**CS683 Project Assignment   
Iteration 3  
Grocery Shopping  
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**Instructions**

* This document template is used for iteration 1-4 (project assignment 2 - 5). Please specify the proper iteration number in the title and the filename.
* Please name your report as CS683\_<Last Name><First Name>\_<ProjectTitle>\_IterX. It can be either a PDF or Word document.
* Please submit your source code in a zip file named CS683\_<Last Name><First Name>\_<ProjectTitle>\_IterX.zip. You should create a zip file in AS ( using the Menu item File -> Export to zip file … ).
* Please provide your feedback in the “Add comments” section when submitting your lab report. Thanks!

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# Overview

(Please give an overview of your project. It should include the motivation, the purpose and the potential users of the proposed application. This can be the same as in your previous document. If you change it from the last iteration, please make a note.)

Through quarantine people have become more accustomed to cooking at home because it is both healthier and cost efficient. However, with so many recipes out there in the world it is hard to pinpoint exactly which recipe works and provides the required portions and nutrients needed. Users will be able to pick from a variety of recipes from various cuisines that have been tested, and will also provide detailed instructions on how to go about the recipe. After picking recipes, the user is then given a grocery list with the required portions for a week or even two if the user selects that option. This app will help users save food during the week as the portions will be as close to exact as they can be, and will also help save time before going grocery shopping.

# Requirement Analysis and Testing

(For each requirement you have worked on in this iteration, please give a detailed description, completion status (completed, or partially completed) and show the testing results if completed or partially completed, such as screenshots of the application screens or log info). Please also specify if this requirement is a new requirement or a requirement you had started in previous iterations.)

For this iteration, I have worked on the recipe list feature, to be able to view the recipes and add them to the cart. I have switched my structure of files to work with a view model so that I may be able to add all the recipes to the room database and then when recipes are added the recipe is added to another entity that holds all the recipes that the user has added to their cart. The two features that are being worked on currently are the home page recipe list and the cart page that both displays a list of the recipes while on displays all the recipes, the cart page displays only recipes chosen by the user. (partially completed -> viewmodel initializing problem in HomeActivity so unable to view home activity – but from previous changes list view was working)

For the implementation of the cart recipes list, I was debating on whether to use a database to hold the cart or just using a list variable to hold the recipes, making it slightly easier. I am still debating between the two (need professors input) as putting it in the database makes it more open for expanding in the future, for example if put into a database we are then able to access old grocery lists, so if the user wants to have the same thing then they do not have to find it through the recipe list but can just go to their old grocery lists. (partially completed)

Another implementation used for this iteration was changing the way the buttons were on each fragment, so I created two fragment container one for the recipe list, cart, recipe detail and one to hold the menu options, so that no matter what page after the welcome will have the menu options below so that it is separate from the fragments. (partially completed)

The goal for this iteration for me was to separate everything like the way we were taught in class, I focused on structuring my project so that I may be able to view my project in a better fashion instead of a mess. For some structure rearrangement here are some diagrams I drew out to visualize the new structure and how it would work alongside the other fragments and activities.

A white board with writing on it

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A white board with writing on it

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# Design and Implementation

(Please describe Android components and features you have used in this iteration to implement the above requirements in your application. For each feature you used, provide a brief description and supporting evidences, such as sample code, log info, or screenshot(s) of execution results. Please specify mapped requirements and files in your project.)

Graphical user interface, application, email

Description automatically generatedOne of the big features used in this project iteration was the room database. I used this for the Recipe table, so that I may hold all the recipes that will received by the API (worked on next for the recipe table). I have not implemented the API yet because I want to get all the functionality to work before adding the API functionality. To do this I am just using the room database and adding default recipe values into the database so that I can conduct tests on the app. As you can in the screenshot below I created the viewmodel and then added recipes to it so that I will be able to work with some default values.Text

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Shape, square

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The screenshots above on the right is diaplaying two different fragment containers, one fragment container that is currently displaying the recipe list, while the second fragment is the menu options at the bottom of the page. The menu options container is constantly there as navigating through out the app. While the fragment container holding the recipe list will keep changing as the different menu options button are clicked. The screenshot to the left and above is diaplying the cart page, which hasn’t been implemented yet but will be using a recycler list to view the recipes chosen by the user.

The screenshot below shows what happens when the recipe is clicked from the recipe list. This page has not yet been implemented to show the recipe and give the option of adding the recipe to the cart. However, I am now able to click through the different recipes, with a few lines of code and debugging I should be able to view and add the recipe to my cart.

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# Project Structure

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Description automatically generated with medium confidence(Please provide a screenshot(s) of your project structure, which should show all the packages, java files and resource files in your project. You should also highlight any files/packages you have changed, added/deleted in this iteration comparing with the previous iteration).

Text

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These two screenshots show the structure of the project files and layout files. I have changed a lot of the structure for my project files, as you can see the files are separated by what they do and mainly separated by viewmodel, ui, repository, and database. I have learnt that separating the files as so will allow for being able to handle all the project files easily. After structuring like this I have been able to navigate through my files easily and the packages introduced make it easier to view the files.

# Timeline

(Please provide an updated status and plan to specify in which iteration each requirement is implemented (or to be implemented) using which Android features.

|  |  |  |
| --- | --- | --- |
| Iteration | Application Requirements  (E/D/O) | Android Components and Features |
| 1 | Home page with recipe list (Partially Complete -> can view recipes -> still need detail recipe to work -> later will introduce API) | Viewmodel  Room database  Fragment container  API |
| 2 | Cart Page, displaying all recipes chosen by the user (Started) | Room database  API |
| 3 | Checkout ingredients page | API (info on ingredients) |
| 4 | Display closest stores to user | API  Location services from phone |
| 5 | Google Log in and Sign up Page | API  Firebase |

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# References

<https://spoonacular.com/food-api/docs>