CS257 Project Proposal - Group J
Hugh Shanno, Cole Roseth, Ashok Khare

Project Title: Clash Royale Game-META Analysis

Website Summary:
This website allows clash royale players to view and analyze particular statistics about decks used at the top of the leaderboard.

Dataset Summary:
We are using a dataset of Clash Royale battles gathered by Eric Xue, who gathered information from the last 25 battles from each player in the roughly 600 clans with the highest clan ratings in Clash Royale using the Clash Royale API and posted this dataset to Kaggle's gaming dataset page. This dataset includes information about the decks used in each battle for both players, each player's trophy count pre battle, and the outcome of the battle. In total, the dataset contains roughly 750,000 battles, although we will be cutting it down 350,000 battles in order to fulfill size requirements. We pulled the 1st version of this dataset on the 21st of January, 2022. The full dataset can be found at https://www.kaggle.com/nonrice/clash-royale-battles-upper-ladder-december-2021.

User Roles:
- Upper level Clash Royale players (trophy level > 5000) looking to see relationships between different cards and decks and the win percentages between them.
    - Goal(s): To find effective counters to high-level decks in order to win battles in order to maintain and increase their high rank by keeping up with the most popular and powerful deck compositions.
    - Task(s): To find the optimal deck to use against the most popular deck at their current trophy level, or to find the deck with the highest win rate at their current level.
- Lower level Clash Royale players (trophy level < 5000).
    - Goal(s): These players want to find the easiest ways and most accessible decks to win battles in order to climb up the Clash Royale ranking system.
    - Task(s): Find the deck with the highest win percentage that they can make with the cards they can use in their current arena.

Team Contract:

Goals:
To produce a website/final deliverable that would get us an A in the class and that we would be comfortable adding to a portfolio/resume, and that would be fundamentally useful to its users.

Strengths:

- Cole:
    - Organization and file management. Good at finding bugs and code testing.
    - Experience with Python and Java.
- Ashok:
    - Experience designing front-end/user interface structure.
    - Experience with HTML, CSS, and minimal JS.
    - Good at mediating discussions between team members.
- Hugh:
    - Writing backend and data analysis algorithms.
    - Experience with Python, Java, and Swift
    - Some experience with HTML and CSS
    - Minimal experience with JS
    - Some experience with frontend, not very design oriented though.

How to capitalize on strengths:

- Hugh can analyze data and rework it into usable forms
- Ashok can focus on front-end development
- Cole can help with design oriented things and also build frameworks between front-end and back-end.

Guiding Rules:

- We will discuss if we need to meet each week, and if we need to meet, we will meet in Anderson for likely one or two hours.
- Each of us will bring any questions we have to the meeting, and we will focus on tasks that require combining our individual parts of the project together.
- We will communicate by text to organize meetings and schedules, and utilize Slack or GitHub to share larger files.
- To ensure communication remains respectful, we will consider each others' ideas and listen, then decide as a group the best course of action. We will also be forthright if something someone said is bothering us, and communicate honestly.
- Team members should communicate at least once or twice a week, and more often close to due dates. To deal with a teammate who has not been communicating, we will take them aside after class for a quick discussion about expectations.
- If we absolutely cannot meet in person, we will use Zoom for team meetings. For general communication, we will use Google Drive, iMessage, and Slack. For sharing code, we will mostly use GitHub.
- We will make decisions after coming to a group consensus, and after discussing the pros and cons of particular courses of action so that we end up with something we are all satisfied with.
- We will try to divide the work based on skill sets, but also try to evenly distribute workload when possible. If we cannot evenly distribute the work for a certain project, people who did less can make it up by doing more on the next project.

- We will ensure that all contributions are valued by proceeding with work according to prior team agreements and discussions, so that everyone has an important task that they feel comfortable working on for each deadline.
- We expect all team members to complete quality work on time for each deliverable, regardless of how much time that takes.
- If someone is not meeting group expectations, we will pull them aside for a bit after class and have a discussion about participation, extenuating circumstances that might be occurring, and how we can help the person meet expectations in the future.
- We will discuss conflicts in a group setting, listen to all sides of the argument, and then put it to consensus to resolve the issue.