**CS102L- Applications of Information and Communication Technologies**

**Project Proposal**

**Create Your Adventure**

**DIGITAL ESCAPE**

**Section: A**



**Submitted by:**

Mateen 2023-CS-616

Faizan 2023-CS-622

**Submitted to:**

Ms. Rimsha Noreen

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**Department of Computer Science**

**University of Engineering and Technology Lahore, New Campus**

**DIGITAL ESCAPE**

1. **Description**

Explore a digital world in "Digital Escape," a 2D platform adventure game that mixes puzzles with programming challenges. You will face obstacles that will test your coding knowledge during the adventure. Test your logical skills and navigate through levels to escape the digital landscape.

1. **Objectives:**

The main goal of "Digital Escape" is to challenge players with puzzles, encourage logical thinking, and introduce programming concepts in a game. Navigate through levels, solve problems, and aim to successfully escape the digital landscape by progressively improving coding and problem-solving skills. Enjoy an interesting and educational experience in a fun-filled adventure.

1. **Technical Implementation:**
   1. **Levels**

* Programmer’s Jungle
* Binary Expedition
* The Addiction Planet
  1. **Scratch Components:**
* **Backdrops**

1. Main Menu
2. Jungle 1
3. Jungle 2
4. Jungle 3
5. City 1
6. City 2
7. Moon
8. Credits

* **Sprites**

1. Player
2. Buttons
3. Credits Text
4. Rewards 1.1 (Logs with error free code written on them)
5. Obstacles 1.1 (Logs with wrong line of code written on them)
6. Rewards 1.2 (Boulders with right value of ‘i’ written on them)
7. Obstacles 1.2 (Boulders with wrong value of ‘i’ written on them)
8. Obstacle 1.3 (Lava)
9. Rewards 2.1 (Logical gates with correct output)
10. Obstacles 2.1 (Logical gates with wrong output)
11. Rewards 2.2 (Buses with even binary string)
12. Obstacles 2.2 (Buses with odd binary string)
13. Hearts (Lives left)
14. GPT NPC
15. FB NPC
16. Bullets (Shot by player)
17. Bullets (Shot by Final boss)
18. Rocket
19. You won / Game Over
20. Message Box
21. Miscellaneous

* **Sounds**

1. Background Game Music
2. Space coin win notification (Plays if player collect a reward)
3. Minecraft hit sound (Plays if player hits an obstacle)
4. Lava sound effect
5. Laser Gun Shot
6. Fast Rocket Whoosh
7. Landing Rocket Whoosh
8. Video Game Treasure Sound (Plays when the player reaches threshold score for bonus feature)
9. Completion Of level
10. Bonus Earned Sound (Plays when player activates the bonus power up feature)
11. Game Over
12. Success Fanfare Trumpets (Plays when player beats the game)
    1. **Player Controls**

W: Jump.

A: Move the player character to the left.

D: Move the player character to the right.

S: Shoot (Accessible only in level 2)

G: Activate Power Up (Accessible only if you have met the minimum score for Power Up)

* 1. **Scoring System**

The player will gain score if he successfully collects rewards or avoid obstacles. The player will also get score on completing challenges provided in the game. The levels of the game are designed in such a way that each level is accessible only if the player meets the minimum score requirements.

* 1. **Bonus Feature Concept**

Upon reaching a score of 45, player can unleash the Debugging Dash by pressing ‘G’. This power-up grants 25 seconds of immunity to obstacles, empowering players to navigate the digital world easily. This Bonus Feature not only helps the player avoid hard obstacles in next level easily but also tests the player strategically that is when to activate this power.

* 1. **Lifeline Feature**

The player can gain an extra live in the first level in which a Chat GPT looking Non Player Character asks him 7 questions. The player can get to next level by answering 5 questions correctly but if he answers 7 questions correctly his lives will be increased by one.

* 1. **Game End Conditions**
* If lives become 0
* If a player completes a level or sub level but does not walk to next level within a specific time

1. **Conclusion:**

* **Summary of Proposal**

Digital Escape is a 2D adventure game that combines puzzles and programming challenges. The objective is to enhance logical thinking and programming skills progressively. With levels like “Programmer’s Jungle” and “Binary Expedition”. Controls involve standard movements, shooting, and activating power-ups. Players earn scores by overcoming challenges, unlocking the “Debugging Dash” bonus feature at a score of 45. A lifeline feature offers an extra life through a question challenge. Game end conditions include running out of lives or not progressing timely after level completion, ensuring an educational experience.

* **Importance of The Game Project**

The creation of "Digital Escape" in Scratch holds significant developmental value. This project provides a hands-on application of programming concepts in an interesting environment. Students involved in the development of this game gain practical experience in coding, logical problem-solving, and game design. The students can learn many concepts used in real game development while making scratch programs.