

# ACTIVITY BASED BEER RECOMMENDATION ENGINE,

BENPINCUS  
GOVINDLINGAM







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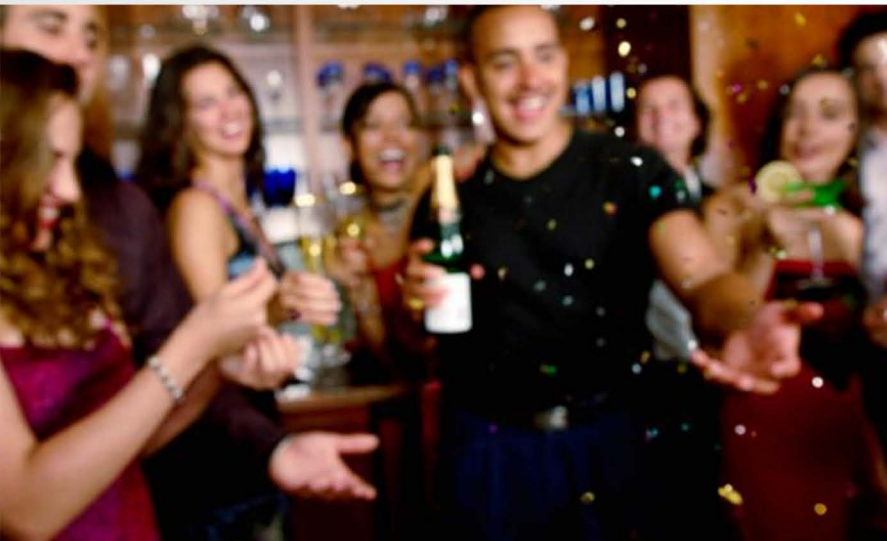
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# INTRODUCTION



A common quality of social gatherings amongst a group of close friends and acquaintances is the energy and varied interactions within a group. Often, beer is seen to play a major role in enhancing a group's social experience. Beer caters to making a more enjoyable environment and typically appears as a positive attribute to a mood or scene of a particular setting. For example, the consumption of sport in a bar became popular with the rise of television in pubs because not only does watching sports and beer compliment each other, but pubs are a common place for friends and acquaintances to gather while being away from the social setting of a family.



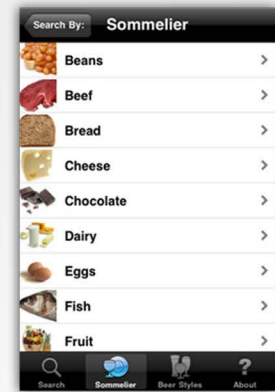
The connection between the two is so strong, that even a football arena in the United Kingdom have banned the sale of alcohol inside its doors due to the actions of its drunk patrons. They were too rowdy; tensions and emotions were high. More mundane activities like watching a movie, or hanging out with friends is often accompanied by beer. The social and cultural setting where alcohol is consumed greatly affect how individuals behave when drinking alcohol.<sup>1</sup> To build on this idea of coupling an activity and beer we went out to build a recommendation engine based on just that - event based beer suggestions.

<sup>1</sup>"Consuming Sport, Consuming Beer: Sport Fans, Scene and Everyday Life" - Garry Crawford

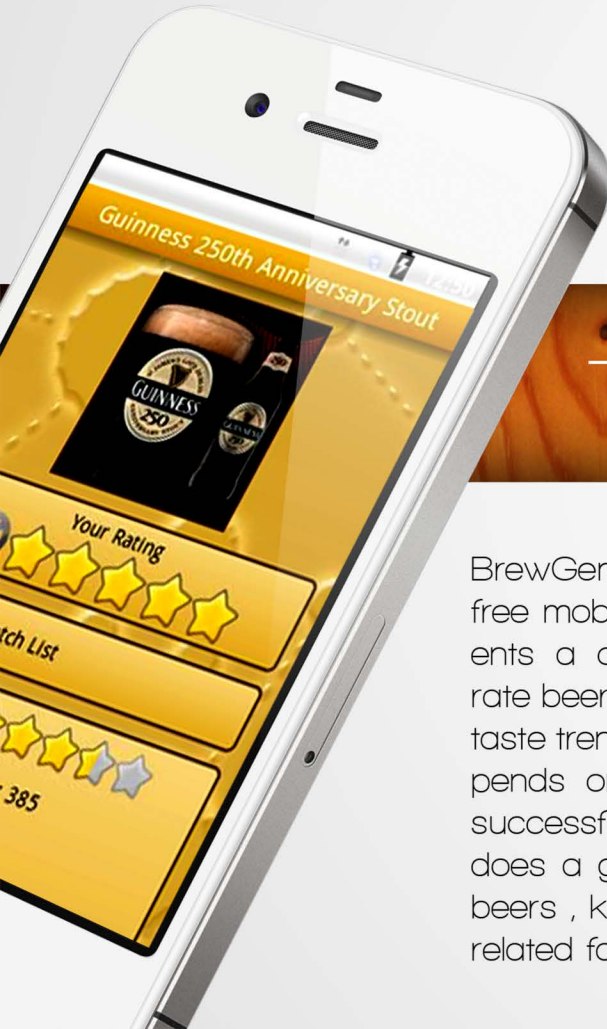


Since we originally set out to build a mobile application, it was important to consider prior work by reviewing existing apps in the domain of beer, food and lifestyle. Amongst several apps (iOS and Android), the following were most insightful.

## BEERCLOUD



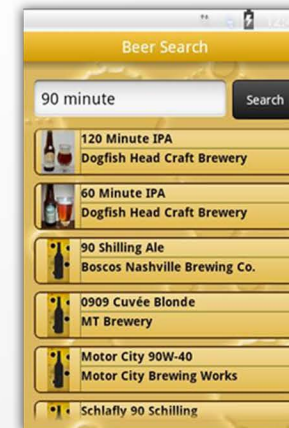
Available on Android and iOS, BeerCloud uses its large library of beer and food to recommend beer-food pairings, along with a set of standard features such as beer ratings, beer styles and availability, along with other information useful to beer enthusiasts.



# THE OPPORTUNITY

BrewGene is an encyclopaedic website and free mobile app on iOS and Android that presents a comprehensive beer database. Users rate beers of choice to help the app understand taste trends and user preferences, and thus depends on user ratings for more precise and successful recommendations. Overall, the app does a good job of connecting beers to other beers, keeping a favorites list, providing alcohol related facts and beer flavors.

## BREWGENE



In reviewing a few more apps such as Beer Citizen, Beer Buddy and Untappd, we observed that such beer recommendation engines do not recognize the correlation between beer and activity. The gesture of a friend inviting another for a drink has become an expression to socialize, often taking the lead as a main activity of a social gathering. Typical beer apps base recommendations on user preferences, ratings and availability and currently, there doesn't seem to be an application that exploits the implicit relationship between activity and choice of beverage.







# RESEARCH



To get a better idea of the beer market, we set out to talk to passionate beer consumers. We speculated that going to a tour of a brewery at the [SweetWater Brewery Company](#) in Atlanta, Georgia was going to be a good location to speak to not only people who have an interest in beer, but people who know more about beer than a normal consumer in a bar.



After interviewing around 20 people, we set out to observe the activity of beer drinking in its natural habitat: bars. The objective in surveying bars was for general observation about beer usage and also for garnering lists of beer for the encyclopedic order of the backend in the recommendation system. We noticed that most bars have a limited selection to choose from, but some bars which specialize in having a large selection can give options in the hundreds.



# BEER

| BEER NAME                 | ABV      | ORIGIN | TYPE  |
|---------------------------|----------|--------|-------|
| Mother Earth Dk Cloud Dnk | 5.1%     |        | LAGER |
| Natty Greenes Southn Pale | 5.3%     |        | LAGER |
| New Belgium Fat Tire      | 5.2%     |        | IPA   |
| New Belgium Hoptober      | 5.6%     |        | CA    |
| New Holland Dragons Milk  | 11oz 10% |        | NC    |
| Newcastle Brown Ale       | 4.7%     |        | NC    |
| North Coast Red Seal      | 5.5%     |        | CO    |
| Ob Dale's Pale Ale        | 6.5%     |        | CO    |
| Olde Hickory Oktoberfest  | 6%       |        | MI    |
| Olde Mecklenburg Cap Jack | 5%       |        | ENG   |
| Olde Mecklenburg Copper   | 4.8%     |        | CA    |
| Ommegang Rare Vos         | 6.5%     |        | CO    |
| Paulaner Hefe             | 5.5%     |        | NC    |
| Red Brick Blonde          | 4.9%     |        | NC    |
| Red Brick Brown Ale       | 5.9%     |        | NC    |
| Red Brick Laughing Skull  | 5%       |        | NC    |
| Red Oak Amber Lager       | 5%       |        | NC    |
| Rj Rockers                | 5%       |        | NC    |
| Roggen                    |          |        | NC    |

The **Taco Mac** menu is an example of an intimidating beer selection menu that does a mediocre job of providing information about beer to help a patron choose. The menu provides Alcohol By Volume (ABV), origin location, and type of beer. Problems exist with the list because they run out of a certain beer often, while the menu doesn't get updated.



# THE RESULTS

The most definite results from our interviews at the Sweet-Water Brewery Company showed that there is a large correlation between weather, event and gender.

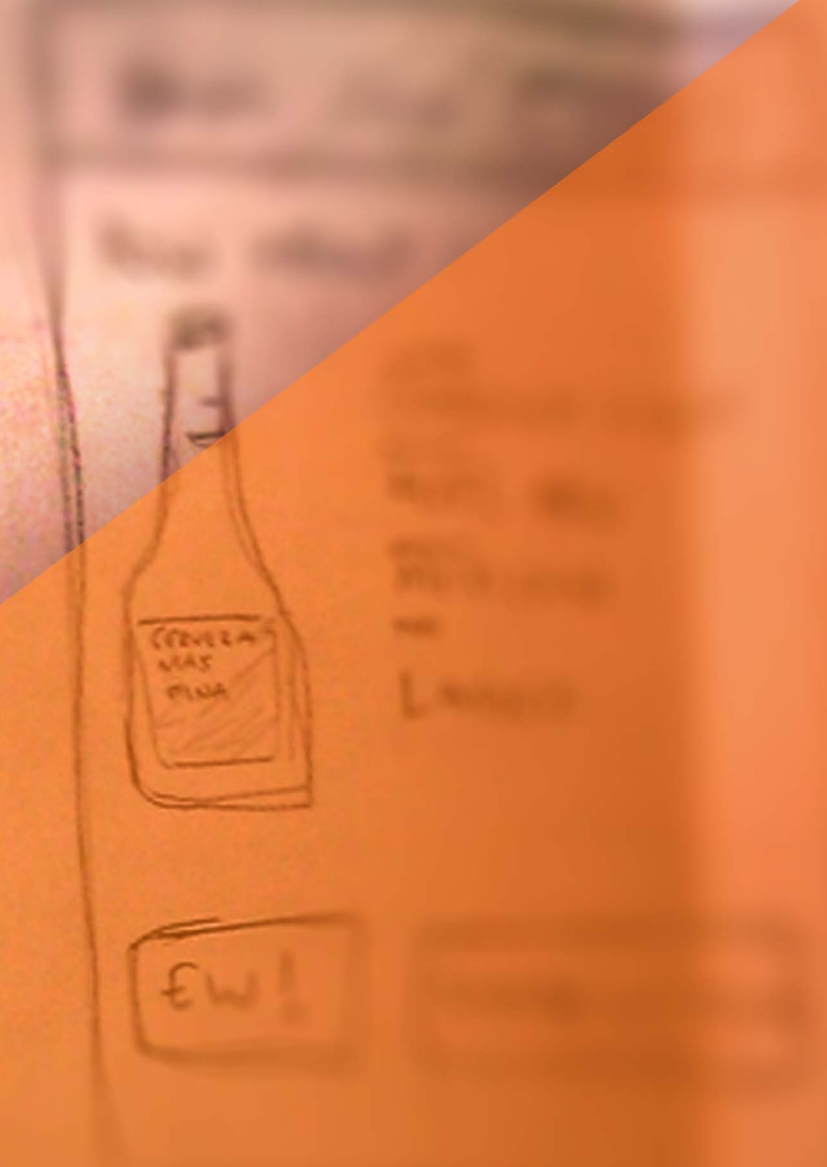
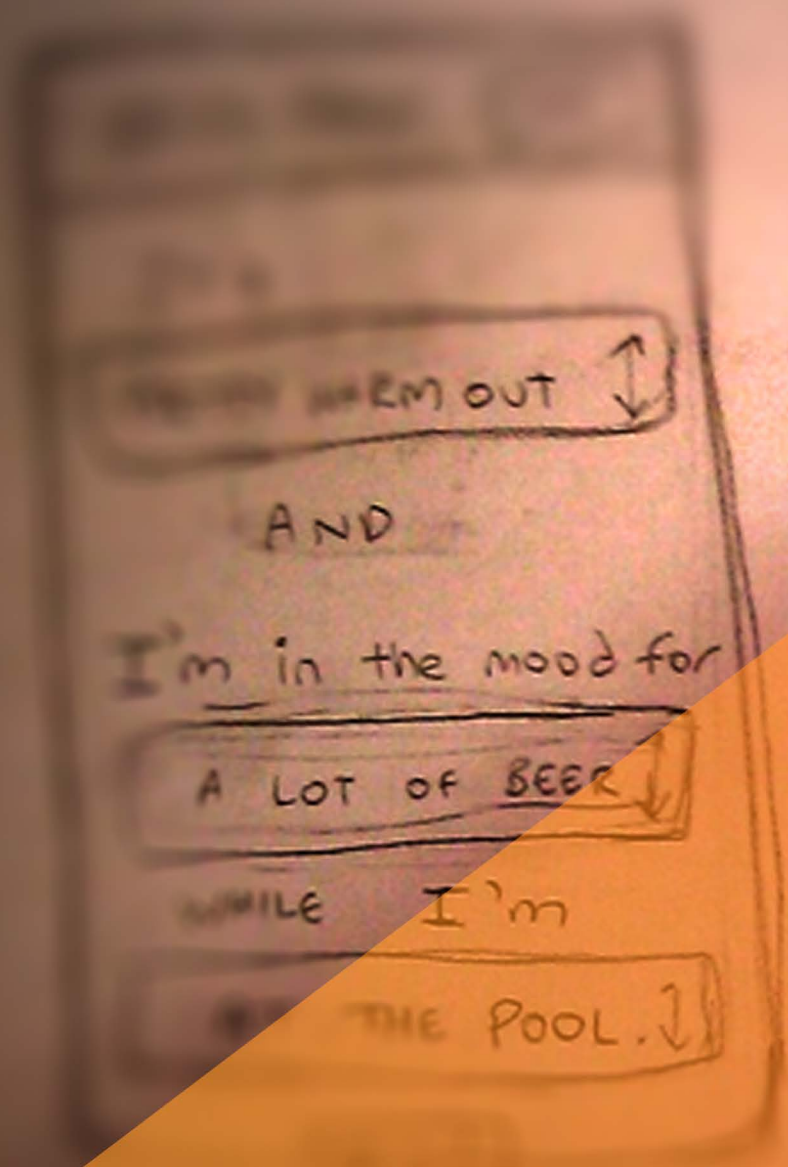
Weather and season are a large part of what constitutes craving a certain kind of beer. Fall and Winter in particular gravitate towards heavier, more flavorful beers whereas Summer and Spring have lighter selections. This can be observed when walking down the beer aisle in a grocery store. More popular beer brands like Samuel Adams, Blue Moon, and SweetWater have seasonal beers that cater to this idea of changing flavor with the seasons.



Catering beer towards a particular event was also found in our results from the interviews we conducted. Sporting events, activities outdoors, or activities with a large amount of people resulted in people asserting that they prefer lighter or less alcoholic beer. The reasoning behind this was that the interviewees didn't want to fill up from too much beer, or be too intoxicated around people. In contrast, darker and heavier beer was reserved for a nice steak dinner, drinking alone, or quiet nights inside.

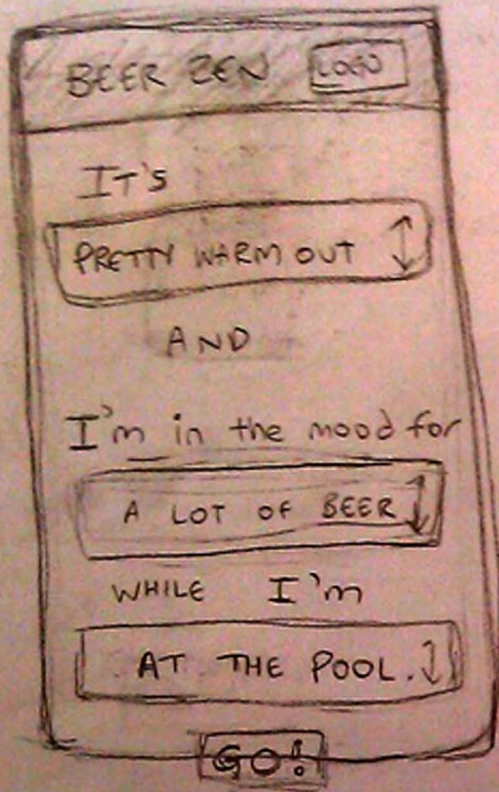
In addition to season and event, the gender of a person also contributed to what type of beer they prefer. Women gravitated towards lighter beer, and men prefer heavier darker beer. Although this may be a large generalization and somewhat of a stereotype we decided since it was part of our findings to include it into the first couple of iterations of our application. In the end, we ultimately decided to remove the gender approach in lieu of it being construed as bias.



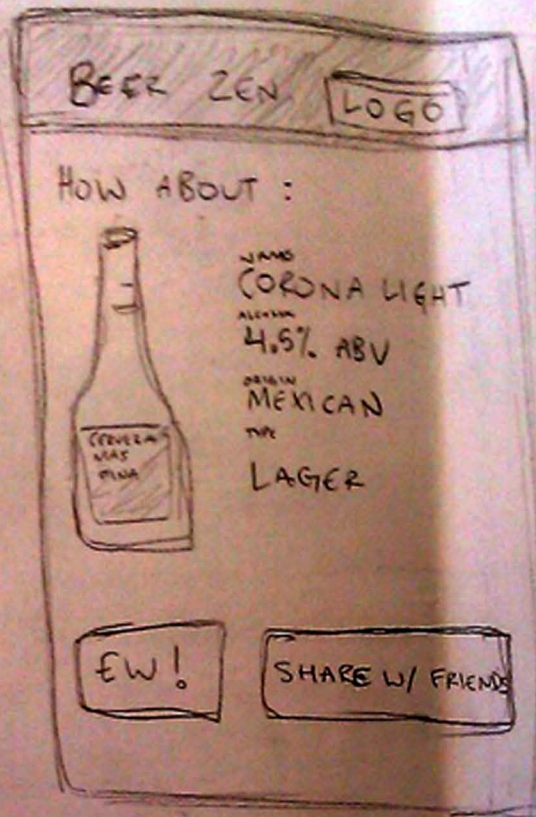


# WIREFRAMES





SET PARAMETERS



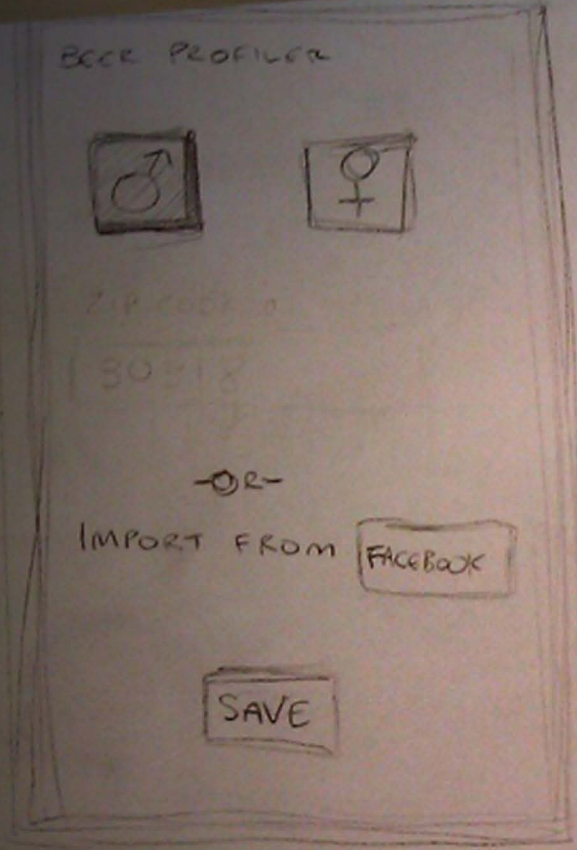
RETURN RESULTS



SHARE.

Our initial concept of Broogle shows an increased focus on understanding user activity to base beer recommendations. The first screen displays a set of options that users could choose from, indicative of their choice of activity based on their location and the weather. For instance, a user at the pool, in the mood for a lot of beer while it is pretty warm out would normally be interested in lighter beers such as a Corona Light. These results are returned in the next screen, when users hit the 'Go!' button. Once a recommendation has been made, users are presented with details about the recommended beer, including strength, type and heritage. Users can also shuffle through results by pushing the 'Ew!' button, giving them alternate choices. Social media integration allows users to post their activity and choice of beer through a variety of social networks.

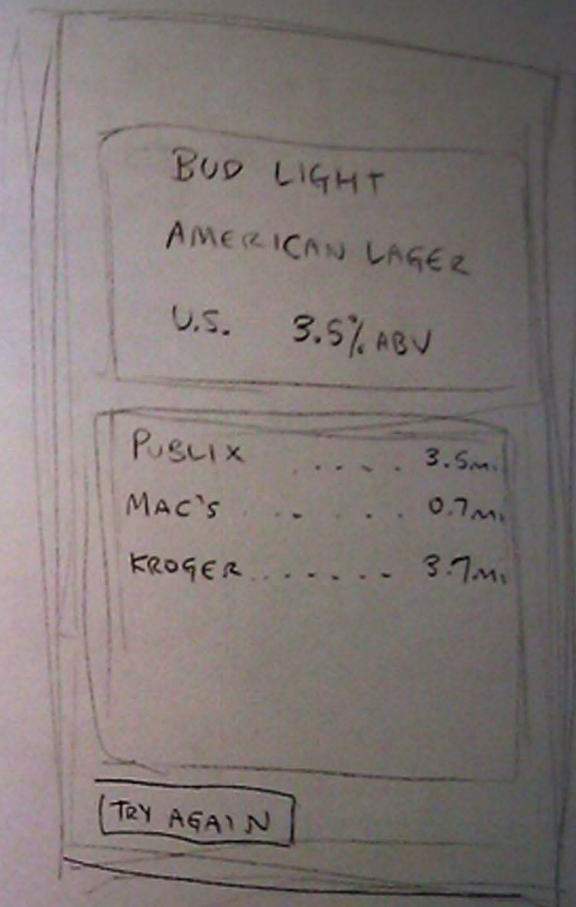




PROFILE SAVE



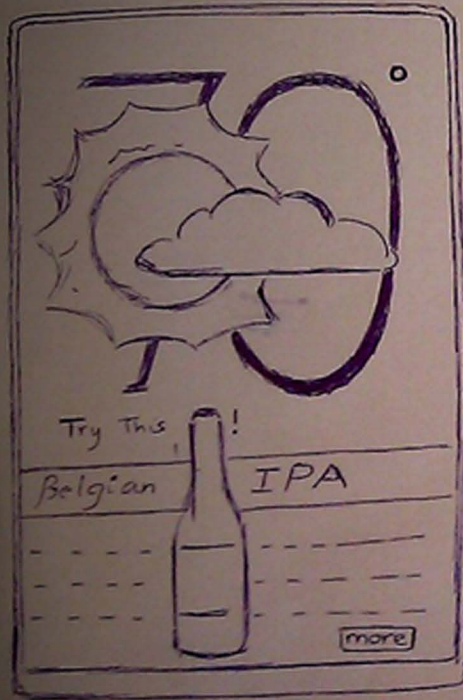
GETS GPS LOCATION & SELECTS ACTIVITY



DISPLAY RESULTS

We also sketched out a profile section for Broogle, where users have the ability to help the app section off a subset of its beer database based on gender; a choice users can make explicitly. This was later discarded as we assumed such a feature may be conceived as bias.





} Random beer selected to suit the weather.



In thinking about repeated use of the app, we wondered if there were quicker and easier ways to get beer recommendations. We devised a set of 'Home Screens' that allow users to customize Broogle that allows faster recommendations based on parameters such as weather or sports. For instance, if users find better recommendations based on weather, the Weather Home Screen presents a weather view that displays the temperature outside along with the most appropriate beer that is suited to such a situation. This facilitates quicker access to beer recommendations by providing a way to bypass the default home screen that requires 3 or more user inputs to receive a beer recommendation. Similarly, the Sports Home Screen presents a view that displays the most anticipated sporting events on television, and recommends a beer suited to the occasion.



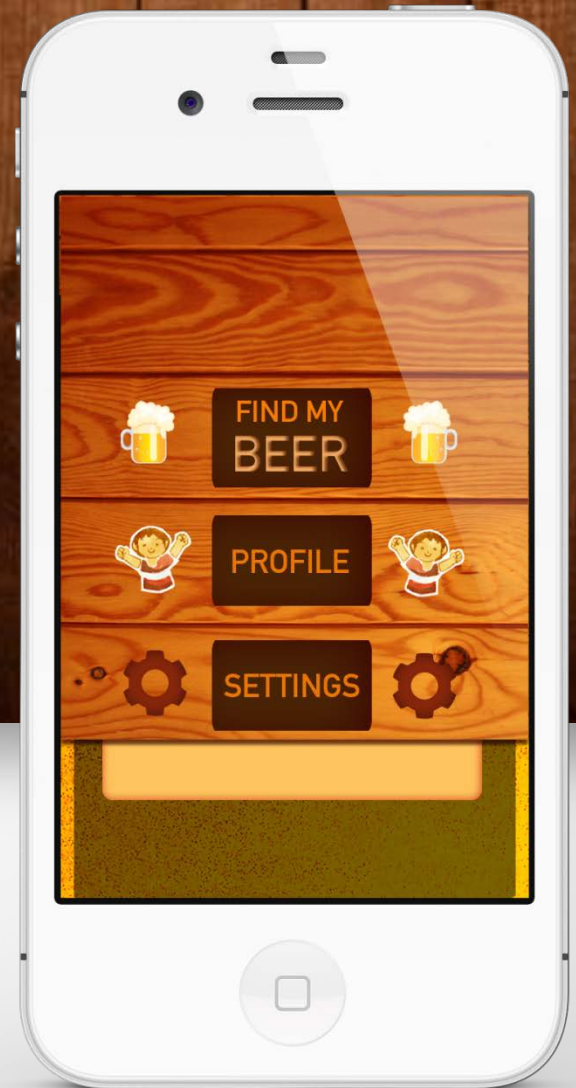


# HIGH FIDELITY PROTOTYPE

1

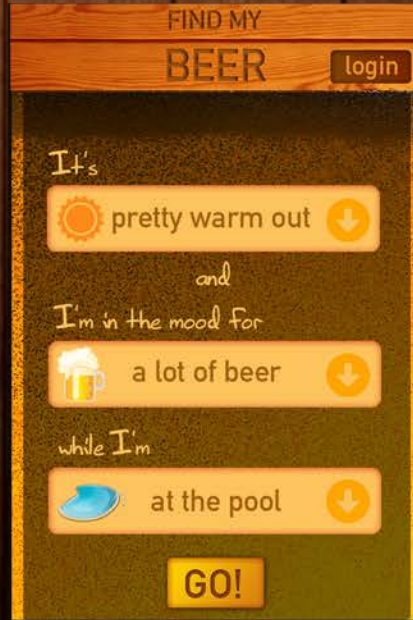


In turning our low fidelity mockups to high fidelity prototypes, it was important that we first design the right look and feel such that it was representative of the domain of beer and lifestyle. Our design signifies a theme inspired by wooden barrels, a typical element in a brewery.





Splash Screen



Default home screen based on activity and location for beer recommendations.



Results page with beer related information.



Availability based on location information

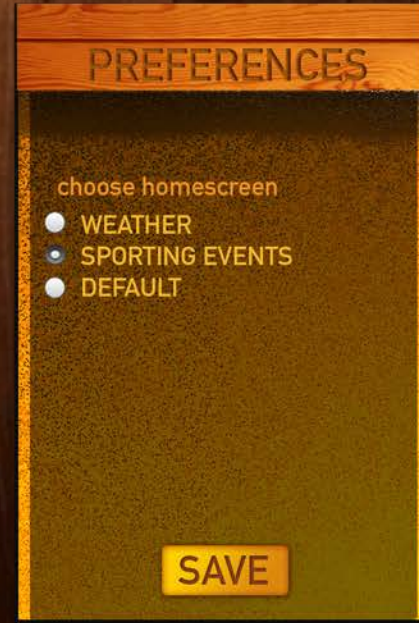




Social media integration



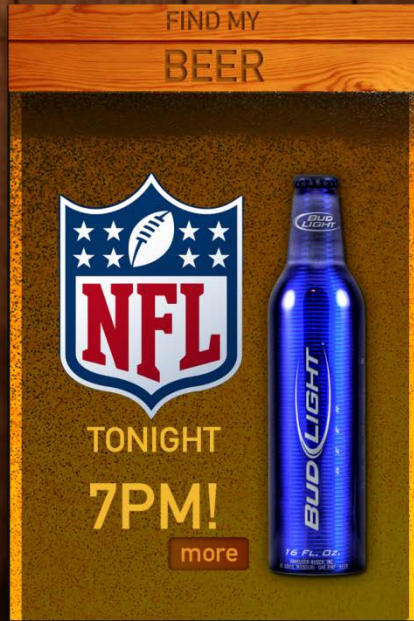
Beer profiler to receive gender-based results.



Home screen selection.



Sample weather-based home screen.



Sample sporting-event based home screen.



Beer availability.



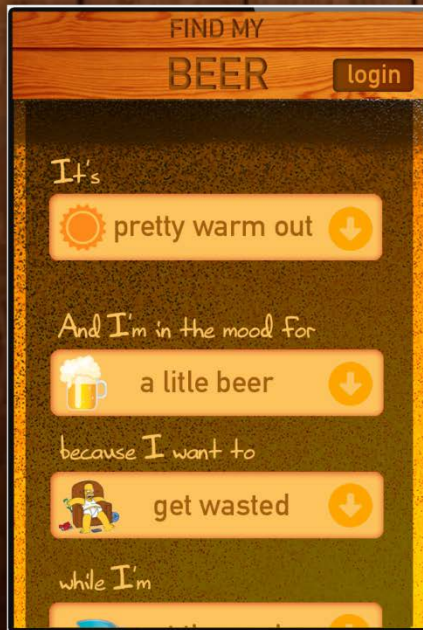
2



HIGH FIDELITY  
PROTOTYPE



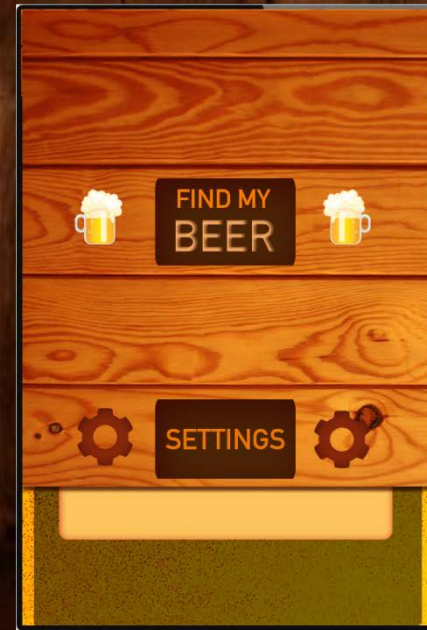
In our second iteration, we incorporated some of the feedback we received on trying to push the idea of beer recommendations to incorporate factors such as a buzz quotient and the amount of money a user is willing to spend.



Home Screen with Buzz Quotient and Expense factors.



Further screen options.



Menu without gender profiler.





CONCEPT