



Bangladesh University of Business and Technology



Project Report

Course Title : Software Development Programming II

Course Code : CSE-200

Report on :

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Project Proposal

1. Project Title: Game Hive

2. Objectives :

The purpose of this project is to develop an engaging and interactive gaming platform that offers a collection of mini-games. The project aims to:

- Provide a user-friendly interface for playing multiple classic games with ease.
- Enhance logical thinking and problem-solving skills through interactive gameplay.
- Offer a seamless gaming experience with smooth performance and intuitive controls.
- Allow users to track their progress and compete with others via a leaderboard.
- Provide a flexible gaming environment with both single-player and multiplayer options.

3. Features :

Game Hive will include the following key functionalities:

1. User Authentication : Secure Login & Sign-up functionality with encrypted credentials.

2. Game Selection Menu: A visually appealing menu to choose from various mini-games.

3. Mini-Games Included:

- **Tic Tac Toe:** A two-player strategy game where players take turns marking spaces in a 3x3 grid.
- **Hangman:** A word-guessing game where players try to identify a hidden word by guessing letters.
- **Maze Game:** A time-based maze game where players navigate to the exit while avoiding walls.
- **Brick Busters:** A classic brick-breaking game where players control a paddle to bounce a ball and destroy all bricks.

- 4. Game Statistics:** Track user performance, wins, and scores for each game.
- 5. Leaderboard:** Display top players and their rankings based on gameplay performance.
- 6. Save & Resume:** Users can save their progress and resume games later.
- 7. Multiplayer Mode:** Support for local and online multiplayer functionality for applicable games.
- 8. User Settings:** Customize game preferences, sound, and difficulty levels.
- 9. Analytics Dashboard** – Provide detailed insights into player performance, gaming habits, and trends using charts and graphs. Users can analyze win/loss ratios, time spent on each game, and overall improvement over time.

4. Technologies Used:

- **Language:** Python
- **GUI Framework:** Pygame for an immersive gaming experience.
- **Database:** MySQLite for storing user authentication data, game statistics, and leaderboard rankings.
- **Game Logic:** Custom Python scripts tailored to each mini-game, ensuring smooth gameplay mechanics.
- **Networking:** WebSockets for multiplayer support in applicable games.
- **Graphics & Sound:** Pygame for animations, sound effects, and an enhanced user experience.

5.Expected Outcome:

The final product will be a well-designed desktop gaming application that provides users with a variety of interactive and engaging mini-games. Game Hive will feature an intuitive user interface, real-time performance tracking, multiplayer functionality, and customization options, making it an entertaining and dynamic gaming hub. The application will serve as a casual gaming platform suitable for users of all ages, allowing them to challenge themselves or compete with friends.