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CSCI 3308
Main Project
Software Development Tools and Methods

Fridge Forager
Project Writeup

- **1. Introduction** :

  The goal of this project was to develop a simple mobile application for the Android platform, the purpose of which is to return possible meal recipes when given one or multiple ingredients as search queries.

- **2. Methodologies Employed** :

  The following is a brief list of the methodologies used used throughout the development of the app:

  - Peer Code Review
  - Test Driven Development (a lot of it)
  - Remote Development and Collaboration via project tracker and cvs . . .

  Since most of our work was segmented by each of our areas of greatest expertise, we did not practice an appreciable amount of pair programming. Rather, we assigned our most experienced java programmer the task of coding, a designer with the task of designing, and a project manager to keep check on everything and direct workflow.

- **3. Software Tools Employed** :

  The following is a brief list of the Software tools and suites used throughout the development of the app.

  – Eclipse IDE with Android SDK plugin

  – Food2Fork API

    1. Provided an effective means with which to get recipes when queried with ingredients
    2. Trivializes the neccessity to use an offline or locally created database
    3. Provided experience developing with a third party API

  – JavaDoc via Eclipse Plugin

  – LaTeX

    1. Used to write this document

  – Git Content Tracking System hosted via GitHub.com

  – Trello for project management

    1. Cross Platform
    2. Android App available
    3. Emailed participants with project updates, changes, and to-dos

- 4. **Test Driven Development** :

  The development of our app was handled in concise test cases such that progress was made one small step at a time; never too much too quickly.

  1. Test Case 0: Basic Test, Compilation (recurring)
     (a) Code Correctness
        i. Is the code syntactically correct?
        ii. Does the code correctly call Android functions and classes without error?
  2. Test Case 1: Assuming previous test passes
     (a) API usage
        i. Does the code correctly call the Food2Fork API?
        ii. Does the code correctly pass user-inputted queries to the API?
        iii. Does the code correctly parse the JSON returned by the API?
  3. Test Case 2: (basic functionality) Assuming previous tests pass
     (a) Running the App in the SDK Emulator
        i. Does the app install in the emulator without fail?
        ii. Does the app start in the emulator without error?
        iii. Are the app's UI elements correctly layed out in the emulator?
     (b) Using the App in the SDK Emulator
        i. Does the app accept correctly accept a query in the text field without fail?
        ii. Does the app return a list of recipes pertaining to the query entered without fail?
        iii. When a recipe is selected, does the app correctly launch the Emulator's default web browser to the webpage containing the recipe without fail?
  4. Test Case 3: (basic functionality part deux) Assuming previous tests pass
     (a) Repeat all sub-tests from Test Case 2 on a live Android phone rather than an emulator
     (b) Repeat all sub-tests from Test Case 2 on a live Android tablet rather than an emulator
  5. Test Case 4: (minor functionality), Assuming previous tests pass
     (a) Does the app use the correct display icon?
     (b) Does the app rotate correctly if the device's orientation changes without fail?
     (c) Does the correctly call third-party web browsers other than the system default without fail?