



COSC2659
iOS Development

Assignment 1

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a. Introduction

For the first assignment, I created an app called “Money Ball”. “Money Ball” is an app for NBA bettors with the information about NBA teams including brief description, home court location, roster, previous season standing, next season title odd and their social media. The idea behind the app was based on my personal hobbies of watching NBA and gambling, and the growth of sports betting in the world. As shown in **Figure 1**, the sports betting market has been steadily growing over the past few years, and it is forecasted to continue to grow in the coming years. It can also be seen that basketball betting holds the largest market size. Therefore, “Money Ball”, with the slogan “Know your teams, know your bets”, was developed to assist bettors with better understanding of the NBA.

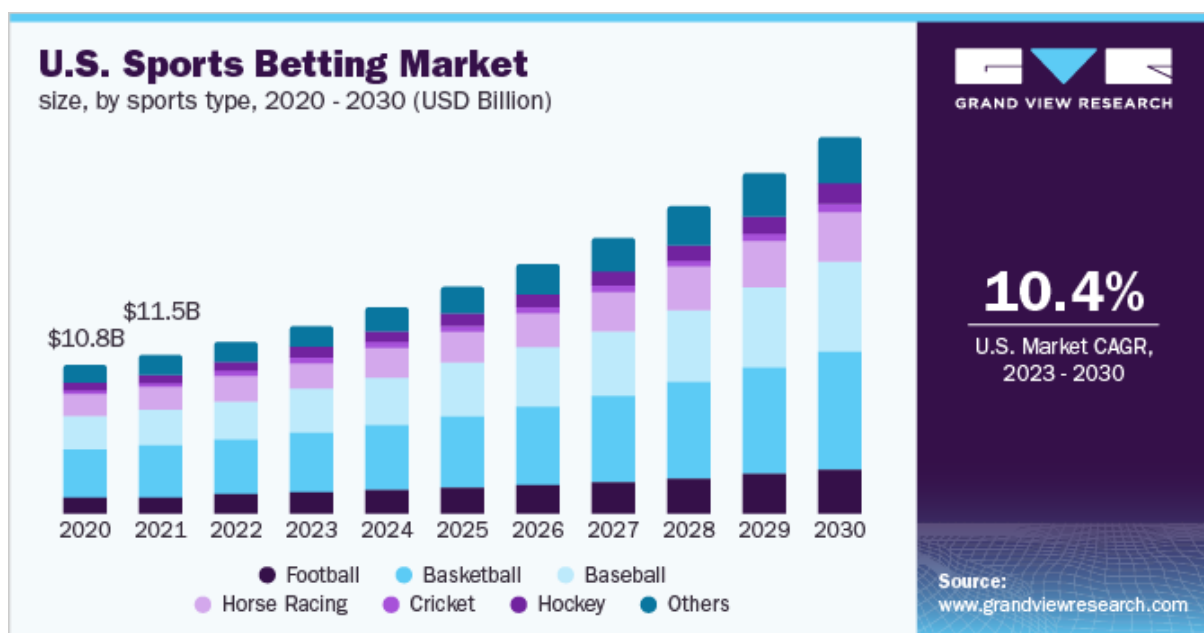


Figure 1: U.S. Sports betting market size and forecast. [1]

b. Project Description

“Money Ball” aims to provide users with a simple list of teams in the NBA along with information to help them have a wiser decision when placing a bet. The app is straightforward and user-friendly for anyone to use. Users can easily get to the detail page of any team from the navigation list. Users can also search for a specific team from the search bar at the top or they can use the filter buttons to display the teams by their regions. To make the app more applicable and user-friendly, “Money Ball” also provides dark mode which can be activate by click on a button on the right side of the search bar. Once users get to the detail page, users can access the information of the team within the scroll view. To make the detail page short and simple, the map of the stadium will appear on the screen once they click on the button next to the stadium name. At the bottom of the screen, users can access the team social media just by clicking on the corresponding social media icon.

c. Implementation Details

- All of the technical details to explain how you design (justify your design decisions) and implement this website to meet the requirements.

To meet the requirements, the app was build based on 3 main views that users can interact supported by multiple sub views. The first view and the second view are connected using a bool variable while the second view and the third view are connected using navigation link.

The first view being the welcome view that display all the branding of the app in a “VStack”. The view also includes a navigation button and an extra information button using “alert”.

The second view is the list view which use “NavigationView” as the base of the view to enable navigation between the second view and the third view. On top of the view, a “toolbar” is implemented to display the list title with a button to enable/disable dark mode. To simplify the code, the built-in “searchable” and filter buttons are used instead of a customize search bar. Teams are displayed using “List” and “NavigationLink” so that users can be directly navigated to detail view of the chosen team.

The third view is the final view of the app. This view is built using “ZStack” to enable layers for the background and information elements. All the information are contained inside a “VStack” for a vertical display with the elements being grouped into corresponding section using “Group” as a stack can only contain maximum of 10 elements. To maintain a simple app yet fulfil the requirement, the map is only displayed as an overlay through a button. For the roster of the team, it is displayed in a scrollable “HStack” to save spaces.

Main features

- Welcome view

Welcome view includes the app logo, app name, slogan with 2 buttons. The first button is to show a pop-up about the developer information, and the second button will navigate users to the list view.



Figure 2: Welcome View

- Icon to pop-up developer information

To implement the pop-up, I used an alert that will pop up when the button is clicked.

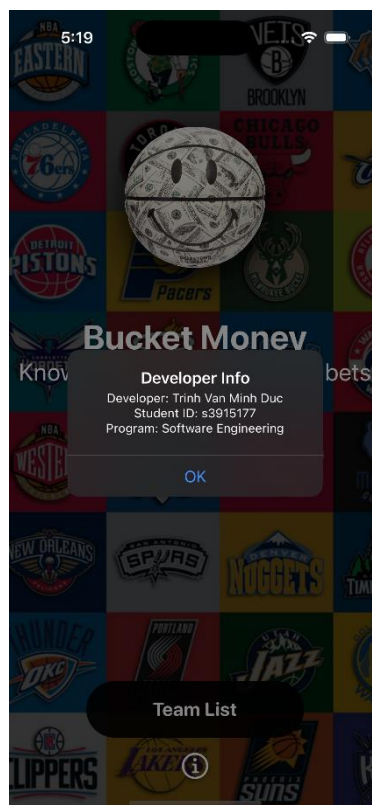


Figure 3: Icon pop-up

- Navigation list

For the list view, I used “NavigationView” as the wrapper of the view. Inside the view, I used “List” and “NavLink” within a “VStack” to display the whole list of teams vertically.

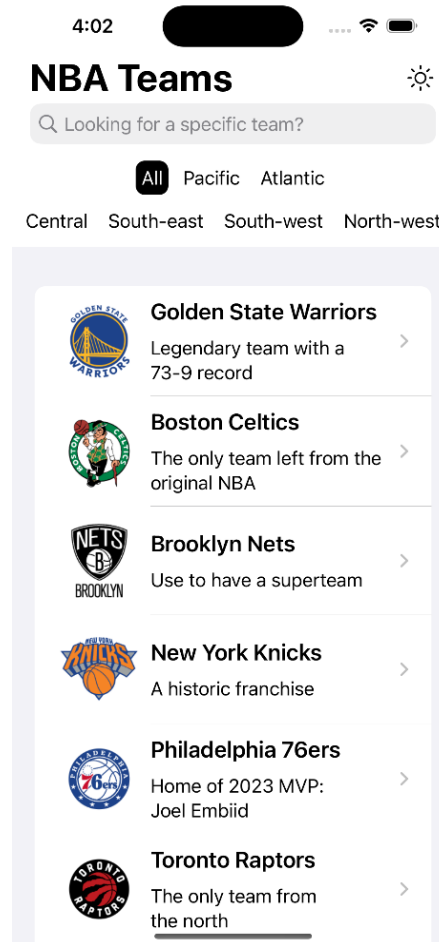


Figure 4: Navigation list

- Detail view

For the third and final view, I used “ScrollView” as a wrapper to display every information of a team. Inside the wrapper, I used ZStack to implement an image as a background and with a “VStack” to display the information vertically. To keep the view simple, I implemented a class called “PopupManager”, and the “EnvironmentObject” to only show the map when the button is clicked. At the bottom of the view, I used “Link” to open the social media of the team through icons.



Figure 5: Detail view



Figure 6: Detail view

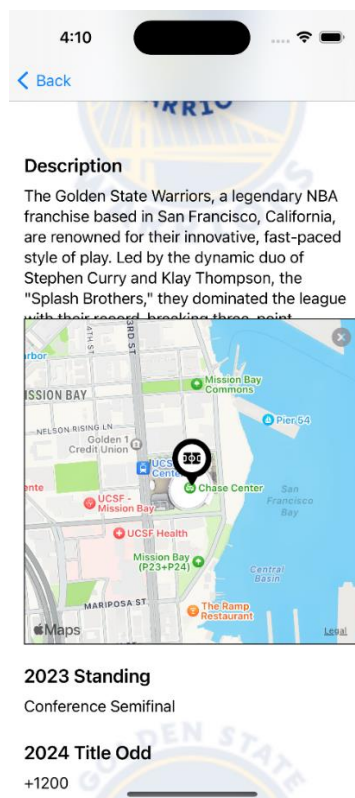


Figure 7: Map



Figure 8: Social media redirect

Advance features

- Search/filter

For the search and implementation, I used the built-in searchable of swiftUI and buttons with the help of a function called “searchResults”. “searchResults” will return the list of teams corresponding to the button/text on the search or the whole list of teams by default.

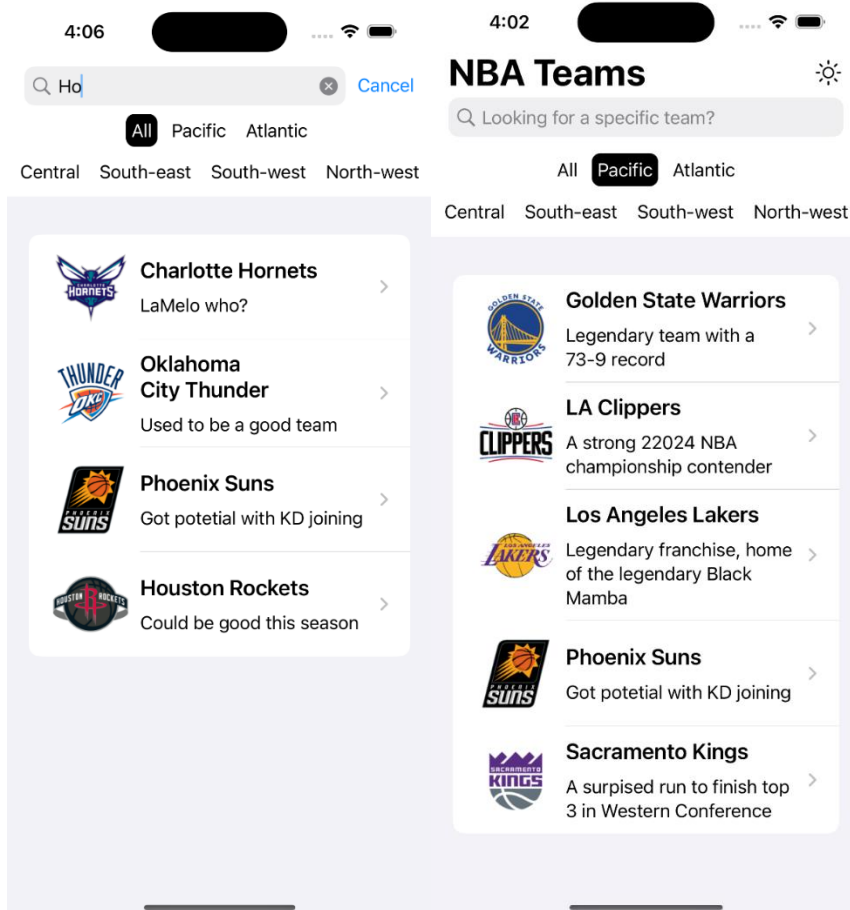


Figure 9: Search

Figure 10: Filter

- Customized map pin

To create a customized map pin, I used 2 system images “sportcourt.circle.fill” and “triangle.fill” in a “VStack”.

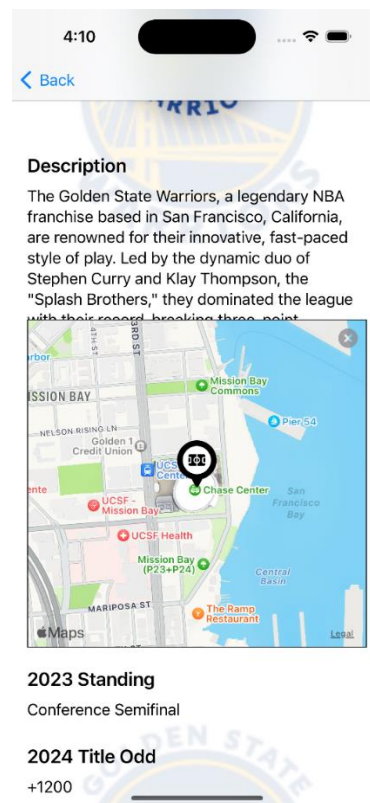


Figure 11: Map pin

- Dark mode

To implement the dark mode in the app, I created a button in a “toolbar” and “environment” to pass the dark mode attribute to the whole app.

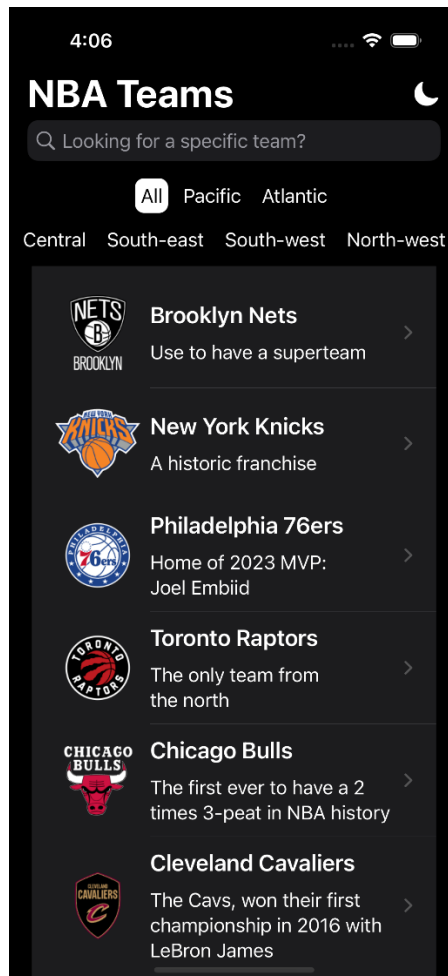


Figure 12: Dark mode

Demonstration video

<https://youtube.com/shorts/OGKgNhSFfRw?feature=share>

Know Bugs/Problems

- Welcome view is launched in dark mode.

d. Conclusion

In conclusion, the app work perfectly as intended, all the features were implemented as required. While working on this project, I was able to learn basic swiftUI features such as searchable, transition for pop-up, modify a view to remove the extra space in the navigation view. I also learned to implement a map with customized map pin, using “EnvironmentObject” to share values across multiple views. However, there’re limitations to the application that I would like to work on in the future. To improve the quality of the app, I would use APIs instead of static data to boost the data real-time accuracy, have a tab view to display the upcoming matches of the team and odds against the opponents.

e. Reference

- [1] <https://www.vantagemarketresearch.com/> Vantage Market Research, "Sports betting market size USD 167.50 billion by 2030," Vantage Market Research. Available: <https://www.vantagemarketresearch.com/industry-report/sports-betting-market-1710#:~:text=Market%20Synopsis%3A,9.50%25%20over%20the%20forecast%20period.>
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- [3] Swiftful Thinking. "Custom Map Annotation Pins for SwiftUI MapKit Map | SwiftUI Map App #6," Youtube, 26th December 2022. Available: <https://www.youtube.com/watch?v=javFZbCYGfc>
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- [6] "How to remove the default navigation bar space in SWIFTUI navigationview," Stack Overflow. Available: <https://stackoverflow.com/questions/57517803/how-to-remove-the-default-navigation-bar-space-in-swiftui-navigationview>.