CSI 3125 – Analysis and Design of User Interfaces

# Assignment 3

## Memory Game – Card Matching

University of Ottawa
Faculty of Engineering

Professor: Caroline Barrière

| Student names | Student numbers |
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| Man Vu | 300404885 |


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# 1. Game Type

- **Game Type**: Card-Matching Visual Memory Game

## 2. Storyboard with Mockups

### a. Personas

#### Persona 1: Light Theme (Desktop)

- **Name:** Anna Nguyen
- **Age:** 19
- **Background:** Female, first-year Computer Science student at University of Ottawa, born in Canada to Vietnamese immigrant parents
- **Technology Relationship:** Very comfortable with computers; uses digital study tools and plays browser games to relax
- **Goal:** Boost her memory skills to help with university studies and keep her mind sharp during breaks

#### Persona 2 – Dark Theme (Mobile):

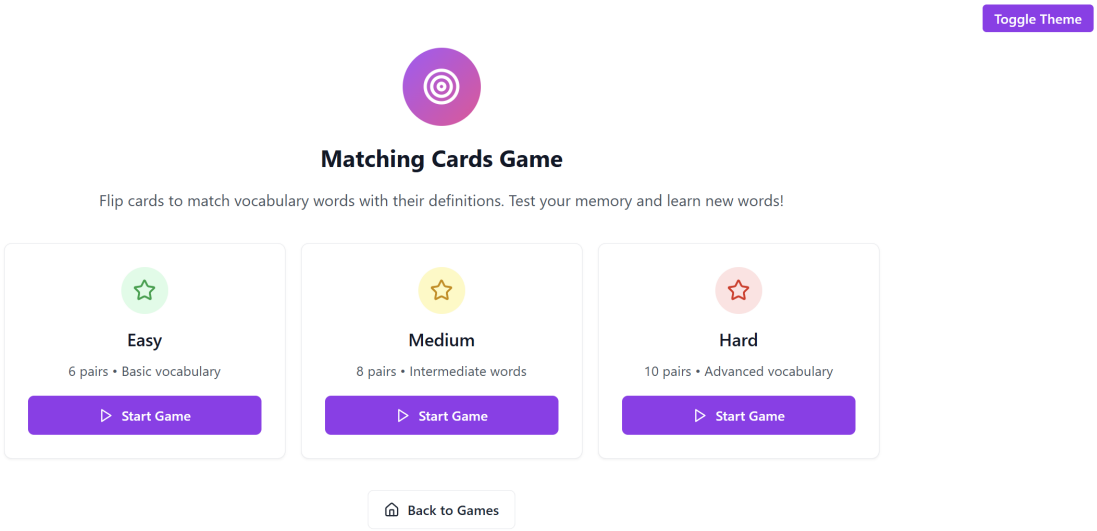
- **Name:** David Tran
- **Age:** 60
- **Background:** Male, retired high school teacher, immigrated from Vietnam 30 years ago, now living in Ottawa with his children and grandchildren
- **Technology Relationship:** Regular smartphone user (calls, messaging, reading news, casual mobile games), prefers simple, easy-to-read interfaces
- **Goal:** Practice memory games to keep his mind active and engage with technology in a fun, low-pressure way

## b. Two Storyboards

**b. Storyboard 1: Anna Nguyen (Light Theme, Desktop)**

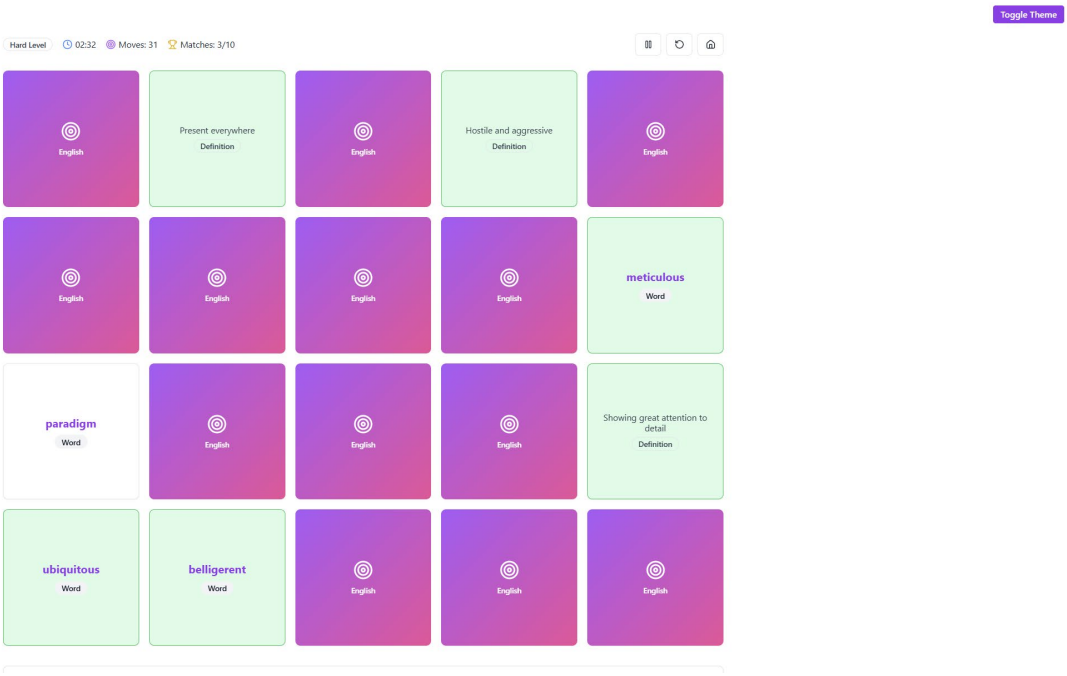
**1. Level and Options Selection:**

- Anna launches the game on her laptop, greeted by a modern, bright interface with light colors and clean lines.
- She selects “Hard” level for a challenge.



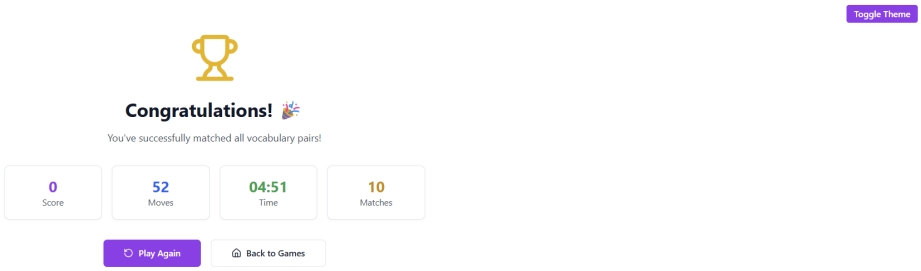

**2. Playing the Game:**

- Anna uses her mouse to flip cards in a grid layout. Matched cards are highlighted in green and matches number increases.
- Unmatched cards are flipped back to the original state.




**3. End of Game:**

- Anna sees a summary of her performance, including her score, time, and a motivational message.
- Options to replay or change settings are prominent and easy to find.

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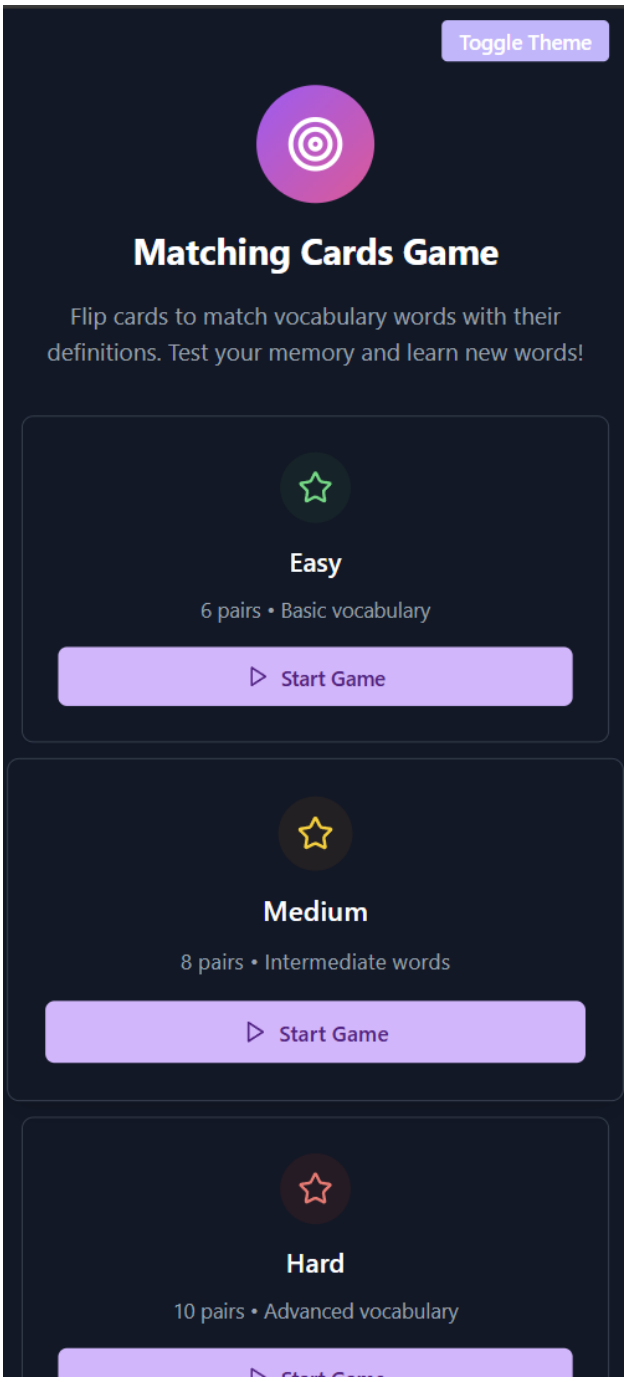
**c. Storyboard 2: David Tran (Dark Theme, Mobile)**

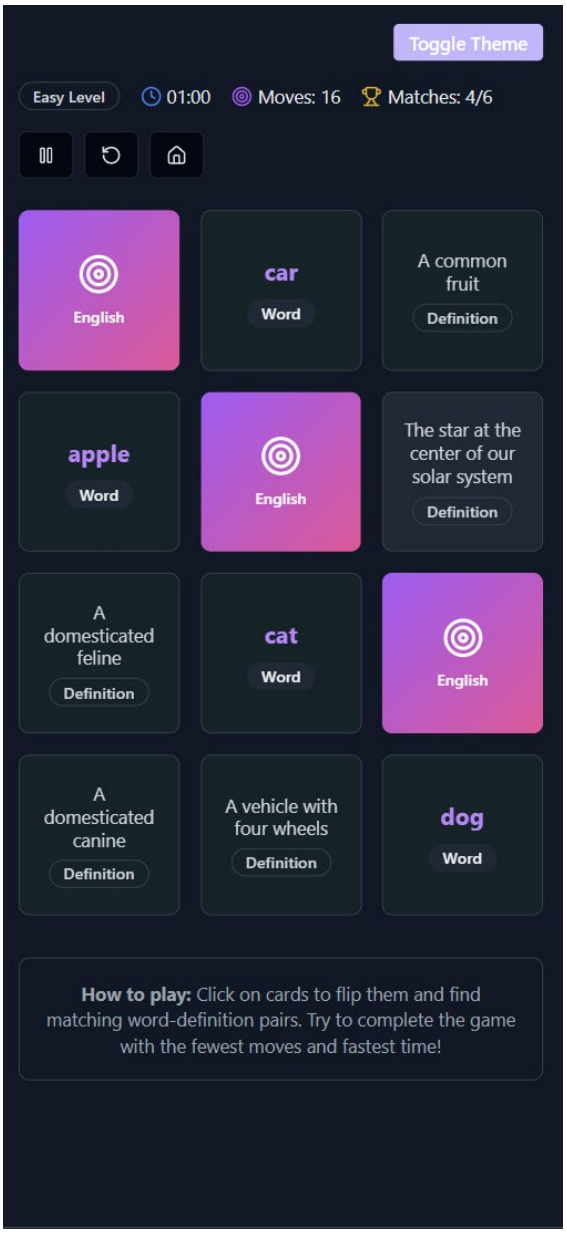
**1. Level and Options Selection:**

- David opens the game on his smartphone, which automatically uses a dark background with high-contrast buttons and large text.
- He chooses “Beginner” level and the “Fruits” card set, which are familiar and easy for him to recognize.



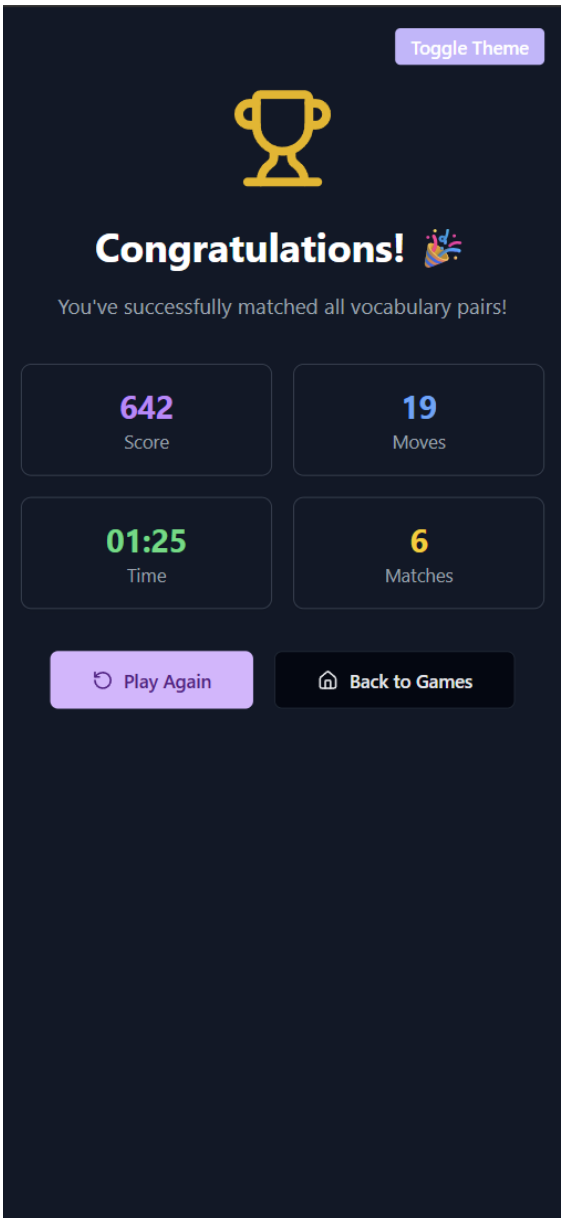

**2. Playing the Game:**

- Cards are large, touch-friendly, and easy to distinguish. He taps cards to flip them and gets gentle feedback—pairs glow softly, mistakes are indicated subtly without stress.
- There are optional sound cues for matches to make the game more engaging.




**3. End of Game:**

- David receives a clear, congratulatory message showing his results in simple language and big font.
- There's one large "Play Again" button and an easy-to-access menu.




## 3. High-Fidelity Prototype

### a. Visual Design Choices – Relation to Storyboards

I designed my card matching game with two main themes for the user: a modern light theme for desktop users (for Anna) and a bold, dark theme for mobile users (For David). The light theme uses soft colors and lots of white space to feel fresh and easy on the eyes, while the dark theme is high-contrast, with big buttons and text for easy tapping and reading on a phone.

I made sure the layout changes to fit any screen, and kept everything simple, clear, and consistent so it’s easy for anyone to play. Quick feedback on matches, easy navigation, and friendly colors makes it fun and welcoming for both younger and older users.

- Portfolio Link: https://manvu.ca/
- Prototype Link: https://my-matching-cards.netlify.app/
- Group Github: https://github.com/man-vu

## 4. Code Repository

- https://github.com/man-vu/SEG3125-Assignment3-MatchingCards

## 5. Generative AI Acknowledgement

Generative AI tools were used as follows:

- **Mockups:** ChatGPT was used for brainstorming user flows, refining personas, and suggesting storyboard steps. ChatGPT was used to draft and describe user journeys and layout ideas. Figma was used for creating and editing mockup images.
- **High-Fidelity Prototype:** ChatGPT was used for most of the code development for the React/JSX frontend. **However, I made the final editing and ensured the quality of design and the prototype**.
- **Interaction:** Prompts included “fix this UI error or exception”, etc
- Final editing and all content selection were done by the designer.