



**TRIBHUVAN UNIVERSITY  
INSTITUTE OF ENGINEERING  
THAPATHALI CAMPUS**

**A Minor Project Report  
On  
Khela Ra Sikha**

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**Submitted To:**

Department of Electronics and Computer Engineering  
Thapathali Campus  
Kathmandu, Nepal

In partial fulfillment for the award of the Bachelor's Degree in Electronics and Communication  
Engineering.

**Under the Supervision of**

[Prajwol Pakka]  
March, 2025

## DECLARATION

We hereby declare that the report of the project entitled “**Khela Ra Sika**” which is being submitted to the **Department of Electronics and Computer Engineering, IOE, Thapathali Campus**, in the partial fulfillment of the requirements for the award of the Degree of Bachelor of Engineering in **Electronics and Communication Engineering**, is a bonafide report of the work carried out by us. The materials contained in this report have not been submitted to any University or Institution for the award of any degree and we are the only author of this complete work and no sources other than the listed here have been used in this work.

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**Date:** March, 2025

## **CERTIFICATE OF APPROVAL**

The undersigned certify that they have read and recommended to the **Department of Electronics and Computer Engineering, IOE, Thapathali Campus**, a minor project work entitled “**Khela Ra Sika**” submitted by **Adarsha Bhattarai , Nikesh Baral and Yugal Kishor Adhikari** in partial fulfillment for the award of Bachelor’s Degree in Electronics and Communication Engineering. The Project was carried out under special supervision and within the time frame prescribed by the syllabus.

We found the students to be hardworking, skilled and ready to undertake any related work to their field of study and hence we recommend the award of partial fulfillment of Bachelor’s degree of Electronics and Communication Engineering.

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Project Supervisor

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March, 2025

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## ACKNOWLEDGEMENT

We would like to express our sincere gratitude to the **Department of Electronics and Computer Engineering, Thapathali Campus**, for providing us with the opportunity to work on this project, **“Khela and Sika.”**

We extend our heartfelt appreciation to our **project supervisor, [Supervisor’s Name]**, for their continuous guidance, support, and valuable feedback throughout the project. Their insights and expertise greatly contributed to the successful completion of this work.

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Finally, we are grateful to **Tribhuvan University, IOE**, for offering a platform that fosters innovation and practical learning, allowing us to develop technical and problem-solving skills.

## **ABSTRACT**

**"Khela and Sika" is a multi-game educational program developed in C that provides an interactive platform for learning through gaming. The system integrates three primary games: KBC (Kaun Banega Crorepati - Physics Edition), Hangman (Chemistry Edition), and a Number Generator (Math Edition). This project aims to enhance user engagement and cognitive learning through interactive challenges and a scoring mechanism. The implementation of lifelines in KBC, randomized word selection in Hangman, and mathematical problem-solving in Number Generator ensures a comprehensive educational experience. The system was developed using C programming with concepts such as loops, functions, and randomization techniques. Future enhancements include graphical UI integration and additional game modes for an even more engaging learning experience.**

**Keywords: *C programming, Gamification, Educational Games, Interactive Learning, Randomization***

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# **1. INTRODUCTION**

## **1.1 Background**

Educational games have proven to be effective tools for enhancing learning by engaging students through gamified experiences. "Khela and Sika" is a multi-game educational system that combines knowledge testing, logical reasoning, and problem-solving into a single interactive platform.

## **1.2 Motivation**

Traditional learning methods often lack interactivity, making it difficult for students to stay engaged. Gamification provides an innovative approach to solving this problem by integrating gaming principles into education.

## **1.3 Problem Definition**

Students struggle with theoretical learning due to a lack of interactive study materials. This project aims to bridge the gap between learning and entertainment through game-based education.

## **1.4 Objectives**

- Develop an interactive educational game in C.
- Enhance student engagement through gamification.
- Implement a scoring system to track progress.

## **1.5 Scope and Applications**

This project can be used in classrooms, self-learning environments, and online educational platforms to enhance engagement and subject mastery.



## **2. LITERATURE REVIEW**

Gamification has been widely adopted in education to improve engagement and retention. Research indicates that interactive learning methods significantly enhance knowledge retention and comprehension. Existing applications like Kahoot and Duolingo employ similar methods, reinforcing the effectiveness of game-based learning.

### **3. REQUIREMENT ANALYSIS**

#### **3.1 Software Requirements**

- C Compiler (GCC)
- Code::Blocks or VS Code IDE

#### **3.2 Hardware Requirements**

- Standard PC with a minimum of 2GB RAM

#### **4. SYSTEM ARCHITECTURE AND METHODOLOGY**

- **UI Layer:** Handles game interactions.
  - **Game Logic Layer:** Manages rules and gameplay.
  - **Data Management Layer:** Stores game data and scores.
-

## 5. IMPLEMENTATION DETAILS

The system is implemented using C programming. The key modules include:

- **KBC (Physics Edition):**  
A multiple-choice quiz with lifelines.
- **Hangman (Chemistry Edition):**  
A word-guessing game.
- **Number Generator (Math Edition):**  
Mathematical problem-solving.

## 6. RESULTS AND ANALYSIS

The program was tested on multiple datasets to ensure accuracy. Below is a sample output from running the program:

Sample Execution:

```
=== KHELA AND SIRA ===  
1. KBC (Kaun Banega Crorepati)  
2. Hangman  
3. Number Generator  
4. Exit  
Enter your choice (1-4):
```

```
Welcome to KBC!
```

```
=== SCOREBOARD ===  
Current Prize: $0  
Next Prize: $1000
```

```
Question 1:  
1N equals to how much dyne?  
A.  $10^5$   
B.  $10^7$   
C.  $10^9$   
D.  $10^2$ 
```

```
Lifelines: [F] 50/50 [S] Swap
```

```
Enter your choice (A-D, F, S, or Q to quit):
```

## **7. FUTURE ENHANCEMENT**

- Adding a Graphical User Interface (GUI).
  - Expanding question banks for greater subject coverage.
  - Implementing multiplayer modes for collaborative learning.
-

## **8. CONCLUSION**

This project successfully integrates gamification into education, enhancing student engagement and subject mastery. Future improvements will further refine the system, making it more versatile and interactive.

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## **9. APPENDICES**

### **Appendix A: Source Code (Attached)**

<C:\Users\Asus\Documents\kbc11.pdf>



## **10. REFERENCES**

- [1] Research on Gamification in Education**
- [2] Online C programming resources**
- [3] Documentation of similar educational games**
- [4] [codewithc.com/c-program-kaun-banega-crorepati-kbc-game-2017/?amp=1](http://codewithc.com/c-program-kaun-banega-crorepati-kbc-game-2017/?amp=1)**