San José State University
College of Science / Department of Computer Science CS 175 Mobile Device Development, Fall 2017
By Dr. Angus Yeung

Programming Assignment #1
Android Programming

Submission:

Do not submit your solution to programming assignment to Canvas. Instead, put it on your github.com account and share it with your instructor and TA. In your URL submission, you should supply the URL link to the source code of your mobile application, as well as a URL link for YouTube.com video clip that you prepared to demonstrate your application.

Grading:

Your source code to your mobile application and video demo clip for your app will be graded. Failure in submitting these items will result in significant deduction of scores for this assignment.

There are 60 points in total. The final score is 20% of your total points. So the highest possible final score for Programming Assignment #1 is 12 pts.

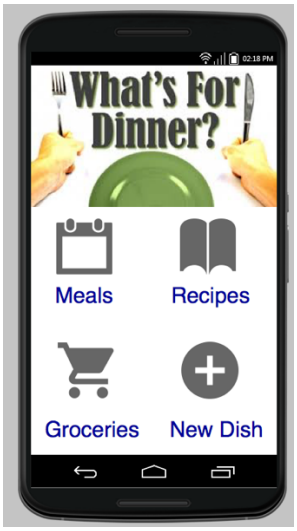
Programming Assignment – 60 points

The "What's for Dinner" Android App

You're asked to write the "What's for Dinner" (WFD) Android app to help people manage their dinner plans. WFD app is a useful app that allows end users to:

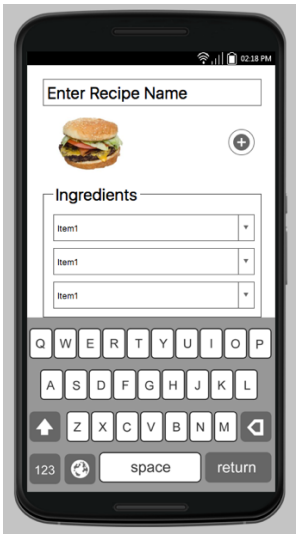
1) Add new recipe to the app (New Dish),
2) Browse all available recipes and add them to your dinner plans (Recipes),
3) Check the items on shopping list (Groceries), and
4) Manage a week's dinner mean plans (Meals).

The Main Screen – 10 points



The main startup screen looks like below. It consists of a banner image at the top and four menu items for New Dish, Recipes, Groceries and Meals. (5 points) Each menu item is made of an icon image with label. When a user clicks on menu item, it will take the user to the corresponding screen. (2 points) When the user clicks on the banner image, a pop-up window with the app information, such as author's name, software version number, URL link for help, copyright information, will be shown. (3 points)

The New Dish Screen – 10 points



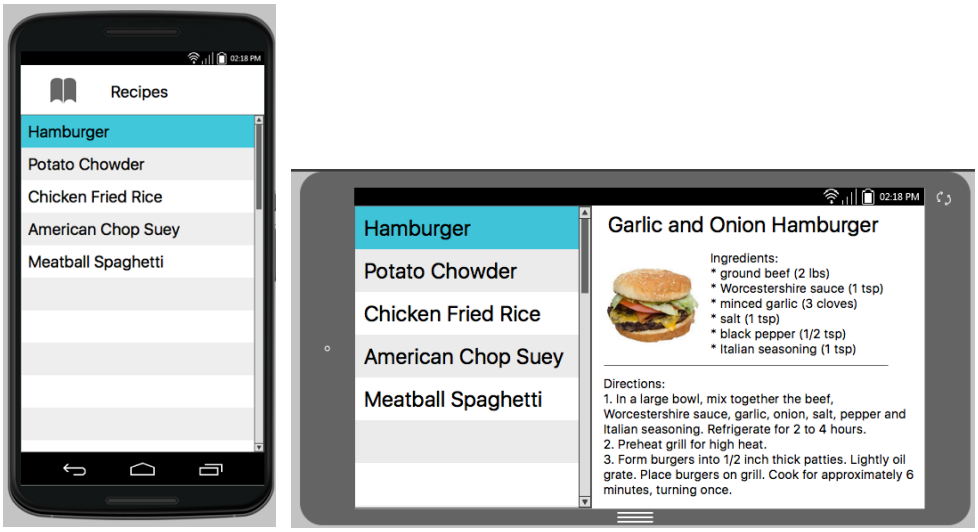
Use a EditText element for the recipe's name. (1 point) There must be a hint in the element to prompt the user to enter the recipe's name. (1 point) When the element is out of focus (when the user clicks on other element or click on the submit button), the input must be checked against all other recipes in the app to prevent multiple entry of recipes with the same name. (2 points)

For the recipe's image, end-user can click on the add image button (+) to choose an image from local file or provide URL link for an image on Internet. (1 point) The user has an option not to input any image and you must provide a default image for all recipes without provided image. (1 point)

The user is allowed to input one to ten items for the recipe's ingredients. Each existed item (previously entered by the user) is available in a pull-down menu so the user can quickly select one. This is also useful when you are going to construct a shopping list for ingredients. (3 points)

There is no restriction for directions except that you want to limit the length of cooking direction to 250 characters. (This is for grading purpose only. In your real app, you can increase the limit to a larger number.) (1 point)

The Recipes Screen – 10 points

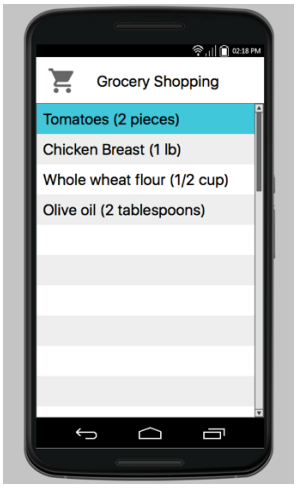


You must handle the portrait and landscape modes for Recipes screen using fragments. (2 points) When the Recipes screen is in portrait mode, it gives the user a quick summary of all available recipes in the app. (1 point) If the user clicks on an item, the item will be available for meal planning (in the Meals screen). An item can be selected more than once. (2 point) For example, if a recipe item is clicked twice, then two counts of the recipe will be available for the meal plan. This allows the user to have a big picture of weekly meals and plan accordingly for calorie consumption and other nutritional information.

When the device is held in the landscape mode, the recipes screen consists of both the summary list and the description of currently selected recipe. The description should show the recipe's name, image, ingredients, and cooking directions. (2 points)

If the user long presses the recipe item in either portrait and landscape mode, it will take the user to the editing mode for a recipe. The editing screen is similar to the New Dish screen but it prefills all fields with the existing data. (3 points)

The Groceries Screen – 10 points



This screen is a List View element that lists all required ingredients selected from the Recipes screen. (1 point) There shall be no duplicated entry of the same item. Instead, multiple items of the same kind should be counted, e.g., Tomatoes (2 pieces). (2 points) The unit for each item should be used in a correct way. For example, use "pieces" for tomatoes, "pounds" for chicken breast, etc. (2 points)

If the user swipes an item to the left, a small menu with (+) and (-) buttons will be appeared. Each time the user clicks on the (-) button, the count of an item will be decreased by one. The count will be increased by one if the (+) button is clicked. (2 points) When the count reaches zero, the item will be crossed-out, like ~~this~~. (1 point) If the user swipes the item to the right, the small menu will be disappeared. (1 point)

The list view element has a vertical scrollbar. If the list grows too long, the user is able to scroll up and down with finger gesture. (1 point)

The Meals Screen – 10 points

You are free to decide what the Meals screen looks like. Basically you'll allow the user to choose from a list of available meals (some items may have more than one count) and assign it to each day in a week. (4 points) There are three meals for each day: breakfast, lunch and dinner. (2 points) If one meal slot is not assigned, it should show "eating out" to indicate that. (2 points) After each assignment, the used meal will be deducted from the list of available meals. (2 points)

Nutrition Manager – 10 points (extra credit)

Nutrition manager is the optional app feature for extra credit. In order to get the full extra credit, you need to add nutrition value to each recipe. (1 point) When the user is planning out for the recipes for a week's meal plan, he or she is able to monitor and keep track of the consumption of each nutrition. (3 points) There is a menu screen for the user to enter the weekly goals in terms of nutrition information. (3 points) When the user is preparing all recipes for a week's meals, the app will tell the user if the goals are reached or not. (2 points) Nutrition information include calories, carbohydrates, minerals, vitamins, sugar, etc. (1 point)