TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
PULCHOWK CAMPUS

PROJECT PROPOSAL
ON
Penalty Fever

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Acknowledgement

We express our sincere gratitute to all those who have helped us to discover the idea Penalty Fever as our project in the C++ programing language.

Our special thanks goes to our lecturer, Daya Sagar Baral for his guidelines, suggestions and instructions which have served as a contributor towards the inception of this project.

We sincerely thank Department of Electronics and Computer Engineering, Pulchowk Campus for giving us an opportunity to work on this project. We are very pleased to work on this project.

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Introduction

Penalty Fever, aptly named is a 2D football penalty shooting game.As in the real Penalty kick,We have a single player to hit the ball according to his power and accuracy and a goalkeeper to save his kick. The player's accuracy and power is controlled by the user.There will be a minimalist environment with a simple Fotball-ground like background and a goal post.

Objectives

The major objectives of our project are:

1. To learn about the object oriented approach and enhance our skills in C++ programming,
2. To learn the basics of game development and become familiarized with SFML in C++ programming language,
3. To learn to work in a team to make us able to work in major projects in the coming future.

Existing Systems

As of present time,we can find various similar games at various online platforms. These games are based on similar concepts and are of different names. 'Final Kick' by Invanovich Games, 'Perfect Kick' by Gamegou Limited are some of the widely used penalty games. Similarly other penalty games like 'World Cup Penalty', 'Soccer Shootout', 'Goalkeeper Premier' etc are found in various online platforms.

Proposed System

A. Description

First encounter of users with the game is the start menu that presents the user with the following options:

1. **Play with PC**

   In this game mode, goalkeeper is moved by using artificial intelligence and user only needs to control the player.

2. **Multiplayer**

   In this game mode, the goalkeeper is controlled by one user and the player is controlled by another user. This mode allows two users to play simultaneously using different parts of the keyboard.

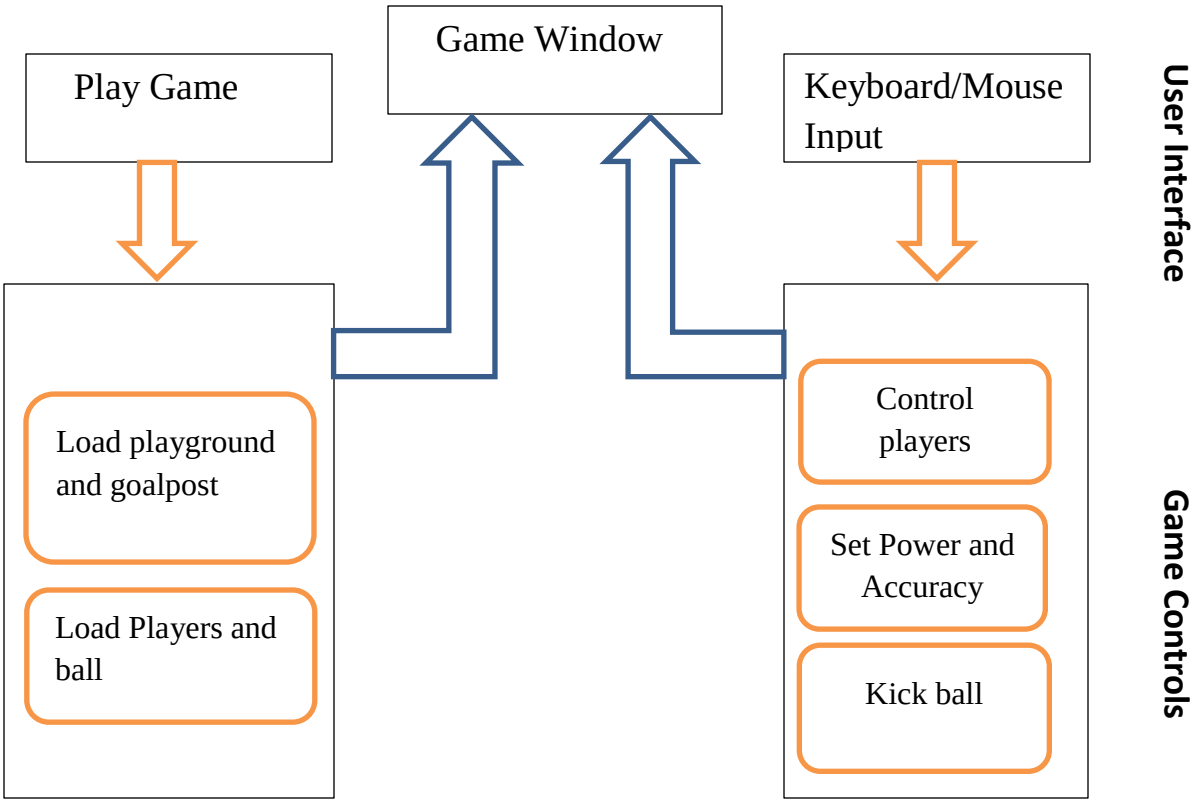
3. **Exit Game**

   This is simply an option to exit the game.

The player can hit the ball towards the goalpost with the help of direction and accuracy bars. Direction bar is moved continuosly in left right direction while the power bar is moved up and down continuously. The player has the option to select direction and power and the ball goes towards the goalpost with accordance to the direction and power.

The player has certain kicks in the game. The game runs until the player has finished all his kicks. The score will be given to the player according to the kicks that have made it past the goalkeeper. Otherwise the player won't score. For multiplayer part, Firstly one user controls player and other user controls goalkeeper. Secondly, the role is reversed. At last whoever scores more goals, is declared as the winner.

B. System Block Diagram



Methodology

Our project will be written in C++ programming language, which is one of the most popular object oriented programming languages. We will be using Windows operating system, Codeblocks as IDE to write our code and the compiler will be GNU GCC compiler. The concept of objects and classes will be adapted in our game. There will be separate classes for players, football and other entities that are created in our game. Different objects are created at the instance of game and data members and

function members of the class are used to implement the game logic according to our desired need.

We will be using Simple and Fast Multimedia Library (SFML) for different multimedia interfaces like displaying graphics, playing audio and so on. Input from the user will be handled properly using various game logics in order to implement our game smoothly.

Project Scope

The game,'Penalty Fever' has a wide range of scope. Of course, it will serve as a means of entertainment to many players who are seeking a simple and entertaining penalty football game. The project may seem like a replica of other penalty shotouts but it can be made more advanced with the use of different viewing modes(game camera), realistic graphics, realistic player engine(advanced AI in both goalkeeper and kick taker), league modes,etc.

Project Schedule

The schedule that is likely to be adopted for our project can be condensed as follows:

- Discussion on the project related topics: 1day
- Learning related libraries: 2 days.
- Making project schedule: 1 day
- Initial coding for creating logic: 3 days
- Actual Implementation of game logic: 1 week
- Debugging and Testing: 5 days
- Documentation and Final Report: 2 days

This schedule is the initial framework for dividing our project into different smaller tasks to aid our project work, the frequent discussions are not mentioned. It is not a mandatory schedule and can be updated according to the needs and circumstances.