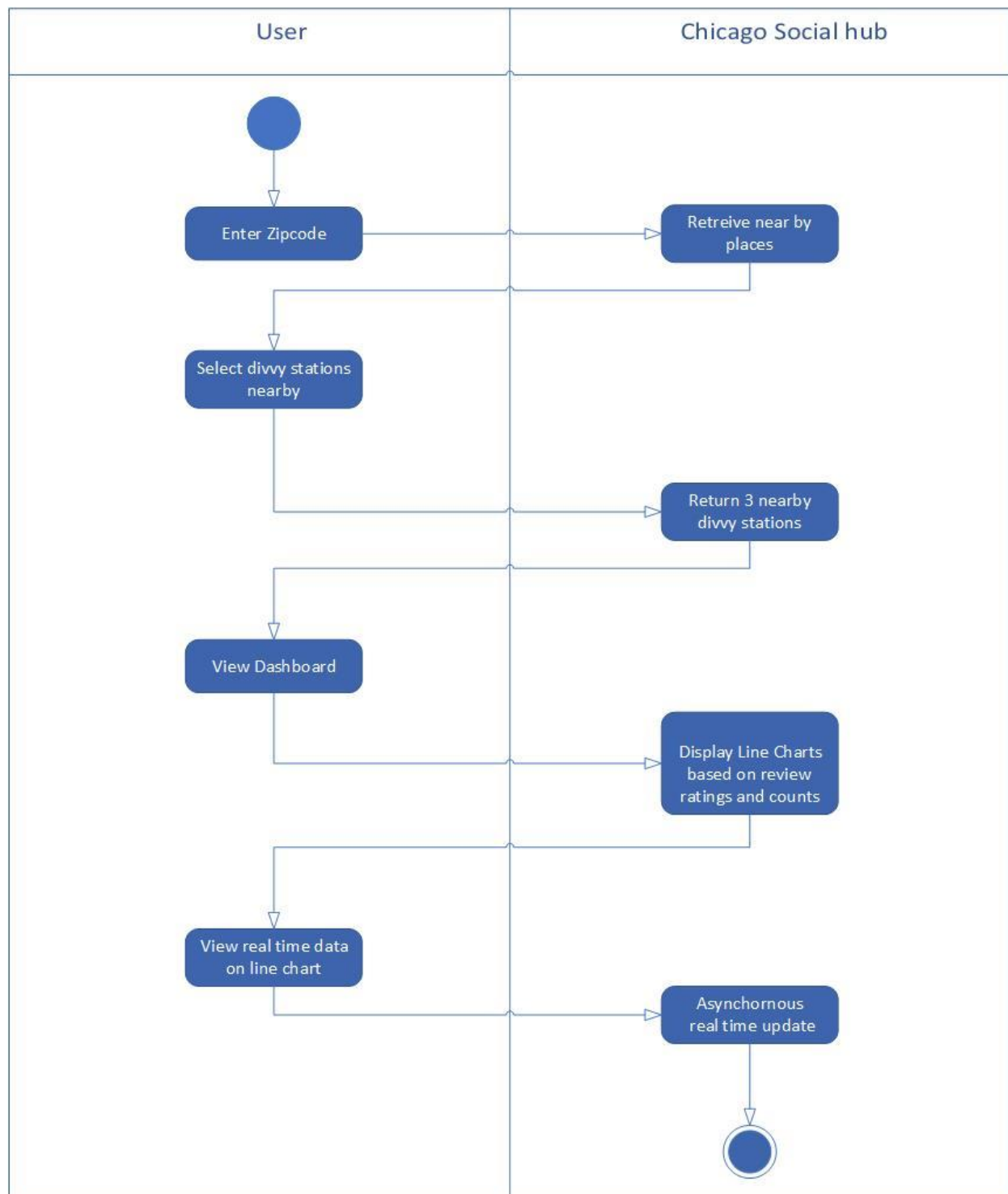
List of Use cases:

Use case Name	Description
Enter Name/Street/Zipcode	The user enters the name, street / zip code for the location in which he wants to select the restaurants
Search places based on Name/Street/Zipcode	Based on the user information entered, restaurants in the area are searched
View list of selected places	The system returns the list of restaurants based on the zip code along with the location, review and rating counts
Search nearby Divvy Stations	The user searches the nearby divvy stations.
View Dock Station Availability	The total number of docks and available docks on that station is shown to the user
View Alert table for 90% full or 90 %empty docks	If the dock is 90% full, it is displayed in red else green
View Charts	The user can view the bar, line and stacked charts.
View Real time updates	Asynchronous real time updates based on the availabilities

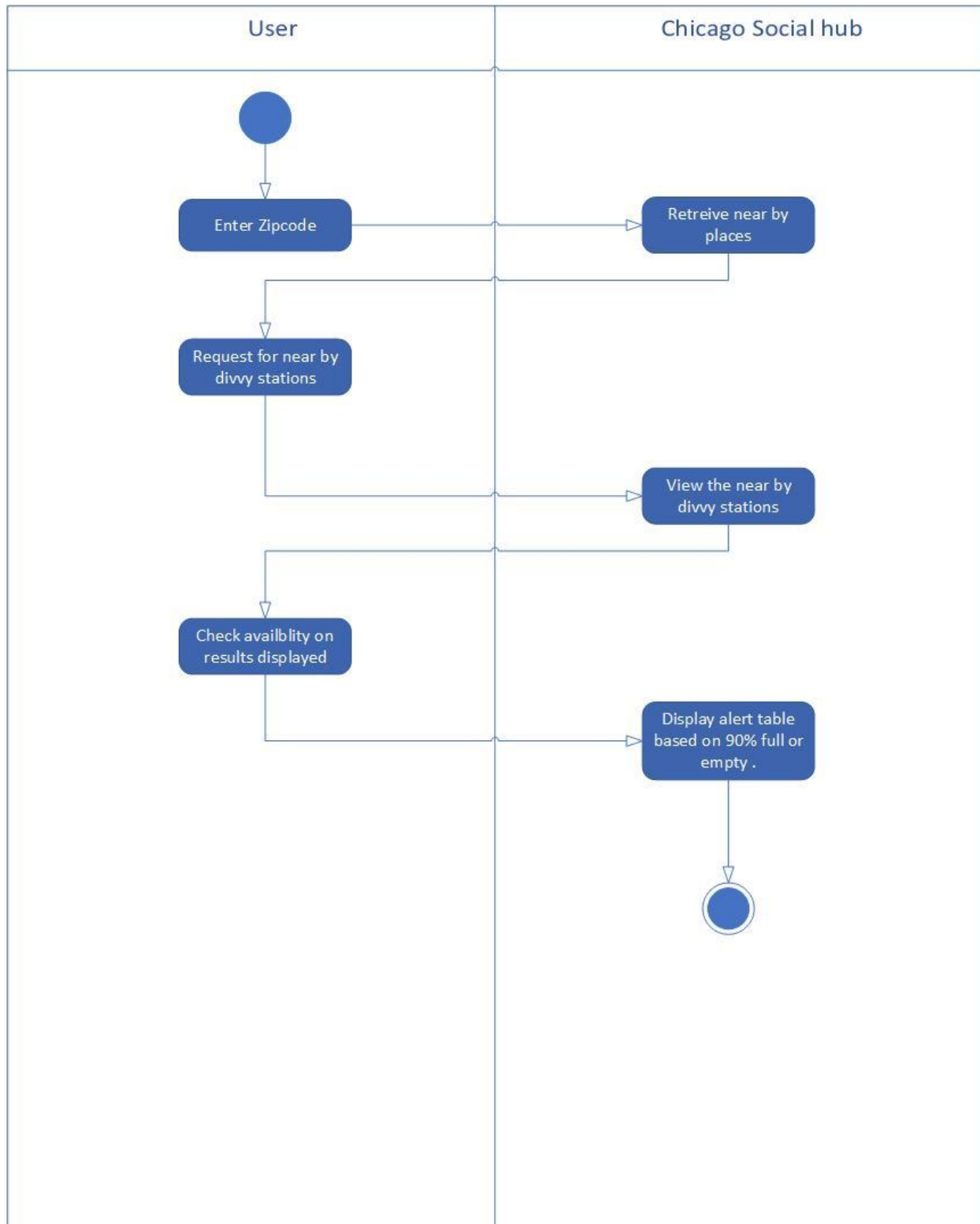
Use-case Diagram: ChicagoSocialHub



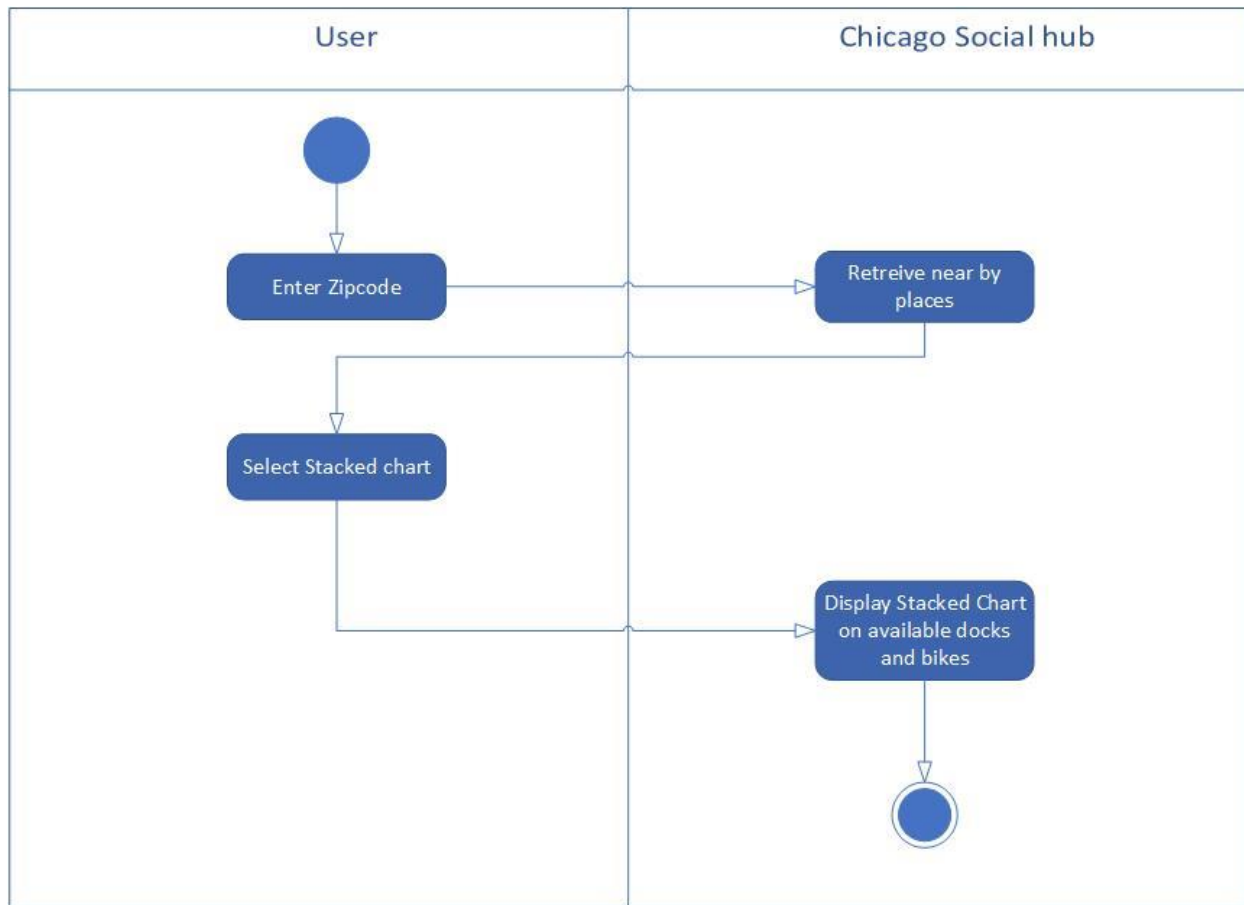
Activity Diagram: Overall activity diagram for Chicago Social hub



Activity diagram for viewing Alert table using log-stash.

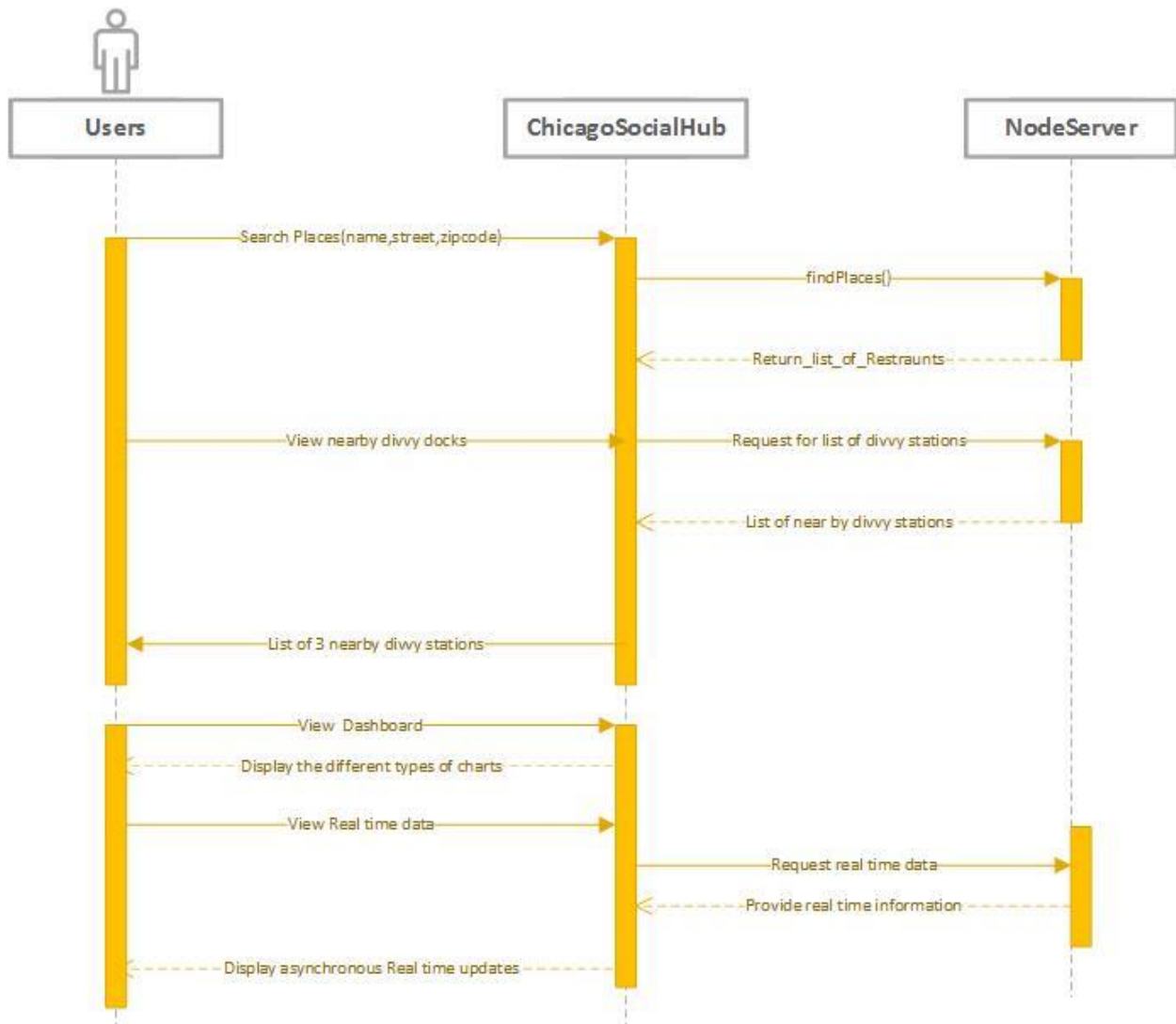


Activity diagram to view stacked bar chart between available docks and bikes.

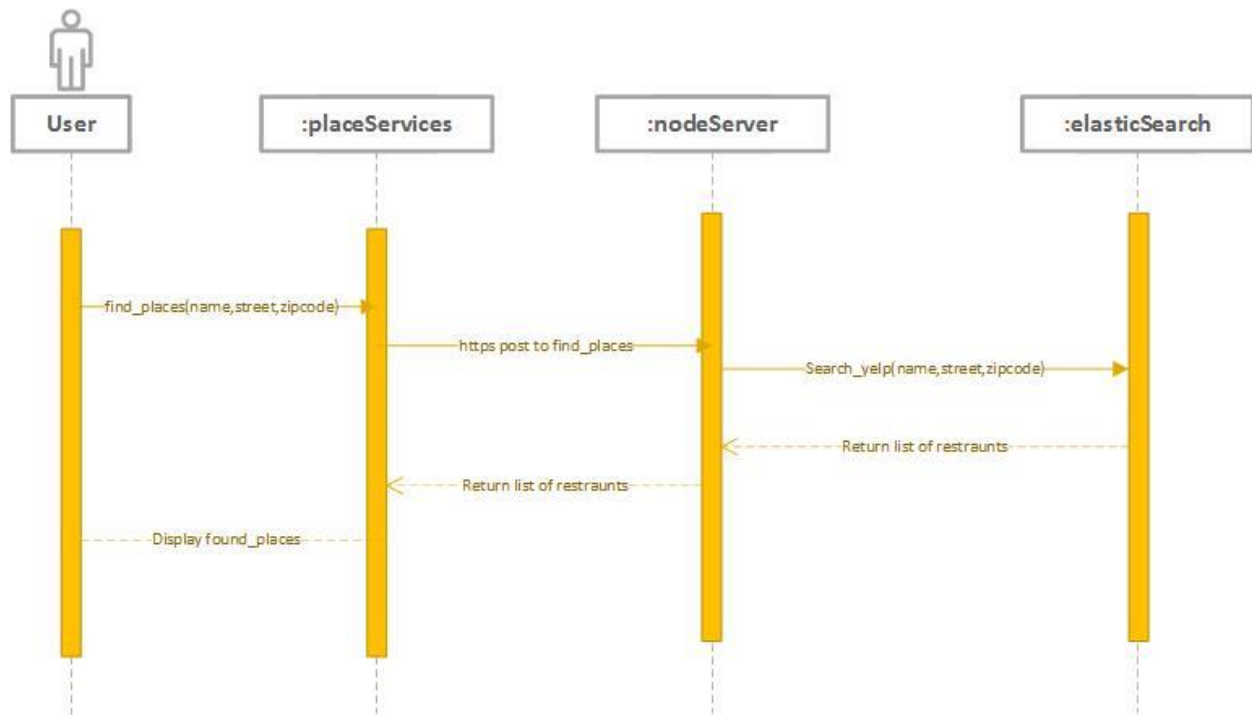


Sequence Diagrams:

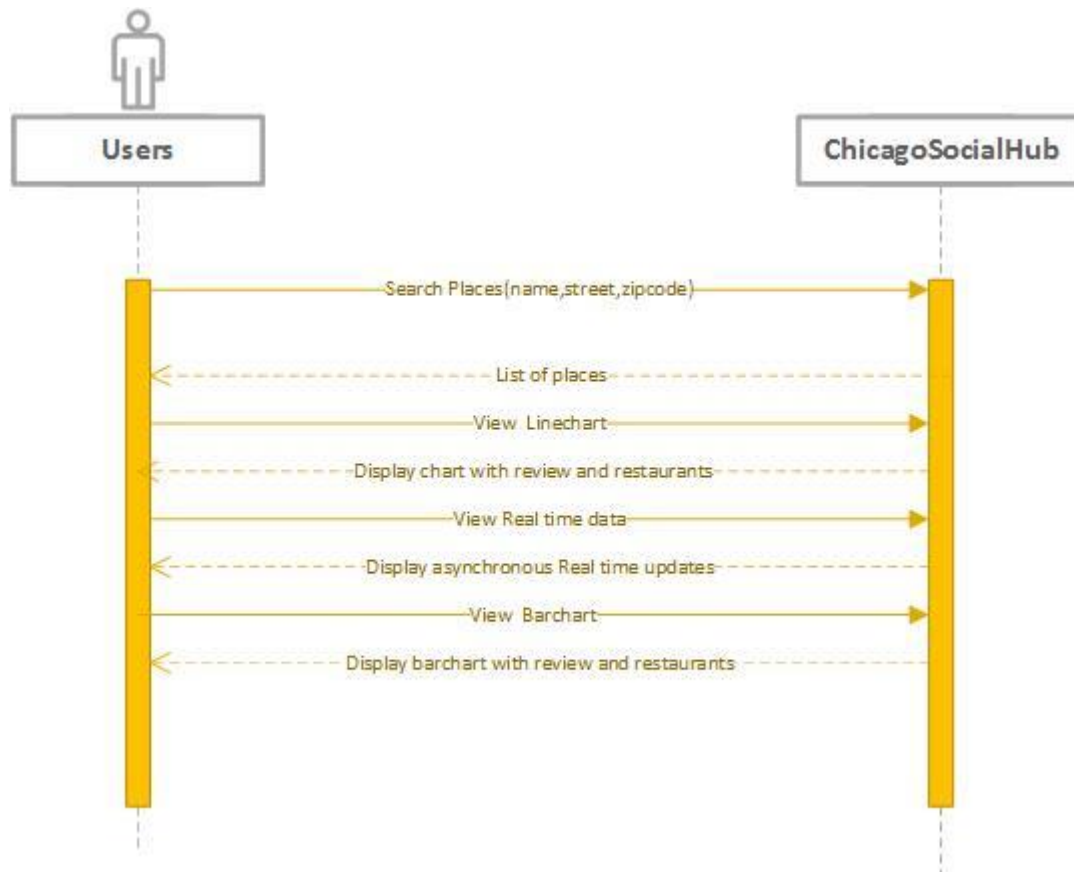
The sequence diagram contains search places, view dashboard and real time updates.



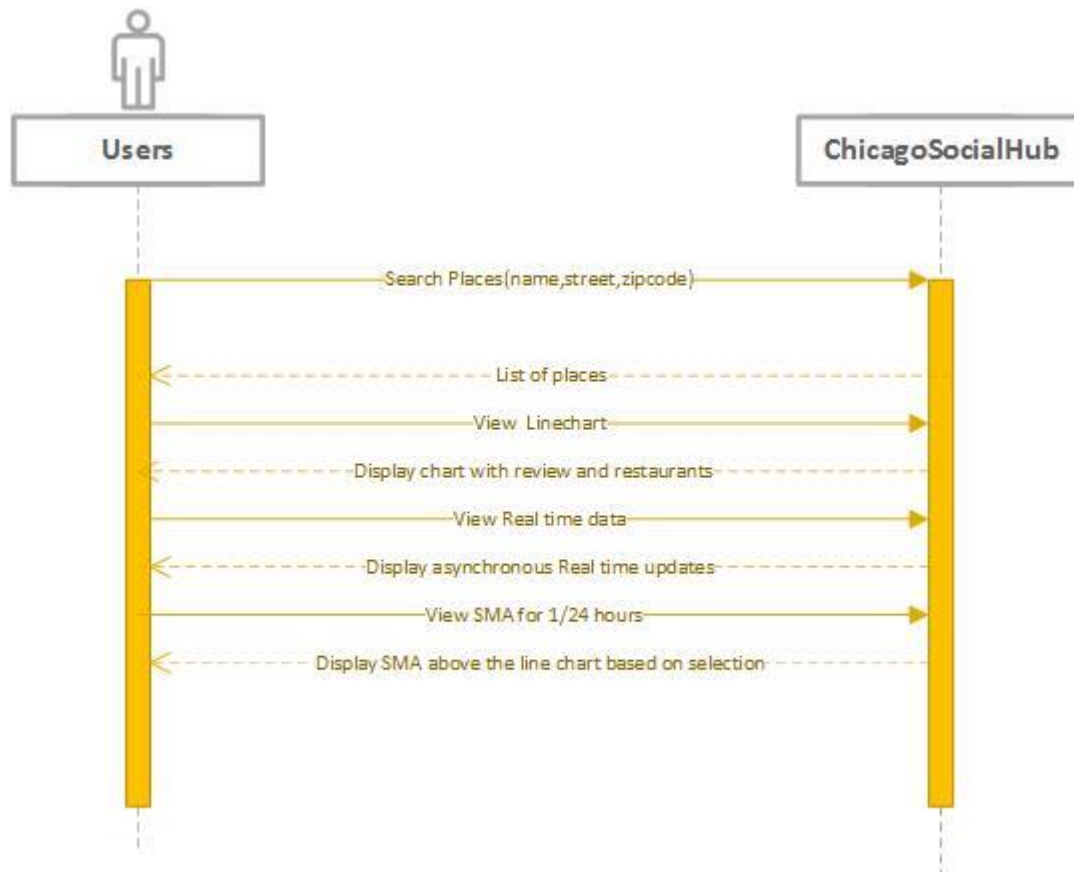
Sequence diagram to find places based on name, street and zip-code.



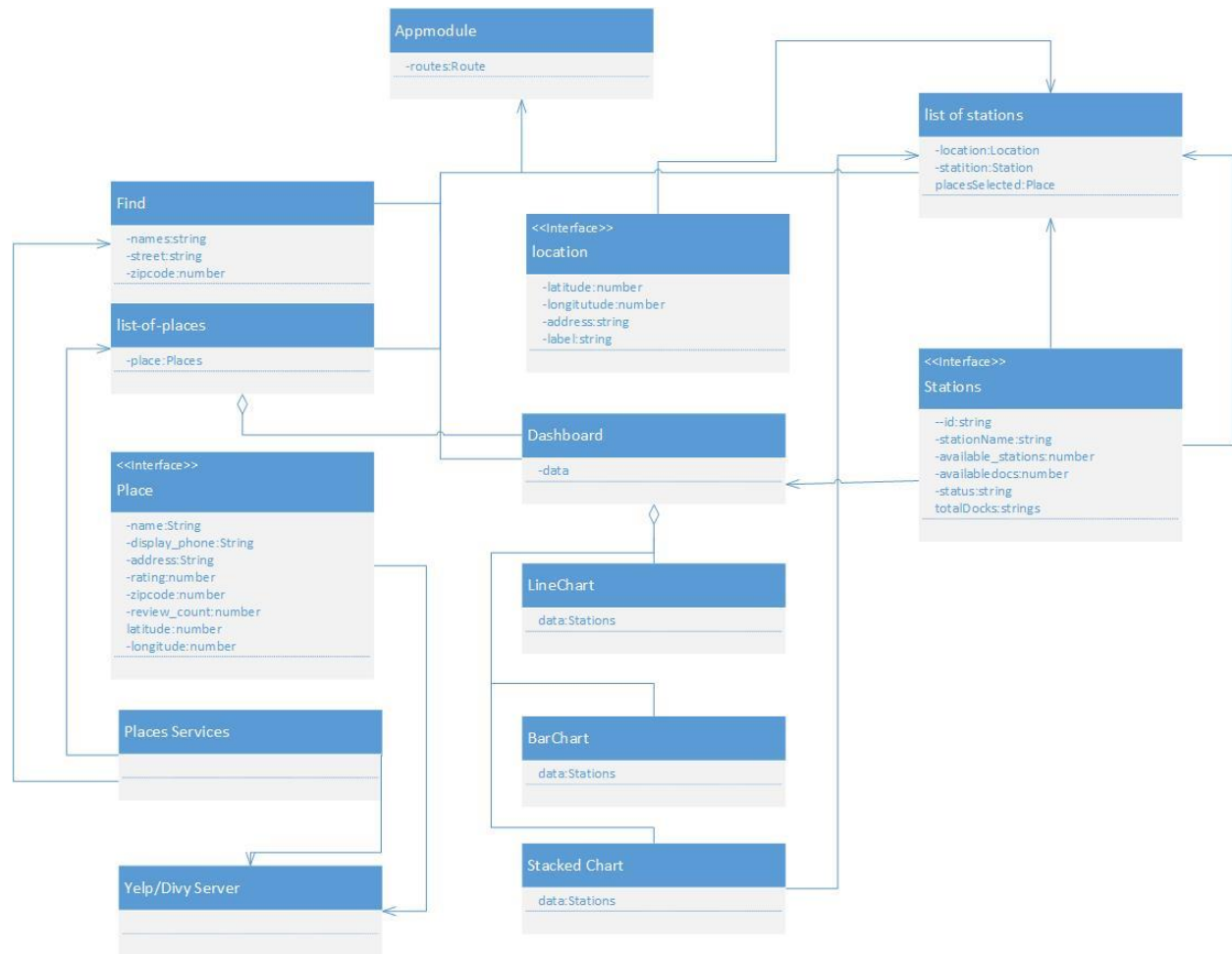
Sequence diagram to view nearby divvy stations and dashboard containing Line chart, bar chart and real time update of divvy dock stations.



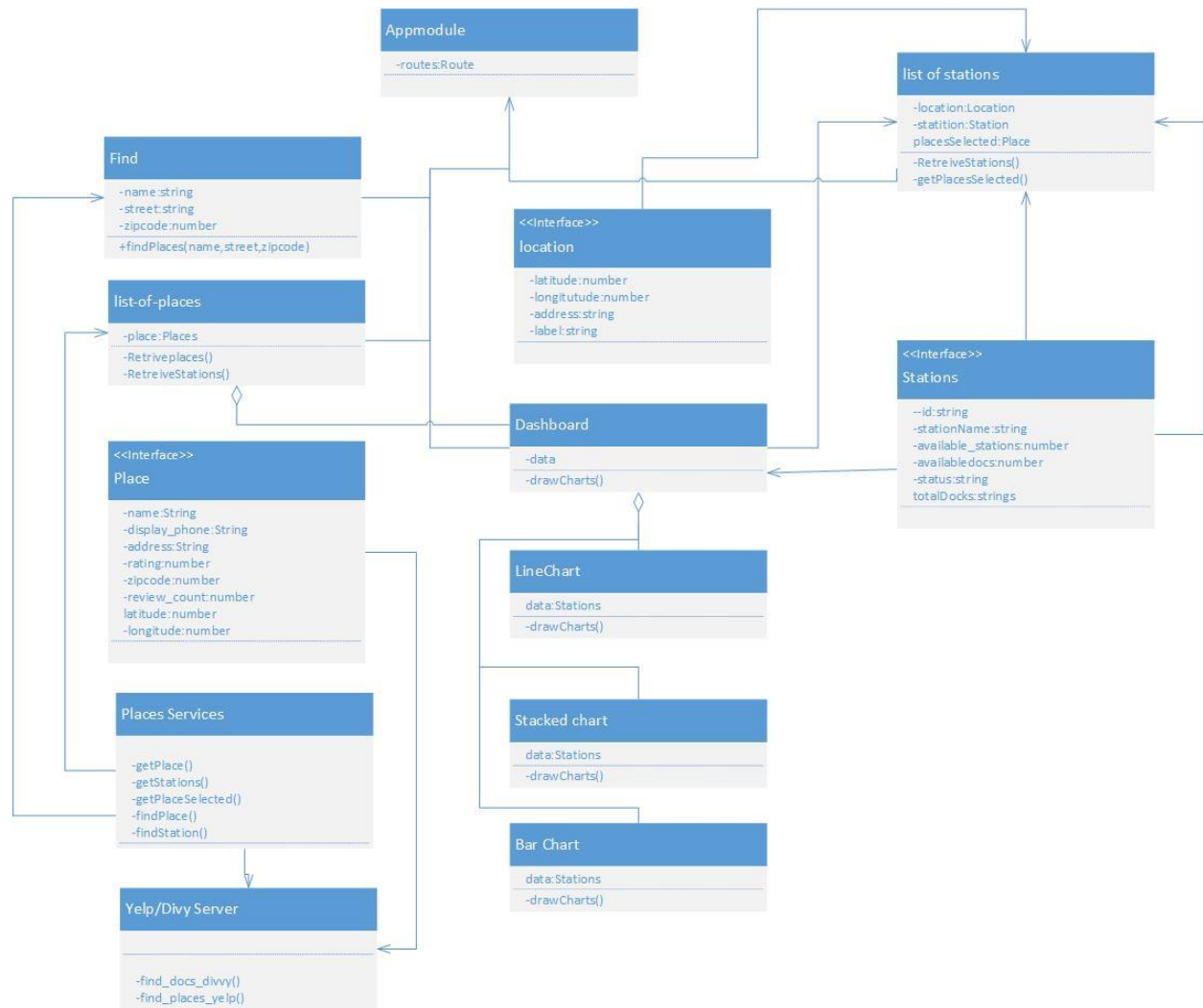
Sequence diagram to view Simple Moving Average in real time line chart.



Domain Model Class Diagram:



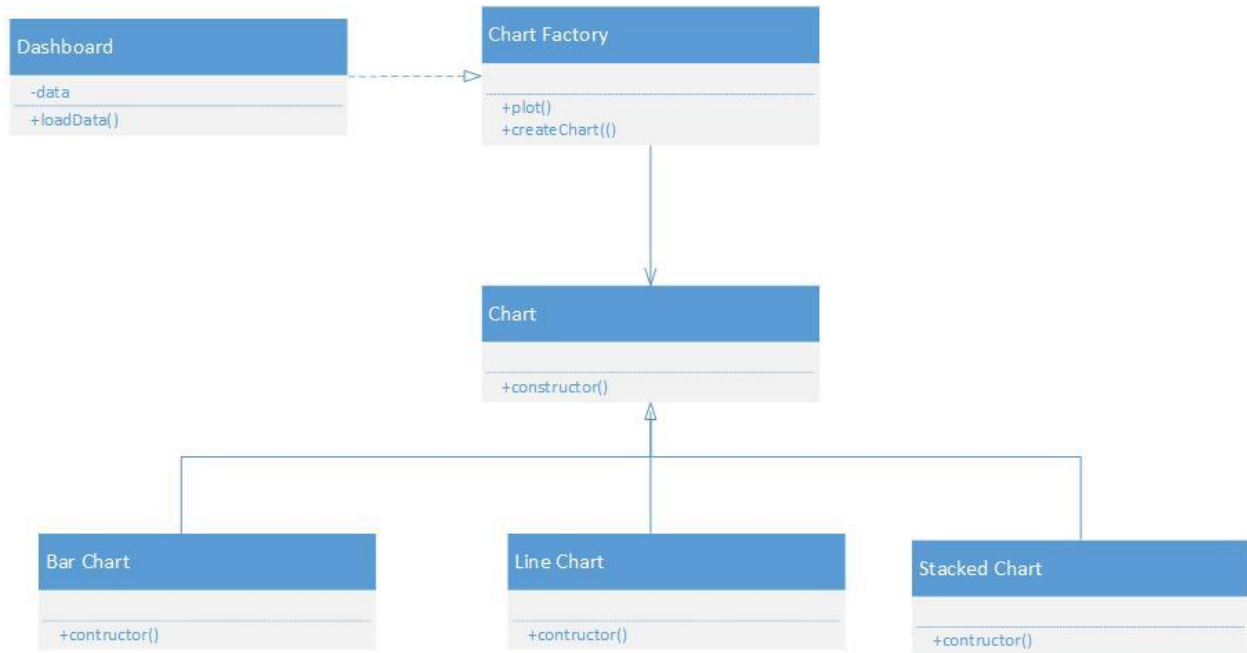
Design Model Class Diagram:



Design Patterns Utilized

Factory Method Design Pattern

For chart creation and different averages.



Strategy Design Patter

To encapsulate algorithms inside class.

