

# Project Title: Gambit Gallery

## Project Summary:

Gambit Gallery is a centralized online platform where users can play their favorite strategy-based card games with their friends, with games available for multiplayer play such as Mahjong, Poker, and other classic titles. Each game is its own entity, and players can play unlimited rounds for each game so long as every other player is also willing to continue and each has the currency to join.

On this platform, users can login and access a shared in-game currency that is used across all games. While each game will be its own separate entity with its own animations and designs, all games will use this same central currency. This currency can be earned primarily through winning a game where currency is bet, or passively through daily quests given by our platform so all players can play. Of course, the currency can also be deducted through actions such as placing bets, or paying entry fees for limited time event games. This fosters a simple ecosystem where players can use one currency to play whatever game that they want, rather than having to play on different platforms or the pressure of using real money. There is also a gifting system, where players can gift currency to other players to promote collaboration and goodwill.

## Description of an Application

Many people don't want to buy a deck of cards, poker chips, and mahjong tiles. As a result, if a group of friends want to play a card or mahjong game, they have to find an online version and create accounts to play. Additionally, if friends want to track their overall wins and losses across the different card and mahjong games, they would have to calculate values from each website. Gambit Gallery aims to be a one stop shop for all card and tile games where friends only need one account and can easily change the gamemode with the click of a button. The currency is centralized so friends can see their net gains from all games.

## Creative Component

We are going to have a robust Graphical User Interface for both our platform and our games, with a sleek and intuitive platform interface, while our games will have a homey table-top feel with smooth animations. Every user will also have a unique account associated with them, so they can keep their winnings from each game.

With these types of games, we're implementing real time multiplayer support for the most fun! We also plan on having a game log for our games, including match data for the user to review, like "most frequent hands won," "betting patterns," or "win percentage", for users to reflect on their performance.

## Usefulness

We are creating an entertainment platform where users can play multiple games online. They can easily play multiple games with their friends without the need to own the deck or cards

themselves. Users can do basic actions such as play the games, create and join rooms, review their past games, transfer currency, and make friends. It's useful because it gives users a centralized hub for games, while giving people the opportunity to try out games with a pre-established community without having to foster a new one.

There are many websites and apps for online multiplayer card games; however, they are usually for only one game. Examples include MahjongSoul and PokerNow. Our app aims to combine multiple games for a streamline process to switch between different games.

### **Realness**

The nature of an online strategy based card game is such that we can keep note of several key metrics. For example, metrics relevant to user behavior for a game such as Poker can be in the form of frequency/size of bets placed, win/loss ratio, type of win/loss, sequence of actions, and so forth.

Additionally, specific to our project is the "shared currency" component. Thus, it would also make sense to keep track of user currency habits per/across each game such as currency gained, lost (was it spent, lost from a placed bet), and so forth.

Combining these two ideas, we narrowed potential datasets to the following:

First, we source a dataset utilized in the publication "[Second Session at the Virtual Table](#)". The aim of this publication is to study the behaviors and patterns of online poker players through recording and analyzing online poker activity on the online gambling platform Entain.

The dataset itself takes form in five different csv files.

The first file contains 5208 entries containing the following information: userID (a unique identifier for each user), age of player, gender, and country id denoting country of residence.

The second file contains 51763 entries containing the following information of "cash game poker activity": userID, date of game activity, number of game sessions played on that date, total amount of cash (Euros) put into the poker game on that date, total amount of cash won from the game on that date

The third file contains 82831 entries containing the following information of poker tournament related activity: userID, date of tournament activity, number of tournaments entered on that date, total amount spent on tournament entry fees and purchase of tournament chips on that date, total amount won in prize money on all tournaments started on that date

The fourth file contains 295119 entries containing the following information of deposit activity: userID, depositID (unique identifier for each deposit record), date of entry of deposit attempt, date that Entain processed the deposit request, time of day that Entain processed the deposit

request, brand of payment method, category of payment method, card type, amount of deposit, and status of deposit into account.

The fifth file contains 32307 entries containing the following information of withdrawal activity: userID, withdrawIID (unique identifier for each withdrawal record), date of entry of withdrawal attempt, date that Entain processed the withdrawal request, time of day that Entain processed the withdrawal request, brand of payment method, category of payment method, card type, amount of withdrawal, and status of withdrawal from account.

This dataset is extremely comprehensive and applicable to our project because it is tracking both spending habits and game-related activity such as amount of money spent per game/tournament, number of games/tournaments played, spending habits per game/tournament, and more.

Source: [Publication Dataset Manual](#)

Our second dataset is sourced from Kaggle where each entry represents a simulation of a blackjack round. The dataset is stored in a singular csv file containing a total of 50 million entries.

There are 12 columns, each with the following description:

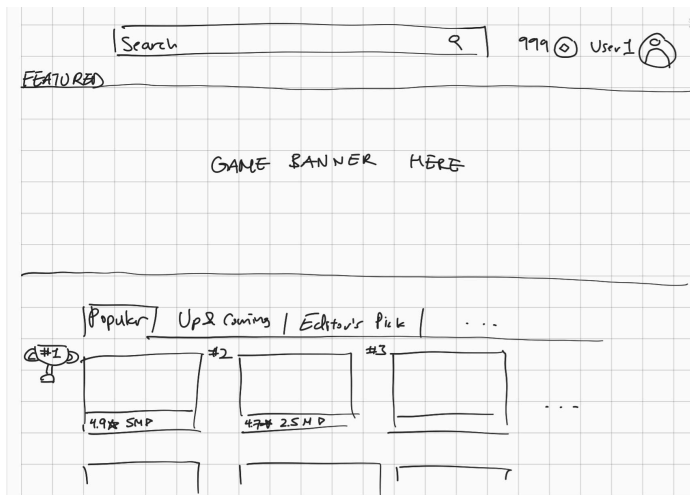
1. shoe\_id -> a unique identifier for the card deck used for that round of blackjack
2. cards\_remining -> the number of cards remaining in the shoe at the start of the round
3. dealer\_up -> the numerical value of the Dealer's visible card. This dataset uses a numeric representation for cards 2-10, with J,K,Q also represented as 10 and A represented as 1
4. initial\_hand -> This is the set of the players initial two cards
5. dealer\_final -> This represents the set of the Dealer's cards at the end of the round
6. dealer\_final\_value -> This is the numerical sum total value of the dealer's final hand
7. player\_final -> This is the set of cards that the player ends with at the end of the round
8. player\_final\_value -> The total value of the player's final hand. This is represented as a set due to the possibility of splitting cards to have multiple hands
9. actions\_taken -> This is the sequential set of in game actions taken by the player, represented as characters
10. run\_count -> Represents the high-lo run count at the round start
11. true\_count -> Represents the high-lo true count at the round start
12. win -> The numerical value won/lost in the round

This dataset provides, in great detail, specific data for each round and the exact actions taken by the players. Because these are values we can track, this makes such a dataset very relevant for us to use.

Source: [Simulated Blackjack Rounds](#)

## Functionality

UI mockup:



## Project work distribution

Each team member will do one of the following tasks for the Main Platform. Each member of the team will then work together on all tasks for the first game, Blackjack, to gain familiarity with the systems. We will assign leaders to each task. They will be responsible for managing the task and planning out how teammates could work together on it.

Afterwards, each team member will work on their own game and incorporate it into the main application.

#### Tasks for Main Platform

- 1) FrontEnd of MainPlatform(designing frontend of website once user has logged in, with appropriate pictures, and buttons) -Kaushal Amancherla
- 2) Connecting FrontEnd to BackEnd of Main Platform(setting up API/server-side of backend, designing db schema, which is communicated to other backend person) -Daniel Cao
- 3) Backend of Main Platform(how db works, managing db, sets up physical implementation of DB including server config, db connections, etc) - Ethan Chang
- 4) Dealing With Login and Profile page and Storing that Data (both backend and frontend) - Julia Shen

#### Black Jack Tasks:

- 5) Connecting FrontEnd to Backend of Black Jack(setting up API/server-side of backend, designing db schema, which is communicated to other backend person)
- 6) Backend of Main Platform(how db works, managing db, sets up physical implementation of DB including server config, db connections, etc)
- 7) Frontend of BlackJack (designing frontend of game)
- 8) Designing and Implementing Animations of UI, etc