Beer Me KC

Project Plan 1.0
CS5551 Team 4
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1. Introduction

The craft beer boom currently has an unequivocally upward trend today as more and more people are drawn away from the traditional American lager. As with any cultural experience, the craft beer hobby attracts a wide variety of personalities. Some people simply want to go out for a beer with a friend. More fastidious beer aficionados are only sated by pouring themselves into an obsession; a relentless pursuit to try them all. Enter BeerMeKC, a mobile web application that will enable beer consumers to locate the best craft beer for them, with an early primary focus on the greater Kansas City area.

2. Project Goal and Objectives

2.1 - Primary Objective

The primary goal of this app is to provide a mechanism for beer consumers to locate craft beers in their geographical region. The tool will house information on local breweries and taprooms - their current supply of beers, seasonal beers, and more. Users will have the ability to create and maintain an individual profile. They will be able to keep a wishlist of beers they would like to try, while also tracking the beers they have already tried. Untappd[1] already provides this feature, but we plan to focus on local breweries. One of the main initiatives of this app is to provide Kansas City beer fans a unique web app where they can interact with their friends.

2.2 - Specific Objective

Kansas City beer drinkers will be able to enhance their lives with this app. Locals generally consult Facebook groups, friends, and Yelp reviews, as examples, to learn about the beer in the region. Because of this, social media will be important in this app. Concerning social media, the end user should be able to do the following:
  - Tweet an experience at a local brewery
  - Share an experience on Facebook
  - Search for specific types of beer in the area
    - By beer category
    - By brewery
    - By popularity
  - Write a review for a brewery
  - Maintain a unique profile
    - Wish list of beers
    - Beers they have tried
    - Favorite breweries/beers
    - Experiences

Brewers and brewery employees will also be able to contribute to the app, by doing the following:
  - Tweet and write Facebook posts advertising a current special
  - Maintain their specific lineup of available beers
  - Post a profile featuring a brewery employee
  - Potentially share information on recipes for specific beers

Besides the above, all user types will also be able to interact with one another using message boards specific to the app. Message board forum categories will include General Discussion, Local, US Craft, Import, and more.

2.3 - Significance

Kansas City craft beer drinkers have many ways to learn about beer, interact with friends discussing beer, and find a location with a beer they might enjoy. However, all of these sources of information are separate and there is no consolidated mashup providing everything in one place. That is why our project is important and will be used.

3. Project Background and Related Work

Many solutions exist that provide some functions that our web app will have in the form of web apps and APIs. BMKC is an app that hopes to fulfill as many functions that will be relevant to a beer consumer as possible. First of all, our primary resource of data will be BreweryDB[2]. This API is very robust and well defined. So as to have more rapid access in the future the the data and more freedom with how we will use it, we will store it in a MongoDB. Virtually all of our early data will be provided by BreweryDB.

BreweryDB appears to be the most comprehensive API storing information on specific beers. However, there are still listings that are partially incomplete or missing. BMKC will help to fill in those gaps. Here is an example - a beer from Kansas City's Big Rip Brewing [3], called 237 Milk Stout. On the BreweryDB website, the beer information is listed as follows:

The listing is missing important information such as IBU (International Bittering Units) and OG (Original Gravity). Breweries do not always list the OG, but IBU's are usually listed on beer menus. A user could update the listing, a brewery could validate the update, and our database will be updated. Next time the request is made for the beer, it will be retrieved from MongoDB with updated parameters.

Social media requires a mention because it drives everything when it comes to online relationships and information share. Facebook[4] and Twitter[5] integration will both be important components to our project.

Finally, Google Maps API [6] will be used to help users locate breweries. This API provides the ability to find locations, calculate a route to a destination, and filter location results. All of these functions will be taken advantage of by BMKC.

4. Proposed System

4.1 - Requirements Specification

Functional Requirements**:**

- ➢ Distinguish between three types of users; brewer, brewery employee, and user
- ➢ User Authentication
- ➢ Detect the user's location
- ➢ Plot on a map all craft beer locations
- ➢ Locate a place to drink given a user's favorite beer type
- ➢ Locate breweries within a specified distance
- ➢ Allow users to provide a proposed update to a listing (see section 3)

Nonfunctional Requirements**:**

- ➢ Scalable; we must be able to expand to other cities easily
- ➢ The user must be using an Android device or web browser
- ➢ The UI must be easy to use
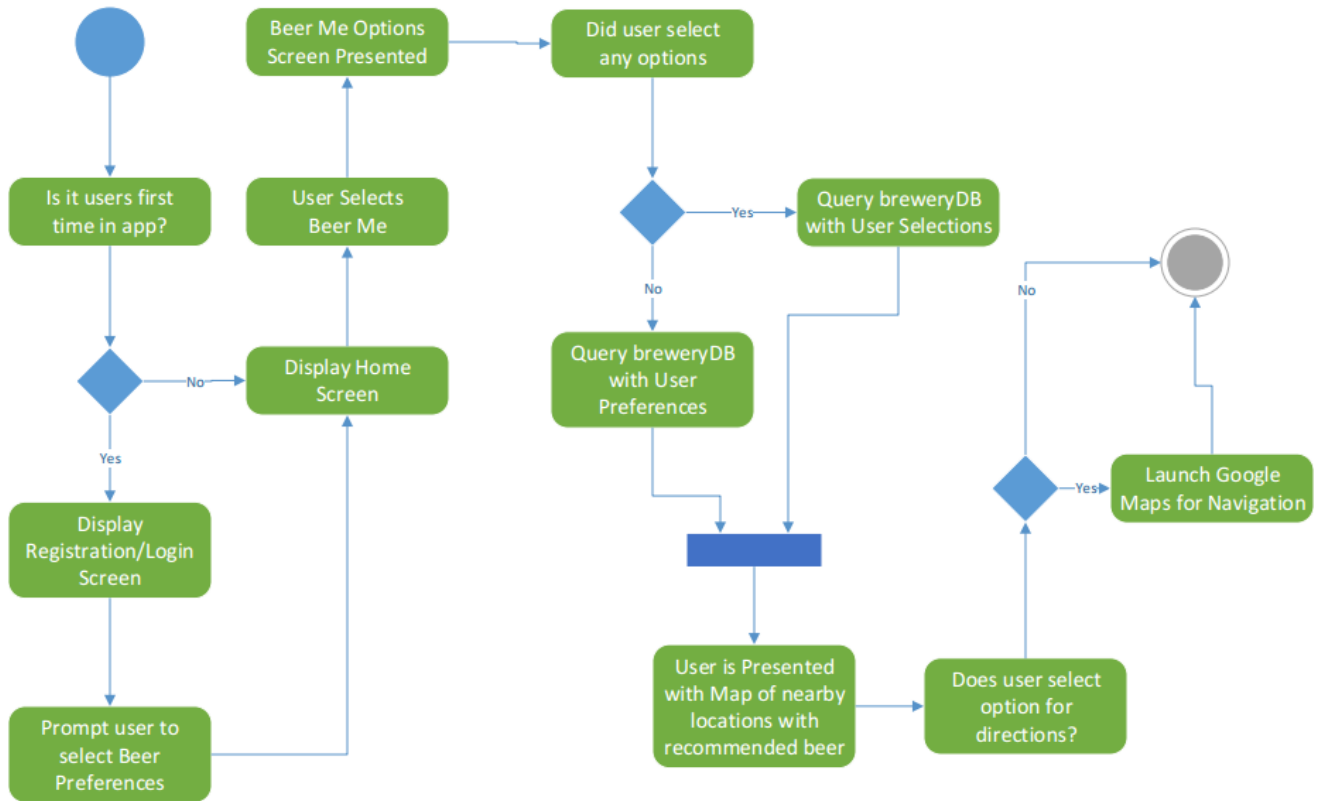   - ▪ We will use a minimalistic design giving the user a few options on each page

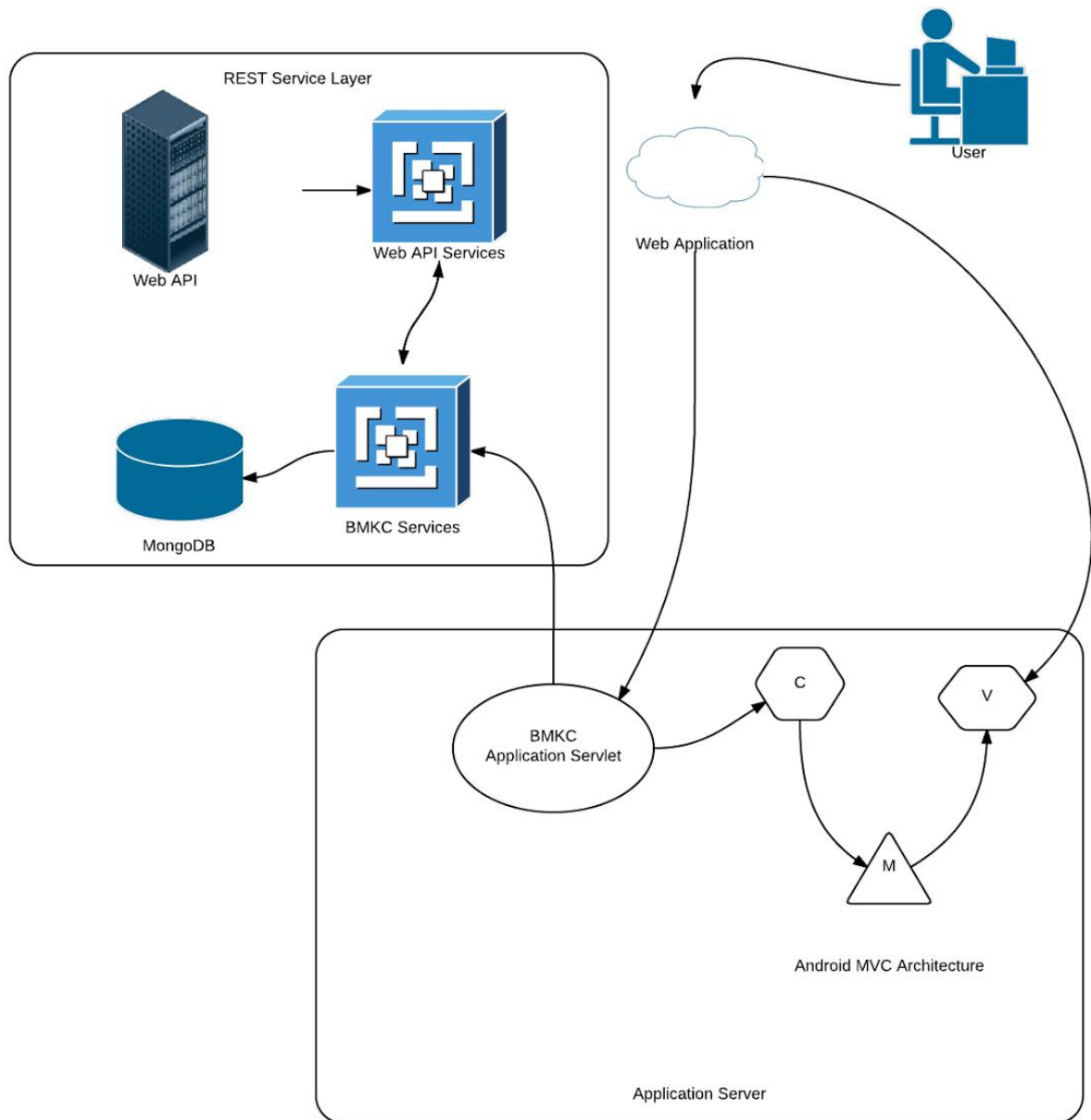## 4.2 - Framework Specification

4.2.1: Assumptions

BMKC's dependencies, assumptions, and constraints can and will change as the project evolves. As these changes occur, the Project Plan will receive a new version ID in order to track evolution of the project as it is being implemented. The assumptions at the time of the first Project Plan release (1.0) are the following:

- ➢ Where the BeerDB data is present, it is assumed it is up to date. During the course of the project, some listings may be manually updated in order to demonstrate functionality and robustness of our app, but it is out of scope of this project to update all information on Kansas City breweries.
- ➢ Other APIs work as advertised - Google Map API will provide accurate directions and search results, for example.
- ➢ Iteration planning will involve hard deadlines. If a feature is not implemented within seven days of iteration completion, the team will discuss possible re-allocation of responsibilities
- ➢ The final system developed will work as intended and users will have enough experience with web applications to know how to use it.

4.2.2: Activity Diagram

```
                    Beer Me Options              Did user select
                    Screen Presented             any options
   (start)
                    User Selects                    <diamond>  ──Yes──►  Query breweryDB
  Is it users first Beer Me                                              with User Selections
  time in app?                                        │No
                                                       ▼
      <diamond> ──No──►  Display Home              Query breweryDB
        │                Screen                    with User
       Yes                                          Preferences
        ▼
  Display                                                                           No
  Registration/Login                                   [bar]              <diamond> ──Yes──► Launch Google
  Screen                                                 │                                   Maps for Navigation
                                                         ▼
  Prompt user to                              User is Presented    Does user select
  select Beer                                 with Map of nearby   option for
  Preferences                                 locations with       directions?
                                              recommended beer
```

4.2.3: System Architecture Diagram

REST Service Layer

Web API

Web API Services

MongoDB

BMKC Services

Web Application

User

BMKC
Application Servlet

C

V

M

Android MVC Architecture

Application Server

4.3 - System Specification

Existing Services

API	URL	Description
Facebook	https://developers.facebook.com/products/sharing	Share something on Facebook
Twitter	https://dev.twitter.com/rest/public	Tweet something on Twitter
BreweryDB	http://www.brewerydb.com/developers/docs	Find information on beer and breweries
Google Maps	https://developers.google.com/maps/?hl=en	Find locations and directions

New Services to be Built

- BreweryDB API Consumption Services
- BreweryDB Data Conversion to MongoDB
- MongoDB Consumption

5. Project Plan

Pictured below is the project plan using Kanban.
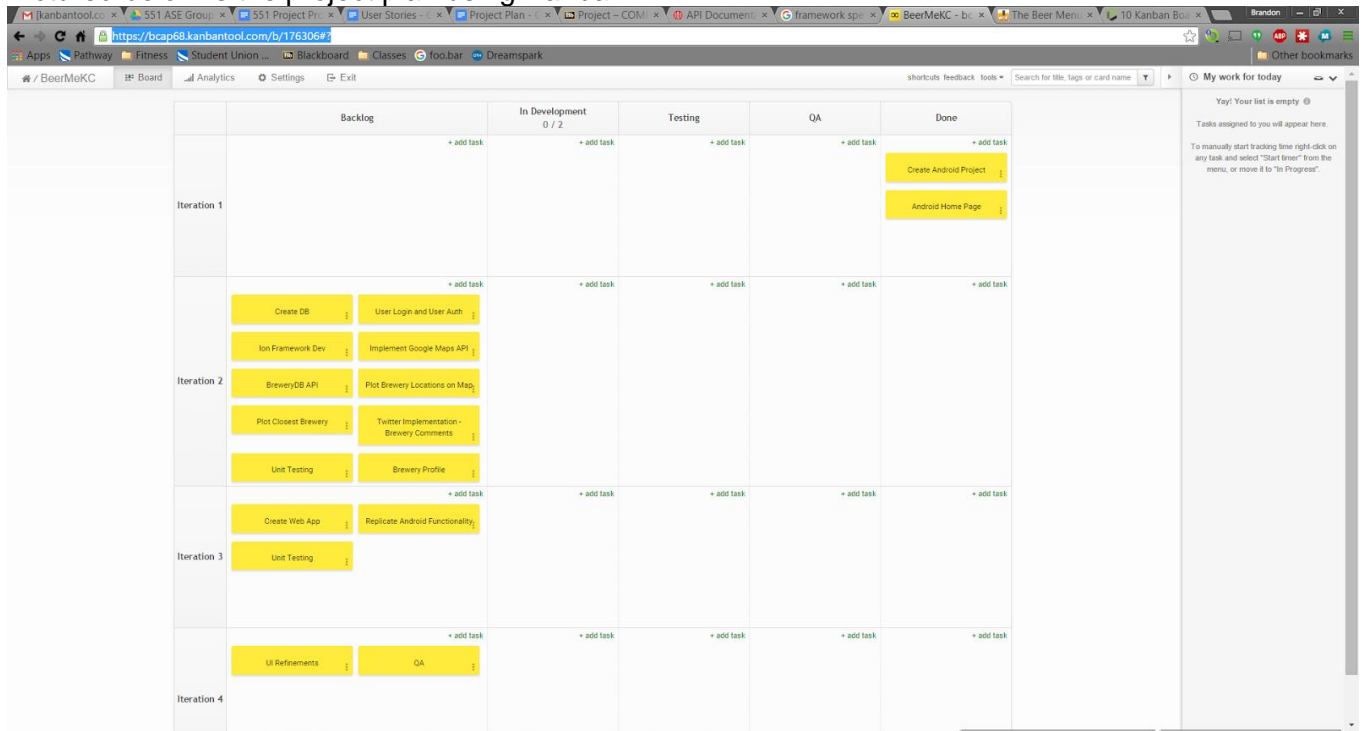
A basic approach to our plan is to complete our Android Application in Iteration 2, but realistically it may spill over into Iteration 3. In Iteration 3, we would like to implement everything from the Android application into the web application. Iteration 4 will be primarily for fine tuning our application and quality assurance.
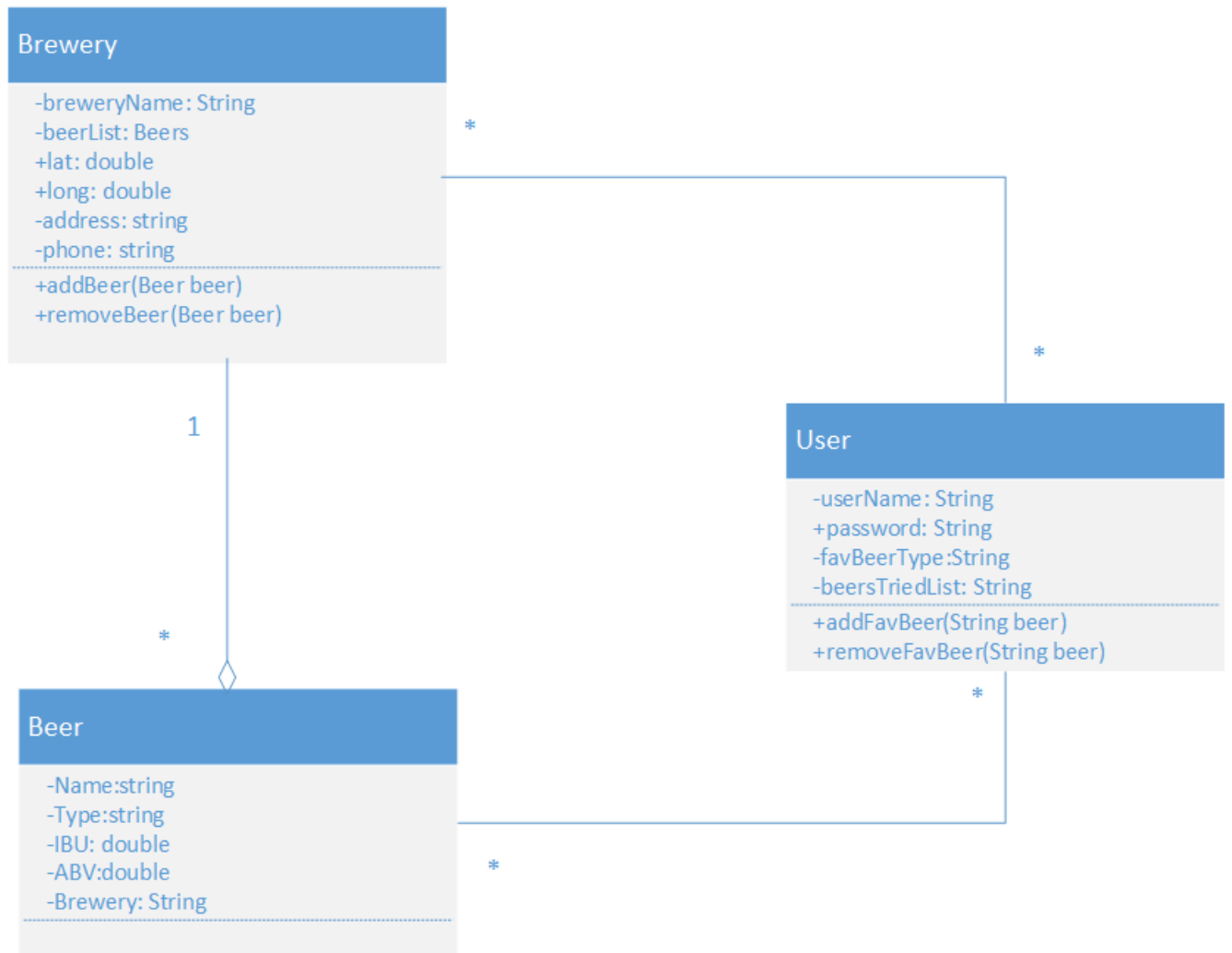
Current Work Delegation:
- Brandon Andrews
  - Android Development
  - Front End/UI
- Todd Brees
  - Web Application Development
  - Database Administration
- Jordan Larson
  - Web Application Development
  - API Service Implementation
  - Database Administration
- Matthew Velasquez
  - Android Development
  - Front End/UI

Our current work delegation divides the project in half and forms subgroups. Ideally, this will allow us to communicate more effectively and concentrate on fewer technologies. Again, these delegations are speculated and members may be moved around given time constraints or expertise.
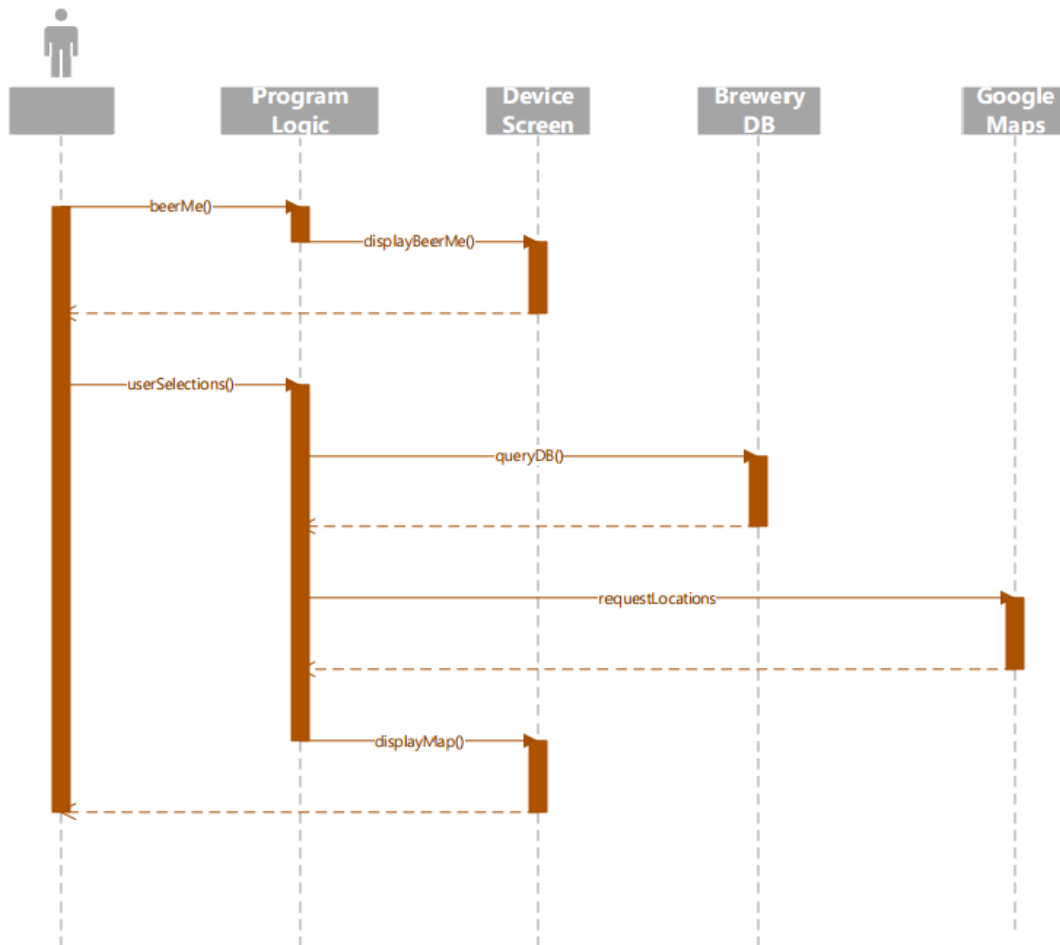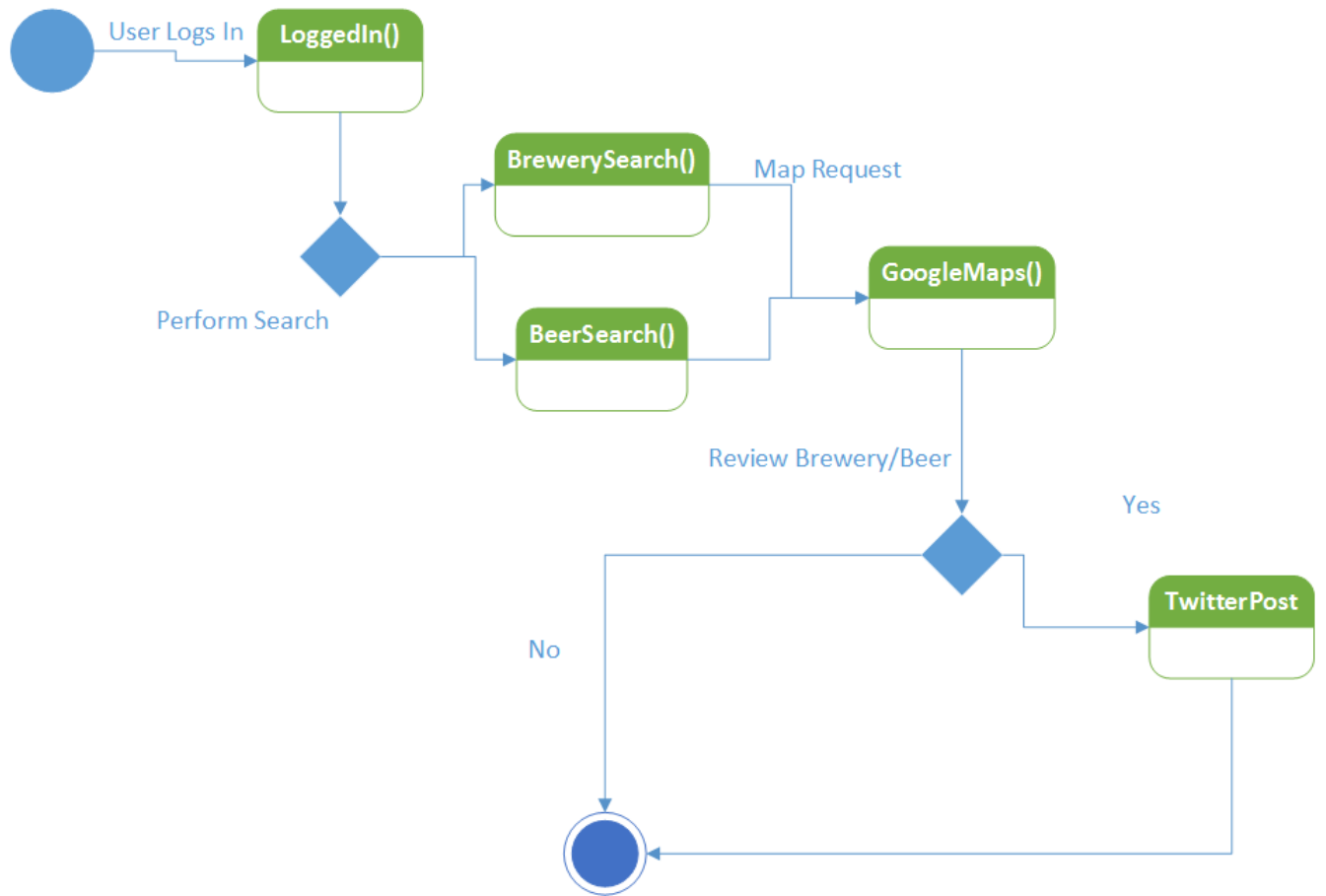
6. First Increment Report

Class Diagram

Brewery

-breweryName: String
-beerList: Beers
+lat: double
+long: double
-address: string
-phone: string

+addBeer(Beer beer)
+removeBeer(Beer beer)

*

1

*

User

-userName: String
+password: String
-favBeerType:String
-beersTriedList: String

+addFavBeer(String beer)
+removeFavBeer(String beer)

*

Beer

-Name:string
-Type:string
-IBU: double
-ABV:double
-Brewery: String

*

Sequence Diagram

Actor	Program Logic	Device Screen	Brewery DB	Google Maps

beerMe()
displayBeerMe()

userSelections()

queryDB()

requestLocations

displayMap()

State Diagram

Beer Me Button

Beer Listing

Brewery Listing

Brewery Map

Message Board

Settings

Logo
Here

Beer Me NOW

BTKC Main View

Beer Me Button

Light   Dark:

Beer Type

IBUs   ABV:

min: max: min: max:

Enter   Enter   Enter   Enter
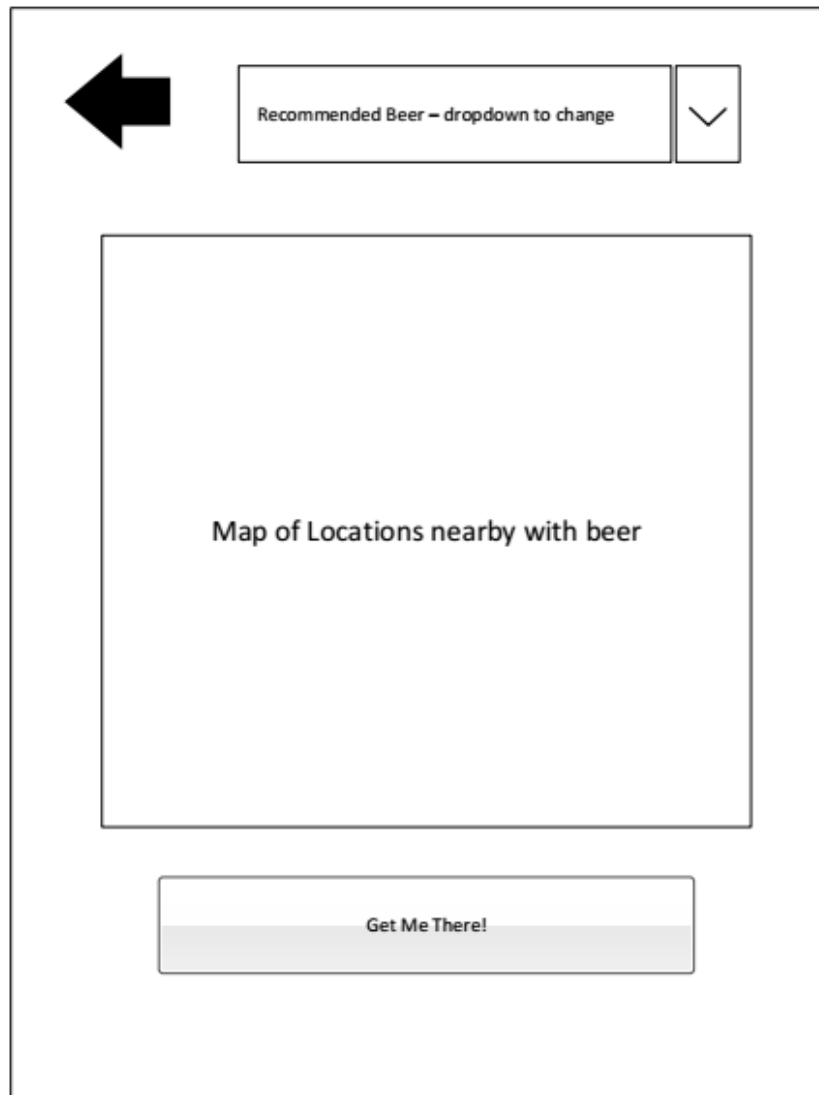Text   Text   Text   Text
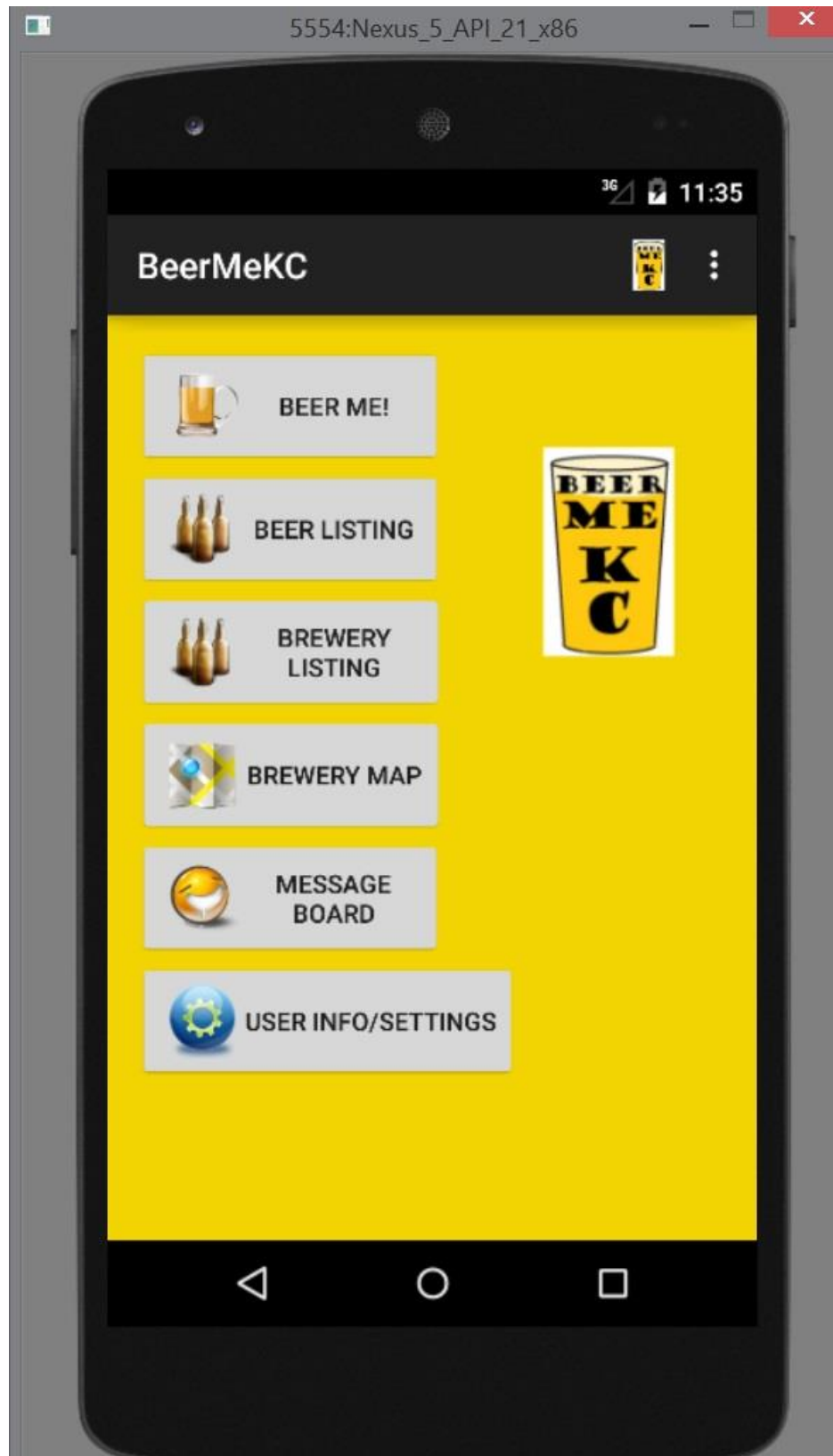
The wireframe above allows the user to find a beer based on the following attributes: light or dark, type, International Bitterness Units (IBUs), and Alcohol by Volume % (ABV).

Recommended Beer – dropdown to change

Map of Locations nearby with beer

Get Me There!

The wireframe above shows the screen where the user is able to locate breweries near them. There is a drop-down that allows the results to be filtered. The results are plotted on a map and the user can click the button at the bottom to open Google Maps and begin navigation.

Main Screen Mockup

7. Deployment
https://github.com/brandrews722/BeerMeKC
8. Bibliography

[1] - https://www.untappd.com/
[2] - http://www.brewerydb.com/developers/docs
[3] - http://www.bigripbrewing.com/
[4] - https://www.twitter.com/
[5] - http://www.facebook.com/
[6] - https://developers.google.com/maps/?hl=en
[7] - https://kanbantool.com