

## **CSCI 4237 Project Proposal**

### **Brewculator**

9/26/2012

**Terry Knowlton**

#### ***Project Abstract***

People have been brewing beer for thousands of years. For most of that time, the process was performed on a much smaller scale and without a lot of the production line type of efficiencies that are done by macro and micro breweries today. The homebrewing hobby is still enjoyed by many modern day beer lovers. There are many steps in the process, all of which need to be followed with a fair amount of precision to avoid ruining a batch. Some of the precision may be measurements, conversion of ingredients, or providing proper ratios of additives to ensure thorough fermentation and sufficient carbonation levels. Also many aspects of the beer must be calculated based on other factors of either the pre or post fermented product or both. These conversions can be found and performed in various locations online, but brewing locations are often not a convenient place for a computer with internet access. Brewculator will help the homebrewer in aggregating and performing many conversions for them. Also Brewculator will be able to assist brewers with recipe planning. A batch of homebrew needs to be planned out before even starting. The properties of grain and hops can provide a good approximation of potential fermentability and bitterness from hop additions.

#### ***Strategy***

Brewculator will be an Android application and implemented with the Android SDK. Development will be done with an older version of the SDK, possibly 2.1 or 2.3.2, for compatibility reasons with older devices. The testing and implementation will be done primarily on a Samsung Galaxy Nexus, however some parallel testing may be performed using an Android virtual device in the development environment. Both static and user data for the app will be stored in an SQLite database. Data contained will be prepopulated ingredients for recipes creation as well as saved user recipes. Potentially there will be the ability to add notes to recipes or some type of brewers journal. I plan to demo this application on the Galaxy Nexus phone that I will be doing development and testing on using the overhead camera.

### ***Unknowns & Problems***

I have not worked with the SQLite database before, figuring out proper implementation and prepopulation of data will be one thing that needs to be overcome. I also need to find a good collection of the ingredient data that will be preloaded. Additionally I need to research and verify the formulas for the conversions and calculations that can be performed during and after the brewing process.

### ***Implementation Plan***

Estimated completion dates for features are listed below.

#### **Oct 15th:**

Have research of formulas and ingredient list and attributes collected.  
Implement basic shell of app.

#### **Oct 29th:**

Have data populated in SQLite  
Conversions and calculators for values dealing with user entered data

#### **Nov 12th:**

Have recipe creator available for creating user recipes  
Be able to save recipes back to the SQLite database for users to retrieve later.

#### **Nov 19th:**

Recipe values calculated based on ingredient properties  
App settings implemented, possibly unit type selection (Metric or English)

#### **Nov 26th:**

Testing and bug fixing of issues encountered.  
Additional cosmetic enhancements and usability improvements.

#### **Dec 3rd:**

Project demo  
Write up and other turn in materials complete.