CAPSTONE STAGE 1

Contents

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Delivery Tracking App

Description

A lot of medical supplies are delivered on demand basis from warehouses to hospitals daily in a lot of Indian cities. Mandate is to help such a delivery company keep track of the agent who delivers the medicines on a motor cycle and efficiently manage the agents and their time efficiently. Agents waste a lot of time loitering and the delivery company losses out on valuable time.

Intended User

This app is to be used by the delivery agents.
The undertake multiple trips in a day. They start the trip session and end it, that is recorded and the company has a web dashboard where all the agents information and the sessions that they undertake is visible.

Features

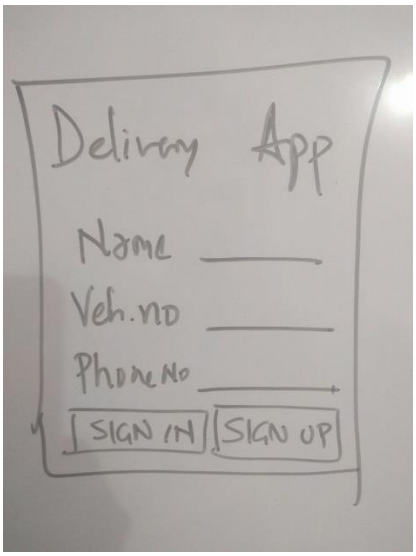
List the main features of your app. For example:

- Agents can Sign Up
- Login with mobile number verification
- When a trip starts, the geolocations are being recorded and Posted to a backend REST API until the trip ends.
- Activity type is recognized periodically and posted to the backend, to be used in assigning deliveries.
- Agents can see all the trips which they have undertaken

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



Signup Activity

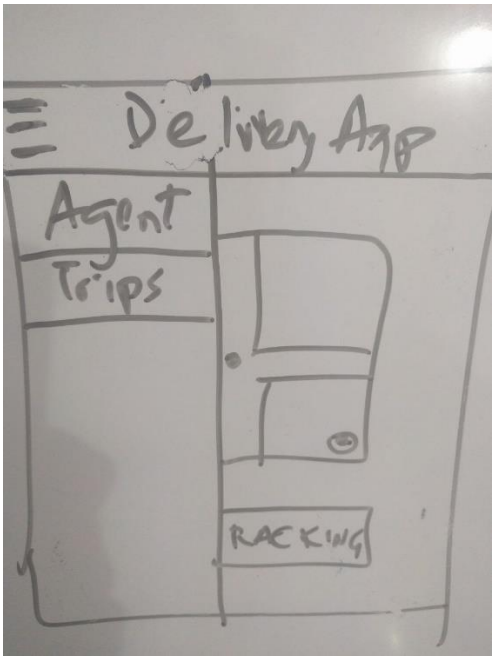
Screen 2

Login Activity

Screen 3

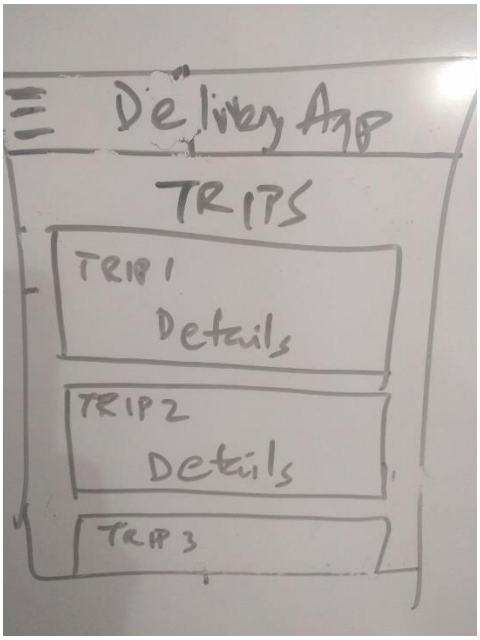
Main Activity

Screen 4



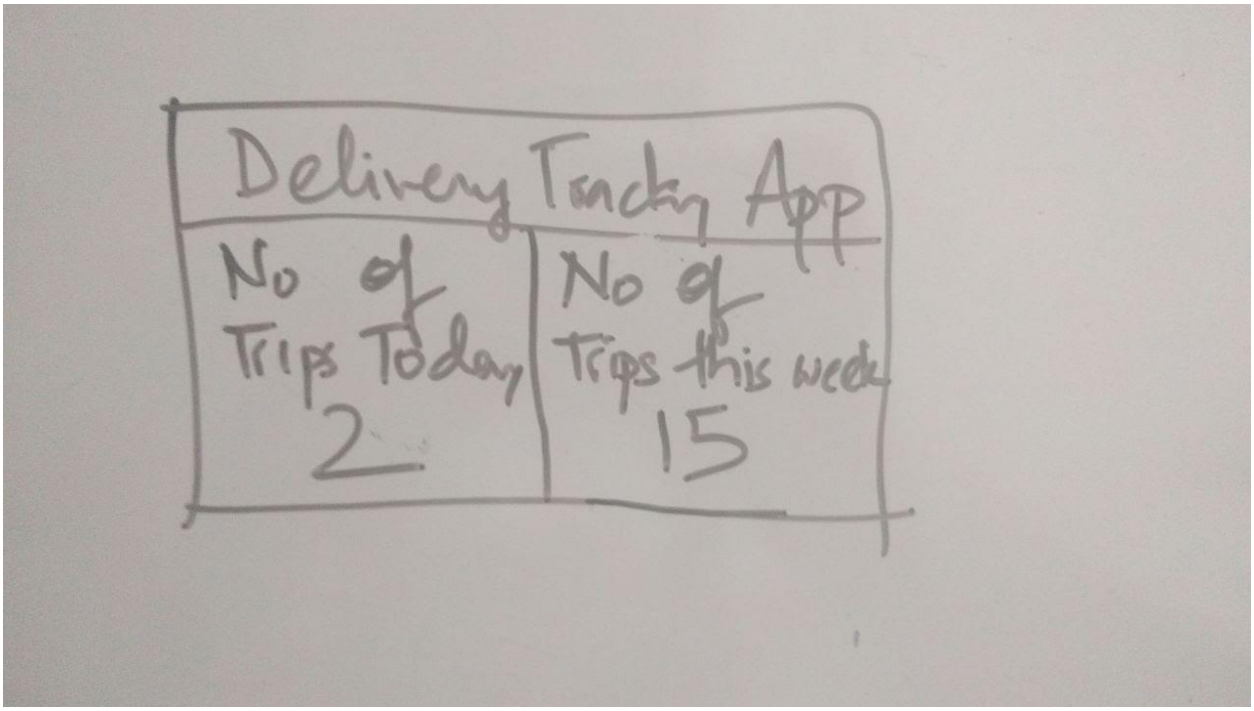
Main Activity with Navigation Drawer

Screen 5



Trips Activity

Screen 6 : Widget



Key Considerations

How will your app handle data persistence?

Will be using shared preferences to store the unique agent ID which is returned after registering with the backend. Will also be creating sessions/trips and storing that data in Shared preferences, so that we can track multiple sessions in a given day.

Describe any corner cases in the UX.

Can't think of any right now.

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

- **Butterknife** for field binding. Source: http://jakewharton.github.io/butterknife/
- **Volley** for doing HTTP Calls.

Describe how you will implement Google Play Services.

Google Play Services to be used:

1. Location
2. Activity Recognition
3. Maps

Next Steps: Required Tasks

Task 1: Project Setup

Set up the Android Project with the following.

Google Play Services
Maps
Get Permissions for following in Android Manifest:

- Location
- Activity Recognition

Task 2: Implement UI for Each Activity and Fragment

- Build UI for Sign Up Activity

- Build UI for Login Activity
- Build UI for Main Activity, with Maps, along with Navigation Drawer
- Build UI for Trips Activity

Task 3: Sign Up Activity

- Implement Signup Validation
- Use Butterknife for field and method binding
- Post the data to Backend
- Get the unique Vehicle ID and persist via shared preferences

Task 4: Login Activity

- Prompt Input of Phone Number
- Verify validity of the phone number
- Once the user is verified save the user info in shared preferences

Task 5: Main Activity

- Implement Google Play Services
- Setup Maps
- For Location
    - Register GoogleApiClient
    - Implement all callbacks
    - Get Latitude, Longitude information.
    - Save the data in Shared Preferences
    - POST the data to backend using Volley

- For Activity Recognition
    - Register GoogleApiClient
    - Implement ActivityBroadcastReceiver
    - POST High Confidence Activity to backend

- Add Code For Navigation Drawer
    - Agent Info
    - Move to Trips Activity
- Implement Content Provider so data can be shared easily.

Task 6: Activity Intent Service

Create a new class which extends IntentService to provide callbacks for detecting and identifying the activity type.

- Implement OnHandleIntent
- Broadcast the list of detected activities
- Persist in shared preferences

Task 7: Trips Activity

- Get all the trip information via *ContentProvider*
- Push data to the views using *CursorLoader*.
- Display all the trips in Scrollable/Card Layout

Task 8: App Widget

Use Content Providers to get the following information for the logged in agent

- Daily Trips Completed
- Weekly Trips Completed

Display inside the widget.

This will help the agent in estimating how far he is from reaching his deliveries quota.