Software Engineering I
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Group #3

Project Requirements

1. Upon opening the game, the player will be given a menu screen with a few options, known as the Main Menu.
    1.1. The player will have a "Play"option. Upon selecting "Play" the program will navigate to a difficulty selection screen.
    1.2. The player will have a "Leaderboard" option. Upon selecting "Leaderboard" the program will navigate to the Leaderboard screen.
    1.3. The player will have a "How To Play" option. Upon selecting "How To Play" the program will navigate to the How To Play screen.
    1.4. The player will have a "Quit" option. Upon selecting "Quit" the program will terminate.
2. The How To Play screen will display an info-graphic detailing all of the mechanics the player will need to know to play the game.
    2.1. The screen will have a return arrow button on the top-left corner of the screen. When the player selects the button, the program will navigate back to the Main Menu screen.
3. The Leaderboard screen will display the highest scoring scores for each difficulty
    3.1. The Leaderboard screen will have sub-Leaderboards for each difficulty.
    3.2. The information displayed in each leaderboard will be in row-column format and hold the top 3 scores for that difficulty.
        3.2.1. The first column will contain the score the player achieved.
        3.2.2. The second column will contain the last Level and Zone the player successfully completes.
        3.2.3. The third column will contain the date and time the player finished.
    3.3. If the player has less playthroughs in a respective difficulty than the number of shown highscores, only those playthroughs will be displayed.
    3.4. The screen will have a return arrow button on the top-left corner of the screen. The button will have the same functionality it had in the Leaderboard screen.
4. Upon entering the difficulty selection screen, the player will be prompted with three difficulties. When one of the difficulties is selected, the program will navigate to the 1st Level.
    4.1. The difficulties the player can choose from will be "Easy", "Medium", and "Hard."
5. The playthrough will start once the program navigates to the 1st Level.
    5.1. A playthrough is broken up into 3 distinct Levels.

5.2.   Each Level will have its own theme and aesthetic.

    5.2.1.   Level 1 will be a forest theme.

    5.2.2.   Level 2 will be a swamp theme.

    5.2.3.   Level 3 will be a castle theme.

5.3.   Each Level is further broken down into 5 Zones.

    5.3.1.   A Zone contains a certain number of enemies.

    5.3.2.   Once the player defeats all of the enemies in the Zone, the program will navigate to the next Zone.

        5.3.2.1.   The Zone navigation will be depicted by the player's character walking to the right off the screen into black. The player will then appear in the next Zone walking out from the left side of the screen.

    5.3.3.   The fifth Zone will contain a boss enemy that is distinctly stronger from the rest of the enemies.

    5.3.4.   Once the player defeats the boss enemy in the fifth Zone, the program will navigate to the next Level.

5.4.   If the player loses at any point, or finishes the fifth Zone in the Final Level, they are brought to an Ending screen.

    5.4.1.   The Ending screen will show the players total score, the difficulty of the playthrough, and the Level they last successfully completed in a row.

    5.4.2.   If the player's final score is higher than that of any of the scores on the respective difficulty's Leaderboard, that score is added to the Leaderboard accordingly.

6.   In each Zone the player will be able to see their character and any enemy characters they encounter in the battle system in front of a designed scene for each Level.

6.1.   The scene of every Zone will consist of 2 dynamic midgrounds, a static background, and a foreground that follow the themes described in point 5.2.

6.2.   In the scene there will be a "Return" button.

    6.2.1.   If the player presses the button, the game will prompt the player if they would like to "Give Up" on the current playthrough.

        6.2.1.1.   If the player selects "No" the playthrough will continue as if they did not press the button.

        6.2.1.2.   If the player selects "Yes" the player will be sent to the Ending screen.

6.3.   Characters will be displayed in front of the scene.

    6.3.1.   The player's character will be displayed on the left side of the screen and enemy characters will be displayed on the right.

        6.3.1.1.   Under any character a health bar will display their current health value.

7.   In each Zone the player will be provided with a deck, a hand, a tray, and a discard pile.

7.1.   The deck consists of a mix of cards that have letters on them.
    7.1.1.   The mix of letters will have a balance of vowels and consonants.
7.2.   The deck is shuffled at the beginning of each Zone.
7.3.   The hand will consist of 8 cards the player has access to on that turn.
    7.3.1.   Once the current turn has been concluded, any cards the player played along with any cards remaining in the players hand will be sent to the discard pile.
7.4.   The discard pile will consist of the cards used and unused from all the previous turn's hands.
    7.4.1.   When there are less cards remaining in the deck than the player's hand size, the player draws the remaining cards in the deck, and then the discard pile is shuffled to create the new deck. Any cards needed to fill the player's hand size are then drawn from the new deck.
7.5.   The tray is the area where selected cards will be displayed.

8.   The battle system is turn-based, meaning the player and the enemy will alternate turns until one is defeated.
8.1.   The program will engage the battle system when it navigates to each Zone.
8.2.   A turn for the player consists of several steps.
    8.2.1.   The player draws a hand of cards from the deck.
    8.2.2.   The player then has to attempt to form a word with the given cards.
        8.2.2.1.   The player can interact with the cards in their hand and any that are in the tray.
            8.2.2.1.1.   Selecting a card in their hand will place it in the tray, appending it to any previous cards that remain there.
                8.2.2.1.1.1.   That same card will be grayed out in the hand and unselectable
            8.2.2.1.2.   Selecting a card in the tray will remove it from the tray and return the corresponding card in the hand to its normal state.
        8.2.2.2.   The difficulty of the letters used to create the word will decide the total damage inflicted on the enemies for that turn.
    8.2.3.   When the player wishes to end their turn they must click the "Submit" button to lock in their word.
        8.2.3.1.   If the player did not enter any letters into their tray, they forfeit their turn, and no damage is dealt to the enemies.
        8.2.3.2.   If their word is invalid, the game will tell the player the word is invalid, and allow them another attempt to form a word.
        8.2.3.3.   If their word is valid, the appropriate damage is dealt to the enemies.
    8.2.4.   The player's hand and any letters they used are sent to the discard pile.

8.3. During the enemies' turn, the enemies will deal an amount of damage in a given range dictated by the Level and Zone.

8.4. The player or the enemy is defeated when their health reaches 0.

    8.4.1. When the player has a health of 0 the game ends and the player is sent to the Ending screen.

    8.4.2. When an enemy has a health of 0 they disappear from the battle.

    8.4.3. Once all enemies are defeated and the Zone is cleared, the player's health is fully restored to its max value.

        8.4.3.1. Once a Level is cleared the player also gets rewards.

            8.4.3.1.1. The player will gain a max health increase.

            8.4.3.1.2. The player will be able to choose one card to add to their deck from a selection of random cards.

9. There will be a Hint System while the player engages with the battle system.

9.1. A hint button and remaining hint counter is displayed on the game screen.

    9.1.1. The hint button will start to glow if the player doesn't complete their turn within a certain amount of time.

    9.1.2. There will be a counter that displays the amount of hints the player has left to use.

        9.1.2.1. If the player has no remaining hints, the hint counter will display zero, and the hint button will be grayed out and unusable.

    9.1.3. If there are no possible words that can be spelled using the player's current hand, clicking the hint button will display a message in the center screen saying "No possible words."

    9.1.4. If a word can be spelled using the player's current hand, clicking the hint button will either provide a new hint to the player or complete a prior hint.

        9.1.4.1. If a hint is not already active, clicking the hint button will decrement the remaining hint counter and highlight the cards in the player's hand which can be used to spell a particular word.

        9.1.4.2. If a hint is already active in the player's hand, clicking the hint button will complete the hint by arranging the cards into the order that spells the possible word in the tray. (This will not decrement the remaining hint counter.)

9.2. The amount of hints available to the player and how the hints work are determined by the current game difficulty.

    9.2.1. The "Easy" difficulty will have these properties during gameplay.

        9.2.1.1. There will be 2 hints that the player can use during each Level.

        9.2.1.2. The "Hint" button will have full functionality.

    9.2.2. The "Medium" difficulty will have these properties during gameplay.

        9.2.2.1. There will be 1 hint that the player can use during their current level.

9.2.2.2. The "Hint" button will only have the functionality to provide a hint by highlighting letters, and will not complete hints.

9.2.3. The "Hard" difficulty will have these properties during gameplay.

9.2.3.1. There will be no hints provided to the user.