Technical Design Document (TDD)

Game Title: *Space Cyber Mission*
Platform: Desktop
**Mode:** Single-player, Offline

1. List of All Features

- User registration and login system

- Admin console for user/question/progress management

- Level-based quiz gameplay

- Audio feedback for correct/wrong answers

- Score tracking and persistent progress

- Level selection and replay system

2. Choice of Game Engine

- Developed using:

  1. **Python**

  2. **Tkinter** (for GUI)

  3. **Pygame** (for audio playback)

3. High-Level Architecture Diagram

Game Architecture
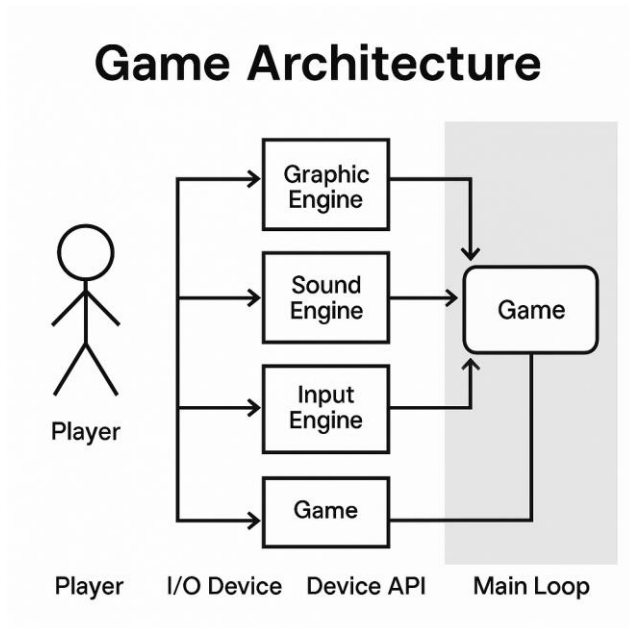
4. Objects, Terrain, Scenes

- 2D game using static image (bg.jpg) as background.

5. Game Logic

- Game logic handled in levels.py and game_engine.py

- Random selection of questions per level (random.sample())

- Progress and score updated based on user input

6. Audio & Visual Specifications

- **Audio:**

  1. correct.wav: Played on correct answer

  2. wrong.mp3: Played on incorrect answer

  3. Powered by pygame.mixer

- **Visuals:**

  1. Fullscreen Tkinter windows

  2. Background image: assets/images/bg.jpg

  3. Color scheme: Dark UI

7. Platform & Requirements

- **Platform:** Windows/Linux Desktop

- **Software Requirements:**

  1. Python 3.x

  2. Pygame library (pip install pygame)

  3. PIL (Pillow) for image handling

- **Hardware Requirements:**

  1. Basic PC/laptop with GUI capability

  2. Audio output (for feedback sounds)