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# TRIBHUVAN UNIVERSITY

## INSTITUTE OF ENGINEERING

## PULCHOWK CAMPUS

### PROJECT PROPOSAL

### ON

### Foo2y

### SUBMISSION DATE: Poush 26, 2076

#### SUBMITTED BY: SUBMITTED TO:

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# Acknowledgement

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We sincerely thank Department of Electronics and Computer Engineering, Pulchowk Campus for giving us an opportunity to work on this project to expand our knowledge on Object Oriented Programming and work on team.

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# Introduction

**Foo2y** is a 2D football game which resembles the ones that we used to play during our early days , when mobile phones were barely available and smartphones were’nt evolved. *Mahabharata*, the great Hindu war, where multiple players fight for the glory. The environment of the whole game will be based on its namesake. In this game, the players will be connected by LAN through hotspot and will fight each other in the same arena.

# Objectives

The main objectives to be met in this project can be summarized as follows:

1. To create a project on Object Oriented Programming (OOP) making its concept clear to us.
2. To explore the features of C++ language.
3. To be familiar with resource reusability by making user defined header files.
4. To learn the basics of game development and game physics.
5. To be familiarized with graphics programming and game development using SFML in C++ programming language.
6. To build an attractive UI for the users to help them select game options.
7. To make the program occupy minimum memory and be as fast as possible.
8. To make us able to work in major projects in the coming future.
9. To learn to work in a team.

# Existing Systems

At present, there are many similar games at various online platforms as well as “Football Manager” games and even in the past, this was a popular choice in keypad-phone as games.

# Proposed System

## Description

This project is like a 2d variant of the popular football virtual simulation series FIFA, with fewer number of gameplay modes. This project is, basically, the behavior of the three basic objects in response to the controls- the **field**, the **ball**, and the **players**.

This game is, with respect to the player(s), a set of windows, displayed one at a time and as per the request of the player. The most important window is the match window, where the player(s) play. Then there is the menu windows, where the player(s) can choose and name the team and its players as well as set a formation. The window selector selects the window that the user has requested to use and gives it to the game window, which is the only one that the player sees. The dynamics of the player-ball interaction means how the player’s shot, pass and the receiving of the ball is implemented.

This is just a framework in which we are going to work. There might be more features in the actual project, and the project’s actual structure can be slightly different than the one shown by the block diagram.

# Methodology

This project will be written in the programming language, C++98. Along with the standard libraries, we will be using the SFML(Simple and Fast Multimedia Library, version 2.5.1) and the GLEW(OpenGL Extension Wrangler Library, version 2.1.0) for graphics and audio. We will learn about these new libraries from their documentations, as well as tutorials related to these libraries. We will be using Codeblocks as our IDE and g++ (version 7.1.0) as the compiler.

We will first make the field, player and the ball objects and define the controls. Then, the interaction between the player and the ball will be defined. After that, we will include the way of choosing teams. And then the concept of formation will be implemented. Then we will implement various game modes, such as player v/s pc, player1 v/s player2 and practice mode. Then we will try to add features to improve our UI.

We will try to learn as much as we can about the use of graphics functions, basic concepts of game development, making a project as a team and effective ways of writing an efficient object oriented code.

# Project Scope

Our little coding game has a wide range of opportunities for the real world application. Firstly, it will serve as a means of entertainment. Graphically, we shall make the game efficient enough to provide a clear visual means for the players to enjoy. As for the system, it will be very similar to others developed till today, with the exception of our own classes for vectors and some physics. If promoted, this game can form a basis for many kinds of games. It can be developed as an advanced program by adding better graphics and animations if the feedback will be positive and resources will be plenty.

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# Project Schedule

The schedule that we will adopt for our project can be summarized below:

|  |  |
| --- | --- |
| **Topic** | **Days Required** |
| Discussion on topics related to our project | 1 |
| Analyzing the core concept to develop proper program | 1 |
| Initial coding for creating logic | 3 |
| Intense coding the program | 7 |
| Execution and testing the program | 3-4 |
| Debugging | 5 |
| Program Documentation | 2 |

The above mentioned schedule has been planned approximately for providing an aid to develop our project and might get altered according to the circumstances encountered.