Unofficial

Web Development Competition 2024

TEST PROJECT

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SKILL **17** web technologies

Content

Introduction

8 SECONDS - Collaborative drawing game

In UWDC2024, your task is to build a collaborative drawing game to provide players with a fun and engaging experience. You have 7 hours to complete this project.

The game is all about drawing together. Players can choose from two game modes: **Freehand** and **Tracing**. In Freehand mode, the game provides one random word, and players take 8-second turns to complete the drawing together. In Tracing mode, the gameboard displays one random SVG image (from a given set of SVGs), and players try to draw it as accurately as possible within the given rounds and 8-second turns.

The collaborative drawing game is designed to provide a fun, interactive, and creative experience. Players can create or join games, choose modes, and share their artistic creations. The game ensures participants a seamless and enjoyable experience with real-time updates and intuitive mechanics.

You have been provided with the design and style guidelines for the landing page. Your task is to build the landing page UI to match the provided design precisely and consistently apply the same style guidelines across all other pages you create.

Game slogan:

Every 8 Seconds Counts – Join the Creative Drawing Adventure!

Key features

Landing Page:

- Create a new game.
- Join a random public game.
- Match UI design to the provided layout.

Game Creation:

- Customisable options
- Generate a shareable link for inviting friends.
- Redirect to the lobby after game creation.

Lobby:

- Users set their nicknames.
- Display a list of joined players.
- Show game setup options (number of players, mode, privacy, and rounds).
- Players can start the game once all players have joined.

Game Mechanics:

- Each player has 8 seconds to draw, with a timer.
- The order of players is randomised each round, ensuring no one draws twice in a row.
- The game continues until all rounds are completed.
- Display rounds left for each player under their nickname.
- Freehand Mode: Players draw based on a random word from a predefined array.
- Retrace Mode: Players trace a random SVG displayed as a washout on the drawing board.
- Show previous drawing progress to current players.
- Display the current and next player. Update the list after each turn.
- Store and retrieve snapshots of each round's drawings for the endgame.

Endgame:

- Display snapshots of all drawings from each round.
- Combine all drawings into a final GIF to show drawing progress.
- Easily share the final GIF on social media and other platforms.
- At the end of the game, everyone can see the collaborative artwork they created together.

Landing Page

As a user, I want a visually appealing landing page with options to create a new game or join a random game. I want the UI to match the provided design layout.

User Story 1: Create a new game

As a user, I want to create a new game from the landing page so that I can start a new custom drawing game.

Acceptance Criteria:

- Users can access the "Create new game" button.
- The user is redirected to the "Game Creation page" to create a new game.

User Story 2: Join an existing game

As a user, I want to join a random public drawing game so that I can participate without creating a new game myself.

Acceptance Criteria:

- Users can access the "Join a Game" button.
- The user is automatically redirected to a random public game lobby to wait for other players.

User Story 3: Match UI design

As a user, I want the landing page UI to match the provided design layout so that the interface is visually consistent.

Acceptance Criteria:

- The overall layout of the landing page matches the provided design.

- Elements are styled according to the design specifications.

Game Creation

As a user, I want to create a drawing game with customisable options so that I can set it up according to my preferences and invite my friends to join.

User Story 1: Set the number of players

As a game creator, I want to set the number of players (between 2 and 10) so that I can control how many people can join the game.

Acceptance Criteria:

- The game creator can select a number of players between 2 and 10.
- The selected number is saved and displayed in the game settings.

User Story 2: Set the game as public or private

As a game creator, I want to set the game's visibility (public or private) so that I can control who can join the game.

Acceptance Criteria:

- The game creator can select either public or private for the game.
- The selected privacy setting is saved and displayed in the game settings.

User Story 3: Select game mode

As a game creator, I want to select the game mode (freehand or retrace) so that I can decide how the game will be played.

Acceptance Criteria:

- The game creator can select either freehand or retrace mode.
- The selected game mode is saved and displayed in the game settings.

User Story 4: Set game rounds

As a game creator, I want to set the number of game rounds so that I can control the duration of the game.

Acceptance Criteria:

- The game creator can specify the number of rounds.
- The selected number of rounds is saved and displayed in the game settings.

User Story 5: Share game link

As a game creator, I want to receive a ==shareable link== after creating a game so that I can invite my friends to join.

Acceptance Criteria:

- A ==unique link is== generated after the game is created.
- The link can be easily copied and shared with others.

User Story 6: Enter the game lobby and see joined players

As a game creator, I want to be sent to a lobby after creating the game so that I can see how many players have joined and wait for others before starting.

Acceptance Criteria:

- The game creator is redirected to the lobby after creating the game.

Game Lobby

As a user, I want to enter the game lobby where I can set up my nickname, see who has joined, view game settings, and start the game once everyone has joined.

User Story 1: Set nickname

As a user, I want to set my nickname when entering the lobby so that others can identify me.

Acceptance Criteria:

- The user is prompted to enter a nickname when entering the lobby.
- The nickname is displayed to all players in the lobby.

User Story 2: See who has joined

As a user, I want to see a list of players who have joined the game so that I know who I am playing with.

Acceptance Criteria:

- Users can see a list of all players who have joined the game in the lobby.
- The number of players in the lobby is updated in real time.

User Story 3: View game settings

As a user, I want to see the game settings (number of players, game mode, privacy, and rounds) so that I know the game setup.

Acceptance Criteria:

- Users can see the number of players, game mode, privacy setting, and number of rounds in the lobby.
- The game settings are correct

User Story 4: Start the game when all players have joined

As the user, I want the "Start Game" button to be disabled until all players have joined so that we can begin playing once everyone is ready.

Acceptance Criteria:

- The lobby has a "Start Game" button.

- The "Start Game" button is enabled once all players have joined.
- The game starts when one of the players clicks the "Start Game" button.

Game mechanics

As a player, I want clear and fun game mechanics and different game modes (freehand and retrace) with specific rules so that I can enjoy varied and engaging drawing experiences.

User Story 1: Freehand mode

As a player, I want to play Freehand Mode, where drawing is based on a random word from a given array so that I can use my imagination.

Acceptance Criteria:

- One random word is chosen from a predefined array for the entire game.
- Players take turns drawing based on the chosen word.
- Each player's turn lasts 8 seconds before switching to the next player.
- Players aim to complete one object based on the given random word.

User Story 2: Retrace mode

As a player, I want to trace a random SVG so that we can collaboratively recreate the image together.

Acceptance Criteria:

- Players receive a random SVG from a predefined set.
- The SVG is displayed as a washout on the drawing board.
- Players take turns tracing the SVG.
- Each player's turn lasts 8 seconds before switching to the next player.

Note: All SVG images in Freehand mode are sourced from Freepik. Acknowledgement of Freepik as the source of SVG images needs to be displayed in the game.

User Story 3: Show drawing progress

As a player, I need to see what others have drawn so far so that I can continue drawing in the right direction.

Acceptance Criteria:

- The drawing board shows all previous players' drawings.
- The drawing board updates immediately in real-time or after each player's turn.
- Players can easily see the progress without extra steps.

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User Story 4: Timer display

As a player, I want a smooth timer to show the time left so that I can stay focused without feeling stressed.

Acceptance Criteria:

- A creative timer shows the time left.
- The timer has a creative, visually appealing, calming, and stress-free design.

User Story 5: Random player order

As a player, I want the order of players to be random so that it's fair and no one draws twice in a row.

Acceptance Criteria:

- The order of players is randomised each round.
- No player draws twice in a row.

User Story 6: Continue until all rounds are done

As a player, I want the game to continue until all defined rounds are done so everyone can draw the specified number of times.

Acceptance Criteria:

- The game continues until the defined number of rounds is completed.
- Each player gets to draw the specified number of times.

User Story 7: Rounds left for each player

As a player, I want to see how many rounds I have left to draw so that I know my progress in the game.

Acceptance Criteria:

- Under each player's nickname, the number of rounds they have left is displayed.

User story 8: Show current and next player

As a player, I want to see who is currently drawing and who will draw next so that I can be prepared.

Acceptance Criteria:

- Before the first player turn starts, there is an 8-second pause to show the first and the upcoming player.
- The current player's name is displayed.
- The next player's name is displayed as the upcoming player.
- After each turn, the upcoming player is updated to be the current one.
- The new upcoming player is identified and displayed.

User Story 9: Store snapshots for each round

As a game system, I need to store a snapshot of each drawing from every round so that it can be used in the endgame screen.

Acceptance Criteria:

- Each drawing snapshot is saved at the end of every round.
- Snapshots are stored so that they can be retrieved and combined later.

End Game

As a player, I want to see all drawings and share a final GIF at the end of the game so that I can enjoy the results and show others how fun the game is.

User Story 1: Show all drawings

As a player, I want to see snapshots of all drawings from each round so that I can view everyone's work.

Acceptance Criteria:

- After the game ends, display snapshots of all drawings from each player.

User Story 2: Create the final GIF

As a player, I want to see all drawings combined into a GIF to show the drawing progress so that I can see how the drawings evolved.

Acceptance Criteria:

- Combine all drawings into a final GIF.
- Display the GIF to all players.

User Story 3: Share a final GIF

As a player, I want to share the final GIF on different platforms so that I can show others how fun the game is.

Acceptance Criteria:

- Provide options to share the final GIF on social media and other platforms.

UI style implementation

As a user, I want all screens to match the provided landing page design and styling so that the entire game has a consistent and attractive look. I also want a smooth and seamless UI for easy navigation through the landing page, game settings, and game pages.

User Story 1: Match the landing page design

As a developer, I need to ensure all pages match the provided landing page design and styling so that the game has a consistent look.

Acceptance Criteria:

- All pages have the same design style as the landing page.
- Colours, fonts, and layout are consistent across all pages.

User Story 2: Smooth and seamless game flow

As a user, I want to navigate smoothly and easily from the landing page, through the game settings and lobby, into the game process, and finally to the end so that my experience is enjoyable.

Acceptance Criteria:

- Navigation is intuitive and easy to use.
- Transitions between pages are smooth and seamless.
- The game flow, including player turns and updates, was smooth and without interruptions.

Definition of Done

Overall

- All user stories and acceptance criteria are met.

Code Quality

- All code follows best practices for structure, error handling, version control, and security.
- Consistent naming conventions are used throughout the project.

UX / UI

- The UI matches the provided design mockups and style guides.
- All pages and components have a consistent look and feel.

Documentation

- Functions, classes, and modules are well-documented with clear comments.
- A comprehensive README file explains project setup, development process, and deployment instructions.

Browser Compatibility

- The application has been thoroughly tested on the latest version of Chrome.
- No critical or major issues are present on Chrome.
- The application is optimised for desktop use.

Deployment

- The game is deployed to a production environment.
- Performance is optimised for a smooth user experience.

Marking Scheme

A	Landing Page	8.00
B	Game Creation	13.00
C	Game Lobby	8.00
D	Game mechanics	37.00
E	End Game	9.00
F	UI style implementation	10.00
G	Code quality	5.00
H	Documentation & Deployment	10.00