Final Project Design

CS-4952 Spring 2016

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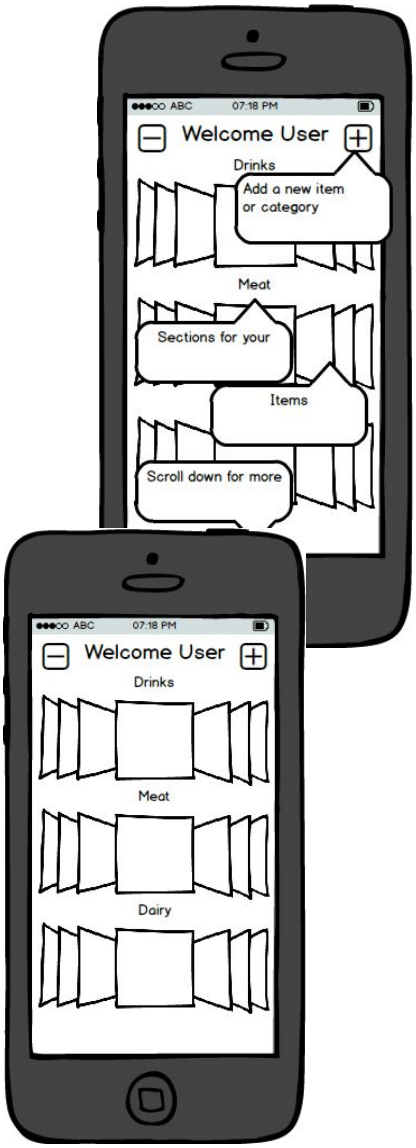
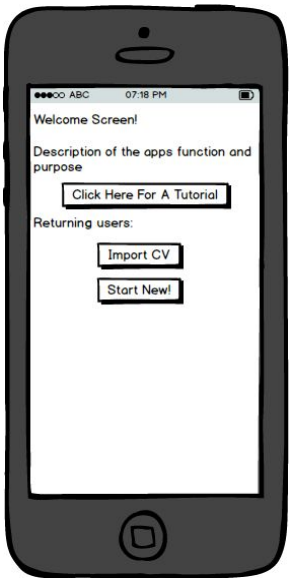
Abstract

The application that I would be making for my final project in this class would be called The Grocery Butler. This application would keep track of the users grocery inventory. The user would be able to take pictures of items they buy regularly and place them in their inventory on the application. The user would also be able to add information such as a description, a quantity, an expiration date, etc… The application would then keep track of the data and save it locally for persistence. The application will also keep track of the inventory and create a shopping list for you as things are used and expire in your inventory.

App Screen Descriptions

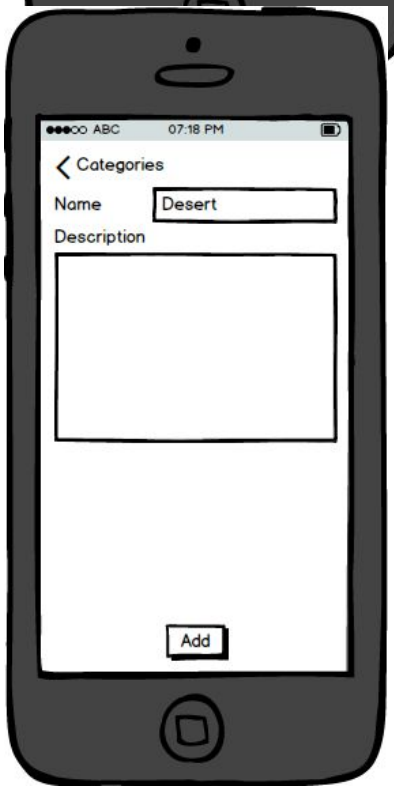


The first screen will be the **welcome screen**. This will only be shown on the initial opening of the application. When the application has finished the initial opening, the user will immediately be directed to the **categories screen**.



The tutorial screen will just be a version of the **categories screen** which will contain usage tips pop ups throughout the screen. The pop ups will disappear as the tips are demonstrated by the user.

The **categories screen** will contain a flow design for the different categories. Several default categories will be available for the user to search through. As well as some default (or example) grocery items. This screen will also provide a link to the functionality to add and remove items and categories. An addition can be done by clicking the add (+) button which will drop down a menu to show the possible things to add such as a category or grocery item. When one of these items are selected the user will be directed to the **create screen** to enter in information about their category or grocery item. The subtraction button will bring up a menu of the current categories or grocery items for the user to select and remove.



The **create screen** will contain various inputs for the user to establish key information for the item and add it to their collection. There is two creation screens established initially: category & item category.

This information will be used to track the items in the user's inventory. The user can completely remove items and categories as long as nothing depends on the removed items and categories. So if items are included in a category and the user tries to remove the category, an error will present to the user describing the situation stating they can move the items into a different category or remove the items completely. For future functionality, the user would be able to create recipes and these recipes could rely on items as well. So the user would have to replace the item in the recipe or remove the recipe which a recipe would be a sub-category.

The user can also view and edit certain aspects of the items in the **item view** menu. This would show the user the item name, description and image. It would also allow for the user to modify the quantity of items. If the item reaches a quantity of 0 or expires, the item will be added to a shopping list for the user.

The **shopping list view** ill just contain a list of buttons for the user to click on with the names of their grocery items. When the user clicks on one of these buttons, they will be directed to the **item view** to change the expiration date and or quantity.
The grocery list view will look the exact same as the categories view. The only difference is that it will be populated with categories and items that require attention (ran out of quantity and/or expired).
The final view that I will be implementing is the barcode scanning part of the application. This will feature a camera view that will scan a barcode and bring the item into view. The view will then allow the user to throw it away if it is already in the inventory or add a quantity if the user is adding the items to the inventory.

List of Future Features

Here is a list of possible features for the service in the future:

- Server Integration
- Android Application
- Web Application
- Grouping/permissions
- Authentication
- Database of items
- Shopping recommendations
- Local pricing

Here is a list of features in the applications future:

- Receipt scanning
- Barcode scanning
- Inventory Sharing
- Recipe Sharing
- Export to file format

Breakdown And Tracking		
Part	**Line Items**	**Time (hours)**
Introduction View	● Create project ● Source management setup ● Initial view handing off to stubbed views	3
Model Creation	● Stub out item, category, grocery list ● Implement add/remove methods ● Save data persistently ● Implement modify methods ● Expiration check	5
Model Testing	● Add ● Remove ● Modify ● Data persistence ● Item expiration ● Correct category items ● Correct grocery list items	2.5
Categories View	● Create UI with different sections to fit needs ● Display items in categories ● Serve UI through controller ● Tie in with the model ● Test UI	5
Create View	● Create UI to create categories ● Create UI to create grocery items ● Serve UI through controller ● Tie in with the model ● Test UI	3
Item View	● Create UI to view/modify items ● Serve UI through controller ● Tie in with the model ● Test UI	2.5
Groceries View	● Copy and Modify UI from Categories to only display items/categories that need attention ● Serve UI through controller ● Tie in with the model ● Test UI	3

Barcode Scanner	● Create scanning interface ● Populate data into item view ● Implement Barcode Scanner	7
Overall Application Test	● Testing the application for thorough use cases ● Debugging ● Fixing issues	6
Clean up and Documentation	● Commenting ● Sectioning ● Clean up ● Tutorial Creation	3
TOTAL		40