



# **TRIBHUVAN UNIVERSITY**

**INSTITUTE OF ENGINEERING  
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## **A PROJECT PROPOSAL ON KNOWLEDGEKICKS**

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# **1 INTRODUCTION**

KnowledgeKicks – A Quiz game is a knowledge based game in which a player attempts to choose the correct answer from the given options of the question. In this game, the player can choose the genre of the question which he wills to answer. The player will have the four options for the given question in which only one of them is correct. For every correct answer the player will gain some points. This game is not limited to entertainment purposes only but also challenges players to test their knowledge across various subjects.

## 2 OBJECTIVES

The major objectives of this project are:

- i. To develop the problem solving skills as we will encounter various challenges during the projects.
- ii. To implement the knowledge and enhance our skills with object oriented approach in C++ programming.
- iii. To learn the basics of the game development and be familiarized with the SFML library in C++.
- iv. To foster teamwork and collaboration among the team members which are essential in the real world.

### **3 EXISTING SYSTEM**

This type of game is not a new concept as we can see various such games across multiple platforms. They may be tailored to entertainment or to expand the knowledge of the players. Some of the applications are specifically tailored to help students prepare for exams. A lot of quiz game apps have multiplayer support allowing people to compete with their friends. They also have a large number of questions and multiple 'game modes'. On the other hand there are also a lot of applications which simply ask questions and give the answers. Since our aim is to learn through this project, we chose this topic to make a simpler version with some of our modifications. As far as our choice goes, we have chosen this specific project as we feel that building an application like a quiz game can give us the best opportunity to learn as such applications can be scaled from simple to quite complex.

## 4 PROPOSED SYSTEM

### 4.1 DESCRIPTION

The game starts from the menu screen which contains following options:

#### 4.1.1 Start

This is the option to start the game. When the player chooses this option the game begins and a question appears on the screen.

#### 4.1.2 Genre

This option allows the player to choose the genre of the questions which he wants to answer.

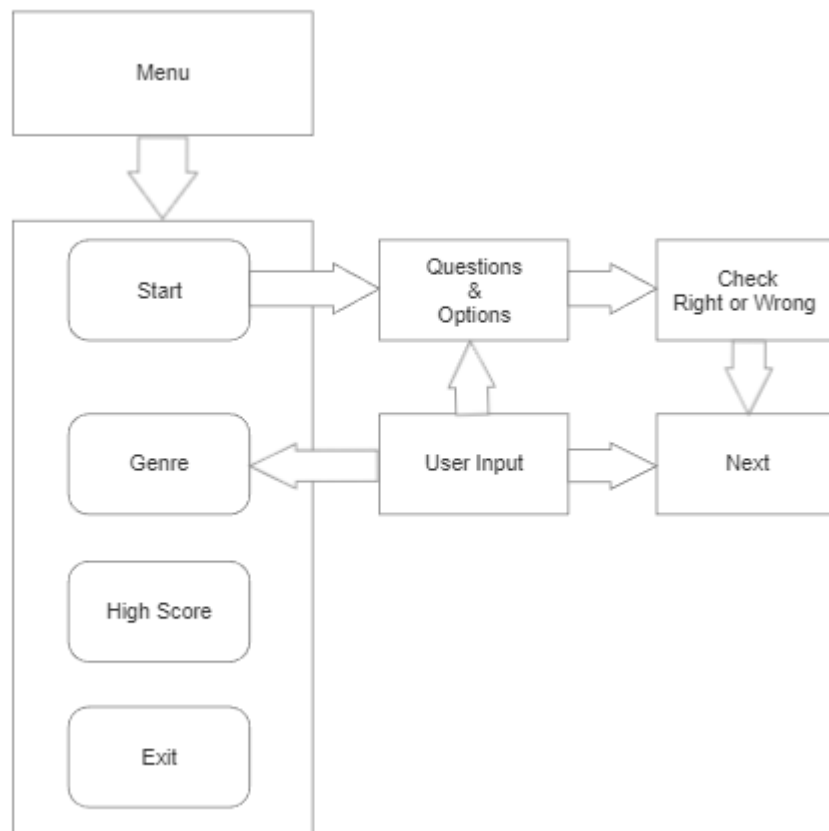
#### 4.1.3 High Scores

This option shows the highest scores achieved in the game.

#### 4.1.4 Exit

This option enables the player to exit the game.

### 4.2 SYSTEM BLOCK DIAGRAM



## 5 METHODOLOGY

As mentioned above, we will be using the SFML library for C++ to build our application.

### 5.1 SFML

Simple and fast multimedia library or abbreviated SFML is a free and open source library that allows programmers to develop simple and high end Graphical applications and games. SfmL provides a strong foundation for multimedia applications and it is accessible for hobbyist or professional developers. So we think it is the best tool we can use to build this project as students.

### 5.2 C++ programming language

C++ is a powerful object oriented programming language that can be used to build a wide range of software and applications for operating systems to games. It is widely used as the language as software designed using C++ runs very fast and utilizes much less memory and processing resources. The object oriented approach also helps us to build and manage larger projects. We will be using Windows operating system, Microsoft Visual Studio as IDE to write our code and the compiler will be GNU GCC compiler.

The roadmap of the process:

- Design block diagram/ flow chart of our application.
- Design the UI of our application, i.e. define the windows and buttons for various functionalities.
- Write flowcharts/pseudo code for the button's functionality.
- Gradually add desired features to the application.
- Develop a window that allows the user to choose the genre for the quiz by clicking on the desired buttons.
- Develop a window that asks questions and provides the options. The user can choose one of the options by a click of a button.
- Develop a system to verify the correct answer and display whether the option chosen by the user is correct or incorrect.
- Develop a system that keeps track of score



## **6 PROJECT SCOPE**

Of course, this project has a wide range of scope. Since, it will not only serve as the entertainment based game but also provides the knowledge. We have seen these types of games in the existing system with the features that vary from one another. This shows that the large variation is possible in the game. It can be modified to make an exam preparation game especially that of MCQs type for Loksewa exam, Entrance preparation, etc. It can be made more advanced by including multiplayer features, tournament mode, etc.

## 7 PROJECT SCHEDULE

We are planning to schedule the project in the following order which we are likely to adopt:

Topic	Days Required
Choosing the topic	1
Planning and discussion	2
Project Proposal	2
Learning libraries	7
Coding the core of the project	4
Debugging and Testing	4
Documentation and Final Report	2

Different small discussions and tasks are not mentioned here. This is just the approximate framework to complete the project.