Card Crusade

CSCI 3308 Fall 2022
Group 17-2

Team Members

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Game Description

For card game enthusiasts, who want to experience an entertaining online card game that will keep track of their wins and other applicable statistics. Card crusade is an interactive game that allows easy digital access to an entertaining take on the traditional card game war. Unlike physical playing cards, our product allows for quick access to card game entertainment at their fingertips and allows the user to keep track of their statistics.

Our application will be a card game similar to the traditional card game war except we’re providing a digital upgraded version. The interface allows gamers to register an account to log in and keep track of their stats as they compete.

Tools

Git

Git (Version Control Software)

Purpose:

We used it to create our own separate branches for separate features of the application and eventually merge these different branches into one functional application.

Difficulty Rating:

3 - Not Easy to learn

It was also a little confusing

Usefulness Rating:

5 - Extremely Useful

Without it we would have had no functional way of keeping track of our updates to the source code for the project

Github

GitHub Project Board (Version Control Software)

Purpose:

We used this to assign tasks to members, keep track of pending bugs ,create user stories/acceptance criteria and make sure that the features we made were aligned with our end vision for the project.

Difficulty Rating:

1 - Very Easy To Learn

Intuitive Design & Functionality

Usefulness Rating:

3 - Useful

While it was definitely useful for task management, there are better free analogs such as clickUp and monday.com

PostgreSQL

PostgreSQL (Database)

Purpose:

We used PostGre SQL in order to create our own database and manage our user information and win record.

Difficulty Rating:

3 - Not Easy to Learn

Usefulness Rating:

4 - Very Useful

Very useful but is more cumbersome to use than MongoDB.

Wireframe

Wireframe.cc (UI Design Tool)

Purpose:

We used this to design the basic interphase for the UI of the game page, homepage, account settings page and the navbar.

Difficulty Rating:

1 - Extremely Easy To Use

Usefulness Rating:

4- Very Useful

Had limited functionality but was enough to get the job done for a free product.

Sublime and VS

Sublime Text & Microsoft Visual Studio (Text Editor & IDE)

Purpose:

We used the Sublime 3 Text Editor and the MVS IDE in order to create and test code in our local environments before it was pushed to the git repo.

Difficulty Rating:

2- Very Easy to Learn Basic Functionality

Usefulness Rating:

5- Extremely Useful

The add-ons and libraries for both features made it a great application to test code.

HTML

HTML 5 (UI Tool)

Purpose:

This was used to structure the base code used in our web-app.

Difficulty Rating:

1- Extremely Easy To Learn

Usefulness Rating:

5- Extremely Useful

It is the building block for all web-based applications and while it can be repetitive, it is extremely straightforward.

EJS

EJS(UI Tool)

Purpose:

We used EJS as a templating tool for the different nav bars, footers and game pages.

Difficulty Rating:

3 - Not Easy To Learn

Usefulness Rating:

5- Extremely Useful

Simplified the creation of the web app by leaps and bounds.

CSS

CSS 3 (UI Tool)

Purpose:

We used CSS 3 to create the card animations for the app, the styling for the majority of the app assets and general placement of app assets on the web-page.

Difficulty Rating:

2- Very Easy To Learn

Usefulness Rating:

5 - Extremely Useful

The flexibility of CSS really shone through in the web card animations and made it easier for us to get the functionality we wanted for the app.

Node.js

Node.js (Application Server)

Purpose:

This allowed us to create and maintain a web-app server that could handle server requests, database queries and web-app routing.

Difficulty Rating:

4- Hard to Learn

Usefulness Rating:

4 - Very Useful

Node Js is an incredibly flexible tool but is sometimes overly complicated if not using an established framework over it.

Docker

Docker (UI Tool)

Purpose:

This allowed us to develop our software more quickly by separating the infrastructure from the web-app development.

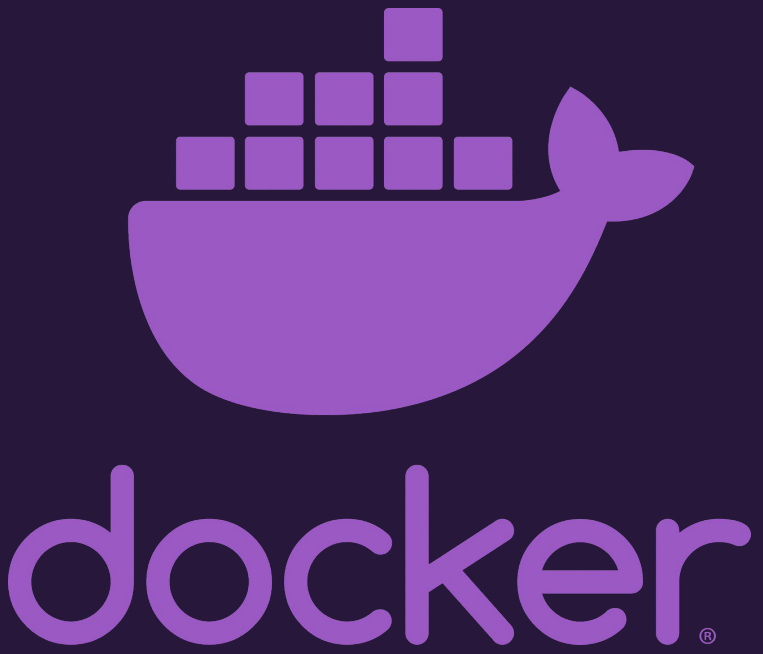
Difficulty Rating:

3 - Not Easy To Learn

Usefulness Rating:

5- Extremely Useful

Deployment would have taken much longer without this tool.



Heroku

Heroku (Deployment Environment)

Purpose:

We installed the Heroku CLI and together with Docker were able to simply push the docker image onto a remote server.

Difficulty Rating:

2 - Very Easy To Learn

Usefulness Rating:

5- Extremely Useful

We were able to very simply upload our existing docker file onto heroku in order to host our web-app.

Agile

Agile & Planning Poker (Methodologies)

Purpose:

We used these tools in order verify project status, manage and assign tasks ,set user stories/acceptance criteria and understand the complexity of particular issues within our project.

Difficulty Rating:

1 - Extremely Easy To Learn

Usefulness Rating:

5- Extremely Useful

Allowed us to actually function as a cohesive team that could work independently towards the completion of the project.

JavaScript

JavaScript (Scripting Language)

Purpose:

This was used to basically create the functionality of the whole game, manage server requests and manage database queries.

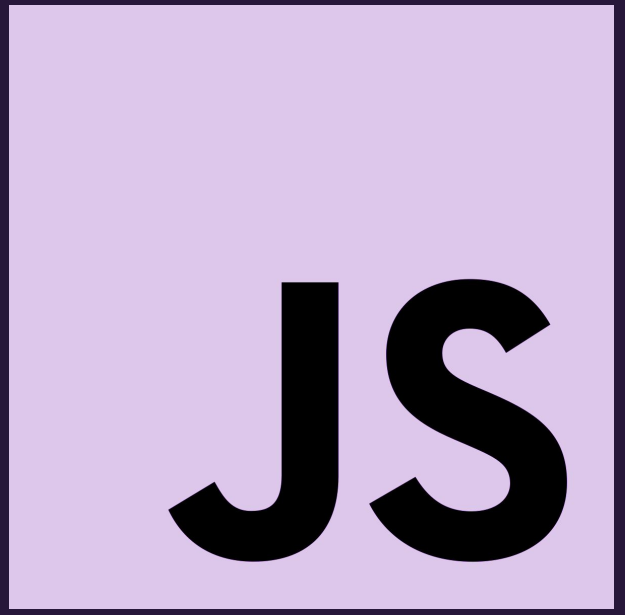
Difficulty Rating:

2 - Easy To Learn (Hard to Master)

Usefulness Rating:

5- Extremely Useful

This allowed our website to be a truly dynamic one that allowed us to create a functional game environment for users.



jQuery

jQuery (Scripting Language)

Purpose:

Was used to create flipping functionality for cards.

Difficulty Rating:

4- Hard to Learn

Usefulness Rating:

5 - Extremely Useful

The added functionality of jQuery, allowed me to do in 5 lines of code what would have taken around 80 lines of HTML, CSS and JS to solve.

Bootstrap

Bootstrap (UI Tool)

Purpose:

Used to help simplify HTML styling in the webapp and maintain grid functionality for the game.

Difficulty Rating:

2- Very Easy To Learn

Usefulness Rating:

3 - Useful

While definitely useful, the restrictions inherent with bootstrap made us wish we had the time available to create custom css and html styling for a future iteration.

Pixilart

Pixilart.com (UI Tool)

Purpose:

Used to create player icons and web-app art.

Difficulty Rating:

1 - Extremely Easy To Use

Usefulness Rating:

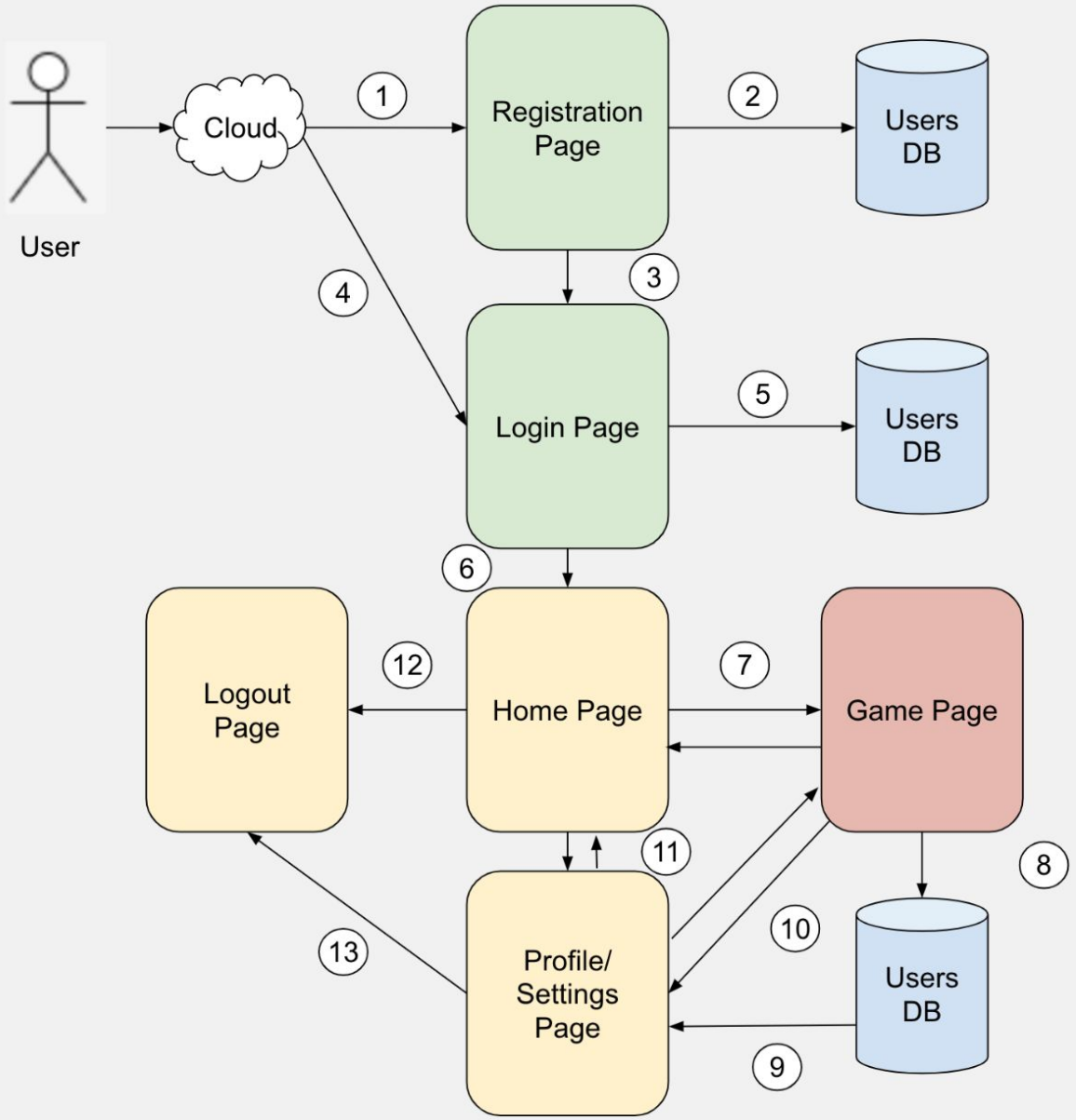
5 - Extremely Useful

The functionality, tutorials and pre-existing assets made this a very useful tool to create our app assets.

Architecture

1. The user navigates to the registration page through the cloud
2. The user registers and the new user entry is inserted
to the database
3. The register page redirects to the login page after the user successfully registers
4. The user navigates to the login page through the cloud
5. The user logins and the login information is verified
6. After the login is successful the login page redirects to the home page
7. The user navigates to the game page from the home page
8. The user wins a game and their wins value in the db is updated
9. The user accesses their profile and the information from the db is displayed
10. The user navigates between the game and profile/settings pages
11. The user navigates between the home and profiles/settings pages
12. The user logouts from the home page
13. The user logouts from the profile page

* the user can also logout from the game page



Challenges

Game Functionality

Tie Management

Challenge

It was hard to manage ties between both players because the player deck arrays were not properly keeping track of the cards throughout the game.

Solution

Each individual card received an ID that was not tied to player rank and this helped keep track of cards throughout the play game functionality.

Game Functionality

Card Positioning

Challenge

The cards were having trouble populating the fields and were not properly being aligning with the relative position of other divs. Whenever a card would flip onto the field it would either appear behind another element or appear outside of the respective P1/P2 Card fields.

Solution

The majority of the card and field elements were made absolute and placed in relation to other div elements.This made it so that each HTML element knew exactly where it was supposed to go on the screen.

User Interaction

Challenge

Users did not understand how to play the game and even users were confused. There were too many buttons(5) and this confused users.

Solution

We designed a game guide that explained the instructions of the game and reduced the 5 buttons into 2 buttons (“Start Game” and “Play Card”).

Demo