**DESIGN AND TECHNOLOGY**

**CARESS A BEAR**

**Caress A Bear** is an interactive art piece inspired by the classic arcade game Whack-A-Mole. Designed to be playful and mischievous, it invites participants into a friendly competition with Vano, a lively bear who eagerly engages with the audience. As the game progresses, Vano becomes increasingly enthusiastic—speeding up and almost interacting directly with the player—creating a dynamic and entertaining experience.

The game is simple: the audience's goal is to "caress" or touch the bear. Pressing a button calls Vano out of hiding, but as soon as someone tries to reach him, he playfully retreats, turning the interaction into an amusing game of hide-and-seek. The installation operates through two main inputs: a button that summons Vano and a distance sensor that detects hand movements. Inside the box, a servo motor powers a seesaw mechanism, allowing Vano to pop in and out, enhancing the sense of interactivity and engagement.

The final project combined electronic interaction, mechanical movement, and digital animation to create an engaging and responsive installation. The integration of Arduino-based control, sensor-driven interaction, and dynamic visual feedback resulted in a playful and interactive experience that encouraged continuous user participation. The final piece demonstrated a seamless blend of technology and design, offering an engaging and immersive user experience.

**Tools & Materials**

* **Arduino Uno** – Microcontroller responsible for handling user interactions and controlling movement.
* **Servo Motor** – Powers the seesaw mechanism, enabling the bear to pop in and out dynamically.
* **Ultrasonic Distance Sensor (HC-SR04)** – Detects proximity and triggers the bear’s reaction.
* **Push Button** – Activates the bear’s movement upon user interaction.
* **Wood & Acrylic** – Structural materials for the enclosure.
* **Processing (Java-based IDE)** – Manages the visual interface and animated text interactions.
* **Laser Cutter & Hand Tools** – Used for precise cutting and assembly.
* **Adhesives, Screws, and Hinges** – Essential for securing components and ensuring durability.

**Development Process**

**1. Programming & Interaction Design**

The foundation of the project was established through Arduino programming, which controlled the bear’s movements and responses to user input. The system utilized a servo motor to manage the bear’s positioning while integrating an ultrasonic distance sensor to detect hand proximity. The interactive sequence was designed to create a playful engagement where the bear dynamically reacted to audience interaction.

A structured function-based approach ensured smooth operation, with specific conditions determining when the bear would emerge or retreat. Timed intervals introduced an autonomous movement pattern, creating a continuous engagement cycle that encouraged further interaction.

**2. Physical Construction & Mechanical Integration**

The enclosure was constructed using wood built at the Woodlab, providing a sturdy framework to house the electronic components. The internal mechanism featured a precisely designed seesaw system. The servo motor was strategically positioned to achieve consistent movement, ensuring responsive and natural interactions.

The assembly process involved precision cutting and alignment of structural components. Hinges and fastening elements were incorporated to allow for accessibility while maintaining durability. The final build successfully combined aesthetics with functionality, creating an engaging physical interface.

**3. Visual & Text-Based Interaction**

To enhance user engagement, a Processing-based digital interface was developed to complement the physical installation. This interface displayed dynamic text interactions that responded to the bear’s movement. Serial communication between Arduino and Processing enabled real-time feedback, allowing the bear to display playful messages corresponding to user actions.

The interface design focused on clarity and accessibility, ensuring that the textual elements complemented the physical gameplay. The result was an integrated system where both digital and physical components worked cohesively to provide an immersive experience.

**GAME**

**FINAL GAME PROPOSAL (28 Oct 2024)**

**Sunney: A Journey Through Passions**

**Overview**

*Sunney* is an interactive game that reflects the journey of discovering and pursuing passions. Inspired by the metaphor that life is like a game, players take on the role of Sunney, a sunflower character that navigates through different challenges, representing personal growth and self-discovery. The game unfolds through a series of stages, each symbolizing a different passion—music, art, and technology—capturing the evolution of interests over time. As players progress, the world transitions from a grayscale that represents uncertainty to the colorful conclusion that signifies growth and self-awareness. By gamifying this process, *Sunney* emphasizes that discovering passions is not always linear but an exciting adventure shaped by curiosity and perseverance.

Designed as an autobiographical yet universally relatable experience, *Sunney* encourages players to explore, adapt, and embrace their individual paths. The game integrates storytelling, interactive gameplay, and visual aesthetics to create an engaging narrative that mirrors real-life challenges and aspirations.

**Background & Concept**

**Character Design: The Symbolism of Sunflowers**

The main character, *Sunney*, is inspired by the sunflower, a symbol of resilience, optimism, and adaptability. Beyond being a personal favorite, the sunflower embodies the philosophy of following the light—seeking inspiration and growth despite challenges. Its ability to turn toward the sun mirrors the game's theme: life is a continuous process of discovery, adaptation, and personal development. Just as every part of a sunflower serves a purpose, *Sunney* represents an individual seeking inspiration, growth, and new experiences.

**Game Concept & Structure**

The game is divided into four main sections:

1. **Opening Scene:** The game begins in a grayscale environment, symbolizing an early stage of self-discovery. A cinematic introduction sets the tone, introducing the player to *Sunney* and the overarching concept of the game.
2. **Main Stage (Maze):** Inspired by *Pac-Man*, the central maze represents the unpredictable nature of life’s journey. Players must navigate through this maze, encountering different stages that represent passions.
3. **Passion Stages:** Each passion is represented by a different primary color:
   * **Music & Concerts** – A fast-paced avoid-the-ball challenge.
   * **Art, Design & Film** – A quiz-based interaction.
   * **Technology & Coding** – A fill-in-the-blank puzzle.  
     Each stage has specific mechanics and challenges, emphasizing the process of engaging with and learning about different interests. Passing these stages progresses the game forward.
4. **Conclusion & Transformation:** As players successfully navigate the challenges, the maze transitions from grayscale to color, symbolizing the fulfillment that passions bring. The final scene serves as a reflection, encouraging players to embrace the journey of self-discovery.

**Development Process**

**Game Development & Programming**

The game was developed using **p5.js**, a JavaScript library for creative coding. The coding process focused on integrating interactive mechanics with visual storytelling. The main structure was built around a multi-stage system, where each gameplay section was developed separately before being merged for seamless transitions.

Key programming elements included:

* **Character Movement & Maze Mechanics** – The development process began with implementing the maze structure, inspired by classic arcade games but with added complexity. Then, movement controls and collision detection were designed to create a fluid and interactive experience.
* **Stage Transitions & Game Logic** – Designing smooth progression between the maze and mini-games. Each passion stage was developed as an independent game sequence, later integrated into the main file.
* **User Interaction & Input Handling** – Ensuring responsiveness through keyboard and mouse interactions.
* **Visual & Audio Integration** – Synchronizing animations, sound effects, and background music to enhance immersion.

A modular approach was adopted, structuring the game into multiple .js files before merging them. This allowed for efficient debugging and improved organization. Conditional statements and time-based mechanics were introduced to ensure engaging gameplay, with clear success and failure conditions.

**Visual Design & Illustration**

The game’s aesthetic was carefully crafted to align with its thematic narrative. The style of this game is an indie game and designed with Adobe Illustration.

The design process involved:

* **Illustrating the World & Characters** – Each passion stage was designed with a distinct aesthetic to reflect its theme while maintaining a cohesive visual style. Hand-drawn assets were created with details for the character’s sprite.
* **Scene Composition & Animation** – Text elements were integrated to guide players through the story, with cinematic introductions to each stage. A balance between storytelling and interactivity was maintained with animations to bring Sunney and the environment to life.
* **User Interface & Experience Design** – Clear instructions and visual cues were integrated to enhance accessibility and engagement.

The visual elements played a crucial role in storytelling, transforming the gameplay into an expressive and emotionally resonant experience while also make it easy to navigate.

**Debugging & Testing**

Throughout development, frequent testing was conducted to refine mechanics and fix inconsistencies. Player feedback from testing the game with random people was incorporated to improve responsiveness, adjust difficulty levels, and enhance the overall user experience. The player was also asked about the understanding of the game to ensure the delivery of the meaning of the game. With testing and debugging, the game went through performance optimizations to maintain smooth gameplay and achieve the experience goal of the game.

**Final Reflection**

*Sunney* is a deeply personal project that blends storytelling, design, and game development into an interactive experience. Beyond the technical challenges, the project reinforced the importance of iteration, problem-solving, and embracing creative freedom. The final product not only reflects the creator’s journey but also serves as an invitation for players to reflect on their own passions and life paths.

This game stands as a testament to how interactive media can convey meaningful narratives, offering players both entertainment and introspection.

**DIALOGUE OF THE WIND**

**DESIGN**

**ID CARD**

This project centers on designing a cohesive personal identity, beginning with the creation of a monogram/logo and extending into a personalized ID card. The logo reflects my design style and values, while the ID card complements and enhances the logo, presenting it within a functional and aesthetic layout. The logo serves as the foundation where I build based on my design style and values. Going forward from there, the ID card was build with design that complements and enhances the logo, presenting it within a functional and aesthetic layout.

Design Process

* Step 1: Monogram/Logo Design</strong> - Designed a bold, meaningful monogram/logo reflecting my style and values.</li>
* Step 2: Personal ID Card Design</strong> - Developed an ID card focusing on typography and layout, enhancing the logo’s impact.</li>
* Outcome:</strong> A unified visual identity that integrates aesthetic and functional considerations.</p>

**BOOK INDONESIA**

Project Overview<

This project focuses on designing a visually captivating booklet with the theme "Fun Facts About Indonesia." The booklet celebrates Indonesia's rich cultural heritage, biodiversity, and intriguing trivia, all through a typographical lens. By combining modern typefaces and engaging layouts, the project aims to craft a narrative that educates and inspires, while showcasing the potential of typography in storytelling.

Design Process:

Step 1: Concept Development</strong> - Defined the theme and concept, focusing on Indonesia's diversity and fascinating facts

Step 2: Typeface Selection</strong> - Paired Raleway and Roboto typefaces to balance modern elegance with readability and clarity.

Step 3: Visual Hierarchy and Layout</strong> - Designed each page with unique yet cohesive layouts, using tonal contrasts and typographic refinements to emphasize key facts

Step 4: Integration of Visuals</strong> - Incorporated minimal illustrations and graphic elements to support the typography and enhance the narrative

OutcomeA cohesive, multi-page booklet that uses typography to celebrate Indonesia's incredible diversity, combining aesthetic appeal with educational content