CART 351 Final Prototype Documentation

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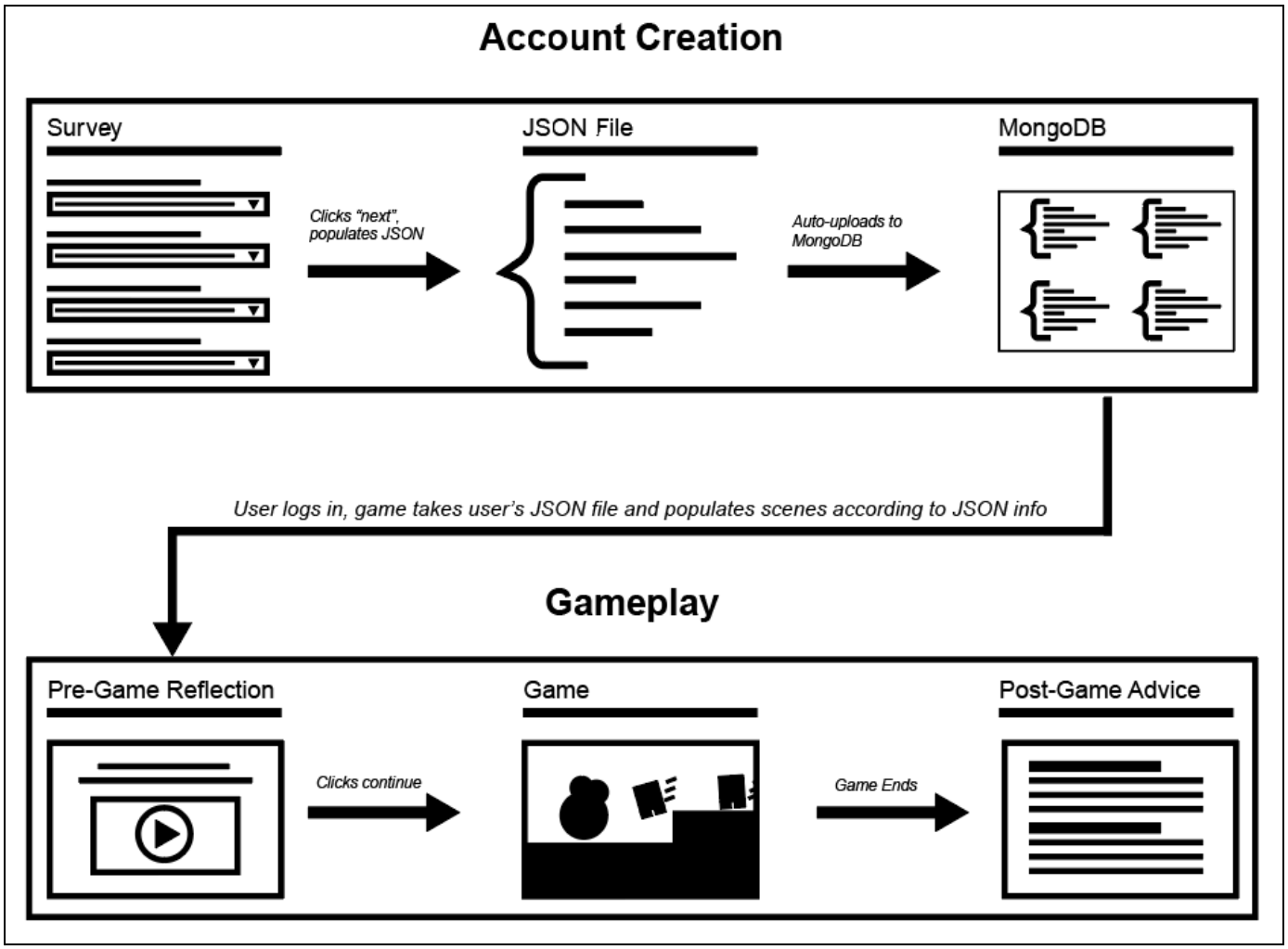
1) Detailed description of the project

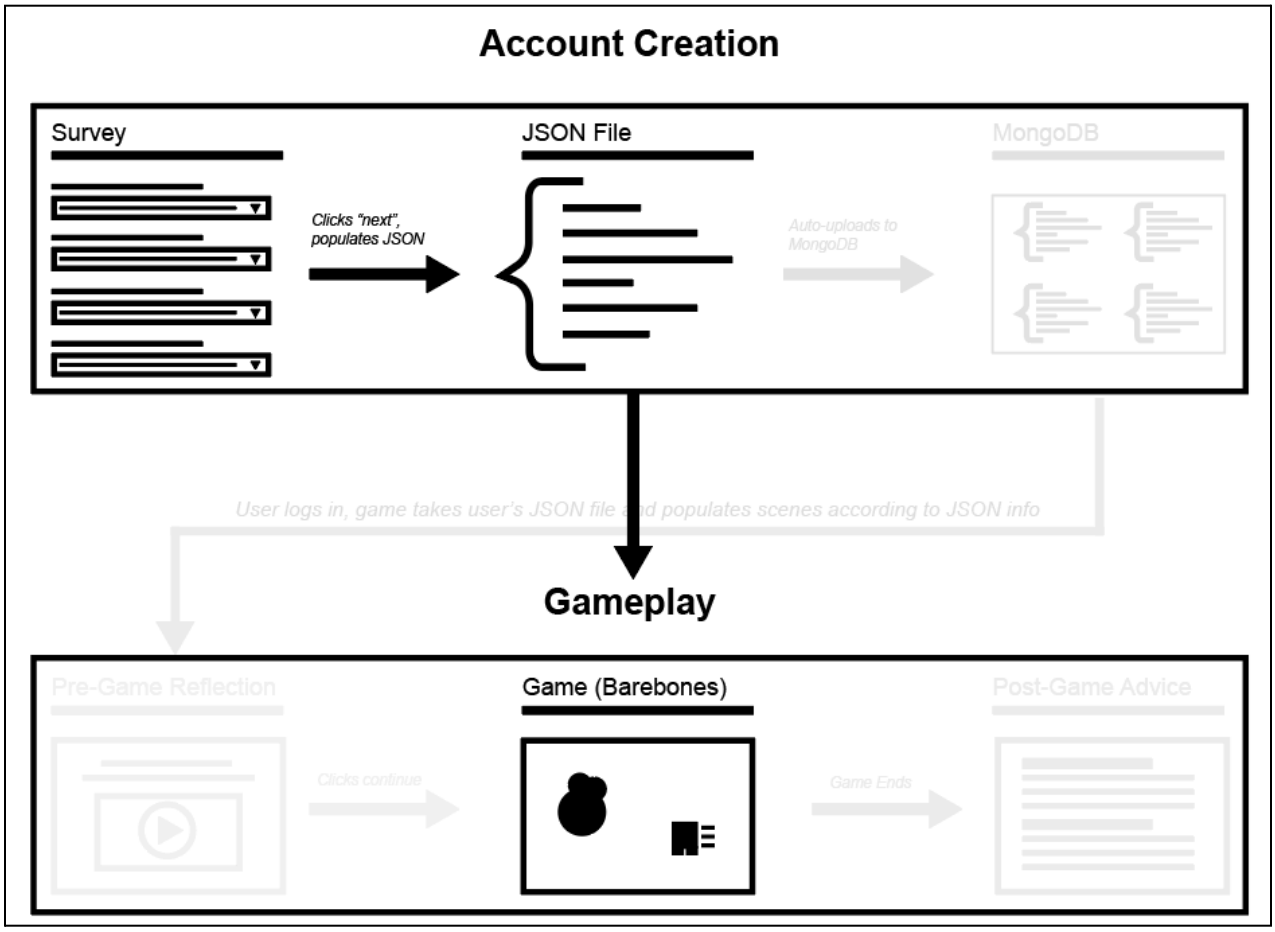
“Stress Busters" is a feel-good game designed to help players manage daily stressors, specifically targeting school-related pressures like deadlines, social expectations, and peer pressure. The player selects a stressor to face, and only that one will appear in the game, creating a focused, manageable experience. Each stressor is represented by unique animations that capture its character, making the challenge both visually engaging and relatable. Inspired by the self-care app *Finch*, where users nurture virtual pets and complete wellness activities, "Stress Busters" also encourages players to engage in simple stress-relieving practices. The main character, a cute bunny, was chosen for its soft, comforting appearance and relatable sensitivity—an animal that easily gets frightened by small disturbances, symbolizing the feeling of being overwhelmed by minor stressors. This character acts as a gentle, empathetic companion, guiding players through their challenges. By merging fun gameplay with self-care elements, "Stress Busters" aims to provide a supportive and enjoyable environment for players to learn effective stress management techniques in a lighthearted wayStress Busters" is a feel-good game designed to help players manage daily stressors, specifically targeting school-related pressures like deadlines, social expectations, and peer pressure. The player selects a stressor to face, and only that one will appear in the game, creating a focused, manageable experience. Each stressor is represented by unique animations that capture its character, making the challenge both visually engaging and relatable.

2) Final Project Diagram



3) Current State of the Project (Prototype)

Prototype Progress Diagram



Diagram

1. Basic Structure:

- HTML & Main Menu:

- The index.html sets up a main menu with a "Play" button, which leads to a survey and eventually to the game.
- The survey.js generates a survey form based on data fetched from a JSON file, and after submission, transitions to the game. The information that the user submits is then logged into the cloud through MongoDB in order to save their information between sessions
- Phaser.js is used for game loading and handling the transition between the survey and game scenes.

2. Scenes & Game Setup:

- Preload Scene:
  - The PreloadScene.js loads assets like the background, bunny, and enemies. Once the assets are loaded, the scene transitions to GameScene.
- Game Scene:
  - The GameScene.js contains core game logic. It sets a background, creates the bunny, and spawns stressors (enemies).
  - Player controls the bunny using the arrow keys.
  - Basic collision detection is in place, causing a "game over" text to appear when the bunny collides with a stressor.
  - The stressors move on screen based on simple velocity values, and the checkBounds() method ensures they stay within screen limits.

3. Player & Enemy Interaction:

- Movement:
  - The bunny moves using arrow keys (or WASD keys).
  - Stressors move based on predefined speeds (though movement logic is still being refined).

- Collision Detection:
    - When the bunny collides with a stressor, the game ends and "Game Over" text is displayed.
- Game Over:
    - The game halts when the bunny hits a stressor.

4. Game Mechanics & Logic:

- Stressors/Enemies:
    - Stressors move according to basic speed variables. Their movements are controlled by speedX and speedY but can be expanded for more complex behavior.
- Survey & Game Flow:
    - The user starts by answering a survey. Upon submission, they transition into the game. The survey dynamically generates questions and passes data to the game after submission.

4) Project components explained

Main Menu

- **Purpose:** The Main Menu provides the entry point to the game, offering users an intuitive way to navigate between key sections like the “Play” button to start the survey, “Instructions” for gameplay guidance, and other options like quit game, etc.
- **Usage:** Users interact with the Main Menu to begin their journey in the game. The menu captures the player’s interest, setting the tone for the experience.

Main menu is also a great tool to usher the users in terms of familiarity with the game environment.

- **Integration:** Implemented using HTML/CSS for structure and style, the Main Menu runs outside of the Phaser game canvas, allowing more flexibility with design and layout. JavaScript functions handle navigation and trigger the transition to the Survey component upon clicking “Play.”

Survey

- **Purpose**: The Survey gathers personal insights from players regarding their stressors, preferred coping mechanisms, and current emotional state. It allows the game to personalize gameplay based on the player's unique responses, enhancing engagement and relevance.
- **Usage**: After selecting “Play” in the Main Menu, players complete a series of questions in the survey to describe their stressors and coping habits. Responses are collected, influencing gameplay settings.
- **Integration**: The Survey is built with HTML and JavaScript, loading dynamically into a container element. The player’s responses are stored and accessed by JavaScript to influence subsequent gameplay mechanics. Dropdowns and submit buttons offer an interactive way to gather and save player responses.

Pre-Game Reflection Period

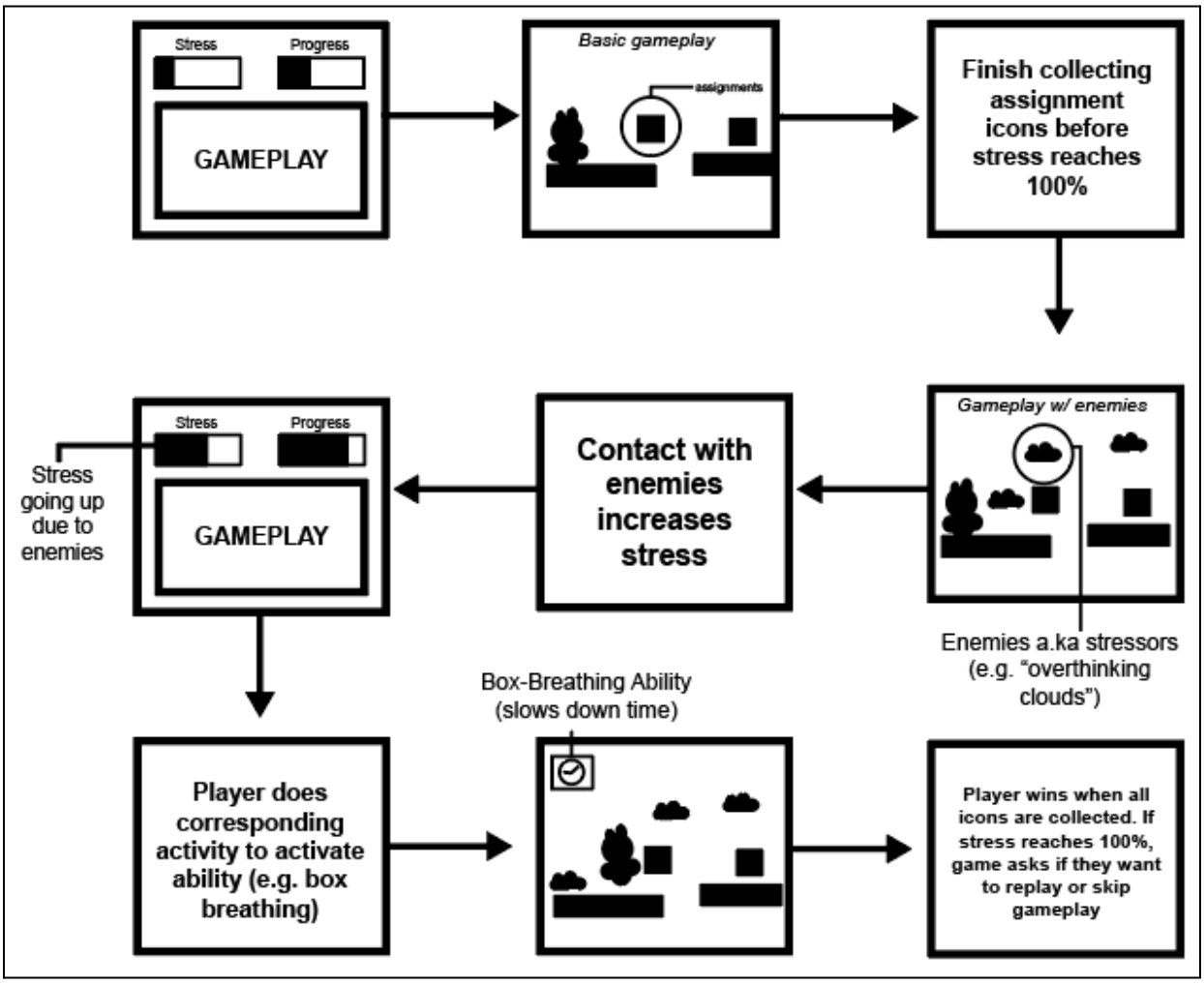
- **Purpose**: Encourage players to take a moment to relax and mentally prepare for the gameplay, reinforcing the importance of stress management.
- **How It Works**:

  Based on the survey responses, players are guided to a short mindfulness activity, such as a breathing exercise or meditation video.

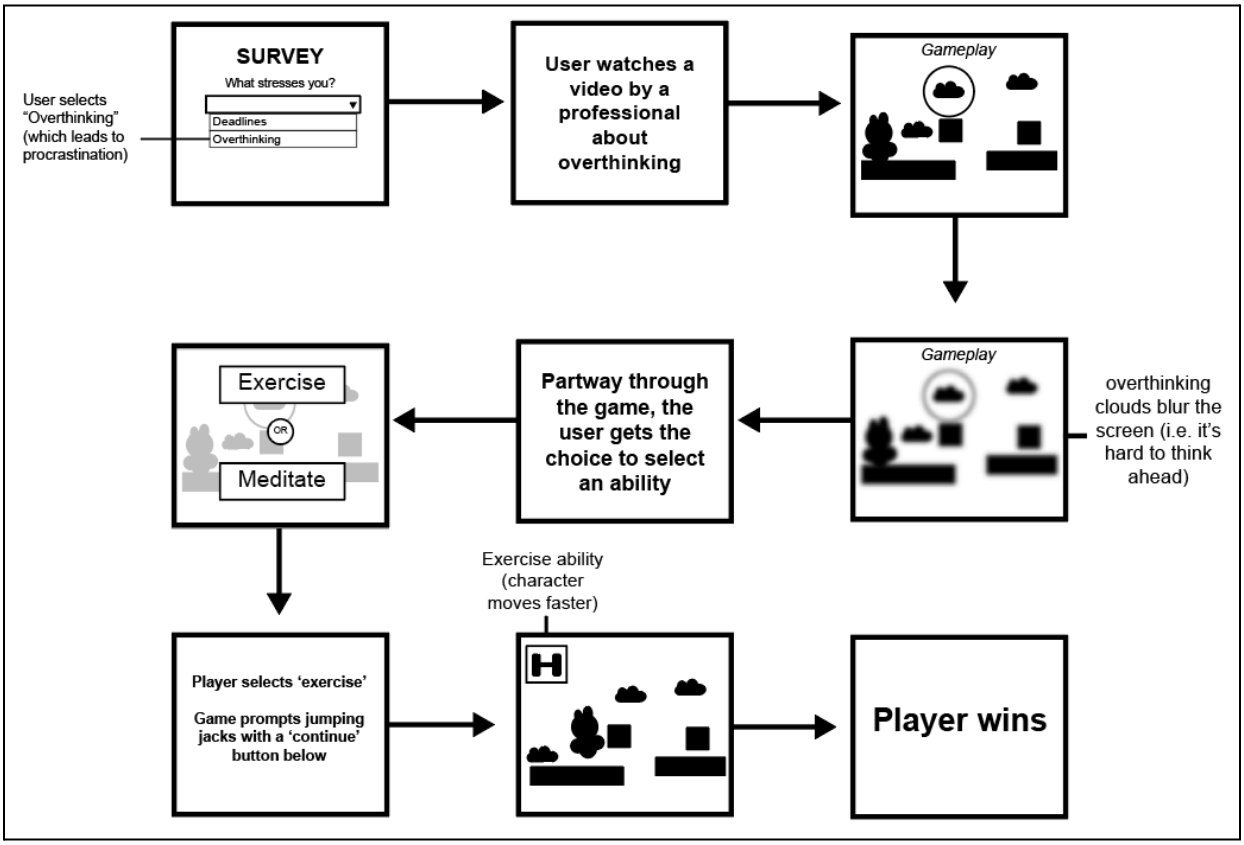
- This period serves as a reminder for players to center themselves and reflect before diving into the game.
- After completing the reflection activity, the game transitions into the **Gameplay Scene**.

Gameplay

- **Core Gameplay Experience**



- **Personalized Gameplay Experience**



Post-Game Feedback & Recommendations

- Purpose: Offer players a personalized summary of their gameplay, highlighting their main stressors and suggesting real-life coping practices.
- How It Works:

  Upon completing the game, players receive a detailed report that includes:

  - Primary Stressors: Based on the survey responses and gameplay, the game identifies the main stressors faced by the player.
  - Coping Strategies Used: A summary of the strategies the player chose in-game and how effective they were at managing stressors.

- Real-Life Recommendations: Personalized suggestions (like “Practice meditation daily” or “Consider healthy eating as a stress relief strategy”) with links to resources or videos for further exploration.
- This feedback is intended to encourage players to apply the techniques in real life and serves as a reminder of the strategies that helped them in-game.

5) User Testing and Feedback

Questions posed to the users and their responses

1. **Do you think that a survey or a questionnaire-based gameplay modification is a good idea when it comes to mapping stressors? Do the questions accurately reflect your main sources of stress?**

   Using a survey or questionnaire to personalize the gameplay experience is a great idea. Stressors and the way people feel about them are extremely personal, and coping mechanisms vary greatly. By filtering the gameplay based on responses, the game can make the user feel important and heard. This approach makes the game feel more relevant by understanding unique stressors and offering tailored experiences and coping strategies. However, it may feel that some categories could be expanded. For example, financial pressures, health concerns, or self-expectations might be stressors that resonate more with certain players, and these could be better reflected in the questions.

2. **Do the in-game coping strategies or ideas (like meditation and healthy eating) feel meaningful and helpful when it comes to fighting how we feel about certain stressors?**

   The coping strategies such as meditation and healthy eating are meaningful and helpful, but adding more variety could further enhance the experience. Meditation, for example, could be more impactful if it includes a brief real-world practice session like a video or a quick breathing exercise. It also majorly reflects upon the core idea of this game: before the gameplay, we are stopped and given a few minutes to reflect on ourselves with a quick breathing technique or relaxation tip, it would serve the purpose of the game.

3. **Would you consider using any of the recommended strategies (like breathing exercises) in real life?**

   Breathing exercises could be a beneficial tool to incorporate in real life. Offering short, guided videos or prompts before gameplay could help players practice these techniques before they start playing. This would allow them to experience the benefits of these strategies firsthand, creating a more grounded and focused approach before the game begins. Although, watching these videos shouldn't be made compulsory in the came, the user shouldn't feel forced or obliged to follow them so either they need to be timed i.e. a minute maximum or there should be skip or do it later options available too.

4. **What additional features would you recommend for this type of game?**

   Additional features such as a real-life engagement component would be appreciated. This could involve offering video tutorials or prompts for a quick relaxation or breathing exercise before gameplay. Incorporating webcam integration, where players perform simple stress-relief poses or exercises, could

make the gameplay more interactive. Additionally, tracking how often coping strategies are used in real life and providing a weekly challenge would help reinforce the game's educational aspect. A good example to take inspiration from would be the Finch self care app. In addition, it would be helpful to link to the resources we are referencing so players can further explore them at their own pace.

5. **How can we make the gameplay an interesting experience rather than just a game lost in the middle of many games on different platforms?**

   To stand out, the game could focus on self-reflection and personal growth. Instead of just offering gameplay, it should provide players with insights about themselves, their stressors, and the strategies they use to cope, which can be shared with other players, too, incorporating the multiplayer aspect. Furthermore, fellow players can give boosters to each other in the form of positivity, motivation, or certain tips that they use to fight certain stressors. Incorporating interactive features such as webcam input or offering personalized feedback after each session, along with a journaling or progress tracking system, would keep the experience fresh and engaging. These mechanics would make the development more complex but can be considered for future iterations of this project.

6. **Would you as a player consider playing this game more than once? If yes/no, why?**

   It varies, players may consider playing this game more than once if it provides an engaging experience and personal value. Reflecting on stressors, practicing coping strategies, and receiving tailored feedback could encourage repeated gameplay, Incorporating new coping strategies, stressor variations, or evolving

in-game challenges could motivate players to return. However, if the game lacks sufficient variety, feels repetitive, or the strategies don't feel impactful, players may lose interest and be less likely to play again. Additionally, if the game doesn’t resonate with the player’s personal experiences or doesn’t provide real, noticeable benefits, it could lead to disengagement.

6) Features/components that are working and to be modified /adapted / scraped / reworked

- Two important points we gathered from this prototype was the importance of scope and communication. Originally, we planned to have multiplayer capabilities and included that in our timeline. Through the creation of the prototype, we realized that just getting the core gameplay up and running took significantly more time and effort than we had anticipated. Because of such, it would be unrealistic and inefficient to focus on adding in a multiplayer mode. We have decided to scrap this idea and focus on making the experience fulfilling for just a single player. In addition, we found that we had different ideas for what the gameplay would look like. Eric had the idea of a management game with a calendar interface, while Molika had the idea of a 2D platformer. Through consulting with Sabine, we had talked about what each of our visions was and ultimately settled on the 2D platformer concept, allowing us to continue our path forward.
- At first we decided to have many questions in the form of a survey but with user interactions we decided to limit them to 3-4 questions that are sufficient for our game. Users suggested that too many questions might exhaust them or bore them even before the game begins.
- Because of time constraints we would focus on 3 stressors first, deadlines, overthinking, and peer pressure. Because each stressor has its own level so this

part can be considered more of a level design and for CART 351 finals we would go with 3 as it is important for us to prioritize quality over quantity. We plan to finish these 3 levels with the vision we had for our game and if time permits other features or components could be considered.

- It is important to finish designing all the assets before jumping into making the technicalities work. Here is our main character (bunny/rabbit) instance.

- Our aim is to make the gameplay work once finished with asset sprite sheets and background designing. First challenge is to finish executing 1 level, that would be the deadline stressor with the timer and the tools. After its completion we would like to do user testing and then progress for the other two stressors. Mollika will be designing the assets and Eric is taking care of the technicalities.

Overview

Working Features/Components:

1. Main Menu: Functional, but could use visual improvements and transitions.

2. Survey: Collects stressor data, needs better dynamic content rendering.
3. Enemies/Obstacles (Deadline stressor): There's just one enemy right now as a placeholder, need to replace it with real assets and start working on game mechanics.
4. Coping Mechanisms (Meditation, Healthy Eating): Hasn't been included yet.
5. Feedback Mechanism: Currently under development, needs player feedback on coping strategies and personalized advice.
6. Visual Style/Animation: Basic implementation, needs enhanced stress-related animations.

To Be Modified/Adapted:

1. Survey Questions: Expand to include all the stressor categories (3) based on feedback.
2. Gameplay Transition: Improve flow from the survey to the calming phase and then to gameplay.
3. Coping Videos: Add calming video clips (breathing exercises) before gameplay starts.
4. Enemy Behavior: Refine enemy behaviour for each stressor, e.g., deadline triggers time-based enemies, and overthinking introduces cognitive distractions.
5. Game Progression: Link survey answers to in-game challenges more directly.
6. Environmental Feedback: Adapt levels and environments to match stressors (e.g., chaotic visuals for deadlines, calming visuals for meditation).

To Be Scrapped:

1. Unnecessary Complexity: Avoid adding too many stressors and mechanics that might overcomplicate the gameplay.