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## Udacity Android Nano degree Course – Capstone Project Design Document

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GitHub Username: [zub1984](#)

# Stock Track

## Description

Using “Stock Track” app user can search the historical data of their favorite stocks. It calculates how many times a stock has changed (gone up/down in a row) and displays the details information.

The app is very useful for those users who are curious about the stocks status and also those who want to follow the trends in the stock market.

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## Intended User

User who are interested in stocks market.

## Features

Using “Stock Track” app user can:

- Search favorite stocks
  - ✓ Using text

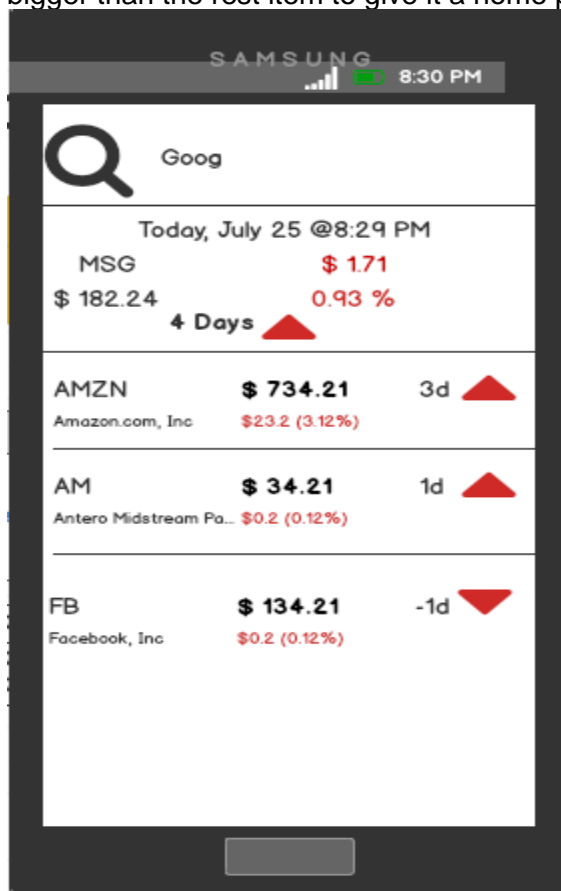
- ✓ Voice (optional if time permits)
- Save Stock information
- View the current status & change of stock information
- Share the stock statistics
- Use widgets to update stock information on stock market close

## Phone User Interface Mocks

Used “Balsamiq” software to create user interface mocks. The software can be downloaded from <https://webdemo.balsamiq.com/>

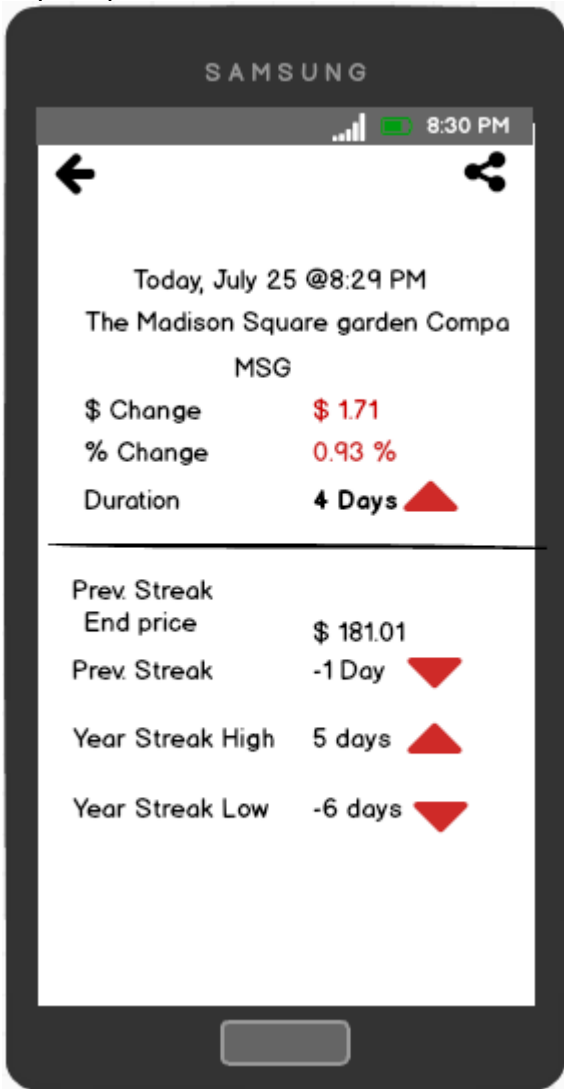
### Screen 1: Phone Main Screen in Portrait Mode

This is the Main Activity UI in portrait mode. Search bar is at the top, menu will provide the option to sort the list information based on Alphabetical order, % change, recent closure etc. After clicking on item user can get the details information. The first item will be presented in bigger than the rest item to give it a home page feeling.



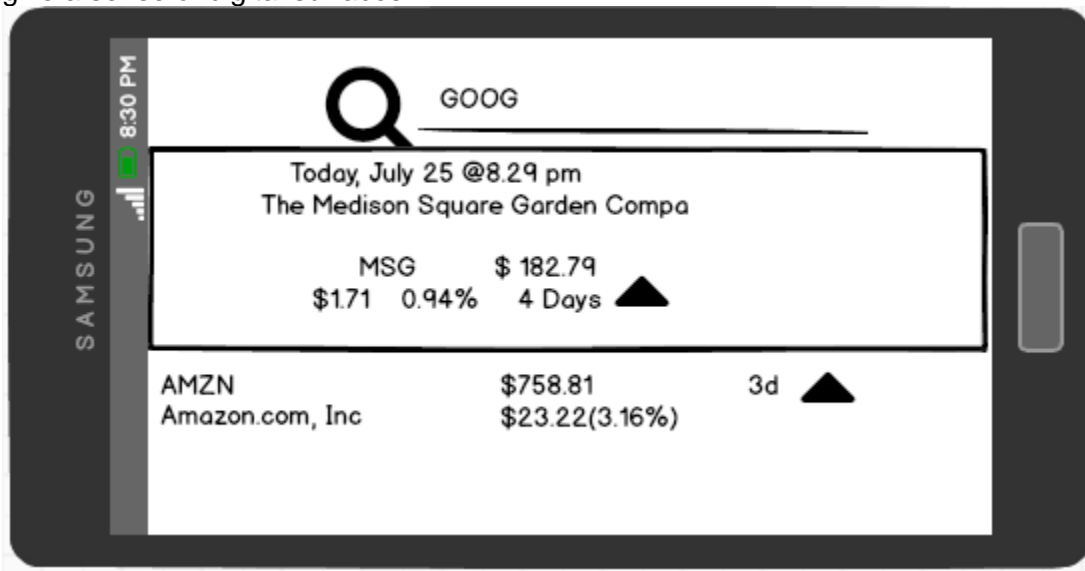
### Screen 2: Phone Detail Screen in Portrait Mode

This is the UI for the Detail Activity in Portrait mode. The back arrow goes back to Main Activity and the share button in the top right will allow you to share the information with other people. If Graph is provided, user can see the stock details in graphical format for last 1 year.



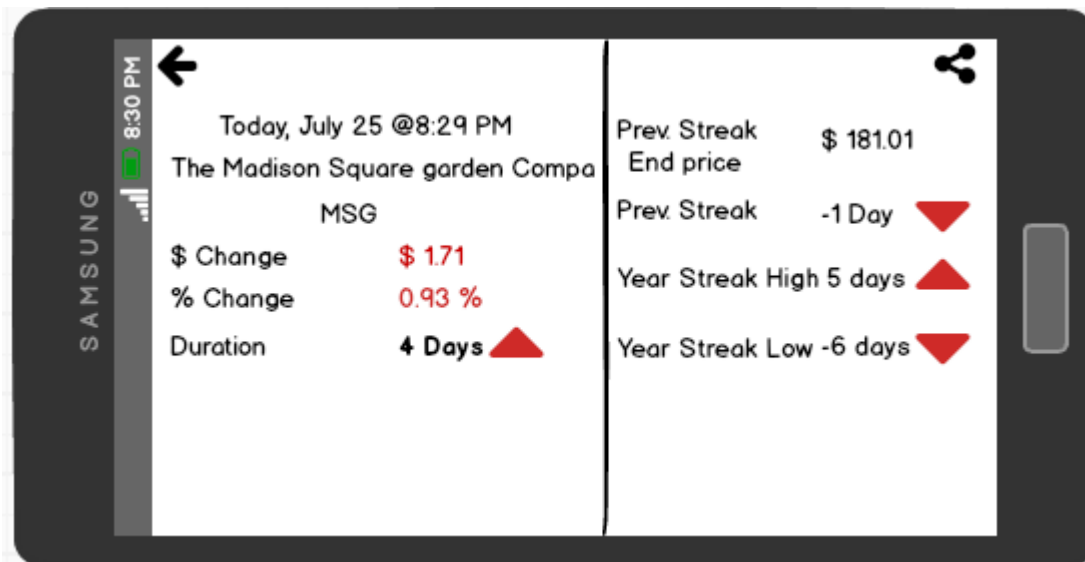
Screen 3: Phone Main Screen in Landscape Mode

This is the Main Activity UI in landscape. The first item of the list hovering over the toolbar to give a sense of digital surfaces.



#### Screen 4: Phone Detail Screen in Landscape Mode

This is the UI for the Detail Activity in Landscape mode.

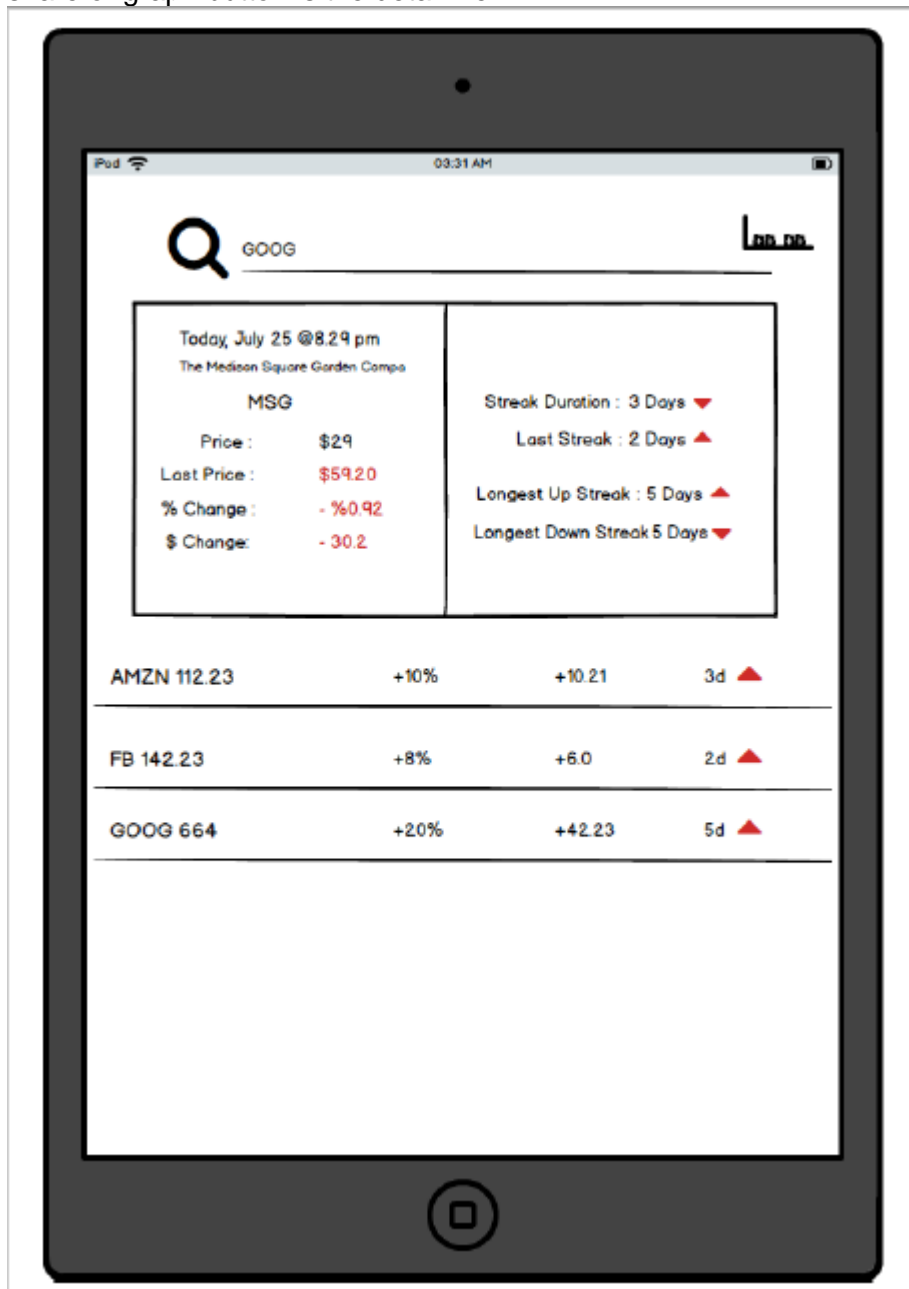


### Tablet User Interface Mocks

#### Screen 1: Tablet Main Screen in Portrait Mode

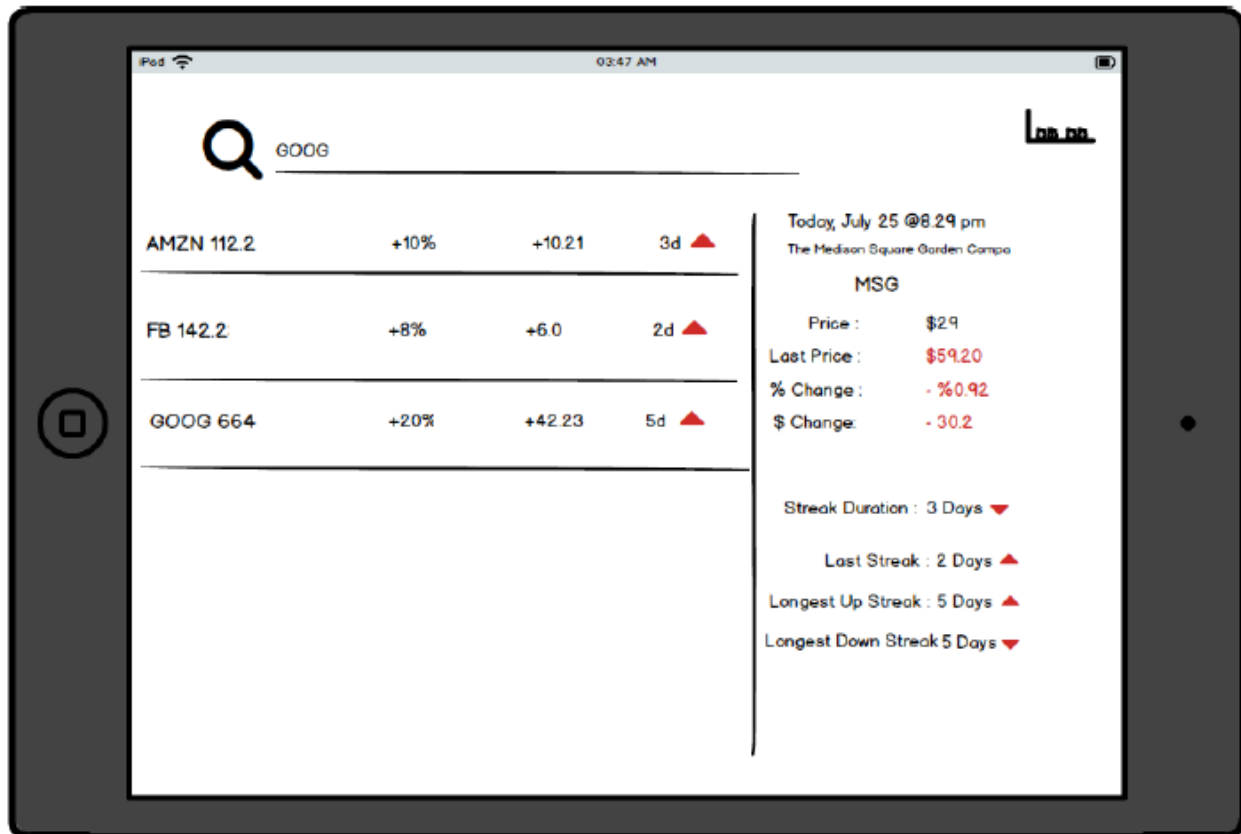
This is the UI for the Main Activity in portrait mode. The search bar is at the top and the overflow will button be used to sort the list. There is no Detail Activity as the top portion contains the

share or graph button is the detail view.



## Screen 2: Tablet Main Screen in Landscape Mode

This is the UI for the Main Activity in landscape mode. The search bar is at the top and the overflow button will be used to sort the list. There is no Detail Activity as the right portion that contains the share button is the detail view.



## Key Considerations

### How will your app handle data persistence?

The app will use a content provider that will save data to the SQLite database. When you add a stock information, the stock's information such as % change and \$ change will be stored in SQLite database.

### Describe any corner cases in the UX.

If user is in details page (phone portrait mode) after clicking the back button user return to main screen.

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

1. Even Bus API to Send events across fragments and activities : <https://github.com/greenrobot/EventBus>
2. Yahoo Finance API to fetch stocks information : <http://financequotes-api.com/>

3. Android Chart API very flexible and easy API to implement different kinds of chart in android apps: <https://github.com/PhilJay/MPAndroidChart>
4. Google Play Service – AdMob will be used to show Interstitial Ad.
5. Google Play Service – Analytics to monitor user actions and crash reports.
6. RecyclerView extension library which provides advanced features :  
<https://github.com/h6ah4i/android-advancedrecyclerview>
7. A beautiful, easy-to-use, and customizable dialogs API :  
<https://github.com/afollestad/material-dialogs>
8. Schematic: Automatically creates a ContentProvider backed by a SQLite database. It's very simple over building the database manually (**optional**) :  
<https://github.com/SimonVT/schematic>

## 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

- Create Project with name “Capstone-Project” using latest version of android studio
- Research on similar apps and learning from their experiences
- Creating the design architecture
- Specifying minimum and target SDK versions
- Configure libraries
- Set signingConfigs in gradle build scripts with debug key store and dummy passwords
- Research about API's using samples provided in link/github projects.
- Build sample database scheme to store the required information

### Task 2: Implement UI for Each Activity and Fragment

- Build UI for Main Activity & Fragment
- Build UI for Main Fragment's List Item
- Build UI for Detail Fragment
- Build UI for menu options (refresh & sort)

### Task 3: Implement Yahoo Finance API

- Query Information required using Yahoo finance API based on input in search text box
- If required implement Intent Service for query required information.
- Display queried stocks information in UI using cursor loader.

### Task 4: Add Transitions

- Implement Transitions for Activities



## Task 5: Data Persistence

- Implement Content Provider
- Store required information in database as per design requirements
- Build the logic to create/modify/delete the database information

## Task 6: Accessibility Support

- Add content descriptions

## Task 7: Integration testing and bug fixes

- Do integration testing and make sure things are working correctly
- Fix the issues

## Task 8: Implements Widgets & SyncAdapter

- Build UI for Collection Widget to show information from main fragment
- Implement widgets logic
- Implement SyncAdapter to sync stocks information at market close time

## Task 9: Google Play Services implementation

- Create an Interstitial Ad to be shown upon App exit fragment
- Use Analytics to monitor user actions and crashes that occur

## Task 10: Responsive Design Implementation

- Design for mobile landscape mode
- Design for tablet in both portrait and landscape modes
- Fix the issue data persistence because of UI/UX change

## Task 11: Build & Sign

- Create a free signed apk version

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### Submission Instructions

1. Create a new GitHub repo for the capstone. Name it “**Capstone Project**”
2. Add this design document to your repo. Make sure it's named “**Capstone\_Stage1.pdf**”