

Android Project: Mealer App

SEG 2105 – Introduction to Software Engineering

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Mealer is an app that allows people to order homemade meals or cook them. Users can choose from a variety of different cuisines and meal types. Cooks can earn income on the app by cooking requested meals from their offered list. The Mealer team also moderates the app to ensure that complaints about chefs are continually checked and dealt with. This allows for an excellent user experience as only trusted chefs operate on the app. The app is developed for android and utilizes Firebase to store the backend in the cloud.

[illegible]

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Contributions of Each Team Member

Team Member	Deliverable 1	Deliverable 2	Deliverable 3	Deliverable 4
Jessica Chen	- UI and implementation for welcome page (that leads to sign in/sign up)	- Created and debugged temporary suspension method - Implement verification for suspension page	- Implement Unit Tests - Update app's UI and interfaces	- Implement Complaints Class in Firebase - Improve Client Home page and set up list of Purchase Requests - Implement client submit complaint and rate cooks functions
Tyler Blinson	-Ui for the sign in page -Created User, Client, Cook, Admin and Meal class along with basic functions (getters and setters)	-Implemented the sign in functions -Made the database retrievals work	-Fixed a lot of bugs -Made the cook class directly work with the database	-Implemented search function - Screenshots to showcase application
Tom Latimer	-UI and implementation of client sign up page -set up account registration; accounts are stored in Firebase	-Implement the admins ability to permanently suspend a cook	-Implement Unit Tests -Implemented code to offer and un-offer a Meal on the cooks menu -Implemented code to display cooks' meals in listview	-Implemented search results recyclerview -Implemented client's ability to view meal information -Implemented code to send a purchase request for a meal
Owen Halvorson	- Home page UI and Functionality - Log off	-Worked on permanent suspension method -Implemented code to check if suspended if logged on -Uml diagram changes	-Implement Unit tests - Updated UI -UML Diagram changes - Helped implement various features associated with the menu	- User profile and ratings UI -Implemented code for user profile page

Annika Whitwam	<ul style="list-style-type: none"> - UI and implementation of cook sign up page - UML diagram 	<ul style="list-style-type: none"> - Set up list view for administrator complaints - Implement the admins ability to dismiss complaint 	<ul style="list-style-type: none"> - UML diagram - Update the app's UI - Helped to implement code to add meals to the "Meals" section in Firebase 	
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Table 1: Contributions of Each Team Member for Each Deliverable

Screenshots of the App

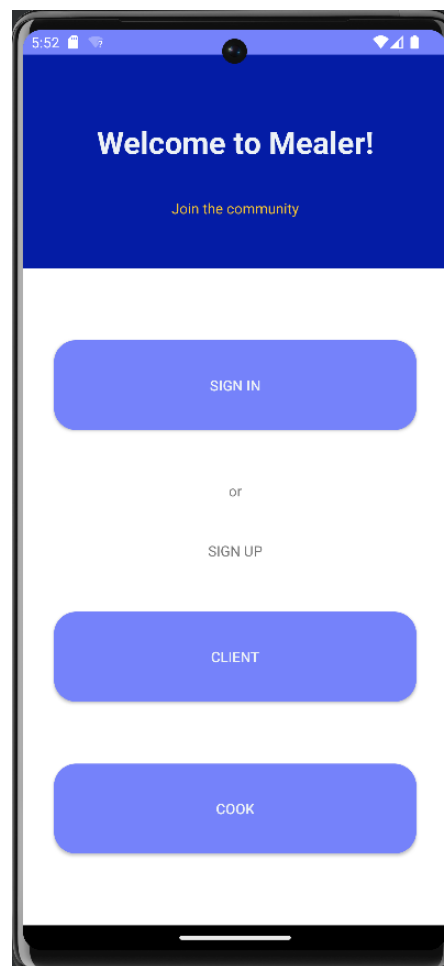
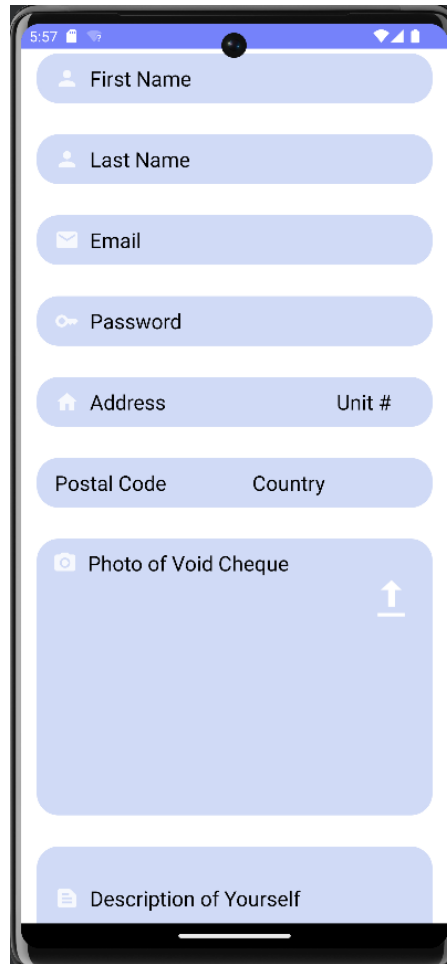


Figure 2: Sign in/sign up screen



A mobile application sign-up form for 'Cook'. The form is displayed on a smartphone screen with a status bar at the top showing the time 5:57 and various icons. The form consists of several input fields with light blue backgrounds and rounded corners. The fields are: 'First Name' (with a person icon), 'Last Name' (with a person icon), 'Email' (with an envelope icon), 'Password' (with a key icon), 'Address' (with a house icon) and 'Unit #' (separate field), 'Postal Code' and 'Country' (separate fields), 'Photo of Void Cheque' (with a camera icon and an upload arrow icon), and 'Description of Yourself' (with a document icon). The bottom of the screen shows a black home indicator bar.

5:57

First Name

Last Name

Email

Password

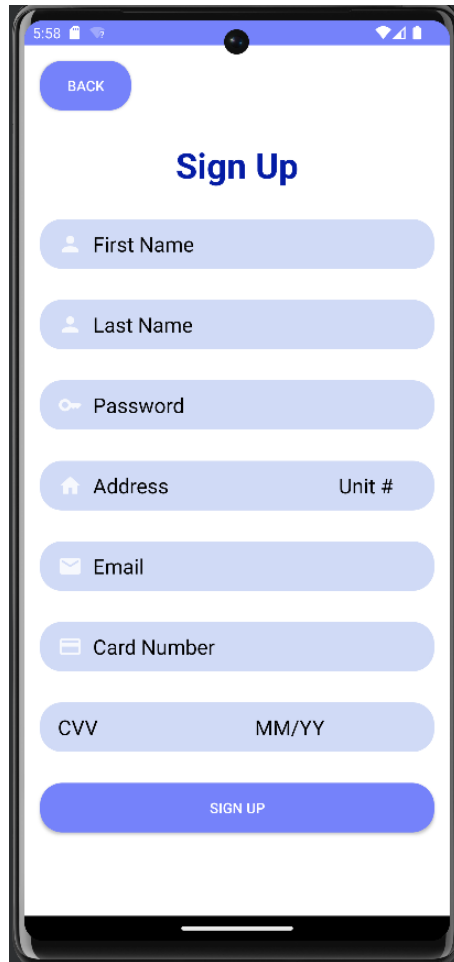
Address Unit #

Postal Code Country

Photo of Void Cheque

Description of Yourself

Figure 3: Cook sign up page



A mobile application interface for client sign-up. The screen features a blue header bar with the time 5:58 and status icons. A blue 'BACK' button is in the top left. The title 'Sign Up' is centered in blue. Below it are several light blue input fields with icons: 'First Name' (person icon), 'Last Name' (person icon), 'Password' (key icon), 'Address' (house icon) and 'Unit #' (hash icon), 'Email' (envelope icon), 'Card Number' (card icon), and 'CVV' (hash icon) and 'MM/YY' (calendar icon). A blue 'SIGN UP' button is at the bottom.

5:58

BACK

Sign Up

First Name

Last Name

Password

Address Unit #

Email

Card Number

CVV MM/YY

SIGN UP

Figure 4: Client sign up

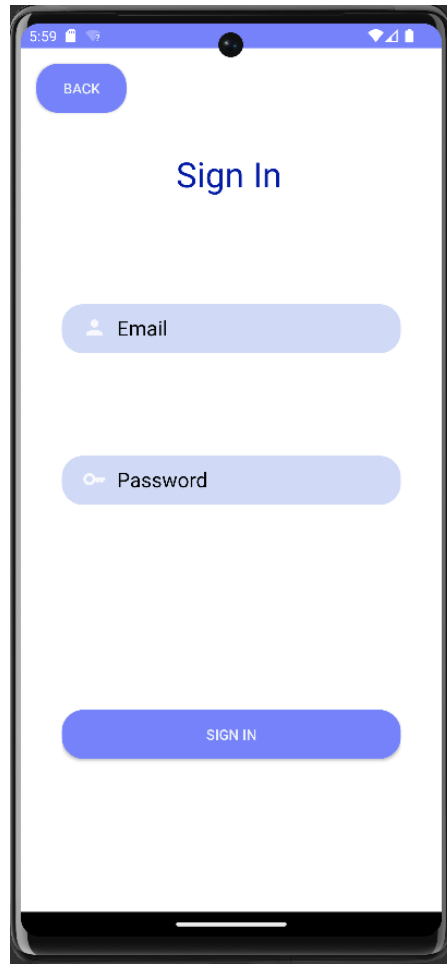


Figure 5: Sign in page

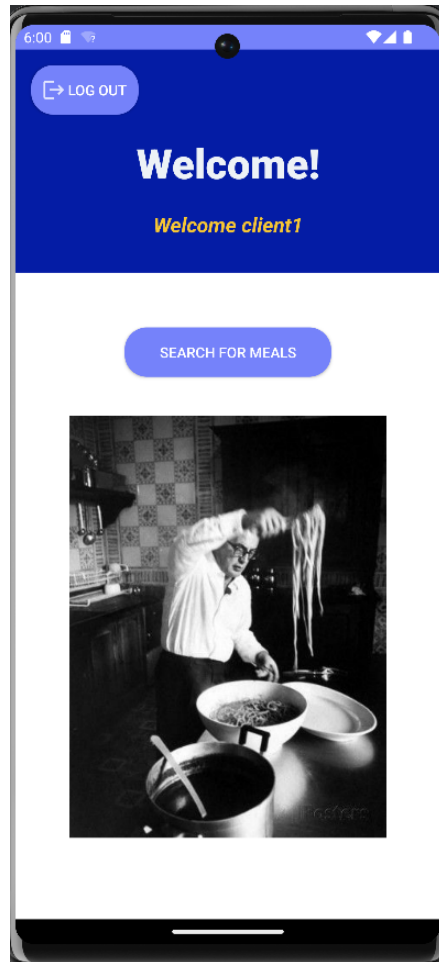


Figure 6: Client home page

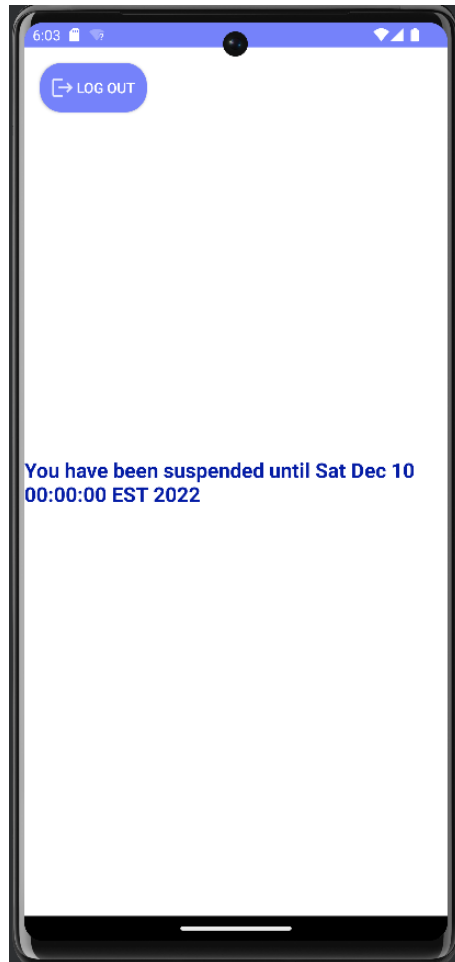


Figure 7: Suspended cook sign in

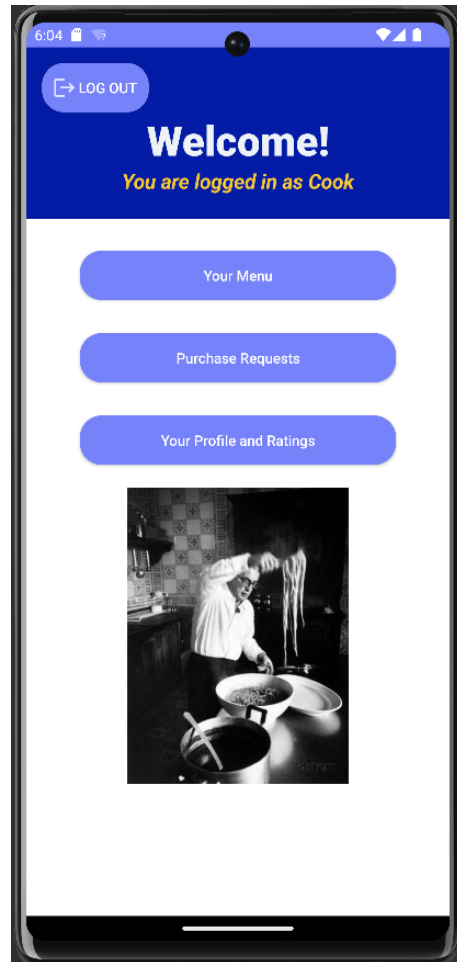


Figure 8: Cook home page

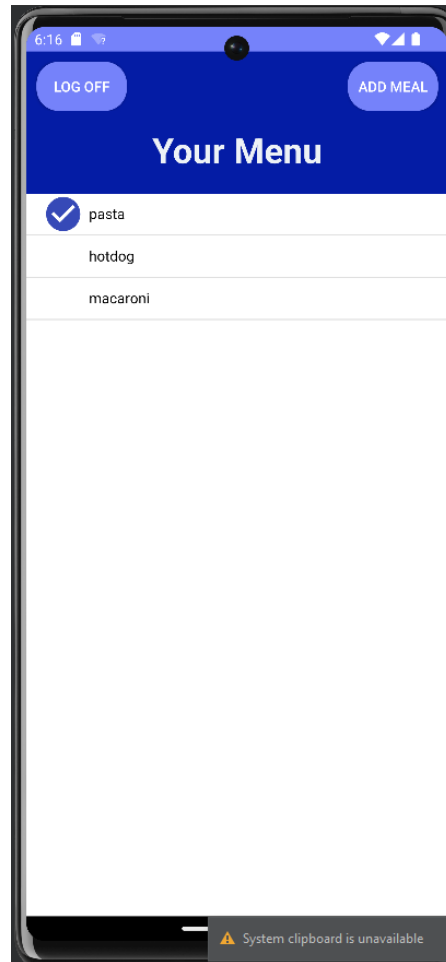




Figure 9: Cook menu page


6:17


BACK


Add Meal


 Meal Name


 Meal Type (Main dish, dessert, etc.)

 Cuisine Type (Italian, Greek, etc.)

 List of Ingredients

 Allergens

 Meal Price

 Meal Description

ADD MEAL

Figure 10: Cook add meal page

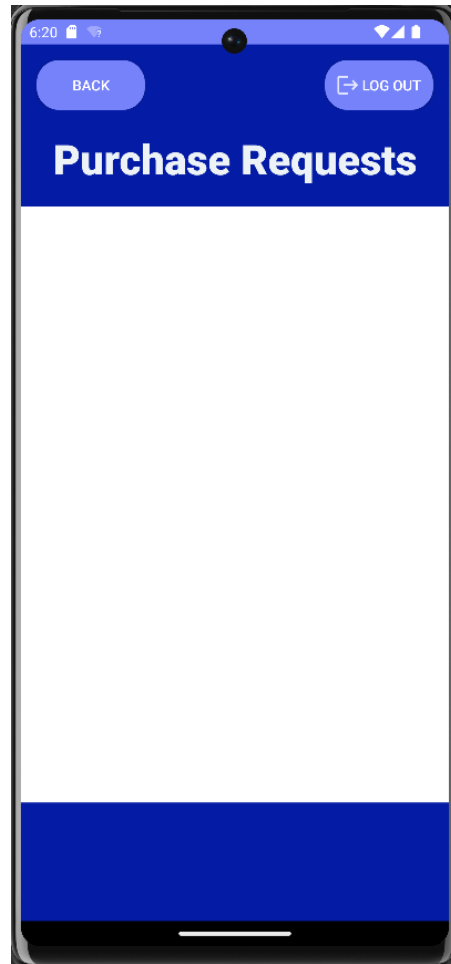


Figure 11: Cook purchase requests

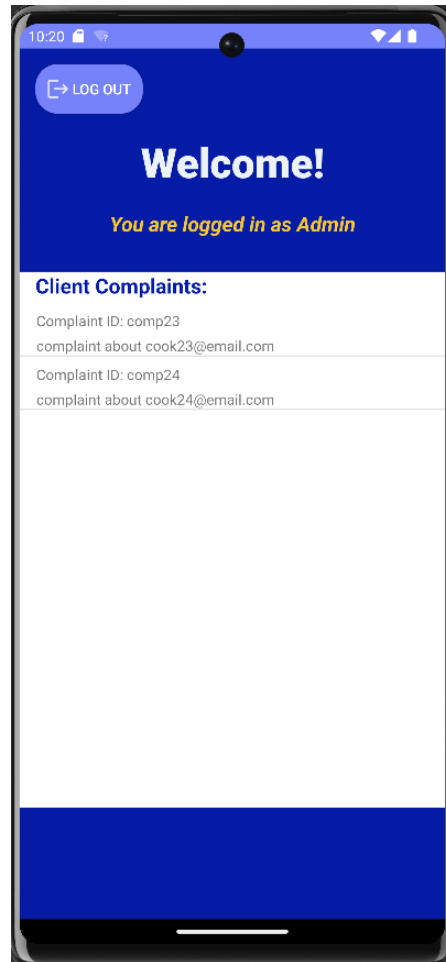


Figure 12: Admin home screen

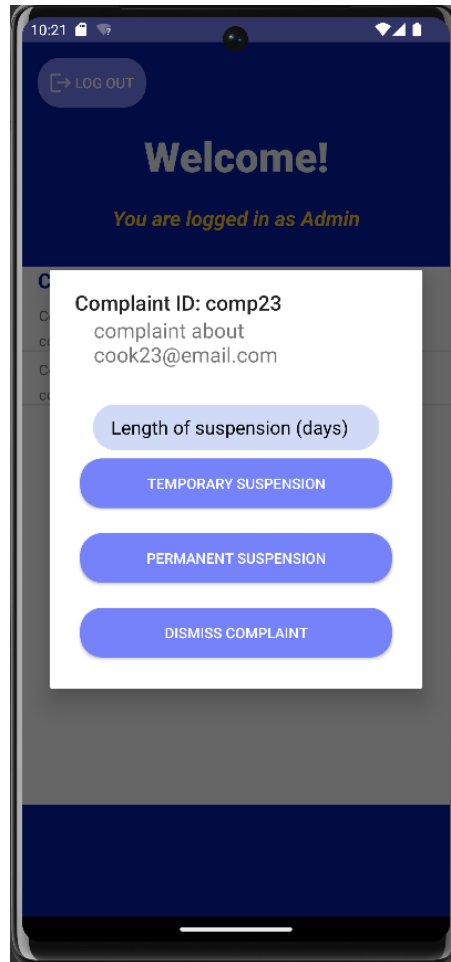


Figure 13: Admin suspension window

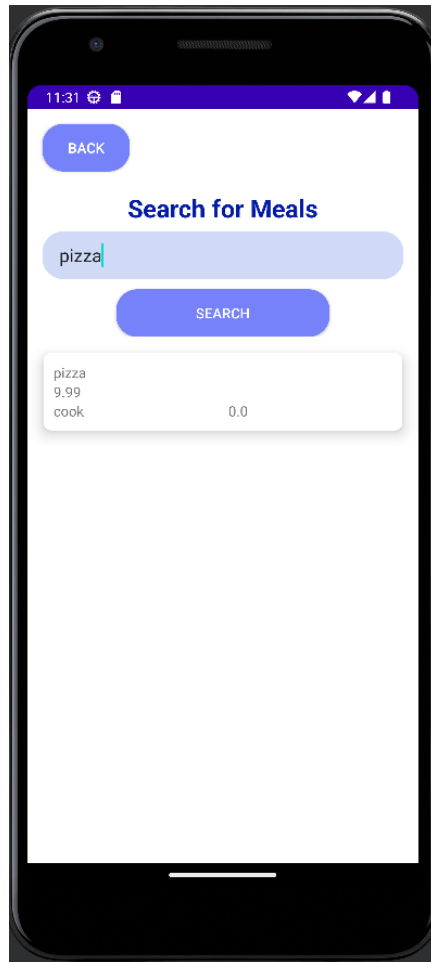


Figure 14: Search meal

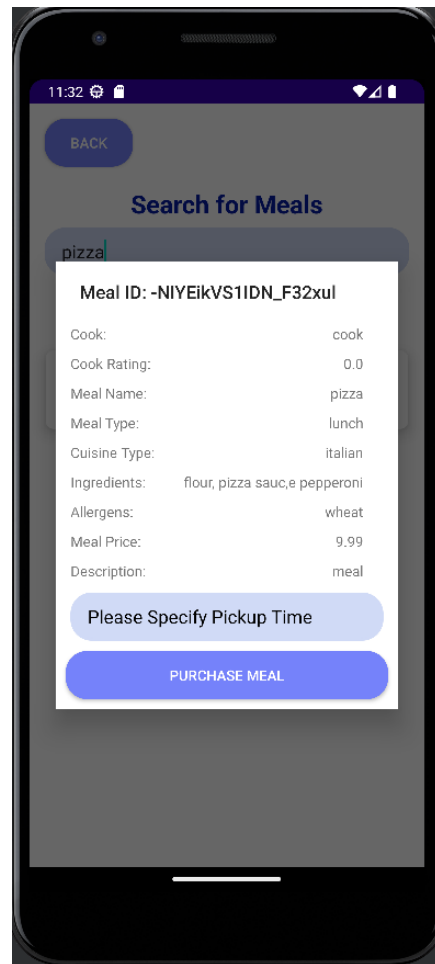


Figure 15: Meal purchase screen

Lessons Learned

Unlike other assignments involving code, the design of the Mealer application was more intensive and involved. The development of an android app requires the cohesive interaction between different subsystems, such as the activities, the database and supporting classes. Many of the lessons we learned involved the development of these subsystems in conjunction with designing a comprehensive system. Our first challenge was based on how we wanted to organize our app and divide it into different activities. We were unfamiliar with the development of android applications, so we quickly had to learn how activities were created and how we could use them to create our app's functionality. We learned how to mix UI elements with java code to create an interactive design that could react to user input and display results sourced from a database. Our second largest lesson learned would be learning how to set up the database and the ongoing maintenance required to update the database when we update our app. We originally struggled with uploading and retrieving data from the database, but we managed to implement it

successfully. One design decision we could have changed was to disentangle the way we accessed data from the database with how a user interacts with the app. Currently, we have some methods that the user interacts with directly send data to the database. Instead, we could have had the users input represented through objects modeling the system that would occasionally be sent/retrieved from the database, thus saving on resources. This would be a fundamental design decision that we think should be implemented were we to create another application. In addition to figuring out how to send and retrieve data from the database, we did not realize how greatly changing the objects of our system would affect the application in relation to the database. When we implemented additional responsibilities, such as creating Meals or Complaints, we had to modify the objects that modelled the user accounts to account for the additional functionality. This in turn caused conflict when we were trying to load old accounts to test the app because the data stored no longer matched the object representation which caused the app to crash. We learned that the continuous development of our system could introduce bugs into code we thought was already completed. Ever since, we were cautious and analyzed our design choices critically to map out every possibility of introducing unwanted bugs in the system. Finally, one of our significant hurdles was learning how to display information from the database to the app in the form of listviews and recyclerviews. Displaying information from the database was crucial to how our app worked. We learned to create separate UI elements to display objects from the database, as well as creating custom adapter classes to merge the UI with the data being retrieved. In conclusion, the development of the Mealer app taught us a lot about developing a system from subsystems, interacting with a database and quality control when implementing new features.