Team Name : *Team UNO 4*

UNO Game

Milestone 6: Final Presentation

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DESCRIPTION

- We have built a multiplayer UNO Game which supports arbitrary number of players and game rooms. We have replicated the general idea of UNO card game and implemented the logic and design as a web application. In this game, players are challenged to see who can empty their set of cards first to win the game.
- Players can create and join game rooms, chat with each other in the global chat and also chat among players while playing the game.
- Players can upload a Profile Picture and also view their number of wins and losses.
- The team members collaborated using various tools to successfully build this real-time multiplayer game.

ARCHITECTURE OVERVIEW

To code and build this game, we have used the following :

● HTML, CSS, Bootstrap	→ For designing frontend
● .ejs	→ Templating engine
● JavaScript	→ For adding functionalities + game logic
● Node.js, Express.js, Sequelize	→ For backend development
● Socket.io	→ For communication b/w server & client
● Postgres	→ For storing information in database
● GitHub	→ For Code sharing and version control
● Heroku	→ For Deployment of the web app

GAME SPECIFICATIONS + FEATURES

- Players can Create an Account and Sign In.
- Players can Upload a Profile Picture and check their total number of Wins and Losses in the Profile Section.
- Create a Game Room or Join One.
- This game supports multiple game rooms and 2-4 players.
- Chat with players in the Global Chat.
- To play the game, each player must throw a card that has one matching characteristic of the card that is on existing deck.
- Cards can only be matched by their Colors or their Number value.
- Special Cards → Draw 2, Draw 4, Reverse, Skip, Wild Card, Wild Draw 4
- More game rules and specifications can be found in the Rules Page of our web app.

WHAT WAS INTERESTING

- The most interesting part of this build process was to actually code the game which we have been playing in our real lives using paper cards.
- Collaborating with different team members and learn new technologies was interesting.
- Creating a screen for uploading profile picture and keeping a count of wins + losses was fun to add.
- Building an intuitive UI design was also important to give a nice feel to the players and have them remember the original UNO card game.

DIFFICULTIES AND HOW WE OVERCAME THEM

- It was hard to coordinate schedules for team meetings
  - The members of our group lived in different time zones
- We had no designated roles
  - Everyone worked on a little bit of everything rather than having a designated person work on a specific area
  - Because of this, it was difficult to delegate tasks to members
- Learning PostgreSQL and Sequelize
- Building the game logic consumed most of the time
  - Time spent on figuring out how to handle card images dynamically
  - Researched many solutions and tested them to build the right logic
- Using Heroku
  - We encountered a lot of errors trying to deploy to heroku throughout the development
  - One temporary solution we used was creating another git repository and deployed it from there
- Using Git

FUTURE UPDATES AND FIXES

- We allowed users to upload a profile image to their account but it does not display the image next to their name when sending messages
- We tried implementing a call-uno button but trying to figure out the logic of this was difficult
    - Currently this button isn’t functional but our plan was to only let the player win if they called uno before playing their last card
- When having to draw 2/4 cards, players have to click on the +2/+4 icon to be dealt the cards instead of automatically dealing the cards

GAME LINK

https://uno-team-4.herokuapp.com/