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## 1.0 Introduction



In this project, we decided to develop a game called **1 Minute**, a title that closely mirrors the challenges and experiences of the COVID-19 pandemic. The game is designed not only for entertainment but also as a form of education and awareness, reflecting on the global event that has significantly impacted our lives. By simulating real-life scenarios and decisions during the pandemic, we aim to create a platform that can serve as both a policy tool and a learning experience.

1 Minute is deeply connected to our everyday lives, as it encapsulates situations that are familiar to many of us. Through this game, players can engage with pandemic-related events in an interactive manner, learning from the past to better understand the importance of preparedness and strategic thinking. The game emphasizes critical decision-making and resource management, key skills that are invaluable in real-world scenarios, especially during a global health crisis.

Our ultimate goal with 1 Minute is to provide an educational experience that raises awareness about the COVID-19 pandemic and its impact on daily life. By incorporating elements of realism and strategy, we hope to create an engaging and thought-provoking game that encourages players to reflect on their choices and learn from the outcomes.

## **2.0 Project Overview**

### **2.1 Project Objectives**

There are a total of five objectives for this project, aimed at creating a meaningful and educational experience about the COVID-19 pandemic:

#### **1. Educational Engagement**

To create a game that raises awareness about the COVID-19 pandemic and its impact on daily life, helping players understand the importance of preparedness and strategic decision-making in real-world scenarios.

#### **2. Realistic Simulation**

To develop a game that closely mirrors real-life challenges faced during the COVID-19 pandemic, providing players with an immersive experience that requires them to manage resources and make critical decisions.

#### **3. Interactive Learning**

To design a game that serves as both an educational tool and a form of entertainment, encouraging players to engage with pandemic-related events in an interactive manner and learn from their choices and outcomes.

#### **4. Skill Development**

To enhance players' critical thinking, problem-solving, and resource management skills through realistic gameplay scenarios that require careful planning and strategic decision-making.

#### **5. Awareness and Preparedness**

To use the game as a platform for highlighting the importance of public health policies and personal preparedness, promoting a better understanding of how to respond to future health crises.

Lastly, the project aims to offer us an opportunity to expand our knowledge of game design and development. This includes a particular focus on leveraging JavaFX UI and components to craft a game that is not only engaging but also functionally robust. By delving into these aspects, we can hone our skills in creating immersive user experiences while gaining practical insights into the intricacies of game development.

## **2.2 Target Audience**

Our game mainly targets two types of audience:

### **1. Students and Educators**

This game is designed to serve as an educational tool, making it particularly suitable for students in middle school, high school, and college who are studying topics related to public health, history, or social studies. Educators can use the game to supplement their teaching materials and provide a hands-on learning experience about the COVID-19 pandemic.

### **2. General Public**

The game targets individuals who are interested in learning more about the COVID-19 pandemic and its implications in a more engaging and interactive way. It appeals to a broad audience, including adults who want to understand the importance of preparedness and strategic decision-making in real-life situations.

## **2.3 Key Features**

There are four main key features about this game that highlight its educational and immersive qualities:

### **1. Interactive Pandemic Simulation**

Engage in a dynamic simulation of global pandemics, where players experience the complexities of managing outbreaks, making critical decisions, and observing their impact on public health.

### **2. Realistic Scenarios**

Navigate through realistic scenarios based on historical data and epidemiological models, offering an educational yet immersive experience into pandemic response strategies.

### **3. Educational Gameplay**

Learn about epidemiology, public health policies, and crisis management through interactive gameplay that encourages strategic thinking and problem-solving skills.

### **4. Decision-Making and Consequences**

Make crucial decisions that influence the progression of the pandemic, resource allocation, public communication, and policy implementation, with tangible consequences based on these choices.

### **3.0 Game Concepts and Storyboard**

#### **3.1 Core Concept**

"1 Minute" is a survival strategy game inspired by "60 Seconds!" where players must navigate a pandemic lockdown for 30 days. In this intense simulation, players manage resources like water, canned food, and medical supplies while balancing hunger, thirst, health, and morale. Each day presents challenges such as random events and emergencies, demanding quick decisions that impact survival. The game aims to test players' resource management, critical thinking, and adaptation skills, offering a realistic yet engaging experience of surviving a pandemic through strategic planning and decision-making.

#### **3.2 Design Pillars**

##### **1. Urgency**

The game emphasizes urgency by limiting the player's time to gather essential resources before the lockdown begins. This creates a tense atmosphere where every decision counts, forcing players to prioritize and act quickly to secure their family's survival.

##### **2. Survival Strategy**

Central to the gameplay is the strategic management of resources such as water, canned food, medical supplies, and other essential items. Players must carefully allocate these resources each day to maintain health, morale, and overall survival throughout the 30-day period. Balancing immediate needs with long-term sustainability is crucial for success.

##### **3. Realism**

The game strives for realism by simulating the challenges and uncertainties faced during a pandemic lockdown. This includes realistic depictions of health risks, mental health considerations, and the scarcity of resources. By reflecting real-world scenarios, the game aims to educate players on the complexities of surviving in such conditions.

##### **4. Replayability**

To enhance player engagement, the game features randomized events and resource placements in each playthrough. This variability ensures that no two games are exactly alike, encouraging players to experiment with different strategies and decisions. The unpredictability keeps the gameplay fresh and challenging, motivating players to return for multiple sessions.

### **3.3 Basic Story**

Due to a severe outbreak of COVID-19, the government enforces a strict lockdown. Citizens have one minute to gather essential supplies before a 30-day quarantine. The protagonist, along with his/her mom and dad, must survive the lockdown without contracting the virus.

### **3.4 Plot**

"1 Minute" takes place in Malaysia during the COVID-19 pandemic. The game follows the Lim family ( Susan, Robert(Dad), Gwen(Mom) ) as they try to survive the 30-day lockdown without contracting the virus.

First, the player has the titular 1 minute to acquire whatever supplies and diversional items (e.g., a chess set), and bring them back to their house before the lockdown begins. Failure to gather enough supplies affects the flow of the gameplay.

Each day, the player must make decisions for the family based on available supplies, limited information, and the ability of family members. Some of these decisions entail risks and may result in poor health or even death of one or all of the family members.

For consumable supplies, the player must ration their usage, such as food and water, among the family members based on how much they initially acquired, their overall health, and their need for it. The player must also be cautious about the mental state of the family members, as the isolation of the lockdown affects the gameplay as well (e.g., Susan may start talking to a houseplant as if it were a person).

At times, a character may be required to leave the house to scavenge for additional supplies. This entails risk, as a family member may get exposed to the virus outside or may not return due to other dangers.

Other times, a knock may be heard at the door, and the player must decide whether to ignore it or open the door to interact with whoever or whatever is outside. Depending on the event, this may result in a possible trade between the Lims and other affected families, a raid where supplies are stolen, or an infected person entering the house and spreading the virus, potentially ending the game.

If the player makes timely and wise decisions, there is the possibility of government aid or the arrival of a vaccine which is after 30 days, successfully ending the game with the family's survival.

## **4.0 Gameplay Mechanics**

### **4.1 Core Mechanics**

#### **1. Resource Management**

Players must collect and manage essential resources, including water, canned foods, first aid kits, and various other supplies from a grocery store within an initial 60-second period. Each collected item consumes inventory space, which is capped at 100 units. Players must prioritize which items to collect based on their space requirements and utility.

#### **2. Survival Strategy**

Players need to allocate resources wisely to maintain the health, hunger, thirst, and morale of their family members over the course of 30 days. The game involves making critical decisions on rationing food and water, using first aid kits, and deploying other items to ensure the family's survival.

#### **3. Daily Events**

Each day presents a unique event that may affect the family's resources and well-being. These events require the player to make choices that will impact the game's outcome. Players must deal with the consequences of their decisions, which can affect hunger, thirst, health, and morale levels.

#### **4. Inventory Management**

The game starts with an empty inventory (0/100), and players must fill it during the initial grocery run within the 60-second limit. Once the inventory reaches 100/100, no more items can be collected. Effective inventory management is crucial for survival, as the right combination of items can help mitigate negative events and improve the family's chances of survival.

## **4.2 Game Logic**

The game is designed to challenge the player with managing resources and making strategic decisions to ensure the survival of their family over a 30-day period in a post-pandemic world. The game logic is structured as below:

### **4.2.1 Initial Setup**

#### **1. Login Page**

- The player logs into the game using a username and password.
- Once logged in, the player is taken to the initial grocery store scene.

#### **2. Grocery Store Collection (First 60 Seconds)**

- The player starts with an empty inventory (0/100 space).
- They have 60 seconds to collect as many items as possible from the grocery store.
- Each item has a specific space value, and the player can collect items until the inventory reaches 100/100.
- When the inventory reaches 100/100, the player cannot pick up any more items.

### **4.2.2 Daily Game Cycle**

#### **1. Day Start**

- Each day begins with a summary of the family's current status (health, hunger, thirst, morale).
- Daily resource deduction occurs, decreasing hunger and thirst bar by 5 units each.

#### **2. Daily Events**

- A unique event occurs each day, presenting the player with a choice.
- Events can have positive or negative outcomes affecting the family's resources and status.

#### **3. Resource Management**

- The player must decide how to allocate resources (food, water, first aid kits, etc.) to manage hunger, thirst, health, and morale.
- Players can use items from their inventory to increase hunger, thirst bar or boost morale and health.
- Rationing days (4 out of 30 days) allow the player to increase hunger and thirst levels by 30 units each by distributing food and water.



#### 4. Status Check

- At the end of each day, the game checks if any family member's hunger or thirst level has reached 0/100, or if health or morale has reached 0/100.
- If either condition is met, that family member dies.

#### 5. Win and Lose Conditions:

- Win Condition: Survive all 30 days until the vaccine arrives.
- Lose Condition: The game ends if two family members die.

### Example Day-by-Day Logic

#### 1. Day 1

- Initial Status: Hunger 70/100, Thirst 70/100, Health 80/100, Morale 70/100.
- Daily Decrease: Hunger -5, Thirst -5, Health -2, Morale -1
- Event: Choose to search for supplies (risk gaining or losing items).
- End of Day Status: Hunger 65/100, Thirst 65/100, Health 78/100, Morale 69/100.

#### 2. Day 2

- Daily Decrease: Hunger -5, Thirst -5, Health -2, Morale -1
- Event: An opportunity to trade with a traveling merchant.
- End of Day Status: Hunger 60/100, Thirst 60/100, Health 76/100, Morale 68/100.

#### 3. Day 3 (Rationing Day)

- Allocate resources: Distribute food and water to increase Hunger and Thirst bar by 30.
- Daily Increase: Hunger +30, Thirst +30, Health +5, Morale +5
- Event: A family member falls ill (use a first aid kit to prevent health drop).
- End of Day Status: Hunger 90/100, Thirst 90/100, Health 81/100, Morale 73/100.

#### 4. Day 4

- Daily Decrease: Hunger -5, Thirst -5, Health -2, Morale -1
- Event: Find additional canned food during a search.
- End of Day Status: Hunger 85/100, Thirst 85/100, Health 79/100, Morale 72/100.

Day 5-30 is continued with similar and repetitive logic stated above.

### 4.3 Gameplay

In "1 Minute," the gameplay begins with a Scavenging Phase in which players have exactly one minute to gather essential supplies from a grocery store before returning home. Players control Susan through the store, collecting items such as water, canned foods, medical kits, masks, and other necessities. Each adult can only carry a limited number of items, requiring strategic decisions about what to prioritize within the time limit.

After the Scavenging Phase, the game transitions to the Survival Phase, where players manage the accumulated supplies over the next 30 days. The Journal Button at the bottom right corner of the screen provides daily updates and instructions, guiding players on when to use resources, feed family members, and handle events. Efficient resource management is essential as players must carefully ration food, water, and medical supplies to meet the needs of each family member. Maintaining both physical health and mental well-being is also essential, this can be achieved by engaging in activities with board games, books, and vitamins which contribute in maintaining high morale and reducing stress levels.

Throughout the 30 days, players can appoint an adult on Scavenging Missions to obtain additional supplies. However, this comes with significant risks such as contracting the virus or facing other dangers. Random events will also occur throughout the gameplay, requiring players to make decisions that impact their survival. These events, narrated by the Journal, can include knocks on the door, potential trades, or threats like raids. The game ends if the family survives the full 30 days until the vaccine arrives, but if all family members perish, the game ends with a "Defeat" screen. Multiple endings are possible based on the decisions made and the family's condition at the end of the lockdown, providing dynamic outcomes from positive survival to tragic loss.

## **4.4 Win and Lose Condition**

### **Win Condition**

To win the game, the player must successfully manage the family's resources and health in order to survive for a total of 30 days until the vaccine arrives. If the family is still alive and in good health when the vaccine arrives, the player wins the game.

### **Lose Condition**

The player will lose the game under any of the following conditions:

#### **1. Death from Hunger or Thirst:**

If any family member's hunger or thirst level reaches 0/100, that family member will die.

#### **2. Death from Health or Morale:**

If any family member's health or morale level drops to 0/100, that family member will die.

#### **3. Family Member Deaths:**

If two family members die due to any combination of hunger, thirst, health, or morale reaching critical levels, the game will end, resulting in a loss.

## 5.0 Data Attributes and Methods

| 1) Player Class (extends FamilyMember)   |  |
|--|--|
| <b>Attributes</b> <ul style="list-style-type: none"><li>- String username</li><li>- String password</li><li>- Inventory inventory</li><li>- List&lt;FamilyMember&gt; family</li><li>- int currentDay</li></ul> | <b>Methods</b> <ul style="list-style-type: none"><li>- String getUsername()</li><li>- String getPassword()</li><li>- void setUsername(String username)</li><li>- void setPassword(String password)</li><li>- Inventory getInventory()</li><li>- void setInventory(Inventory inventory)</li><li>- List&lt;FamilyMember&gt; getFamily()</li><li>- void setFamily(List&lt;FamilyMember&gt; family)</li><li>- int getCurrentDay()</li><li>- void setCurrentDay(int currentDay)</li><li>- void incrementDay()</li></ul> |
| 2) FamilyMember Class  |  |
| <b>Attributes</b> <ul style="list-style-type: none"><li>- String name</li><li>- int health</li><li>- int hunger</li><li>- int thirst</li><li>- int morale</li></ul>  | <b>Methods</b> <ul style="list-style-type: none"><li>- String getName()</li><li>- int getHealth()</li><li>- int getHunger()</li><li>- int getThirst()</li><li>- int getMorale()</li><li>- void setName(String name)</li><li>- void setHealth(int health)</li><li>- void setHunger(int hunger)</li><li>- void setThirst(int thirst)</li><li>- void setMorale(int morale)</li><li>- void updateStatus(int healthChange, int hungerChange, int thirstChange, int moraleChange)</li><li>- boolean isAlive()</li></ul>  |
| 3) Inventory Class   |  |
| <b>Attributes</b> <ul style="list-style-type: none"><li>- int maxCapacity</li><li>- List&lt;Item&gt; items</li></ul>   | <b>Methods</b> <ul style="list-style-type: none"><li>- int getMaxCapacity()</li><li>- int getCurrentCapacity()</li><li>- void setMaxCapacity(int maxCapacity)</li><li>- List&lt;Item&gt; getItems()</li><li>- void addItem(Item item)</li><li>- void removeItem(Item item)</li><li>- boolean isFull()</li><li>- int getItemCount(String itemName)</li></ul>  |
| 4) Item Class  |  |
| <b>Attributes</b> <ul style="list-style-type: none"><li>- String itemName</li><li>- int space</li><li>- int quantity</li></ul>   | <b>Methods</b> <ul style="list-style-type: none"><li>- String getItemName()</li><li>- int getSpace()</li><li>- int getQuantity()</li><li>- void setItemName(String itemName)</li><li>- void setSpace(int space)</li><li>- void setQuantity(int quantity)</li><li>- void usedItem(int amount)</li></ul>   |

|  |  |
|--|--|
| <b>5) Event Class (Abstract)</b>   |  |
| <b>Attributes</b> <ul style="list-style-type: none"> <li>- String eventName</li> <li>- String context</li> <li>- Outcome outcome</li> <li>- String decision</li> </ul>   | <b>Methods</b> <ul style="list-style-type: none"> <li>- String getEventName()</li> <li>- String getContext()</li> <li>- void setEventName(String eventName)</li> <li>- void setContext(String context)</li> <li>- void setOutcome(OOutcome outcome)</li> <li>- void triggerEvent(Player player)</li> <li>- boolean getDecision()</li> </ul>  |
| <b>a) YesNoEvent (extends Event)</b>   |  |
| <b>Attributes</b> <ul style="list-style-type: none"> <li>- Outcome yesOutcome1</li> <li>- Outcome yesOutcome2</li> <li>- Outcome noOutcome</li> <li>- Random random</li> </ul>   | <b>Methods</b> <ul style="list-style-type: none"> <li>- Outcome getYesOutcome1()</li> <li>- Outcome getYesOutcome2()</li> <li>- Outcome getNoOutcome()</li> <li>- void setYesOutcome1(OOutcome yesOutcome1)</li> <li>- void setYesOutcome2(OOutcome yesOutcome2)</li> <li>- void setNoOutcome(OOutcome noOutcome)</li> <li>- void applyOutcome(Player player, boolean decision)</li> </ul> |
| <b>b) SendSomeoneEvent (extends Event)</b>   |  |
| <b>Attributes</b> <ul style="list-style-type: none"> <li>- boolean isExpedition</li> <li>- Outcome successOutcome</li> <li>- Outcome failureOutcome</li> <li>- Outcome partialSuccessOutcome</li> <li>- Outcome disasterOutcome</li> <li>- Outcome sendNobodyOutcome</li> <li>- Random random</li> </ul> | <b>Methods</b> <ul style="list-style-type: none"> <li>- boolean isExpedition()</li> <li>- void applyOutcome()</li> </ul>   |
| <b>c) ItemsEvent (extends Event)</b>   |  |
| <b>Attributes</b> <ul style="list-style-type: none"> <li>- List&lt;Item&gt; availableItems</li> </ul>  | <b>Methods</b> <ul style="list-style-type: none"> <li>- List&lt;Item&gt; getAvailableItems()</li> <li>- void setAvailableItems(List&lt;Item&gt; availableItems)</li> <li>- void applyOutcome(Player player, Item selectedItem)</li> <li>- void declineItem(Player player)</li> </ul>   |
| <b>d) TradeEvent (extends Event)</b>   |  |
| <b>Attributes</b> <ul style="list-style-type: none"> <li>- List&lt;Item&gt; tradeOptions</li> </ul>  | <b>Methods</b> <ul style="list-style-type: none"> <li>- List&lt;Item&gt; getTradeOptions()</li> <li>- void applyOutcome(Player player, Item acceptedItem)</li> <li>- void declineTrade(Player player)</li> </ul>   |
| <b>6) Outcome Class</b>  |  |
| <b>Attributes</b> <ul style="list-style-type: none"> <li>- String description</li> <li>- int hungerChange</li> <li>- int healthChange</li> <li>- int thirstChange</li> <li>- int moraleChange</li> <li>- int inventoryChange</li> </ul>  | <b>Methods</b> <ul style="list-style-type: none"> <li>- String getDescription()</li> <li>- void setDescription(String description)</li> <li>- int getHungerChange()</li> <li>- void setHungerChange(int hungerChange)</li> <li>- int getHealthChange()</li> <li>- void setHealthChange(int healthChange)</li> </ul>  |

|  |  |
|--|--|
|  | <ul style="list-style-type: none"> <li>- int getThirstChange</li> <li>- void setThirstChange(int thirstChange)</li> <li>- int getMoraleChange()</li> <li>- void setMoraleChange(int moraleChange)</li> <li>- int getInventoryChange()</li> <li>- void setInventoryChange(int inventoryChange)</li> <li>- void apply(Player player)</li> </ul>  |
| <b>7) Game Class</b>   |  |
| <b>Attributes</b> <ul style="list-style-type: none"> <li>- Player player</li> <li>- List&lt;Event&gt; events</li> <li>- int dayCount</li> </ul>                          | <b>Methods</b> <ul style="list-style-type: none"> <li>- Player getPlayer()</li> <li>- List&lt;Event&gt; getEvents()</li> <li>- int getDayCount()</li> <li>- void setPlayer(Player player)</li> <li>- void setEventList(List&lt;Event&gt; events)</li> <li>- void setDayCount(int dayCount)</li> <li>- void rationingDay()</li> <li>- void startGame()</li> <li>- void processDailyEvents()</li> <li>- void applyDailyIncreases()</li> <li>- void checkWinLose()</li> <li>- void displayStatus()</li> </ul> |
| <b>8) Authentication Class</b>   |  |
| <b>Attributes</b> <ul style="list-style-type: none"> <li>- List&lt;Player&gt; players</li> </ul>   | <b>Methods</b> <ul style="list-style-type: none"> <li>- List&lt;Player&gt; getPlayers()</li> <li>- void setPlayers(List&lt;Player&gt; players)</li> <li>- boolean authenticate(String username, String password)</li> <li>- boolean register(String username, String password)</li> <li>- boolean resetPassword(String username)</li> </ul>  |
| <b>9) Interface and Control Class</b>  |  |
| <b>Attributes</b> <ul style="list-style-type: none"> <li>- MainMenu mainMenu</li> <li>- HUD hud</li> <li>- InventoryScreen inventoryScreen</li> </ul>                    | <b>Methods</b> <ul style="list-style-type: none"> <li>- void displayLoginPage()</li> <li>- void displayMainMenu()</li> <li>- void displayInventoryScreen()</li> <li>- void displayHUD()</li> <li>- void displayStatus()</li> <li>- void displayEvent(Event event)</li> <li>- void displayEndScreen(boolean win)</li> <li>- void updateControlScheme()</li> </ul>   |
| <b>10) Sound Class</b>   |  |
| <b>Attributes</b> <ul style="list-style-type: none"> <li>- String backgroundMusic</li> <li>- String soundEffects</li> <li>- String track</li> <li>- int level</li> </ul> | <b>Methods</b> <ul style="list-style-type: none"> <li>- void playBackgroundMusic(String track)</li> <li>- void playSoundEffects(String soundEffects)</li> <li>- void stopMusic()</li> <li>- void stopSoundEffects(String soundEffects)</li> <li>- void setVolume(int level)</li> </ul>   |

6.0 UML Use Case Diagram

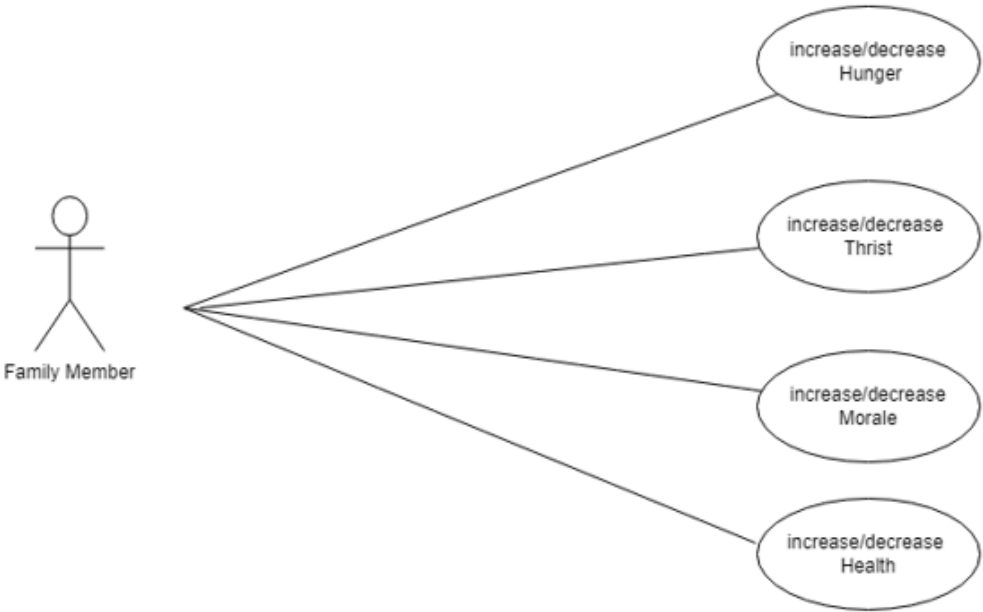


Figure 1 Family Member Use Case



Figure 2 Player Use Case



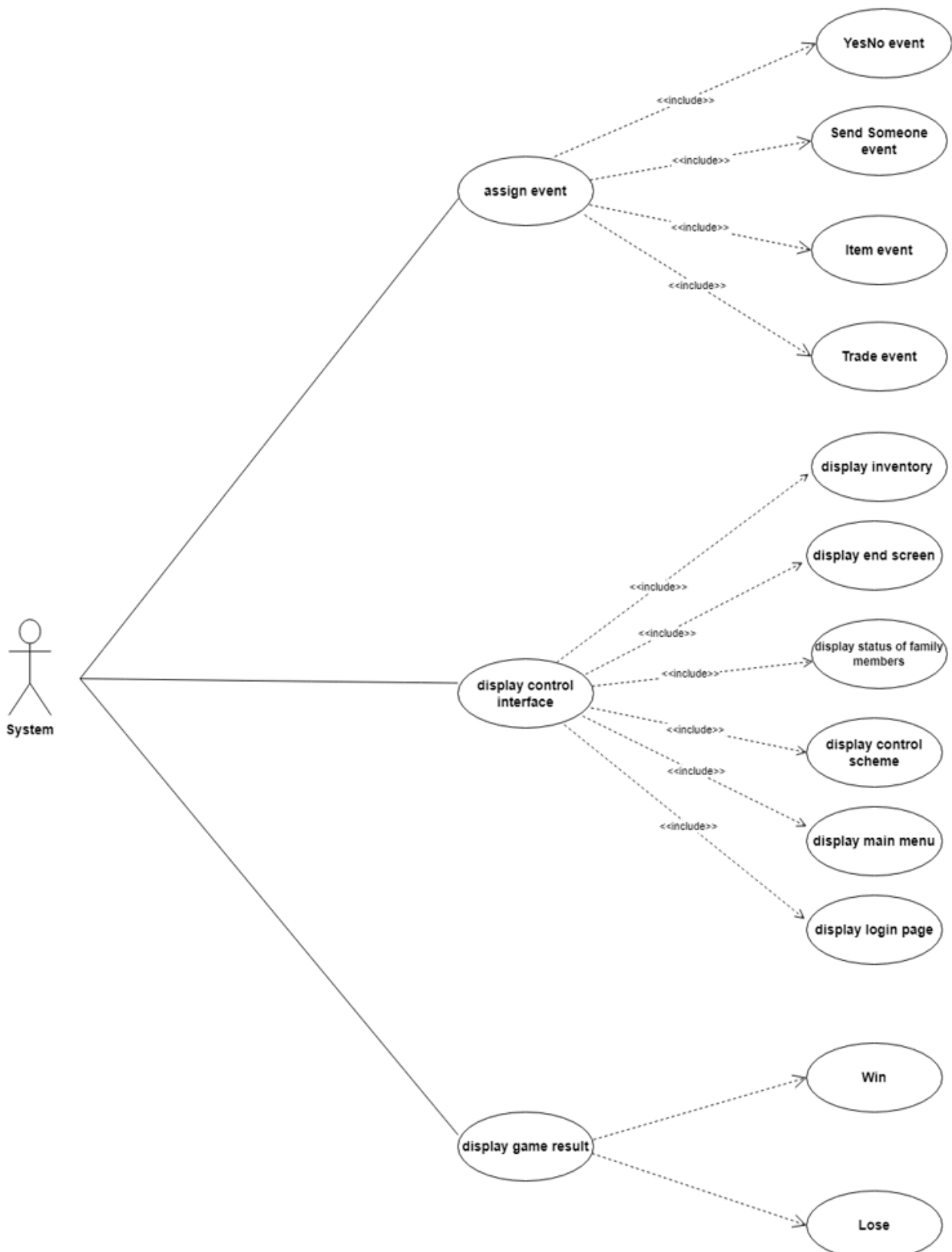


Figure 3 System Use Case

## 7.0 UML Class Diagram

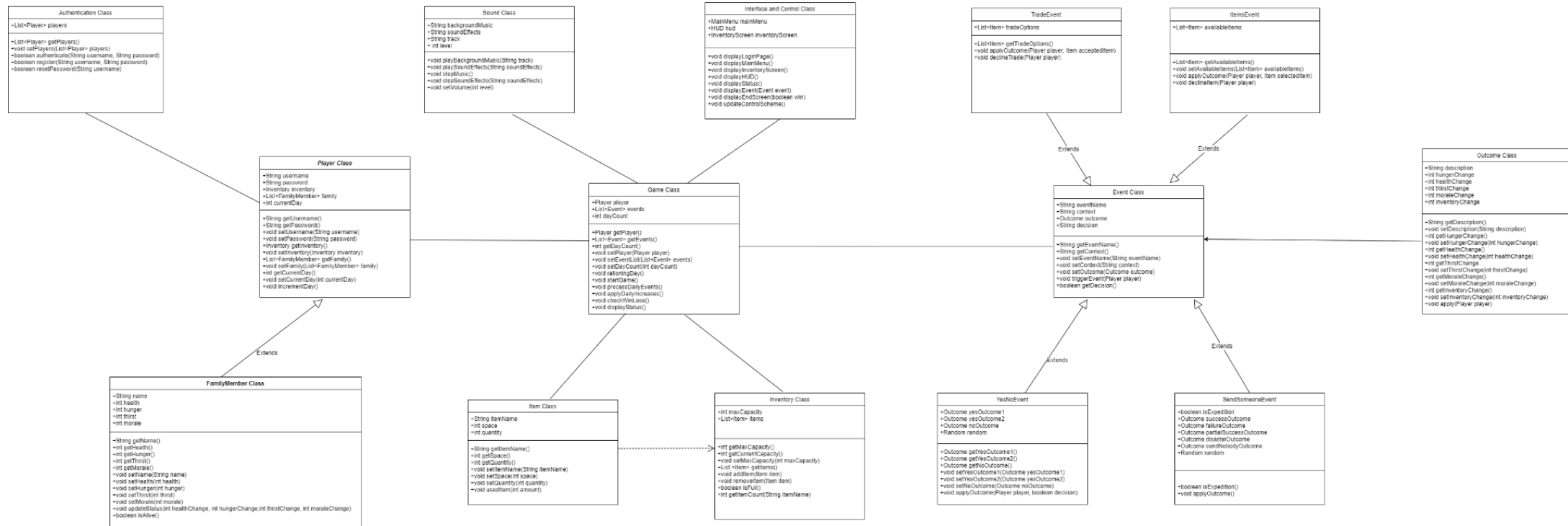
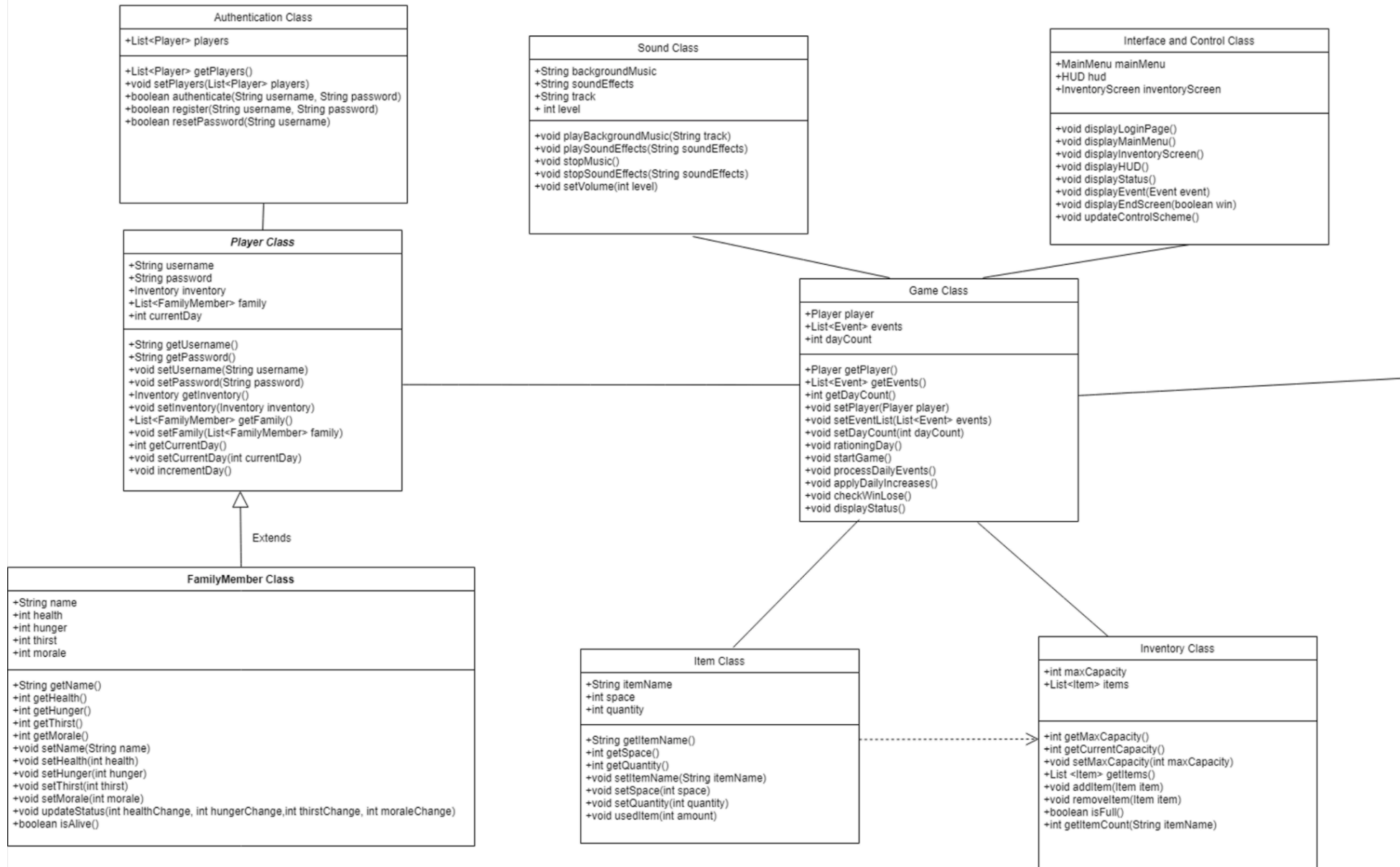
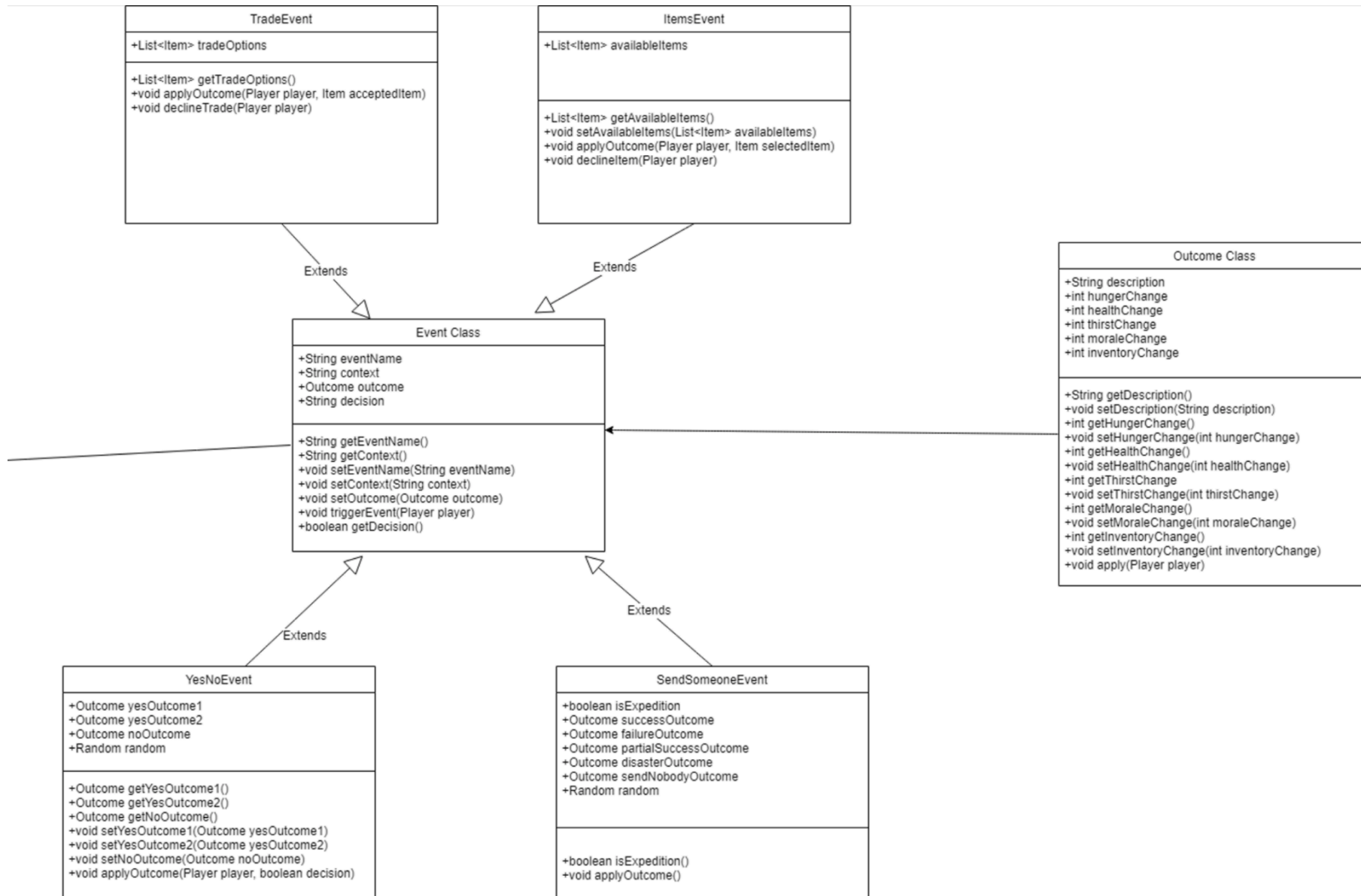


Figure 4 UML Class Diagram

## 7.1 UML Class Diagram Part 1



## 7.2 UML Class Diagram Part 2



## **8.0 User Interface & Static Prototype**

### **8.1 UI Design Overview**

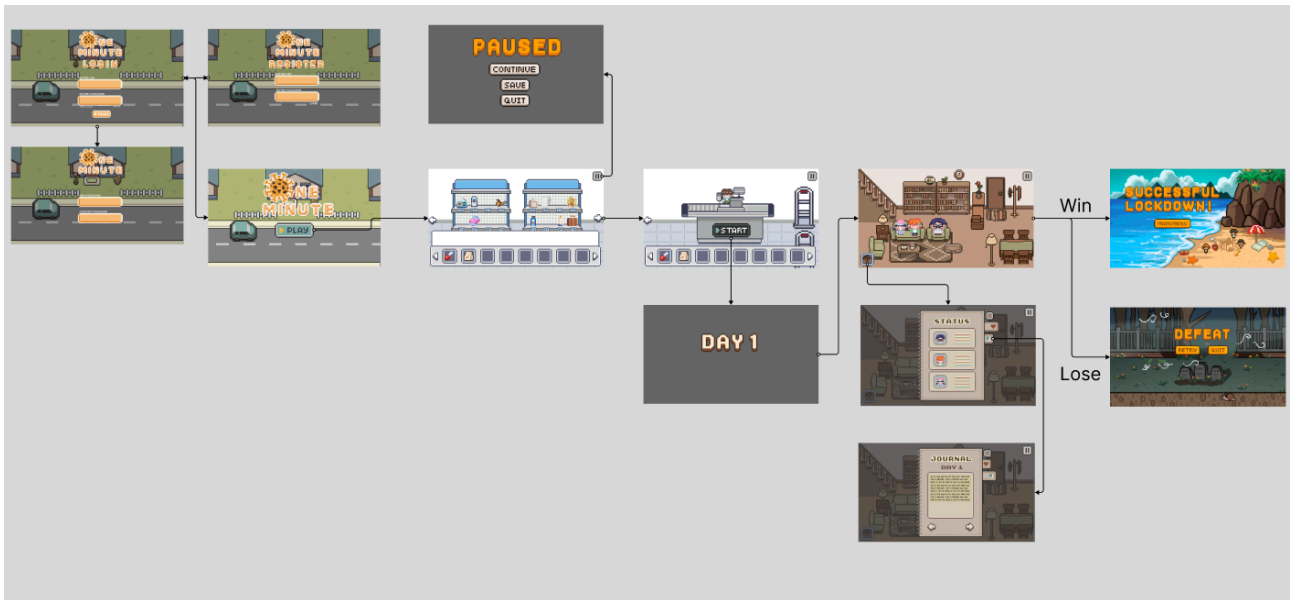
UI (User Interface) design is utilized in our game to create a visualized and interactive environment for user interaction. We hope to ensure a more intuitive, seamless and engaging experience for the players while navigating and accessing the game we have created.

We chose pixelated graphics as our main graphical user interface (GUI) as it is one of the most effective ways to synchronize visual styles together. Specific color palettes were also meticulously selected for various settings to create distinct atmospheres, hence enhancing the user's experience. The overall color tone reflects a serene and neutral ambiance, with slight deviations in each screen. The Home Screen utilized a warm and cozy tone to convey a sense of homeliness and comfort. The Shopping Screen and Cashier Screen featured brighter and cleaner color tones to foster a friendly shopping environment. The ending screens have a higher degree of color contrast in order to align with the game results. The Winning Screen showcases vibrant and cheerful colors celebrating the success, whereas Defeat Screen employs dull and somber hues to reflect the melancholy.

We have used a range of tools and technologies during the UI design process. These include: Figma, which facilitates collaborative design and prototyping, Procreate which is used for creating concept art, sketches and initial design ideas, and Pixel Studio, utilized for crafting the pixel art, mockups and final designs.

## 8.2 Screens and Navigation

The sequence of events begins on our starting/home page, followed by the shopping and cashier scenes. After completing the cashier scene, the lockdown phase commences, during which players can access the journal by clicking the bottom left button. Successfully surviving the lockdown will lead to the winning scene, while failure results in the defeat scene.



*Figure 5 Overview of Screens*

### 1) Starting Screen



*Figure 6 Starting Screen*

The game opens with the Starting Screen, featuring a simple background of the neighborhood and a Play Button. Upon pressing the Play Button, players are transitioned to the next stage, signaling the beginning of the shopping scene.

## 2) Shopping Screen



*Figure 7 Shopping Screen*

Next, players enter the Shopping Screen, where they have 60 seconds to pick and choose necessary items. The screen displays 2 shelves filled with essential supplies like water, canned food, medicine, and more. Players must quickly navigate the aisles by the arrow buttons and select items to fill their inventory with as many as possible. An inventory limit of 100 units ensures strategic selection of items. Upon clicking on the items, a white text box will appear displaying each item's descriptions.

## 3) Cashier Screen



*Figure 8 Cashier Screen*

After 60 seconds, players proceed to the Cashier Screen, where they will meet our favorite cashier, Margaret. Here, they review their selected items and press the Start Button to officially commence the lockdown. This screen serves as a final checkpoint before the real challenge begins, ensuring that players are satisfied with their choices.

#### 4) Living Room Screen



*Figure 9 Living Room Screen*

The game then transitions to the Living Room Screen, where the characters will spend the next 30 days in lockdown due to COVID-19. The living room is depicted in a cozy yet tense atmosphere, reflecting the reality of quarantine. Players manage their resources and make critical decisions here to keep their family healthy and sane.



## 5) Journal Screens



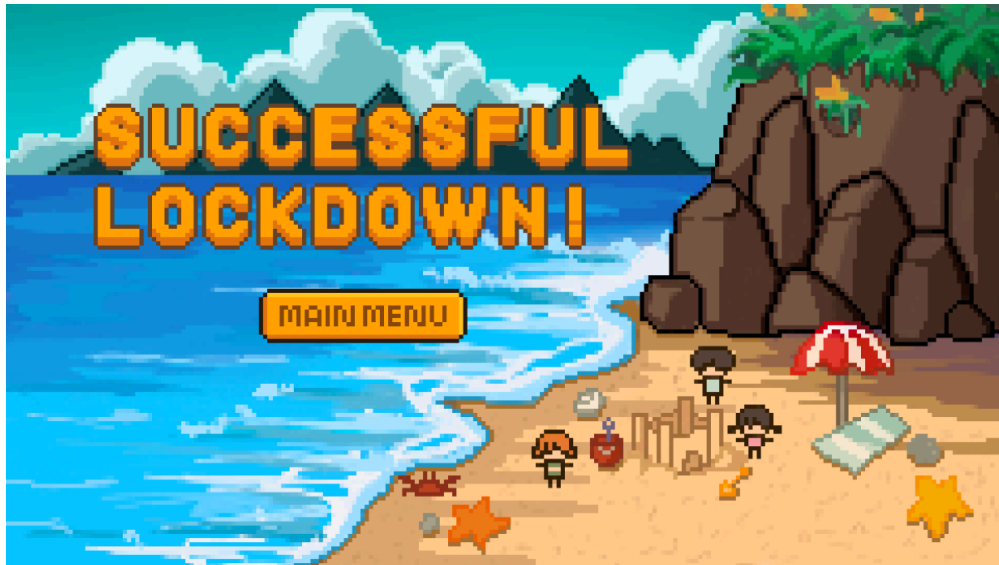
*Figure 10 Journal Status Screen*



*Figure 11 Journal Story Screen*

Accessible through the bottom left corner of the Living Room Screen, the Journal Screens provide a comprehensive view of the game's progress. The journal keeps track of the characters' health, hunger, thirst, and morale, displaying these stats in an easy-to-read format. It also chronicles daily events, offering a narrative thread that ties the gameplay together and informs players of significant occurrences.

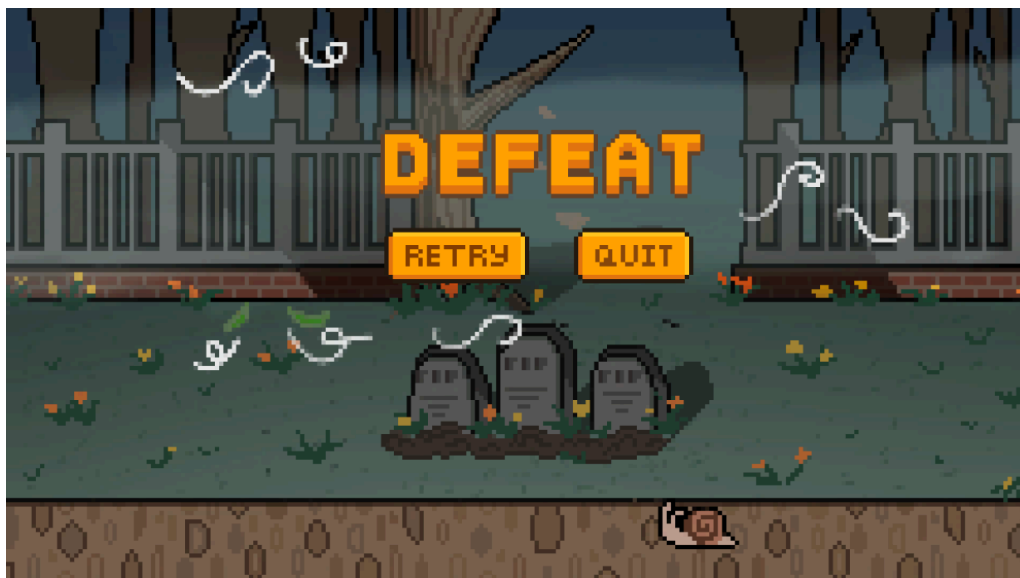
## 5) Winning Screen



*Figure 12 Winning Screen*

If the player successfully navigates the 30-day lockdown and the vaccine arrives, they are greeted with the Winning Screen. This screen celebrates their achievement with a colorful beach vacation that Gwen has been planning for ages. Players will have the option to go back to the main menu or quit the game.

## 6) Defeat Screen



*Figure 13 Defeat Screen*

Conversely, if the player's characters succumb to hunger, thirst, poor health, or low morale, they encounter the Losing Screen. This screen portrays the somber reality of their failure with a graveyard scene of Susan, Robert and Gwen, encouraging reflection on the choices made and inspiring players to try again. Players will have the option to retry or quit the game.

8.3 UI Elements and Interactions

1) Register/Login Screen

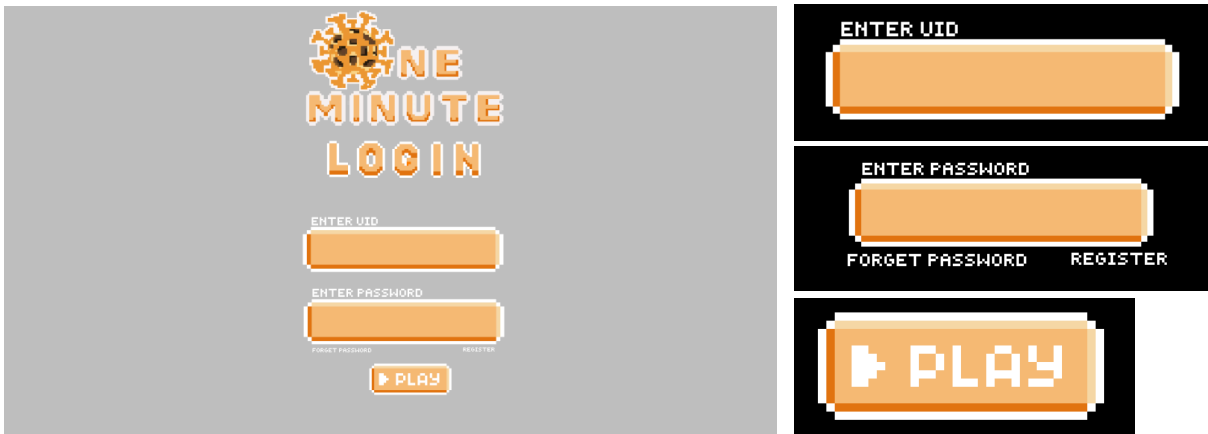


Figure 14 Elements in Login Page

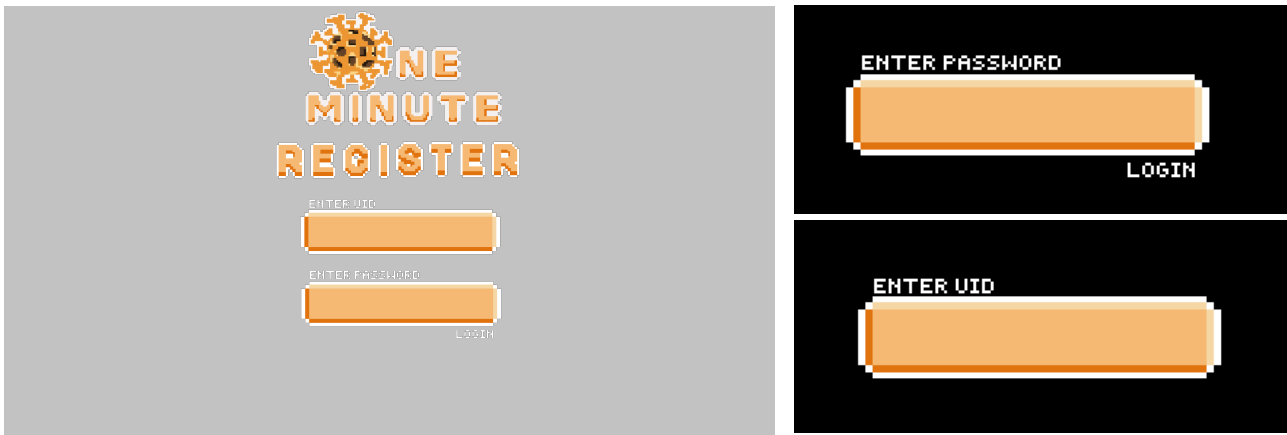


Figure 15 Elements in Register Page

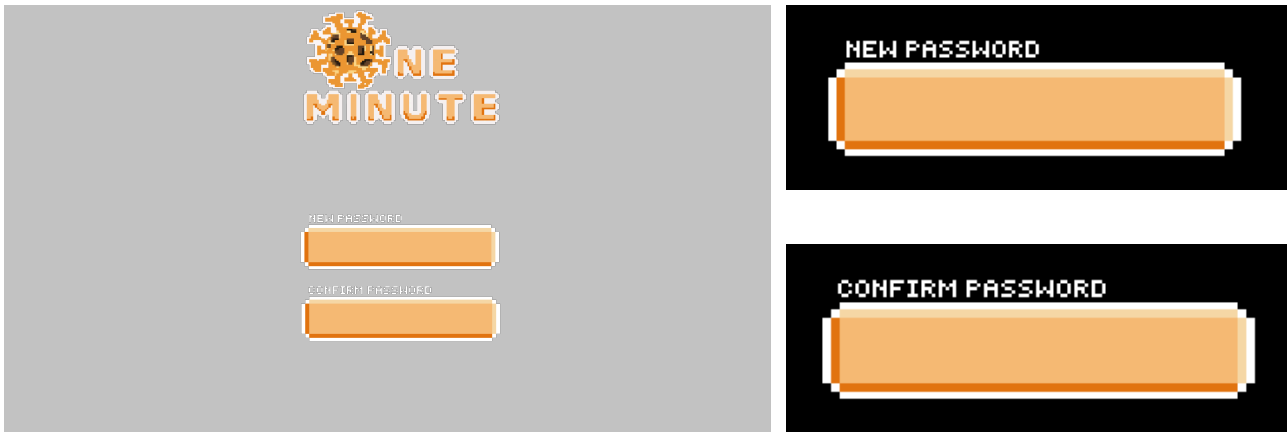


Figure 16 Elements in Forget Password Screen

## 2) Start Screen



*Figure 17 Play Button in Start Screen*

## 3) Shopping Screen



*Figure 18 Arrow Button to change scenes*



*Figure 19 Arrow Button to scroll through inventory*



*Figure 20 Start Button in Cashier Screen*

## 4) Pause Screen

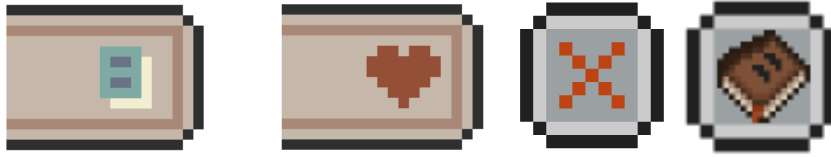


*Figure 21 Pause Button*



*Figure 22 Buttons in Pause Screen*

## 5) Journal Screen



*Figure 27 Buttons in Journal Screen*

## 6) Winning Screen



*Figure 28 Button in Winning Screen*

## 7) Defeat Screen



*Figure 29 Buttons in Defeat Screen*

8.4 Mockups and Wireframes

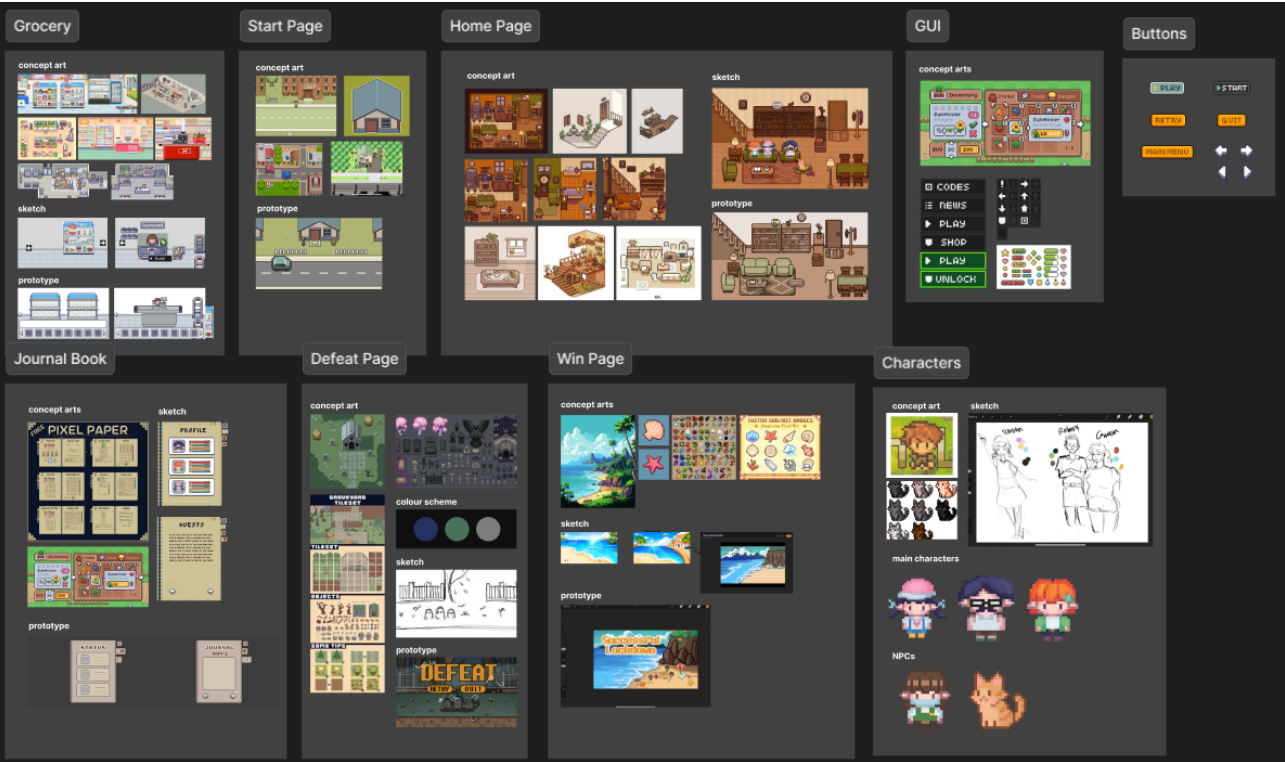


Figure 30 Concept Art, Sketches and Prototypes

8.5 Entity Design

8.5.1 Item Design



Figure 31 List of Items in Grocery

## 8.5.2 Character Design

Each character has distinct normal, sick, and dead appearances, tailored specifically to reflect their unique personalities and bring their traits to life.

### 1) Main Story Characters:

#### a) Susan (Main Character)



*Figure 32 Susan Design*

#### b) Gwen (Mom)



*Figure 33 Gwen Design*

#### c) Robert (Dad)



*Figure 34 Robert Design*

## 2) NPCs

### a) Margaret (Cashier)



*Figure 35 Margaret Design*

### b) Mr Whiskers (Cat)



*Figure 36 Mr Whiskers Design*



## 9.0 Conclusion

The game “1 Minute” plunges the player into a world devastated by COVID-19, where survival is key. It is designed to be both fun as well as thought-provoking. Players will need to properly organize and manage their resources to keep their family members alive for 30 days until the vaccine arrives. Throughout the game, players are confronted with real-life scenarios that challenge their strategic thinking and decision-making abilities. From managing limited resources to handling unexpected events, every decision affects the survival of their family members.

“1 Minute” can be described as an accessible system designed to immerse players in a survival simulation. It involves basic operations for managing player inventories, handling dynamic events, and updating the statuses of family members. The game provides an intuitive interface that allows players to navigate through various challenges with ease. Realistic sound effects enhance the immersive experience and heighten the tension during critical moments. This contributes to improving the user experience.

Besides that, randomized events and resource placements ensure that each playthrough of “1 Minute” is unique. By introducing variability into the game, these elements keep players engaged and challenged with unpredictable circumstances. This feature adds replayability by allowing players to experience different challenges and outcomes each time they embark on their survival journey. The randomization of events and resources enhances the game’s realism and reinforces the need for adaptability and strategic planning in navigating the pandemic-ridden world.

By depicting the challenges and uncertainties of a pandemic-ravaged world, “1 Minute” serves a dual purpose as both entertainment and an educational tool. It prepares players for rapid decision-making in crisis situations through interactive gameplay that mirrors real-life scenarios. Each choice in the game carries significant consequences, often a matter of life or death. This immersive experience not only entertains but also prompts players to think critically about their decisions and their impacts.