



# Mobile Application Design Specifications

## COINBRAD

Market Accessor app that relies upon Coinspot's market data, and helps users accomplish more through their existing Coinspot account by giving them more fine-tuned management tools.

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## Application Concept

### Introduction

CoinBrad is a native mobile application that allows participation in the Cryptocurrency market for beginners. The application works entirely inside of Coinspot's market environment.

CoinBrad focuses on simple reporting and access to market orders/limit orders and immediate buy/sell on cryptocurrency markets offered by Coinspot. By connecting directly to the API, implementing as many of the 22 API calls Coinspot offers on their services (<https://www.coinspot.com.au/api>) , and allowing investors and traders to see a custom-built User Interface, CoinBrad endeavours to compete with many other cryptocurrency applications of its kind, by starting on the market of another competitor and gradually building its own market presence after acquiring legal documentation to list itself as an exchange.

### Target Audience

CoinBrad focuses on younger retail investors with "meme"-inspired motivations, as well as younger enthusiasts of cryptocurrency trading in general. Those of which, who require a bit more information and updating, will enjoy CoinBrad due to its notification-heavy implementation of Portfolio reporting, and its correct representation of Net Worth of the portfolio being on the "sell" prices not the "buy" prices, which a lot of investors are frustrated with.

CoinBrad offers an easier way to interact with Coinspot's services and allows investors to be on top of their holdings, with clear, yet joke-inspired goals, and clear applications for real traders and investors given easy report generation for Taxes.

CoinBrad's Target Audience then boils down to:

- Young investors
- Retail investors
- Goal-Oriented traders

## Competitor analysis

### Competitor 1: Coinspot's application

The obvious choice as to measure up CoinBrad to in this project was chosen as Coinspot's own implementation.

After daily-driving this application for trading on a regular basis, the project owner has found some interesting points of view.

Below you will find main features of the application:

- Allows access to all available cryptocurrencies directly on the app
- Shows ALL of your Wallets in its own tab
- Shows your Portfolio as a pie chart and below it, your holdings
- Shows your portfolio also as a trailing line graph; interactable by selecting date points and viewing net worth
- Allows access to line graphs of price change for each coin you are to purchase

Some key positive abilities this application affords you are:

- + Grouping the main page of the buy tab into “All, Gainers, Losers” for quick decision making based on daily trends
- + Arranges Trading functionality neatly under “Trade” tab, notably Allows access to “Orders” (i.e limit orders and stop calls etc.)
- + Allows Deposit and withdrawal of AUD directly from the app

Some areas this project believed Coinspot’s application could use improvement on include the following:

- UI Seems outdated and Android-centric after being released less than a month ago
- Animations are custom-designed and “clunky”, i.e using core animations would have resulted in smoother feel
- Portfolio section with the line graph seems unintuitive to interact with
- No discernible “YTD” profits tracker; if you wanted to know how much money you have made so far, you’d have to go into ALL of your orders and see how much you’ve deposited, and now how much you’re worth. [Tedious for no reason]
- No immediate access to stop-loss
- No possible way to include “Daily Updates” easily as notifications
- **Wallet balance is calculated in AUD based on “Buy” price, which could mislead investors as to their actual assets worth after sale at any given moment. [SERIOUS ISSUE]**

## Competitor 2: Coinbase

One of the top contenders in the Crypto Trading market, Coinbase is used by millions of customers all over the world, and analysing their application would be absolutely vital to success in any mobile app designed to succeed in the same market.

Some key features of the app that we enjoyed include:

- Tells you Market index change percentages per day
- Access to News about crypto, for expanding knowledge base
- Top-Movers section built in right in the homescreen, with visible numbers
- iOS-inspired UI that flows fantastically
- “Prices” section
- Percent-added is updated based on whatever timeframe you select to look at the coins i.e +8235% in the 1Y category
- Ability to “Do More with Crypto” which is essentially donations to charity or otherwise built-in
- App feels like part of a community, and is consistent with how an iOS top-performer SHOULD feel, given UI and animations and sections etc.

The team was not able to find many issues beyond those that Coinbase addresses from Coinspot, and also the ones it doesn’t so for the purposes of redundancy, the issues are not restated. CoinBrad’s approach is to take both applications’ strengths and weaknesses and combine them into the Trading platform it aspires to be.

## Functionality

### Daily Portfolio Notifications

CoinBrad believes the implementation of a native notification customized for each trader is vital to the start of each trading day. By allowing traders to customize the frequency, time, and detail level of each notification, CoinBrad endeavours to give traders the maximum amount of information delivered to them in an easy and accessible fashion; on their Notifications. Users can access this from the Settings page/tab.

### Login

Users will receive a step-by-step guide on how to perform an API Key generation along with a Secret. This will be stored, along with their Login information, on a secure Firebase platform which CoinBrad will access whenever the users login. After first time login, the app keeps the users logged in and shows them the Homepage on launch. Users have the option to Logout from the Settings page/tab.

### Year-To-Date gains

Many applications of its class do not offer specific Year-To-Date profits analysis. By looking at order history and current portfolio worth, CoinBrad allows traders to have immediate access to their yearly Gains/Losses which helps in facilitating not only what their current positions are, but also helps in calculating Capital Gains Tax easier for tax returns/tax Breaks in case of loss. This also enables traders to realize their gains in an easier fashion; right above their Portfolio details

### Portfolio

Just as every other app in its class does, CoinBrad has the ability to show you your portfolio's growth over time, with the ability to change the timeframes you look at the chart. The Portfolio page comes in the form of a Line Graph with easily interactable Dot points for specific dates at which your Portfolio Worth and the Date will be accessible through touch.

### Holdings

Your Coin holdings will be accessible to you on CoinBrad using a combination of a Pie Chart, along with a table of your coins' holdings amounts, both in the coin's currency and in \$AUD based on "Sell" price.

Immediate buy/sell

Using Coinspot's API implementations, traders are able to Immediately buy/sell any number of Cryptocurrencies they wish. Given API limitations, customers are only able to access the current buy/sell quote.

### Market Orders

API Implementation of Market Orders for the specific markets that Coinspot allows access to, lets CoinBrad's traders put market buy/sell orders. When these are completed, CoinBrad send a push notification to the user. Again, due to API limitations, these prices only come from the current price listed.

### **Coins**

CoinBrad allows you to look at the current prices of all coins listed on Coinspot, along with the ability to change the ordering of them by Market cap, Gaining, or Losing in 24 hours. Customers can interact with the coins, and go into a subsequent page where they are able to either buy/sell immediately, or on the market. They are able to visit their Wallet balance for these coins through that said subsequent page as well.

### **Homepage**

CoinBrad customers have access to a homepage which consists of their Portfolio balance in Pie Chart, Their Holdings, top movers and ability to have a Watchlist feature.

### **Lambo-Meter**

CoinBrad allows their traders to view a page about their holdings and profits for All Time that mirrors the price of a super car. On a temperature-gauge, they will see their current profits, against the price of the supercar at the top of the temperature gauge. This allows younger audiences to engage with the application in a fun way. The price of the Supercar can be changed manually in the app's Settings.

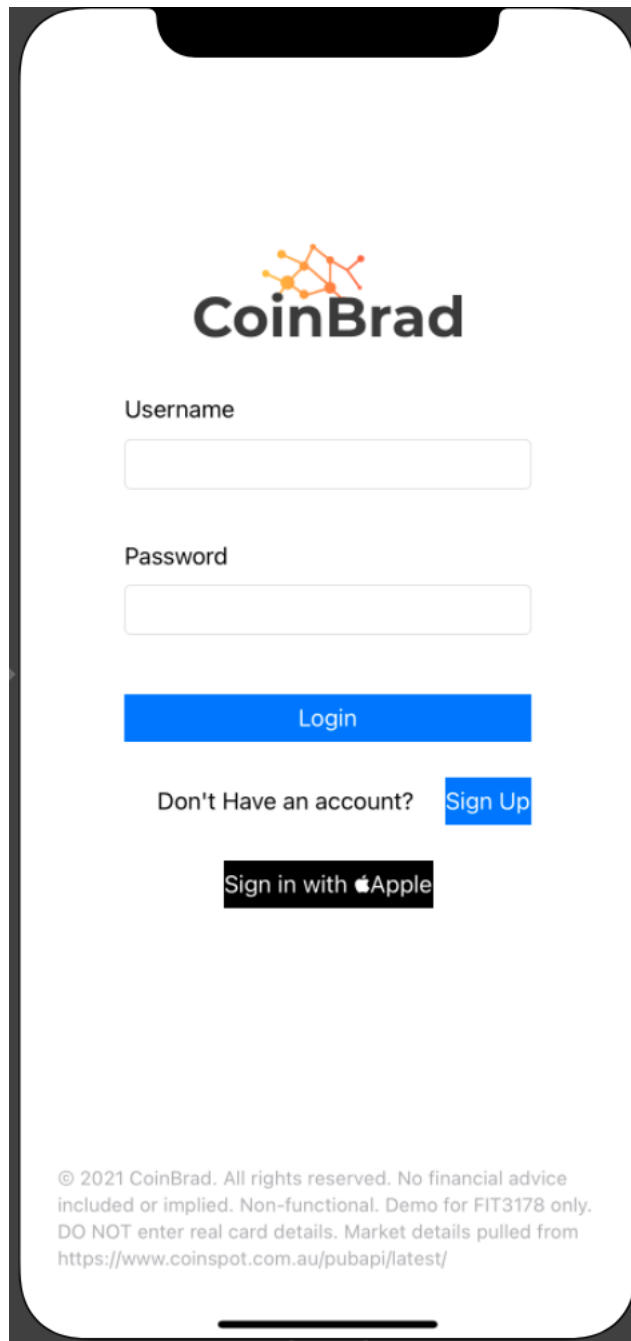
CoinBrad does not wish to integrate features like "Send" or "Receive" of cryptocurrency, as they are not currently supported through the means of the API, and is above the scope of this current application. This application only endeavours to allow Trading functionalities.

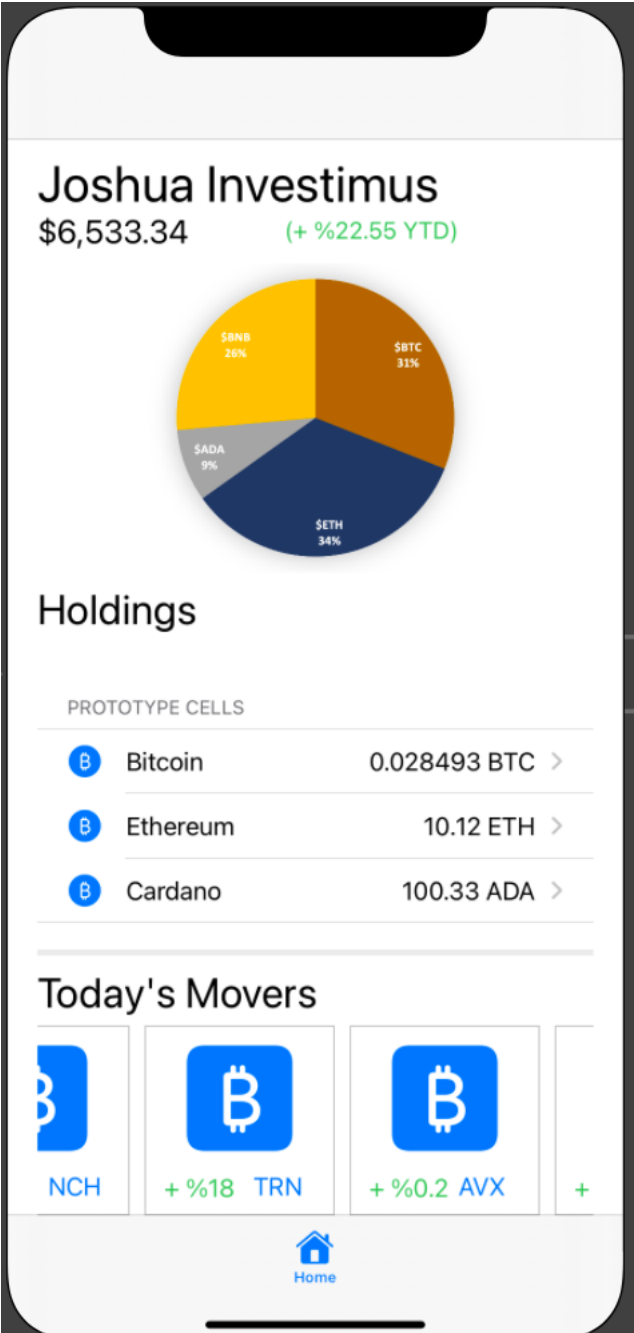
## User Interface and Design mockups

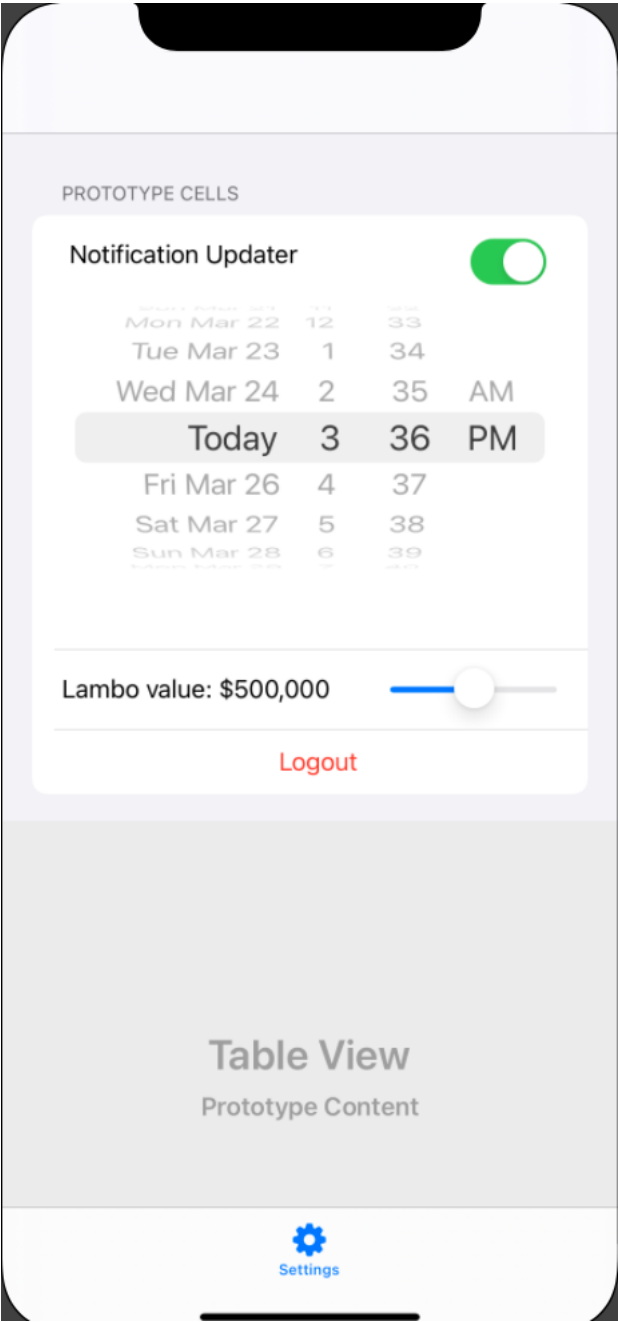
In the next few pages you will find the project's attempts at allowing this design specification document to alleviate User Interface examples.

Keep in mind most of these design elements are chosen from a standpoint of simplicity, and are NOT final design choices.

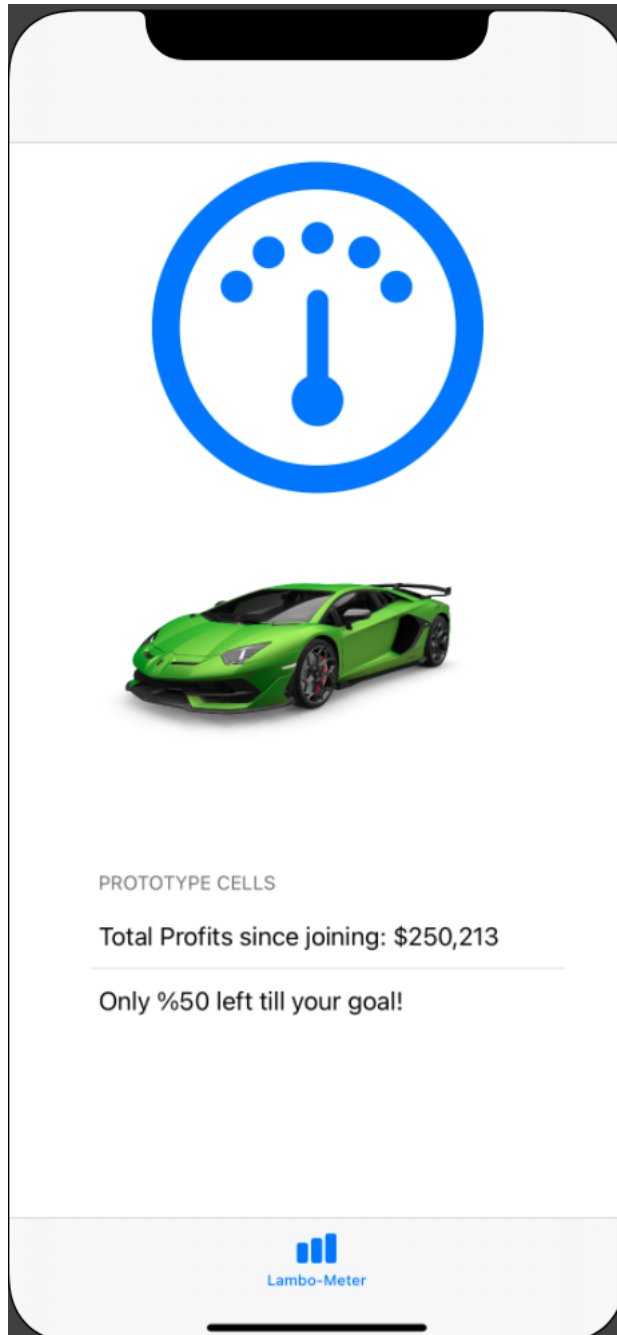
Final design choices will be made according to Apple's Human Interface Guidelines.

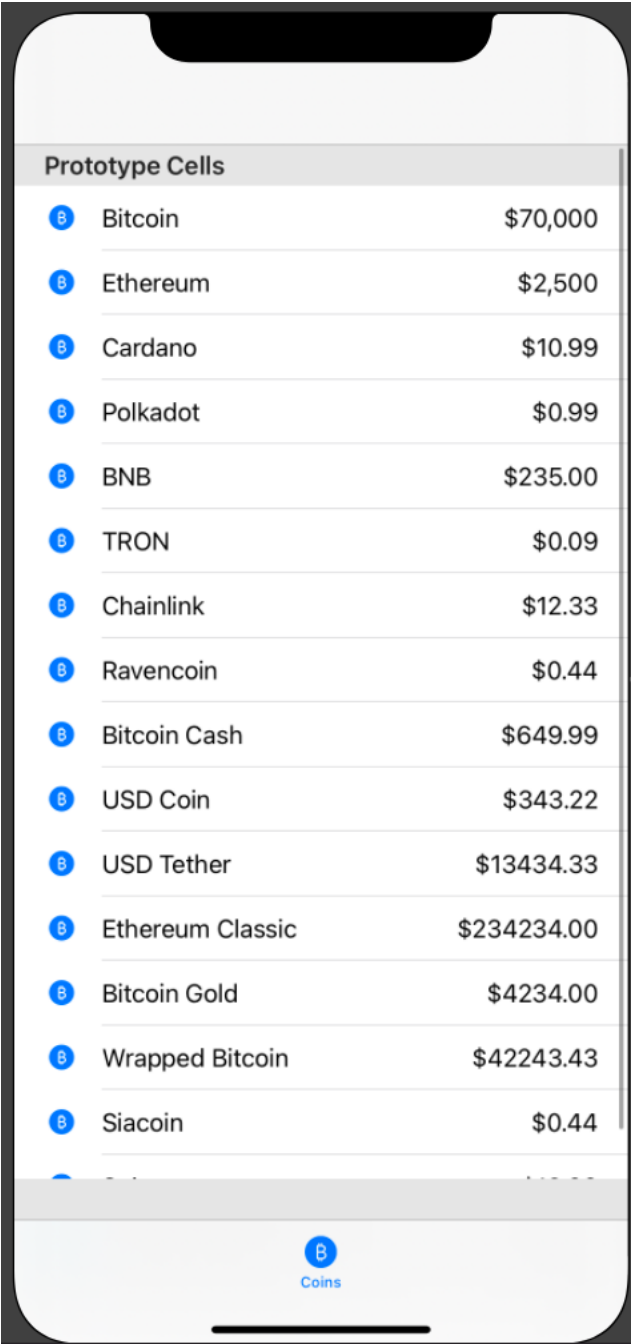


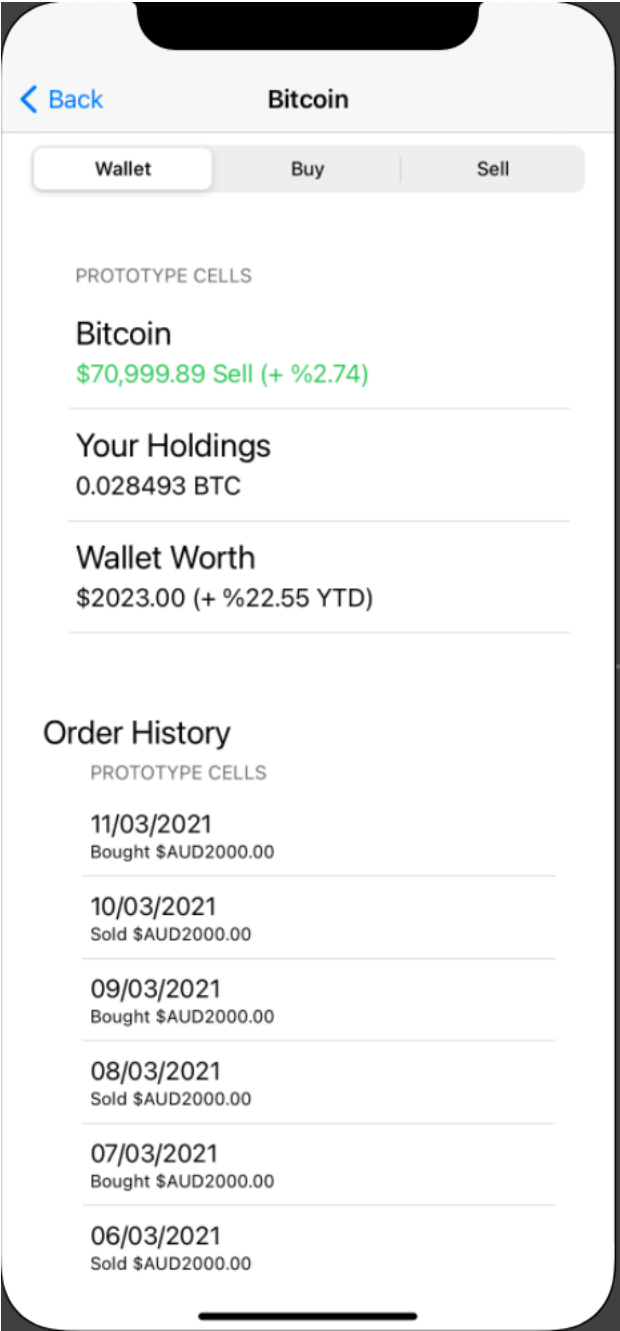


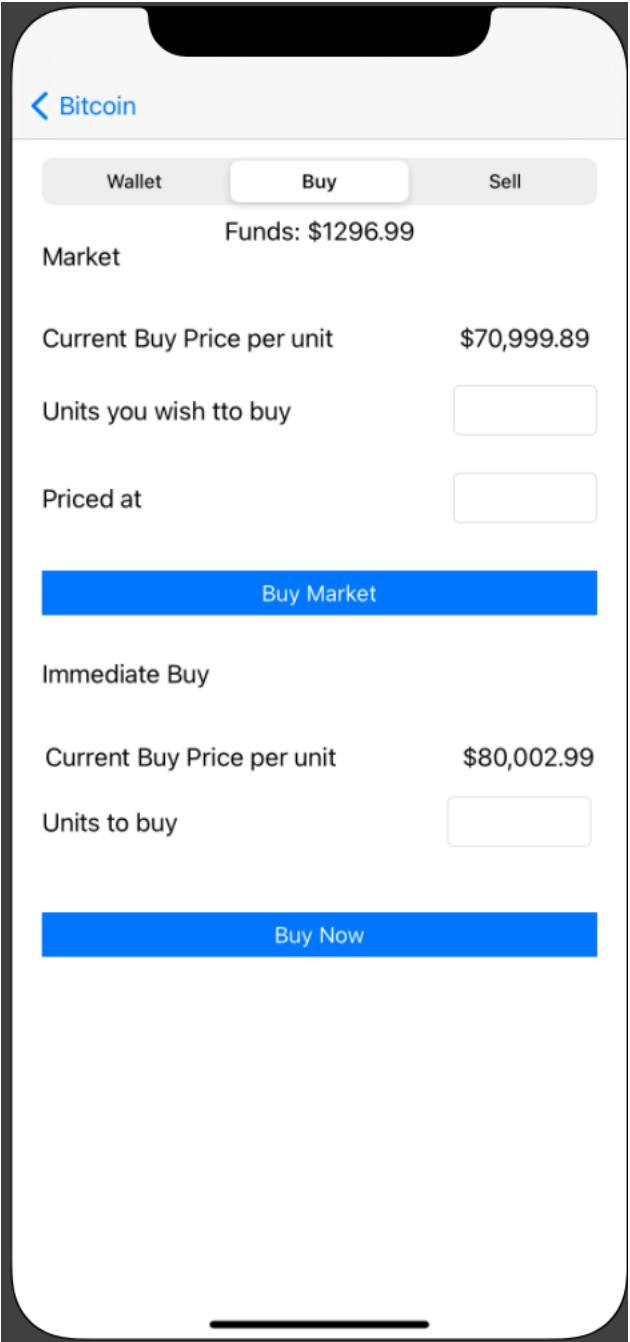


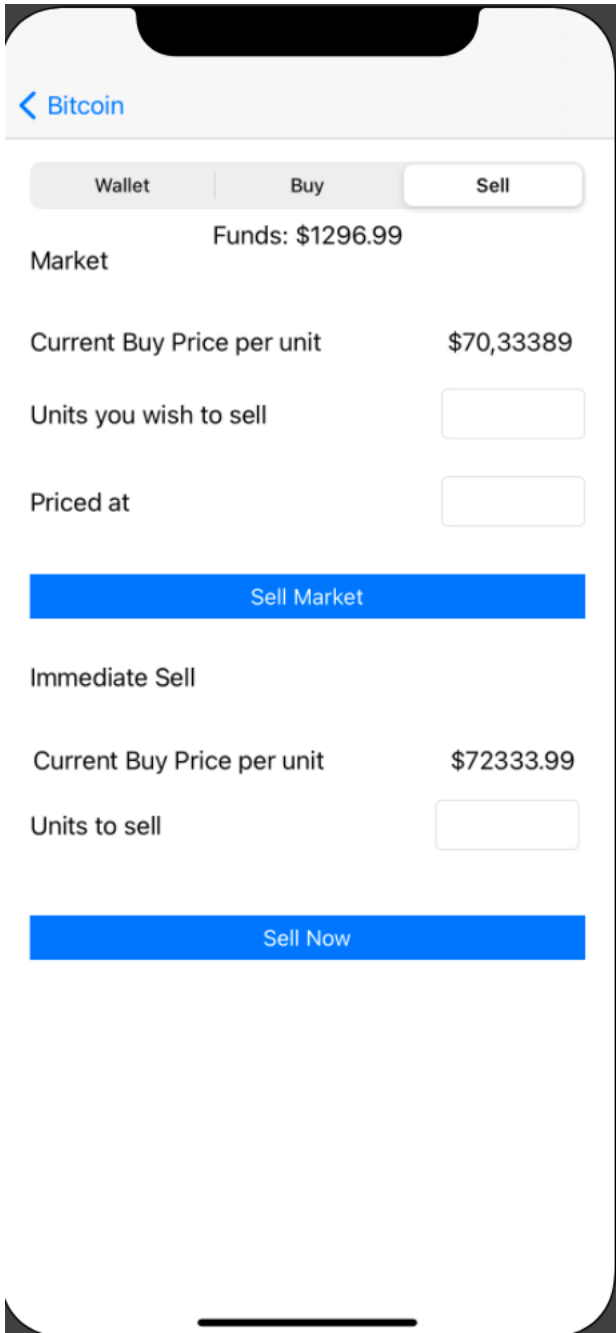


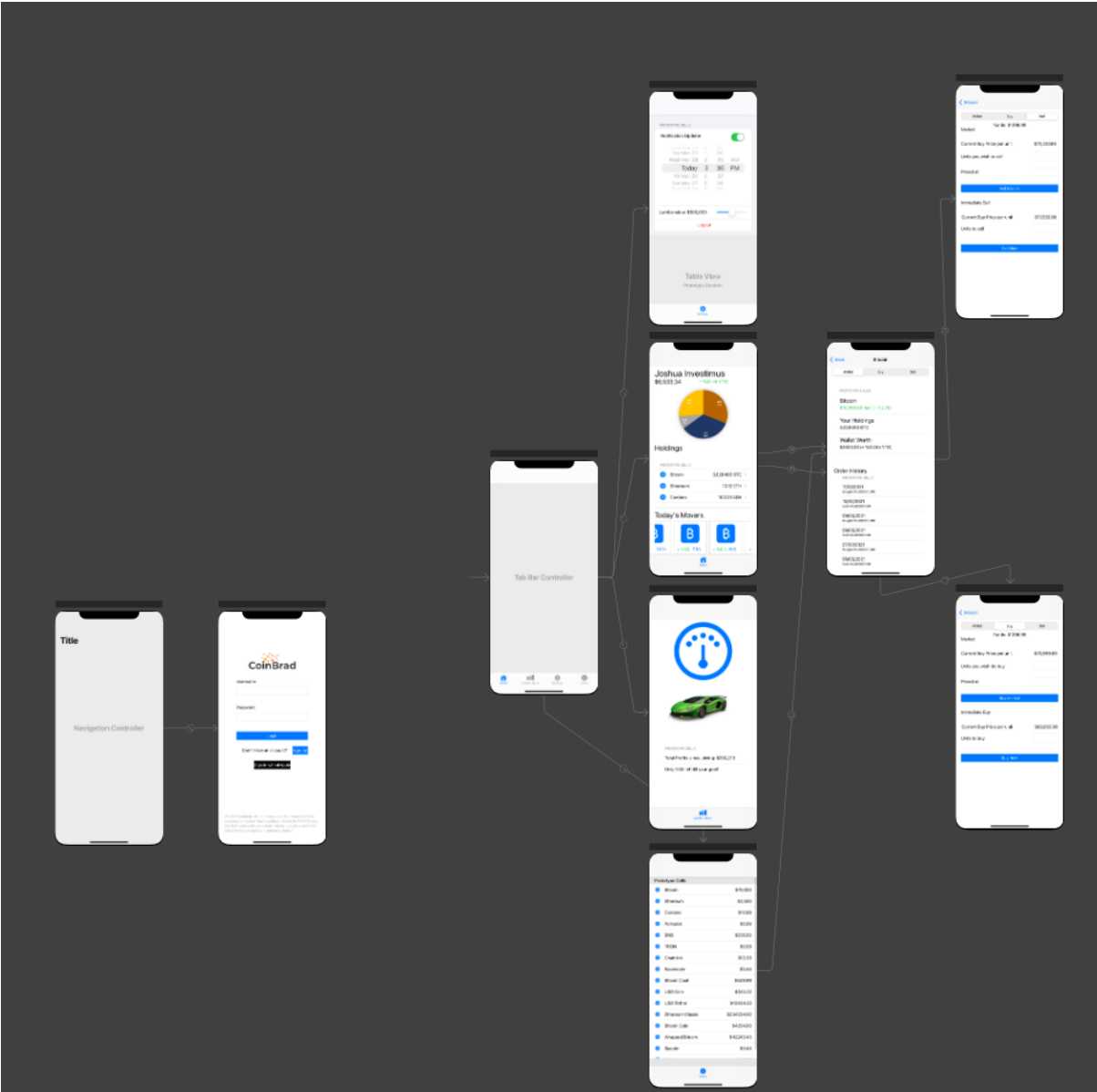












## iOS Technology

Based on functionalities and innovations listed in the previous sections, with regards to technologies and frameworks that iOS in particular will be helpful in aiding with are below:

- Homepage stacking of Balance, Movers, Holdings, Watchlist: UIStackView (Human Interface Guidelines) + Collection Views (Today's movers; horizontal scrolling) + Image Views + Table Views
- Acquiring up-to-date information on prices, balance, and market performance: Web Services + Coinspot's API implementations in Swift
- Holdings: comprised of PieChart (external library added to Swift) and UITableView
- Navigation: TabViewControllers for the Home, Coins, Lambo-Meter and Settings pages, and ViewControllers connected to the Tabs and otherwise when the "Coin" view is entered which features a wallet with a three-way Segmented Control that switches the View below to the appropriate Wallet, Buy, or Sell ViewControllers.
- Login: Google Firebase + Sign In With Apple (Required by Apple) + use and storage of API keys as POST method for acquiring all information
- Storage of balances and portfolio breakdown calculations done on launch: Core Data database, Will be re-updated periodically.
- Swiping between tabs: Gesture Handling
- Sending daily updates and buy/sell order or market buy/sells confirmations: Local Notifications Services

Other specific requirements and technologies will be investigated through the lifetime of this project and updated as this project iterates through its development cycle.

## Scope

This project realizes the level of ambition involved in its functionalities list. Although aiming to complete the requirements within the short period of development, this project recognizes some Must-Have functionality in order to create a Minimum Viable Product.

A list of those is below:

- ✓ Daily Notifications
- ✓ Login
- ✓ YTD Gains
- ✓ Market Orders (as a select-from-list, input order, input units etc.)
- ✓ Lambo-Meter
- ✓ API-Call success for acquiring Coins data (price market buy/sell, price immediate buy/sell, order history)

## Timeline

CoinBrad endeavours to finalize these specifications in the following order and timeline schedule:

- All required API Calls and functions written **Week 6**
- Show Balance, Portfolio composition as Numbers **Week 7**
- Show Portfolio as Pie Chart + Table of Holdings **Week 8**
- Year-To-Date Gains section **Week 9**
- Prototype 1 Ready **Week 9**
- Polish UI for previous features if not completed **Week 10**
- Market-Order: Buy/Sell immediate + UI **Week 10**
- Market-Order: Buy/Sell on Market + UI **Week 11**
- Homepage with Today's Movers + Portfolio balance + Pie Chart + Holdings (integrate two previous features into Homepage) **Week 12**
- Prototype 2 ready **Week 12**
- Settings page: Notifications modifier **Week 12**
- Settings page: Lambo-Meter value **Week 13**
- Lambo-Meter **Week 13**
- Gesture-Handling for tab switches **Week 14**
- **Finalized Week 14**

It is important to note, given the Scope and MVP, and the rate at which tasks will be completed, re-prioritisation of the above timeline is expected given the approach this development cycle will undertake is more of an Agile-based system with PCBs and Sprint Tasks.