MINI PROJECT SYNOPSIS

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PROJECT NAME - ARCADE

TEAM MEMBER - 1. VIVEK SHAURYA(B61381)

2. HARSHIT VIJAY(B64322)

3. ANMOL VERMA(B62507)

INTRODUCTION:

It is a programme which consists of different games and can be extended to use in an arcade. Users can choose from 5 different games (guess the number, guess the colour, tic-tac-toe, coin toss). All the games are based on a credit system where tokens are used to play a game and rewards are given in form of tokens. This programme also consists of a file handling system to manage the transaction made.

- **WHY WE CHOOSE THIS**: Our team felt the need for something which could help in multiple areas of life. Hence, we tried to create this program that relates to multiple sectors in our life.
- **EDUCATIONAL PURPOSE**: This program is based on the very fundamental concepts of 'C Programming', making it beginner-friendly for developers, side by side it is using all the concepts of c language from control flow to array to file handling.
- **REAL-LIFE PURPOSE**: This program could easily be extended to a Real-world arcade where tokens are used. This program could easily be used as a simulator for these areas. It is a sustainable business model.
- **MEDICAL BENEFITS**: Going to the arcade (or simply playing games in general) has been proven to develop & understand many different mindsets which are very much required in today's world such as competitive feeling and will to win, communication skills to interact with other teammates and also induces the happiness and thereby relieving people from their depression.

WHAT IT OFFERS: -

1. This project is an arcade that consists of a lot of different types of games.
2. The basic system consists of 4 games. (More games can be added in the maintenance phase).
3. **Guess the number** - This game first starts with asking the user about the difficulties they want to choose. (Easy, intermediate, hard) each level will have a different range of numbers which is told to the user, and the user has to guess the number each time and the user gets 5 tries. The computer should randomly choose the number and works on the input as the guessed number by the user is larger or smaller than the number chosen by the computer.
4. **Guess the colour** - This game starts by asking the user to choose a level. Each level contains a different number of colours. The computer should randomly choose one colour, and ask the user to choose, if the chosen colour is the same for both user and system then the user wins.
5. **Toss the coin** - This game is used to make quick decisions (yes or no). The user should initiate the programme it will randomly choose heads or tails. This will benefit the user and help him/ her if they are stuck to saying yes or no.
6. **Tic-tac-toe -** This game would depend on the maths and probability of the situation. The user inputs a position in the grid where they want to make a move. Then depending on whether they chose Against Computer or Other Player, a move would be made, in the case of computer it will randomly choose a point on the grid to make a move, and this continues till the

end resulting in three possibilities (viz. WIN, LOSE, DRAW) Outcomes are in favour of any particular symbol occurs in a straight line consecutively in the 3x3 Grid.

7. **THE CREDIT SYSTEM:** All these games are used with credits. Which are allowed in the beginning different games, and different levels the credit system is different.
8. For guess the number and guess the colour- (*HARD*): 100 to start and if won 200 as a reward. (*INTERMEDIATE*): 100 to start 150 if won. (*EASY*) 100 to start and 120 if won.
9. For toss, the coin 100 credit is deducted and if won 150 will be rewarded.
10. For tic-tac-toe to start 200 credits are needed. And 250 as a reward if won.

TOPICS COVERED:

1. **Documentation:** Use of comments to make it readable.

2. **Control Flow:** Use of conditionals and loops.

3. **Functional Programming:** Code is broken down to different functions to make it more understandable.

4. **Different Libraries:** Different-different libraries are used to enhance the functionality.

5. **File Handling:** Used the concept of files to upload and retrieve data.

6. **Data Structure:** Use of Different type of Data Structures to handle data within program.

7. **Pointers:** Use of pointers for referencing position of a 3x3 Grid.

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Dr. Naveen Kumar Gupta
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