# Criterion A: Planning

## Defining the Problem:

My client, Owen, is a golfer for our high school team. When conducting a formal interview with him on March 16th, 2025, I asked what some of the issues he faced while playing golf were. In Appendix A, he said that he struggles with staying consistent when playing on his home turf at Teal Bend golf course. This will help him get "higher on the team". He also forgets the notes that he makes to himself on each hole, and could really use advice on each hole. He does not have personalized club data, specific course insights, warnings, or performance tracking data. These aspects can make a huge difference in somebody's golf game. After he described these issues, I realized that this would be a perfect opportunity for my computer science Internal Assessment. He agreed to give me feedback regularly and guide me towards making the product he desires. To get a more in-depth understanding of this issue, I had a meeting with Owen.

## Rationale for Proposed Solution

Owen has a great sense of what clubs to use, but makes a lot of inconsistent decisions due to condition changes and the lack of previous data. There are generic golf apps, but nothing is specifically tailored to his own performance on his home turf. I am proposing a program that serves as a caddie for him on the course. This will have many components in it that all combine to improve his game. One component will keep historical data of his total scores on that course, allowing him to see his previous performances. The second component would be a notes feature that allows him to give himself warnings throughout the course. These notes will be specific for every hole and pop up when he is playing, so they remind him. A large component of my program will be a club recommender system that takes in many factors and recommends a club for him to use in different situations. Another essential component would be a section that allows him to edit his average distances for each club. This will help the recommender system function. My program will give Owen feedback through data to enhance his game.

The reason I am going to use Java is that:

- Java does not use explicit pointers which makes it more secure compared to other languages
- There are a lot of libraries available for Java
- Java's object-oriented programming structure will help me organize components of

my application, such as the recommend club being one class and the historical data display being another class

- Java enforces a consistent structure for object-oriented programming and is purely object-oriented

## Success Criteria

1. The system will allow the user to input their average distances, which must be saved correctly in a CSV file.
2. The system will allow a user to update their average distances per club and save those to the CSV file.
3. The club recommender algorithm will use different factors (like wind, distance, and terrain) to determine an optimal club to use.
4. The system will simulate an 18-hole round and save all historical scores in a CSV file.
5. The system will allow a user to edit general notes and hole-specific notes.
6. The system will display notes for each hole during the round so the user can be reminded.
7. The system will have a simple UI interface that works efficiently without crashing.
8. The system will keep track of each user's data (notes, club distances, historical rounds) through CSV files.

Word Count: 374