Title: Khela Ghor (Collection of mini games)

Literature review:

The literature review for the Khela Ghor project in C# encompasses a comprehensive exploration of key domains in game development. Focusing on methodologies, the study investigates raw C# mini game development like Simple car racing game, Arcade Game (Platform game), Running game avoiding obstacles, Helicopter shooter, Simple snake Game without using any frameworks, emphasizing iterative and collaborative practices that have proven successful in similar projects. In the realm of user experience (UX) in game design, the review delves into the significance of player-centric design, user testing in creating engaging interfaces. Examining user experience in game design, the project focuses on the challenges and advantages associated with building intuitive interfaces and engaging gameplay experiences that reliance on native C# capabilities. The literature review places particular emphasis on optimizing game performance, graphics rendering, and achieving a seamless user interface tailored for desktop environments. Additionally, the Khela Ghor project explores the implementation of login features, custom features within games, such as save scores, leaderboards etc. through custom-built solutions in C#. This literature review serves as a foundation for understanding the unique challenges and opportunities associated with developing a desktop based mini games collection app named ‘Khela Ghor’ without using any external frameworks.

Objective:

To develop a desktop application named 'Khela Ghor' in C# using Windows Forms (. Net Framework), providing users with a platform for playing various small games mainly in offline mode. The project also focuses on implementing a secure user account management, allowing customization of profiles, leaderboards, and achievements to enhance user engagement.

Prospective Solution:

The 'Khela Ghor' project aims to deliver a versatile desktop application offering a diverse collection of small games within a unified platform. The solution involves implementing a secure and user-friendly environment where players can create accounts, customize profiles, and engage in various mini games to enrich their gaming experiences. By incorporating features such as leaderboards, achievements, high scores 'Khela Ghor' strives to enhance user engagement and create a vibrant gaming community. The prospective solution also emphasizes the importance of offline gaming support, optimized performance, and iterative development of the app. Overall, 'Khela Ghor' seeks to provide a comprehensive and enjoyable gaming experience for users while adhering to best practices in design, functionality, and user interaction.

Target User:

The primary target users for the 'Khela Ghor' project are gaming enthusiasts and individuals seeking a convenient and engaging desktop gaming experience. The application caters to a diverse audience, including casual gamers looking for a variety of entertaining small games, as well as those interested in friendly competition within the gaming community. 'Khela Ghor' will be designed to be user-friendly, making it accessible to individuals of varying ages and gaming expertise. By offering a range of games and social features, the project aims to attract users who value a seamless and customizable gaming platform, fostering a sense of community and enjoyment.

Basic Functionality:

Login feature:

- An user can enter in the app with or without login. If an user enter with login then he/she will able to create a 'Khela Ghor' account (user account)

User Account Management:

- Secure user authentication and account creation.

- Profile customization with options for unique usernames and avatars.

Game details:

-The highest scores of every game can be saved inside the ‘Khela Ghor’ app.

Game Collection:

- Access to a diverse collection of small games within the desktop application.

- Single-player gaming experiences for users to enjoy.

1)Simple Car Racing Game:

The game features a dynamic road, player-controlled car, other cars in the road, trophies, and an animated explosion. The objective is to drive as far as possible without colliding with other cars.

- The game employs a dynamic road scrolling mechanism, creating a visually engaging experience as the road moves seamlessly, giving the illusion of the player's car advancing through the environment.
- Players control a car using responsive left and right arrow keys, aiming to navigate through traffic consisting of cars.
- The game offers a competitive edge with a scoring system that rewards players with bronze, silver, or gold trophies based on their performance, encouraging replay ability and competition among players.

- Upon collision, an animated explosion is triggered enhancing the gaming experience and providing immediate feedback to the player so that players can understand their run is come to an end.
- The game keeps track of the player's score and ensures a dynamic and engaging gaming environment.
- A restart button allows players to reset the game, providing a convenient way to replay and improve their performance without restarting the entire application.
- The left and right arrow keys offer precise and responsive control over the player's car, enhancing the player's ability to maneuver through traffic and avoid collisions.

2) Running game avoiding obstacles

- Players will be given a character to jump over the obstacles coming in front of them.
- There will be obstacles to stop players. Players must jump over the obstacle and collect the coins to gain more points.
- The high score of the game can be saved and displayed.

3) Classic Snake Game:

The Classic Snake Game involves controlling a snake to eat food, growing longer with each meal. Save and share your scores with a snapshot feature.

- Utilizes the Circle class to draw and manage the positions of snake and food objects.
- Responds to key events for snake movement, with options for left, right, up, and down directions.
- Capture and save the game achievements with a snapshot that includes scores and high scores.
- Tracks and displays the current score, updating as the snake consumes food.
- Detects collisions with the snake's own body, triggering a game over event. Displays the final score and allows restarting.
- Generates food at random positions within the game boundaries for varied gameplay.
- Keeps track of the highest score achieved during gameplay sessions.

4)Arcade game (Platform ball bouncing game)

- The game will have a user-friendly interface that displays the current score, highest score, and any relevant game information.
- The game will have platforms hanging horizontally.
- Players can collect points by gaining coins.

- There will be blocks to jump.
- A door to end a level.
- The high score of the game can be saved.

5) Helicopter shooter

- A Helicopter will be given to the player to control.
- Players can move the Helicopter with the arrow keys.
- Players can eliminate the enemy vehicles by firing them with the Helicopter.
- Some horizontal block will be displayed to stop players Helicopter.
- A real time scoring of the game will be displayed.
- A player's run will be over when he/ she hits the blocks.

Intuitive User Interface:

- Design of an intuitive and visually appealing user interface for easy navigation.

- Optimized performance to ensure smooth gameplay.

Offline Gaming Support:

- Capability for users to play games when offline, ensuring accessibility.

This basic functionality serves as the foundation for the 'Khela Ghor' project, providing users with a secure, accessible, and enjoyable gaming experience. Lastly, the features of this project can be enriched from time to time.