Inception 1
CSE 3311-001

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Inception Revisited

Description

Our goal is to create a mobile app that allows for users to search for mobile detailers in their area and schedule a car wash. We will also give the option for detailers to register their businesses so they show up in user's searches and increase their customer reach. The businesses will register, define the services they provide as well as the prices attached to those services, and set the locations in which their services are offered. The user first begins by setting their location to begin the process of filtering out those businesses which don't offer service in their area, then start selecting from a list of all the services they would like (e.g interior detail, exterior detail, clay bar, etc.) and then get the results, which show up as a list of businesses with their prices for the selected services. Through this list of results, users will have the option to sort by prices, and add or remove the services they would like and have prices update as well.
Once the user finds a business they like, they can tap on the card result and get more information about the business, including how to contact them to schedule an appointment. We are not trying to create an app through which to create an appointment, as we don't want to limit the businesses to only use this app to schedule all their appointments.
Users should also be given the option to review the businesses to give other users an idea of what to expect, as well as add the capability of sorting by rating in the result.

Features

Technical Features
- Built with React Native to support as many devices as possible
- User authentication with firebase

User Features
- Businesses are able to register and add contact information
- Businesses can define which services they offer and their prices.
- Businesses can define their service area
- Customers can search based on area and service needed
- Customers can sort by price or rating
- Customers are able to see business contact information, services offered, and reviews

Competitors

Google

As far as competitors, we are aiming for a niche market so there is currently not a lot of competition. Right now one of the best options that exist to find local detailers is to go on google and search for "Mobile Detailers near me". However, Google searches may only yield results from companies with websites who have properly set up SEO, so smaller, independent detailers are already at a disadvantage. It may also display those businesses who have listed their location on Google Maps, which mobile detailers may not have a permanent location on the

map due to being mobile. The first results that will appear on google are going to be from well-established businesses who have a website, but we have no way of knowing if the first result I get (in this case a business based in Dallas) offers their service all the way in Arlington.

Classified Ad Services

Another option is to search on online classified ad websites such as Craigslist or Facebook Marketplace, as well as mobile applications such as OfferUp. However, due to the nature of these classified websites, they are mainly meant for individuals to buy and sell items, not offer services. The only one of these competitors which offer a Services section is Craigslist, and if you have ever used Craigslist, then you know the pain of having to scroll through pages of repetitive ads or spam ads, mainly due to the fact that anyone can post any ad, any number of times as there is no account required to post ads on craigslist.
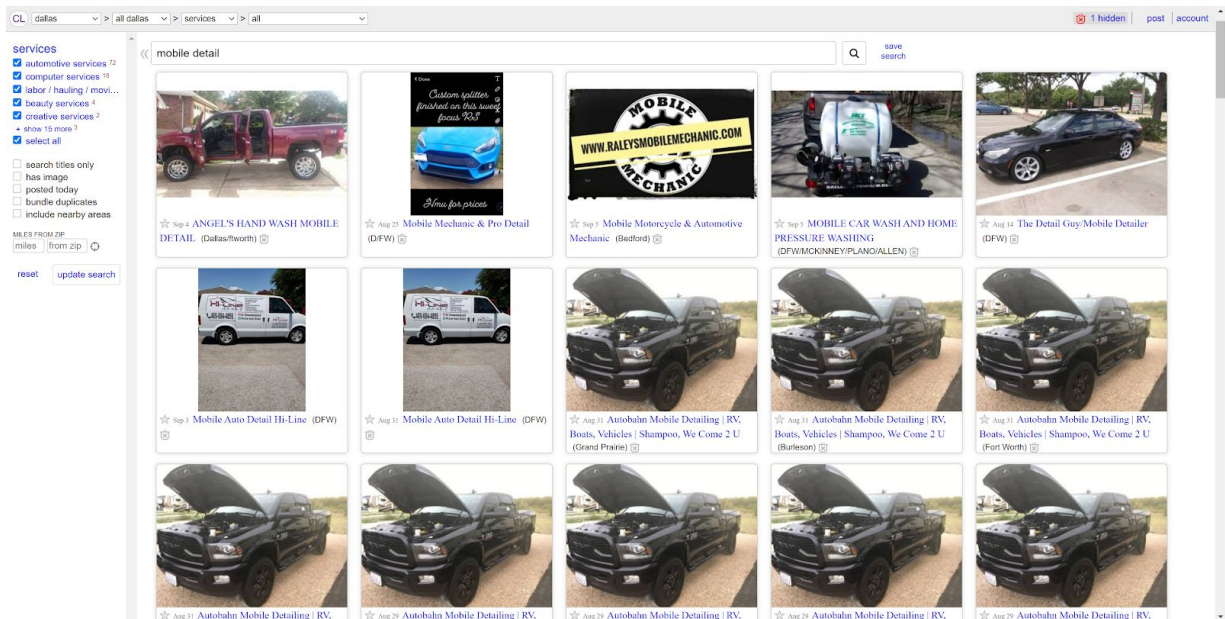
[1] Screenshot of Craiglist. The first page of results when searching for "Mobile Detail" within the Services category includes a total of 15 results with a total of 7 unique results. 1 of the results is irrelevant. So 6 out of 15 results are for mobile detailers, 40% of results on the first page are relevant.

Facebook Marketplace does a better job at mitigating the issue of spam ads, but has its own unique issues. Mainly, Facebook Marketplace has no real option to offer up services, instead what its users have to do is create listings for their services as products. While this works as seen below, we get many different ads which we have to individually click through to get more information. Marketplace also requires that a price be set for the products listed on it. This adds a layer of confusion when trying to shop around for someone in your budget as some, we can assume, set the price of a basic exterior detail on a normal-sized car as their price, while others seem to be setting random numbers or free as the prices.
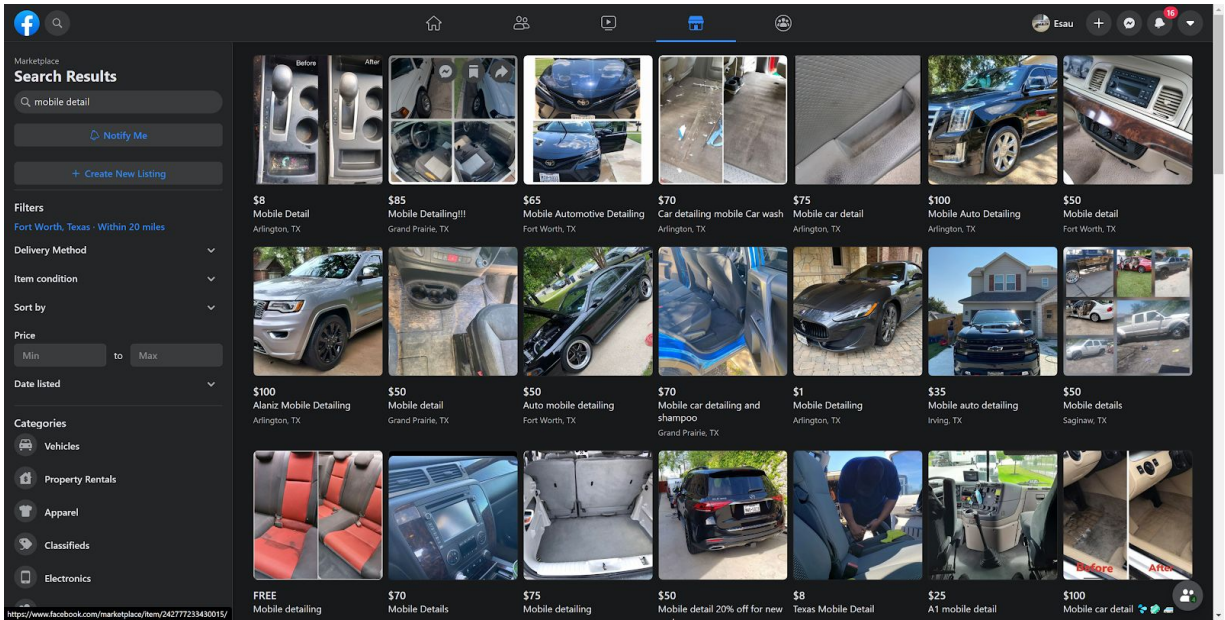
[2] Screenshot of Facebook Marketplace. Overall a better result than Craigslist as far as spam ads are less prevalent. However, we do run into a few issues. Titles are non-descriptive, prices seem to either be their set price for just an exterior detail in some cases, and a completely random number in others.

Risks

RE = P$_R$ x E$_R$; Exposure = Probability of Risk Occurring x Effect of the Risk

Payment Handling

Description: Payment information is extremely sensitive, and handling it presents a huge risk and opens up the possibility of a user's information being stolen.
Probability: 75%
Impact: 24 hours
Exposure: 18 hours
Response: We will manage payment through Paypal or another external payment service, so that we can shift this risk completely onto them.

React Native Issues

Description: Our team is inexperienced with creating apps in React Native, so we will likely face many problems in getting familiar with it.
Probability: 90%
Impact: 10 hours
Exposure: 9 hours
Response: To minimize this risk, the team members will teach themselves through online tutorials and consult each other for support and advice.

Lack of Partners

Description: If we are unable to bring in many partners to collaborate with the app and provide data, there will be too little data for users to actually use the app.
Probability: 25%
Impact: 24 hours
Exposure: 6 hours
Response: If we find ourselves with a deficit of business partners, we will have to manually seek out mobile detailers and make partnerships with them.

Firebase Issues

Description: If we were to have database issues, we risk losing all of previously stored information (business/user registrations, business ratings/history, etc.) and the app would be brought back to square one.
Probability: 25%
Impact: 10 hours
Exposure: 2.5 hours
Response: To mitigate this issue, we should have a backup of all our data and implement a plan to reintroduce it to our live servers.

Fake Businesses

Description: If fake businesses were to misuse this app, it would be a risk to users and a risk to the credibility of our app.
Probability: 10%
Impact: 5 hours
Exposure: 1 hours
Response: If this were to happen, we would need to create a new method to register a business on our app. We would need to include verifications of the business and background checks.

Lack of Users

Description: If there aren't enough users interested in the app, businesses not be drawn to our app.
Probability: 20%
Impact: 5 hours
Exposure: 1 hours
Response: If we needed to attract more users, we could advertise our app. For example, we could advertise on social media, or even spread the word among family, friends, and our community.

Users

- Detailers - Owners of detailing businesses looking to expand their client reach. We want to give them a platform on which to market themselves and allow them to stand out from their competitors. By adjusting their prices to be competitive, define the locations they

service, while earning good reviews from users on the app, they can easily grow their client reach.

- ● Car Owners - Vehicle owners looking to hire a local detailer. We want to allow those who care about preserving the looks of their vehicle to connect with detailers in their area. By giving them a one-stop-shop to look for detailers in their area based on criteria set by them, the customers can be certain they made the right choice in hiring the right detailer.

Iteration 1

Specification and Design

Use Case Diagram
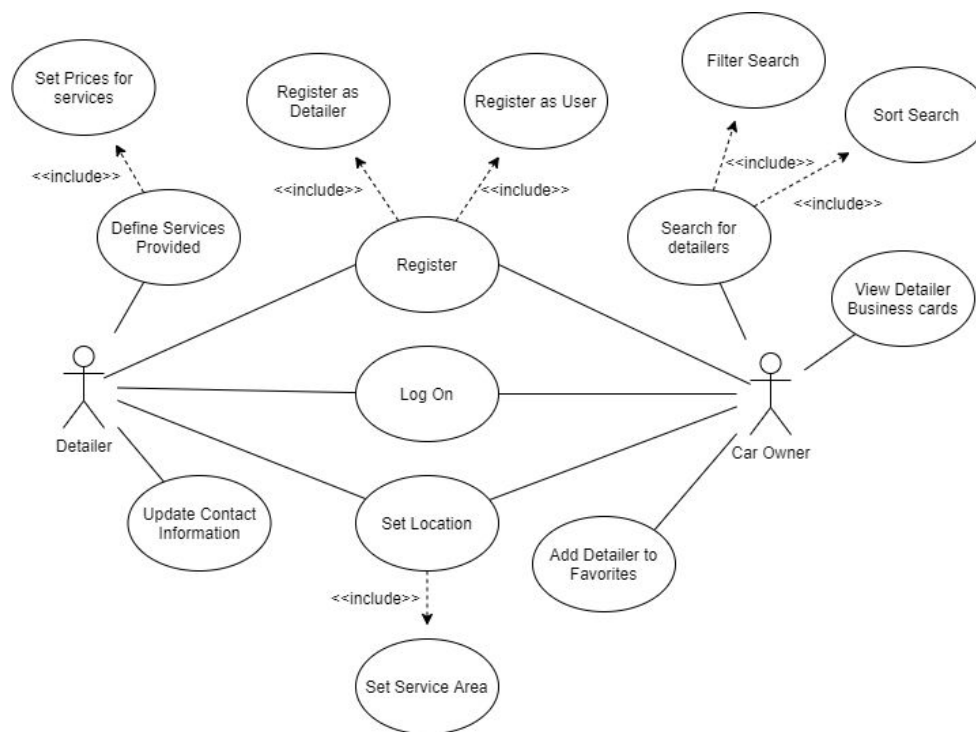
Feature Implementation Plan

Iteration 1 started with us creating a mobile app built with the Expo Framework as well as creating the Firebase Project and getting those two connected. With the Firebase Project connected to the Expo app, we were able to create the screens for registering and logging on to the application. A template for the user profiles and the services search views has also been created but right now those are acting as a blueprint.

The biggest goal for Iteration 2 is to implement Firestore into our application. Firestore will give us more control over how users register, most importantly, registering as a detailer or as a user. Once the users are able to specify which kind of account they are registering, we will be able to ask for the unique information needed for the individual types of accounts. It will be helpful to set up all of the database requirements for future features as well.

After the back end work is done, we can then focus on building the user interfaces and begin implementing the features which come with that. Scrolling through business cards, adding businesses to favorites etc.

Code and Tests

Github Repo

All up to date code can be found on at our github repository
https://github.com/esaunoya/3311-Team-3

Features Implemented this Iteration

- User handling through Firebase
- User can register with an email and password
- User can sign in to the app
- Users of the application can swipe left to right to display an option to move through each screen for now.

Views

Home Screen (Home.js):

Goal - Display the appointments/services ordered/received by the users or business owners

Features to implement:
- *Name of business*
- *Type of services offered*
- *Price of service*
- *Promotions*
- *Visuals of service/business*
- *Ratings of services*
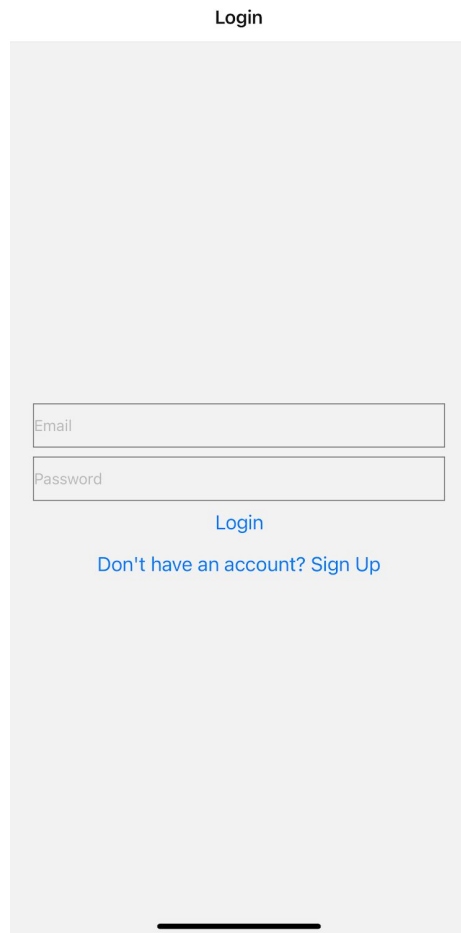- *And any other info that businesses may like to add*

Overall, this screen needs much more work.
Nothing is implemented yet.
- <u>Need Work</u> - This screen needs to display a list of businesses that are available locally for customers so customers can make orders/set up appointments.
- <u>Need Work</u> - Need better front-end design for visual

Login Screen (Login.js)

Login

Email

Password

Login

Don't have an account? Sign Up

Goal - Display a Login page for the users or business owners to login with their credentials to view the contents of their account
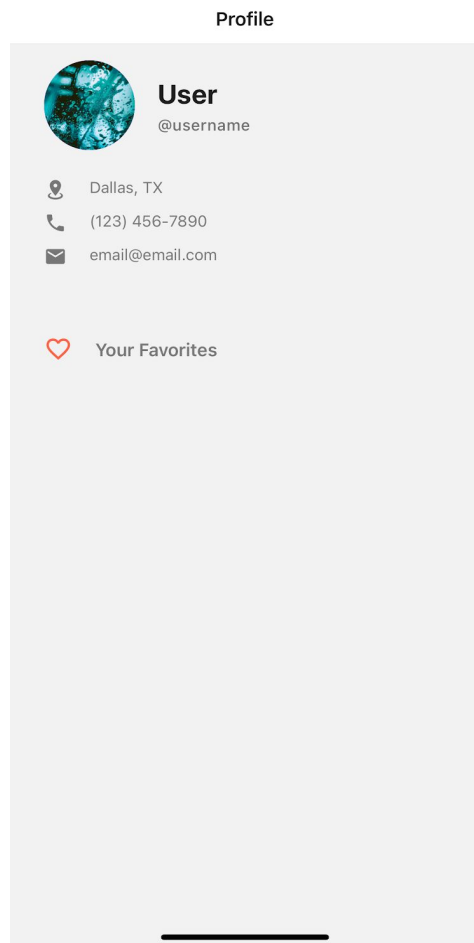
Features to implement:
- *input bars for username and password*
- *Login button to login*
- *SignUp button for new users*

Overall, this screen is somewhat complete.
Completed - The user can login only when their credentials is registered in the application database, if not, the error message is shown in red. There is a SignUp button that takes the new users to the SignUp Screen.
Need Work - The screen is all white and needs a better front-end design for a more improved visual.

Profile Screen (Profile.js)

Profile

Goal - Display the informations of the users or business owners

Features to implement:
- *Image of the user or business owner*
- *Name of user or business owner*
- *Location of the user or business owner*
- *Phone number of the user or business owner*
- *Email address of the user or business owner*
- *Most frequent services at a particular place shown under 'Favorites'*

Overall, this screen is somewhat complete.
- <u>Completed</u> - After the user logged into their account successfully, the application takes them to a default profile account.
- <u>Need Work</u> - Options for the user to enter their informations
  - Their location, phone number, email, etc..
- <u>Need Work</u> - Display the most frequent services made in recent purchases
- <u>Need Work</u> - Need better front-end design for visual

Service

First Item

43
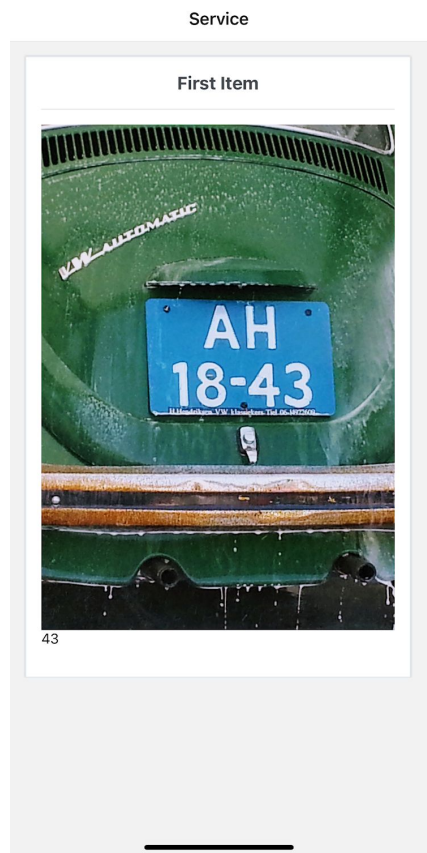
Goal - Display the services search for by the customer

Features to implement:
- *Name of business*
- *Type of services offered*
- *Price of service*
- *Promotions*
- *Visuals of service/business*
- *Ratings of services*
- *And any other info that businesses may like to add*

Overall, this screen needs much more work.
- Completed - After the user selects the Service screen, three cards which contain the same content are shown. These represent the services that local car washing or other businesses offer will show up. Each card contains an image and name at the top of the card.
- Need Work - Option to add more information about services that local businesses offer need to be implemented on each card (more than an image and a name).
- Need Work - Need better front-end design for visual

Sign Up Screen (Signup.js)

Signup

Sign Up

Email

Password

Sign Up

Already have an account? Login

Login via OTP

Goal - To successfully register customers or business owners in the application so they can login their accounts

Features to implement:
- *Input bars for email and password*
- *'SignUp' button to sign up*
- *'Already have an account? Login' button to move to the login page for existing users*
- *'Login via OTP' option*

Overall, this screen is somewhat complete.
- <u>Completed</u> - After the user inputs email and password, the user can click the 'Sign Up' button and the user is registered into the application. 'Login' button successfully moves the screen to the login screen.
- <u>Need Work</u> - After the user clicks the 'Sign Up' button after entering the credentials, the screen displays an error message but the user is now registered into the app.
- <u>Need Work</u> - 'Login via OTP' button displays a new screen with an error message.
- <u>Need Work</u> - Need better front-end design for visual

App.js (Backend)

Goal - connects all our different views to the backend.

Compiling and Running the Application

The Expo Client mobile app is required on your phone prior to running this application. Download it on the Apple App Store or Google Play Store.

1. git clone https://github.com/esaunoya/3311-Team-3.git on the terminal/command prompt
2. Go into 3311-Team-3 directory with 'cd 3311-Team-3' command
3. Type 'npm install' to install the dependencies needed
4. Type 'npm run' to run the application
5. Type 'npm start' to launch the application
6. Since we,our group members, are using Expo to run our application, we type in the command 'expo start' which enables us to emulate our app on the Expo from our phone.
7. Scan the given QR code with your phone and the app should begin running on the Expo Client.

Instructions on how to run the test cases using Jest:

1. Type 'npm install' if react has not been installed
2. Type 'npm test' to run the test through Jest

User Feedback

User feedback is based on pitching the idea to local detailers, the app is not quite at the point where we can get good feedback from its intended users. Instead we attempt to get feedback on planned features as well as what kind of features they would like to see and using the feedback towards refining the features.

User 1 (Detailer): "User expectations will be important. Allow the user the define the quality of detail they want (i.e. by defining the type of car. Is it a daily driver which will just need a simple wash or their weekend toy they want to show off at the weekend meet)."

User 2 (Detailer): "Something to funnel certain clientele types into a certain category. Based on whether their cars are garage kept or outside, their toy or their grocery getter. Lots of paths to take from those questions alone.
I have clients who love a full detail, columns and all. And other clients who just want it vacuumed good and some spray sealant after a normal wash.
Pricing wise it is night and day so to help make the users enjoy and see a reason would be makit it as simple as possible for them.
Also, try your best to make it so that detailers can't manipulate listed prices somehow. No $20 bs that when you get a quote or come in they try to change it to something more expensive, I've seen this with other unprofessional detailers and it will turn off a lot of users."

User 3 (Detailer): "I would like to see non-mobile detailers have a chance on this app, sometimes they can offer a whole level of quality that is just not possible with a mobile shop. Other than that, filters such as price range, mobile and non-mobile, speed/quality of service (quick and shiny or meticulous and pristine)."

Citations

[1] Craigslist. (n.d.). "Mobile Detail" Search Results. Retrieved September 5, 2020. Screenshot by author.

[2] Facebook Marketplace. (n.d.). "Mobile Detail" Search Results. Retrieved September 5, 2020. Screenshot by author.