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Submission Instructions

1. After you've completed all the sections, download this document as a PDF [File → Download as PDF]
2. Create a new GitHub repo for the capstone. Name it "**Capstone Project**"
3. Add this document to your repo. Make sure it's named "**Capstone_Stage1.pdf**"

GitHub Username: kgundula

AreYeng

Description

What is A Re Yeng? - A Re Yeng is a high-quality, rapid, affordable, safe and convenient public bus service.

Currently users of the bus services have to download a pdf file from the website to get bus time table. This app will help residents of City of Tshwane to plan the journey on the A Re Yeng bus service. They will know when is the next bus when using this app. They also use the fare calculator to determine how much value they should load on their A Re Yeng cards

Intended User

Who is your intended user?

City of Tshwane residents who uses the AreYeng bus services.

Features

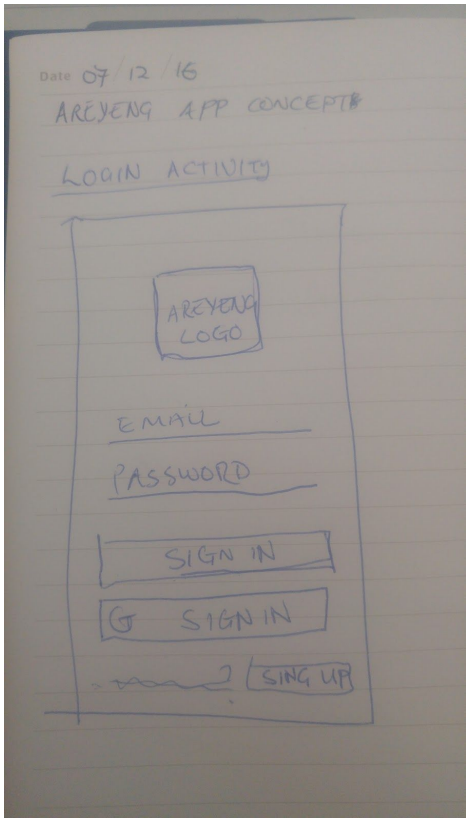
List the main features of your app.

1. Bus Fare Calculator.
2. Bus schedule and bus stations locations on a map.
3. Journey planner.

User Interface Mocks

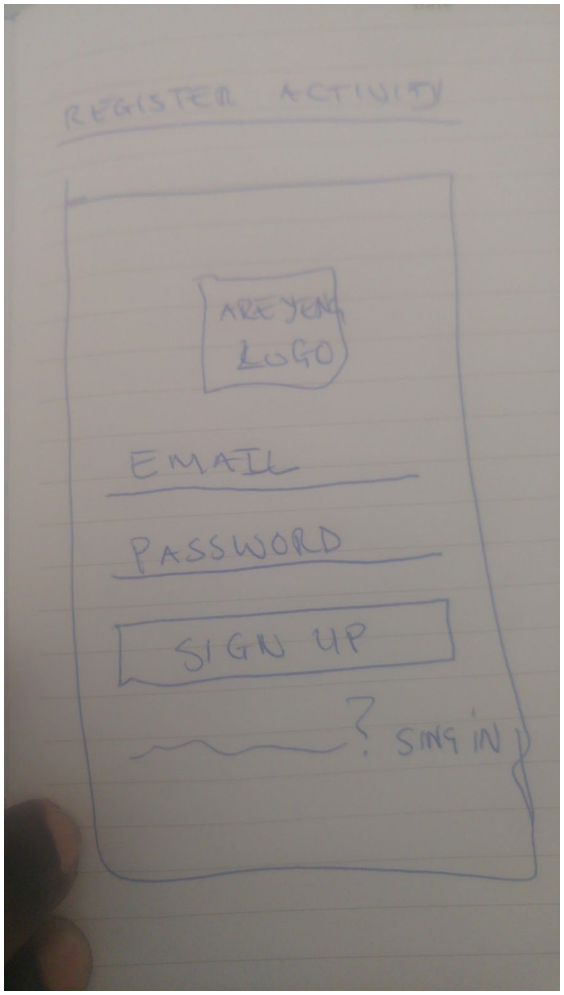
These can be created by hand (take a photo of your drawings and insert them in this flow), or using a program like Photoshop or Balsamiq.

Screen 1 - Login



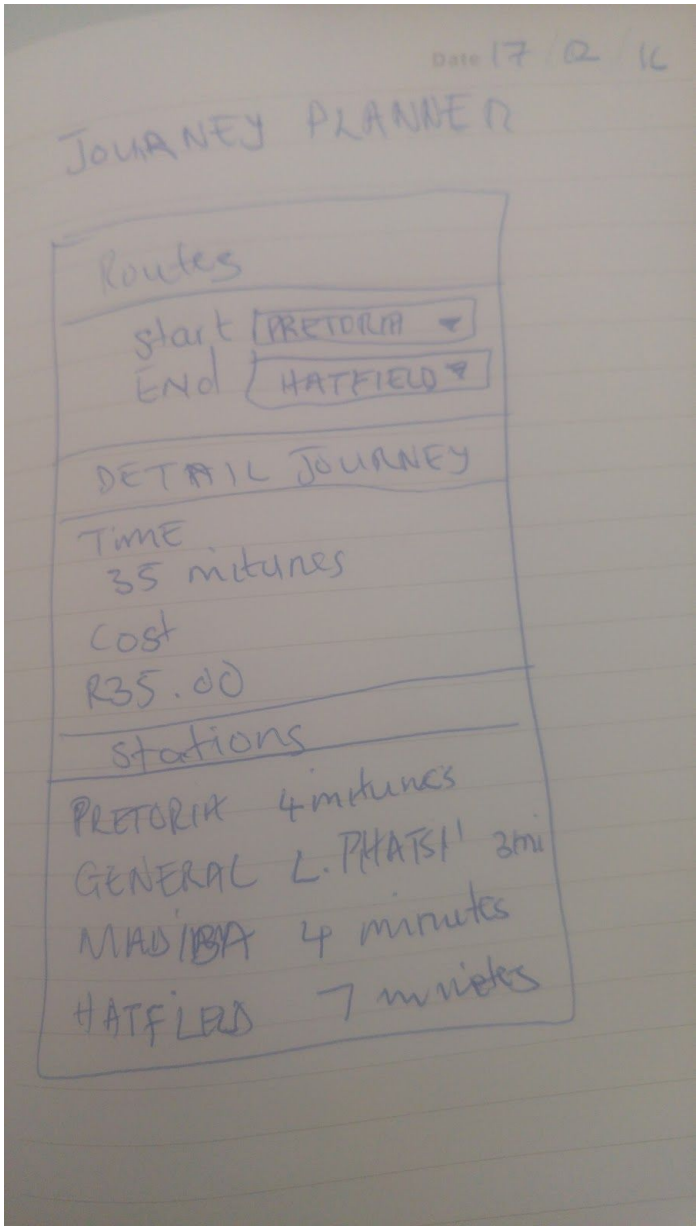
Login activity - A user can choose to login with email and password which they have to create on Register Activity or they can simply sign in using google account.

Screen 2 - Register Activity



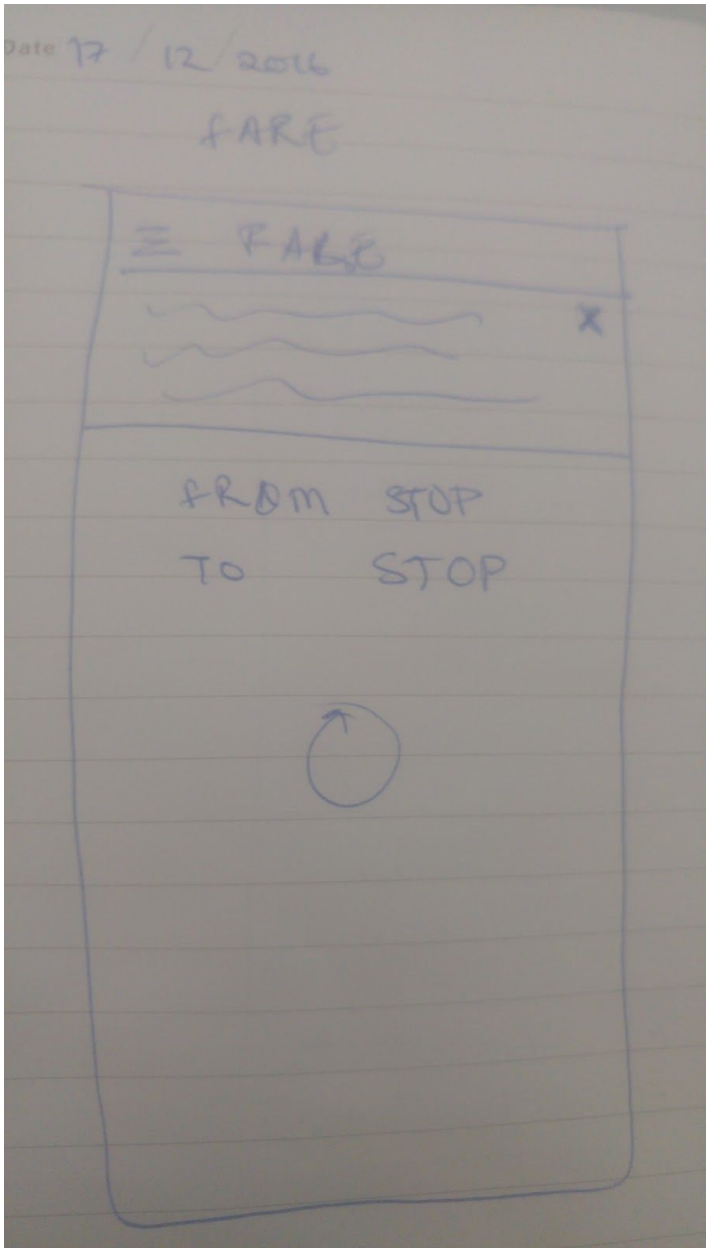
If users don’t want to sign in with their google account, they can use an email address and password to create an account and use it to login.

Screen 3 - Journey Planner Activity



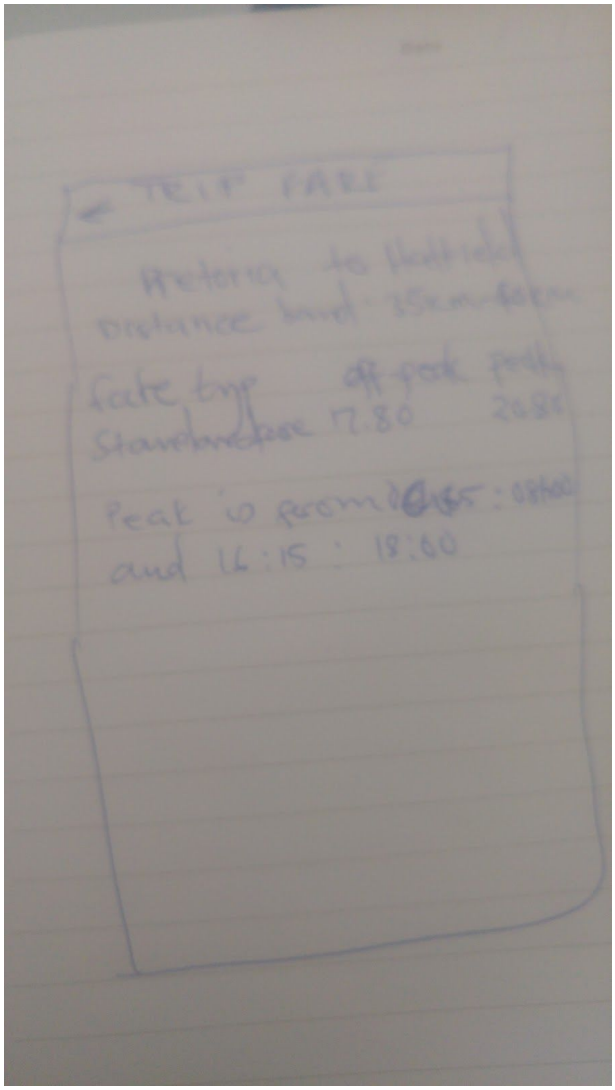
Users will use this feature to search between two stations and get details about the journey, journey time, journey cost, and which stations they will pass.

Screen 4 - Fare Calculator



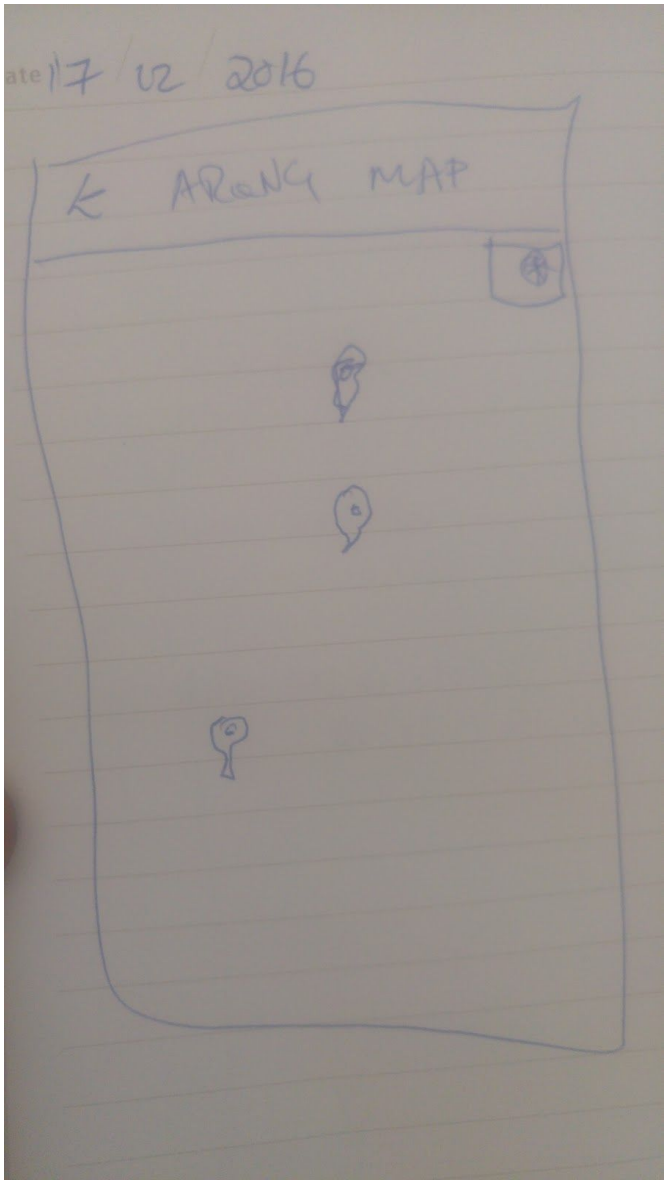
Users will use this feature to search between two stations and calculate the fare between the two stations.

Screen 5 - Fare Calculator - Trip



Users will use this feature to search between two stations and calculate the fare between the two stations. This will fare cost and fare time on a details screen for the trip.

Screen 6 - Map - Bus Stations location on map



Show bus stations location on map. Click on the marker and calculate fare from the click station.

Key Considerations

How will your app handle data persistence?

I will both use the content provider and sharedpreferences for persistence storage. I will sharedpreferences for storing access token and expiry time which is needed to be injected in the headers of API calls to fetch the data from the whereismytransport rest api.

Describe any corner cases in the UX.

If a user is requesting a new stations and there is no active internet, we will check network status first before the request and show the relevant error messages.

Describe any libraries you'll be using and share your reasoning for including them.

For example, Picasso or Glide to handle the loading and caching of images.

1. Retrofit - I will use retrofit to make API client for the AreYeng app. I will be using a public transportation API from whereismytransport.
2. ButterKnife - For Dependency Injection, field and method binding for Android views which uses annotation.
3. Glide to handle the loading and caching of profile images.

Describe how you will implement Google Play Services.

Describe which Google Play Services you will use and how.

I will google play services to get the firebase auth and google oauth library for user authentication of my app. I will also include crashlytics for crash reporting.

Next Steps: Required Tasks

This is the section where you can take the main features of your app (declared above) and decompose them into tangible technical tasks that you can complete incrementally until you have a finished app.

Task 1: Project Setup

Write out the steps you will take to setup and/or configure this project. See previous implementation guides for an example.

You may want to list the subtasks. For example:

- Configure Android Support libraries.
- Create a firebase project and download the googleservices.json file we can use play services libraries.
- Create and add whereismytransport client and secret key on gradle.properties files and also configure api token endpoint

- Add Glide and Butterknife libraries

If it helps, imagine you are describing these tasks to a friend who wants to follow along and build this app with you.

Task 2: Implement UI for Each Activity and Fragment

List the subtasks. For example:

- Build UI for MainActivity
- Build UI for LoginActivity
- Build UI for RegisterActivity

Task 3: Implement UI for Map Activity

Implement Google Play Services for

1. Fused Location and Map Api
2. Create layout for maps either (map fragment or activity)

Task 4: Implement UI for Fare Calculator

Implement Fare Calculator

- Create layout for Fare Calculator
- Select two stations to calculate the fare between them

Task 5: Implement UI for Journey Planner

Implement Journey Planner

- Create layout for Journey Planner
- Save the journey for later viewing.

Task 6: Implement UI for Closest Station

Implement Closest Station

- Create layout for closest station using fused location api

Add as many tasks as you need to complete your app.

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