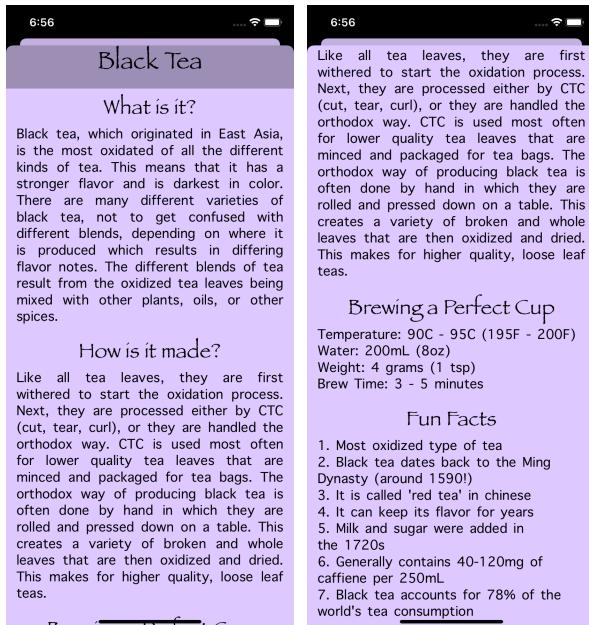
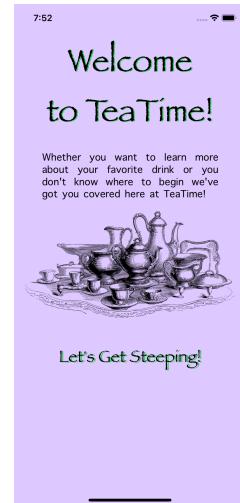




## Final Project Documentation

### Scene 1: Home Scene

In this scene the features I have used are: UIViewController with a segue implementation of a Tab Bar Controller. I have changed the background to have a more relaxing feel while contrasting different shades of purple to make it more interesting. There are multiple labels stating the user is on the home screen as well as an overview of the app. The different labels give the user an idea of where to start based on what they are looking for within the application. To get back to this (Home) page, simply click on the “Home” tab down at the bottom. To get to the next scene of “Learn More” simply click the corresponding tab, and same goes for anyone who wants to take a “quiz” of what kind of tea would suit them best at this time.



### Scene 2: Types Scene

The features of this scene includes:

TableView with multiple segues to another ViewController. I implemented this similar to our Assignment 8 in which I created this table view and populated it from a .swift file via prototype cells. This scene allows the user to click on a type of tea they would like to learn more about to which it gets another scene that explains more in detail of the different kinds of tea.



### Scene 3: Tea View Controller

This scene further implements the use of TableView Controller via segues. I have also implements a ScrollView as well as a StackView to keep everything as organized as possible when populating each scene. For brevity's sake, I will not include the same repetitive paragraph regarding each Tea ViewController scene, but I will include screenshots of each below.

Each of these sections, again being populated from the .swift file, contains a section discussing what the tea is, how it's produced, how to brew, and finally some facts about each different kind of tea. Once the user has chosen the type of tea to learn more about, they are able to get back to the previous selection page by simply swiping down.



## Scene 4: Quiz Scene

This scene is the third segue from the tab bar controller. Once the user clicked the Start button, another page will pop up asking a question, this will then prompt the user to answer and based on their choice, another screen will appear with their result. The implementation of this was fairly straightforward, there is a title label, image, and then a button which links to the Quiz Question storyboard. This is also the first scene of a Navigation controller for the user to be able to come back to this screen after taking the quiz.





## Scene 5: Quiz Questions Scene

This scene displays the quiz question which will help aid the user decide what type of tea they should make or try. I implemented a TableView this time which populates from the source code for this view controller. The question is a label and the “answers” are prototype cells that each give the user a different suggestion once clicked. If the user decides they do not want to take the quiz, they can simply use the gesture of swiping down with one finger to go back to the previous page in which they can then have access to the tool bar menu to navigate to different pages of the application.

## Scene 6: [Type of] Tea Scene

These scenes are what pop up for the user once they have selected their answer for the quiz question. I struggled with implementing a quiz as we did not really go over that, so I ended up just creating a basic ViewController for each type of tea, used two labels (one for the title and one for the description) as well as an image. The information that I used was just copied and pasted from the .swift file that populated the “Learn More” tab. Like the question tab, if the user wants to go back and select a different answer, they are able to swipe down to go back one scene. Again, for brevity’s sake, I will just include all of the screenshots of each ViewController without going in depth on each one as they are all the same.



**Black Tea**  


Black tea, which originated in East Asia, is the most oxidized of all the different kinds of tea. This means that it has a strong flavor and is darkest in color. There are many different varieties of black tea, not to get confused with different blends depending on where it is produced which results in differing flavor notes. The different blends of tea result from the oxidized tea leaves being mixed with other plants, oils, or other spices.



Green tea, which originated in East Asia, is the one of the least oxidized of all the different kinds of tea. This means that it has a light flavor and is pale green in color. There are many different varieties of green tea, not to get confused with different blends, depending on where it is produced which results in differing flavor notes. The different blends of tea result from the oxidized tea leaves being mixed with other plants, oils, or other spices.



Herbal tea, which is not a ‘true tea’ like black, green, oolong, etc., is a combination of other herbs, spices, and other ingredients. There is also a lesser known as ‘tieguanyin’. It is a variation of the plant ‘Thesasse’ which dates all the way back to an origin point of China and Southeast Asia. Herbal tea is caffeine free and known for its calming properties which makes it the perfect drink for the evening or when wanting to relax.



Oolong tea, also known as ‘Black Dragon’ is similar to black tea and contains and varying amount of caffeine. However, the taste can vary greatly from being sweet and fruity to a smoky and earthy aroma to even a bit of a complex taste. All of these different varieties depend on how they are produced and processed.



White tea is similar to green tea in which it has a very pale yellow color as well as a very delicate and pretty flavor. It’s name comes from the white hairs on the bud of the tea plant which gives the plant a white appearance. White tea is mainly produced in China but is slowly moving towards Easter Nepal, Taiwan, and Thailand.



Yellow tea is a rare tea that can be found mainly in China. It is very similar to green tea in respect to the flavors being more mellow and earthy. It is the least known type of tea due to it being hard to find outside of China, this makes it one of the most expensive teas to buy.

## Final Project Discussion

For this project I decided to create an app to provide some insight into different types of tea such as: what each type of tea is, how they are made, how to brew a perfect cup, as well as some fun facts regarding each type. I designed my app to have three main pages: a Home Page, a Learn More Page, and finally a Quiz Page. This allows the user to see an overview of what the application is for and then decide if they want to learn about different types of teas or if they want to take a quiz to determine what kind of tea would be best for them. For my final project, the main API feature I used was the Tab Bar Controller, however I also used a Navigation Controller, Stack Views, Control Views, Table Views, Image Views, Scroll Views, Animations, and Gestures.

To start off, I implemented a Tab Bar Controller so that the user would be able to easily switch between page based on what they wanted to learn. There are three direct segues from the Tab Bar Controller: the Home Scene, the Types Scene, and the Quiz Scene. When I started thinking about my final project, I really liked the idea of tabs when we learned about them so I knew that would be a good way to navigate the app. While there are only three scenes that are direct segues from the Tab Bar Controller, all of the other scenes are subpages from one of the tab bar pages.

The Home Scene is not interactive as I thought it would be good to start off with a simple screen for the user to look over and get familiar with the application and explain what each tab is. I just used some simple labels to show text. The Types Scene is when I really implemented other features to make the app more interactive. Not only is it a Tab Bar item, I also implemented a Table View to be able to populate multiple different kinds of tea from a prototype cell. I created a file named Tea.swift to hold all of this information as well as to keep all of the main text in one place rather than try and fit huge paragraphs in a label. The final direct segue from the Tab Bar Controller is the Quiz Scene. I figured that a user who may not know much about tea it would be nice to have an option to explore more about their own preferences and then get a type of tea to try based on that question.

When implementing the Learn More tab, I created a Table View Controller to hold all of the information and when the user clicked on a type of tea another screen would pop up that would give a detailed explanation regarding each type of tea. Since this was going to be a large chunk of text, I decided to use a Scroll View and set boundaries for each various section of information. I originally just wanted to do drop down boxes, however, I really liked the style of the scroll view better and I felt it worked nice with the flow of the app. While I had to look up quite a few things regarding implementing scroll view, I thoroughly enjoyed using it and think it works pretty well.

With the quiz aspect of the application, since we had not made a quiz in class or discussed anything similar, I was kind of at a loss on how to go about it. I probably made it more complicated than it had to be, however, I created a separate view controller for each type of tea

and set a page to pop up after an answer with a suggestion of what type of tea to try. The structure of this feature was a Navigation Controller which began with the Quiz Scene and a button that called the view controller for the questions to pop up. I already really like how this turned out instead of having multiple buttons, the user is just able to swipe down if they want to return to the previous screen or go to a different tab. This is the same layout that I had for the quiz answers. I created a view controller class that held different information regarding showing a specific page for each answer in the stack view. I had to google quite a bit of stuff on how to get it all set up, but overall I think it turned out pretty good.

Throughout the process of creating this final project application, I ran into quite a few challenges. The main ones I immediately think of was for just starting out, on how I wanted to implement and show each screen in the application. It took me a bit to figure out how to use multiple different features in just one scene without something not working to completion. Thankfully, with the help of both the class lectures, as well as multiple YouTube videos, I was able to figure out how to go about using the Scroll View and Stack View as well as having a scene be a direct segue from the Tab Bar Controller while also being the main view controller class for the Navigation Bar Controller.

While a lot of the issues were just needing to figure out how to get everything working together, I think by far the biggest challenge was figuring out how I was going to create the quiz. I really did not know where to begin as we did not really cover anything similar in this class. I struggled trying to keep track of answers and mixing the array of answers with trying to populate another table view controller was very difficult for me to figure out as well as very time consuming. To resolve this, I ended up just doing one question and linking a scene to pop up after the answer to the question was clicked. I definitely think this is one of the limitations in my application because I had originally wanted to create a multiple question quiz but I could not figure out how to keep track of boolean answers with more than just the standard “true” or “false” since there technically wasn’t a “correct” answer. It was just a preference rather than an actual quiz to have right and wrong answers.

While I have come to really like iOS SDK and Xcode there are a few hurdles that I had to figure out. For example, there were a lot of times when I would try to implement something and it just seemed to not like it whereas I would do the same thing in another project and it would work fine. I was definitely a little frustrated at times with the lack of detailed errors that Xcode would give when the application would fail. Thankfully, from working on the programming assignments, if there was an error with my final project, I knew basically what was going on (it also helped that I ran it every time I changed or implemented something).

Overall, I have really enjoyed this class and really liked learning and using Xcode. I am really excited to be taking the second course next quarter and to learn more. I definitely find it really cool and rewarding to see an application come together to create a neat project. I had a lot of fun in this class and honestly want to do something in my career that deals with app development. This has definitely given me a direction to take my career path!