

# Final Project Proposal

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## Overview

My final project is inspired by the recent trends of cryptocurrency and my new habit in crypto investing. So, the app will serve as a ticker and tracker to help me remind, track and manage my records and notes for buying and selling crypto tokens. It has three main pages switched by the three buttons at the bottom of the screen.

## Introduction

### Main Page 1: Lists

The first page is to display all the lists I created, presented in a slider, with each list representing a specific category of investment. To provide more contexts about the category here, for example, one list is for Ethereum-based tokens, and another list can be Polkadot-based tokens. But these categories are totally defined by the user. I can also create these lists based on interest level or risk level. So, this main page will show one list at one time, and I can swipe to switch among different lists. Each list consists of a number of list items row by row which are the investment goals set by me for buying and selling specific crypto tokens belonging to that list. The features of this main page are summarized as follows:

- There is a button on top right corner with an icon to indicate setting. Tap that setting button, and a form pops up which includes a list of options. For example, the first option is to create new list which then triggers a popover requiring the name and description for the new category list. Once the new category list is created, the view will be switched to present that new list, although it is empty initially. There is another option to manage the order of existing category lists in the slider. The third option in the form is to delete current category list.
- To create an investment goal, there is “plus” button at the bottom yet right above the three buttons which are for going to different main pages. The “plus” will trigger a pop-up form, to enter the name of the token, the amount to invest, the color for this goal, the start date and end date, and the description. When I try to input start and end dates, a small calendar will pop up where I can drag dates to specify a period.
- To view or edit a goal, swipe to the list, and tap that list item. Then, I will enter a sub-page. There is a progress bar to show total amount to invest, the amount already invested, and the unfulfilled amount. I can drag the progress bar to adjust the amount. Below the progress bar, I can type any notes for this goal, such as “Ethereum bought at \$2000 on 5/13/2021”. Or I can attach any screenshots from library there. On the top of this sub-page, a button on the right will trigger a small form showing a list of radio buttons to select the priority level for this goal. The top left corner is a checkbox. If I tick it, this goal is achieved. When going back to the main page for lists, this achieved goal changes to darker mode and will be moved to the bottom of current category list.

### Main Page 2: Calendar

The second main page is a calendar showing today's date. Below the date, there is a list of reminders for today. Again, there is a "plus" button at the bottom of the screen to trigger a small form and create new reminder. Different from goal item, a reminder item just needs title, date and time, which I usually need to remind myself of selling crypto in the early morning or at midnight. Besides, I can swipe left to the previous day or right to the next day. Swiping downward will drag a small calendar from the top having all dates for current month. Taping a date on it will go to that day.

### Main Page 3: Dashboard

The third main page is a personal dashboard. Each goal is a bubble having a pie and a percentage number inside to illustrate investment progress. The default order in the dashboard is based on the priority level. But I can also drag the bubble to change the order. Taping the bubble will trigger a small pop-up window to show the information about this investment goal.

### Features for Required API Usage

- As described above, there is a number of buttons to switch among main pages, trigger form, sheet and popover.
- The player can use TextField to edit the name for the lists and investment items.
- Image will be used to manage imported photo from library.
- GeometryReader is applied to assist in the animation effects, such as move items or bubbles around and swipe around.
- NavigationView is used to navigate through a list of investment items and reminder items in the main page of lists and main page of calendar.
- Special Gestures are drag and swipe. Drag cases include moving the list items around to change the order, adjusting progress bar, and covering a period on calendar. Swipe is applied to switch among different category lists or trigger the small calendar to show up.
- ViewModifier is used to construct the view for bubble task in the page of personal dashboard.
- The progress pie in the dashboard page is a custom Shape.
- Animatable will equip the custom ViewModifier to support shaking and rotation effects.
- Implicit Animation will support the "select" and "unselect" effects on the dates.
- Explicit Animation will be applied in multiple scenarios, such as swiping, dragging and sorting the list items.
- UserDefaults are employed to store all the settings the user has made on lists, investment goals and dashboard.

### Features for "Your Choice" APIs

- I will design a simple Apple Watch UI for my app.
- I will include EventKit to have access to calendar and reminders data so the users can create, retrieve, and edit calendar items in my app.