Development Of Hangman Game Using Python

[1]Aditya Kumar Singh, [2]G. Aditya Reddy, [3]D. Adarsh
[4]U. Aishwarya,[5]S. Ajay Ray,[6]O. Akanksha,[7]Dr.K.Little Flower
[123456]Student, [7]Assistant Professor
Artificial Intelligence & Machine Learning
Department Of Computer Science and Engineering
Malla Reddy University, Hyderabad, Telangana, India

Abstract: The objective of the project implements the hangman game using python. It requires the modules such as random, time and tkinter in python and loops and functions to build the game. The hangman Game on python is about guessing letters(A-Z) to form the words. If the player guesses the right letter that is within the word, the letter appears as its correct position. The user must guess the correct word until man is hang, then the game is over. The development of Hangman game with importing python modules such as random and time, the print statements to welcome the person and functions, loops such as while and for and parameters to execute the game. If the random word contains that alphabet, it will be shown as the output else the program will ask you to answer another alphabet, many conditional statements such as if, Elif and else and integers strings, characters input and output operations and Booleans are used to develop the program. The Hangman game of python includes defining functions and managing for/while loops. The function that we use here contains arguments that are defined in a global space which can be further used in other functions to improve game quality. It can also be used to provide different steps when required execute upon conditions by the for and while loops
.

Keywords: Words; Random; Time; clues Hangman; Kinter.

I.INTRODUCTION

Word games helps in enriching vocabulary and may introduce people to new words Hangman is one of those kinds of game that helps us to improve. They also help us to improve mood, boost self-esteem and reduce pain and discomfort. In hangman game, the word to guess is given by a row of dashes representing each letter of the word. If the guessing player suggests a letter which occurs in the word, the other player writes in all its positions. If the suggested letter does not occur in the word the other player removes (or alternatively adds) one element of a hanged figure as a tally mark. Generally, the game ends once the word is guessed, or if the stick figure is complete. The player guessing the word may, at any time, attempt to guess the whole word. If the word is correct, the game is over and the guesser wins. Otherwise, the other player may choose to penalize the guesser by adding an element to the diagram. On the other hand, if the guesser makes enough incorrect guesses to allow the other player to complete the diagram, the guesser loses. However, the guesser can also win by guessing all the letters that appear in the word, thereby completing the word before the diagram is completed. Therefore, Hangman is a joyful and lively game that helps us in building our vocabulary and skill of guessing.

II.LITERATURE REVIEW

The are many models and systems available on Hangman game in present days but with no clues and no better graphical user interface. The existing system gives only the framework of the game and the idea of how the python code works in order to execute the game but to make it more user interactive the advancement of user interface is required which uses the tkinter and random module in python .The proposed system uses this modules too for better lively ness of the game and instead of including the words and clues in the main code they both are included in the separate word files for the smooth functioning ,better understanding of code and for the future update of new words and clues. The system includes the keyboard interface to type the word which makes the game more attractive to users and the letters are case-insensitive (upper words and lower-case words are treated as same). The game is converted into multiplayer mode where more than one player can guess the word if it is hard.

The existing lacks in many aspects of the game such as

No database connectivity: The game is not connected to the database as a result the scores cannot be stored and there is no possibility of displaying the high score and the user cannot save his game progress so whenever the game is newly installed, they must play the game from start.

No internet access: Today's game applications are also connected to the internet so that the people around the world can compare themselves in scores and play as teams. Since, there is no internet connectivity the player cannot meet the other players related to the game and the player must play himself.

Limited to two players: The game is limited to two players but they are a chance to increase the players number and can be played as teams. One can guess one letter and another guess another, so they increase the chance of winning.

Limited words: The words and clues are very limited in amount. There is a chance of increasing words every time and new clues which makes the game more fun and creative that helps in learning new words and building good word knowledge.

These limitations are needed to be modified in order to make it more attractive.

III.PROBLEM STATEMENT

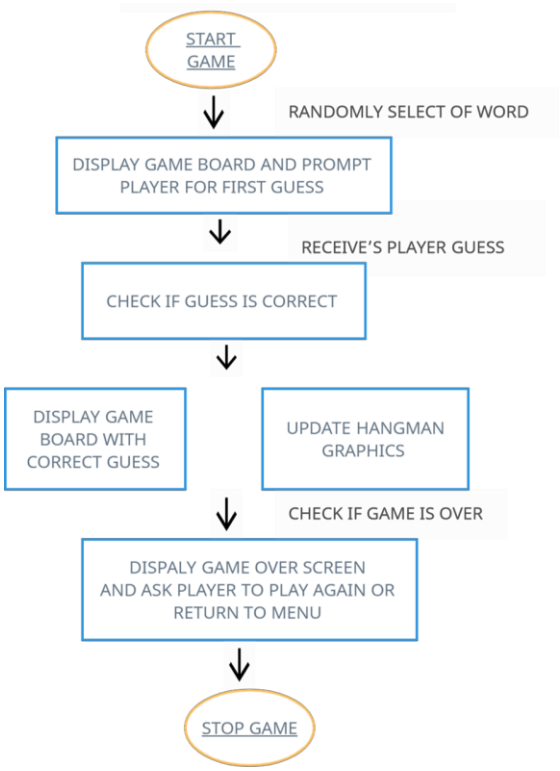
Hangman is a paper and pencil guessing game for two or more players. One player thinks of a word and the other tries to guess it by suggesting the letters. The word to guess is represented by a row of dashes, giving the number of letters. If the guessing player suggests a letter which occurs in the word, the other player draws one element of the hangman diagram as a tally mark. The implementation of this game in computer works as a one player game as the computer acts as the next person by taking the input from user to execute the game. The implementation of the game is done by using python in this project where it includes many modules and loops to build the game. As the main problem is about user graphics, the python modules are required according to it. The best working of game also plays the important role where the loops should work properly and perfectly so that the game works accurately with no errors and mistakes.

So, the game should have good user interface, clues to find the word. clues and words list to make it as the good game and tricky words and clues which makes the game more interactive and livelier to play. The implementation of best python modules and correct use of loops are mandatory to full fill the key aspects of the problem statement.

IV.METHODOLOGY

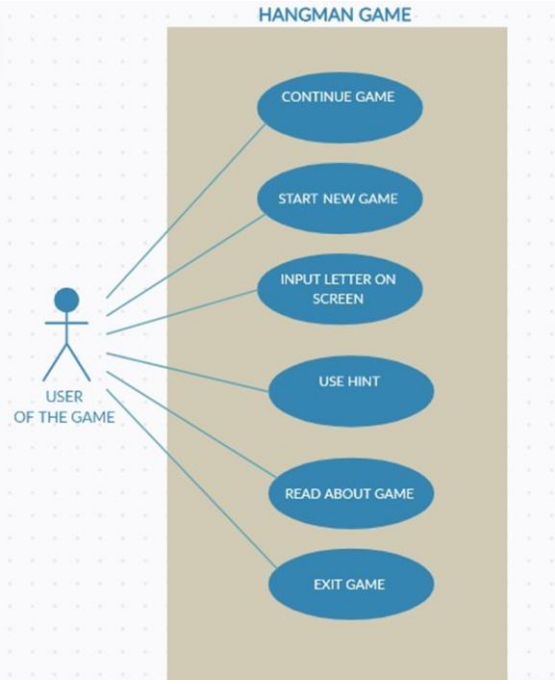
The game methodology has included the architecture with word server that selects a secret word from the server and displays the word as the sequence of dashes to the player and the player guesses the characters of the word to execute the game. The game ends if the player completes the game or until the Hangman is hanged. The ER diagram of the represents how the flow of game will be.

ER DIAGRAM OF GAME



The flow starts from starting the game then the computer randomly selects the word using the random module and display in the hidden mode and it also receive the input from the user and checks whether it is correct or not if it is correct, it displays the character otherwise it updates the hangman graphics then displays the end if the game is over.

The user can access many modules such as start to start the game, continue to continue the game input letter on the screen, read about the game and exit to exit from the game.



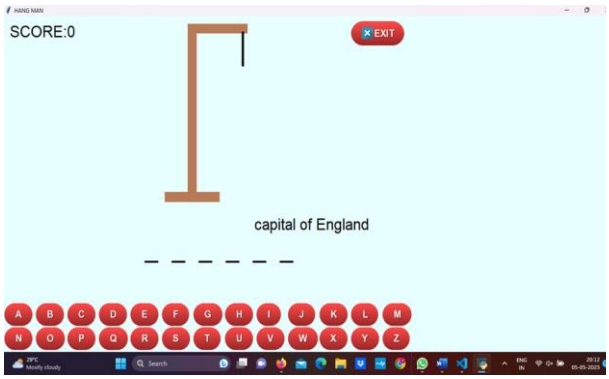
V.EXPERIMENTAL RESULTS

In a game, the interface is the key element. The Hangman game is developed using the Kinter module from python so, the game has a good-looking interface and the perfect hangman to proceed with.

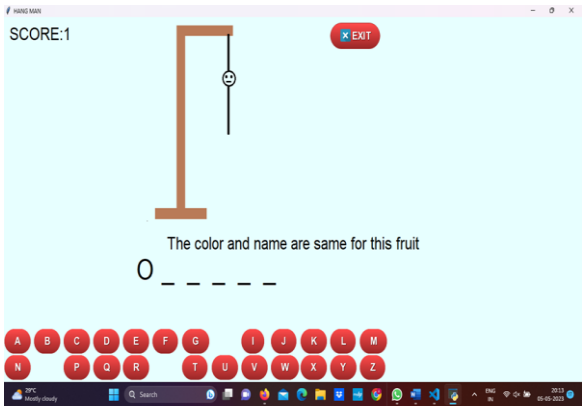
The best part of the interface is, it includes a keyboard where the player can select the character as the input. The Kinter module has also supported in adding the graphics to buttons, alphabets of the keyboard and displaying the images according to the working of the game.

The result of the game varies according to the position of the game. The result of beginning of the game does not contain any man and then the result changes according to the user input then totally changes by the end of the game.

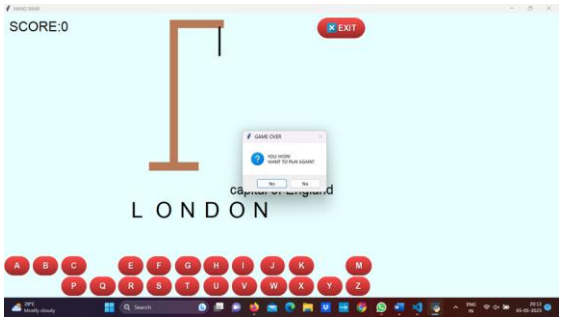
1. THE BEGINNING OF THE GAME



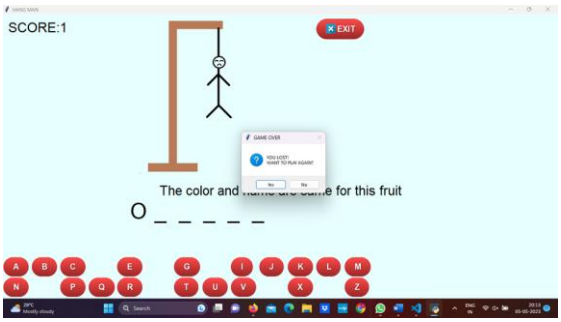
2.FINDING THE WORD



3.WIN OF THE GAME



4.LOSS OF THE GAME



VI.CONCLUSION

In this project, developed a hangman game which is based on finding words in English. The clues play a major role in the project in the order to find the words. The game is designed using tkinter and random which are python modules that help in the graphics and working of the game. The major part of the project is the user-friendly interface which is easy to understand and use. The clues and solutions are created in two separate files for easy reorganization. The game helps in building the vocabulary and improves the game spirit. The game also helps in improving the python coding skills that includes working of loops, using python modules such as tkinter,time,random , importing many images and changing the buttons according to the user.

VII.FUTURE WORK

In Further development ,many words and related clues can be introduced in to the game which helps to improve the knowledge and vocabulary .The game can be connected to the database to store the process of the game and the previous scores .The game can also be designed in multiple interfaces for the convenience of user and can be converted as team game where two or more players can be form into the team to find the hardest word using internet which can be fun and learning at the same time.

The internet access can be given for the leaderboards and competitions among many players that helps in building the vocabulary knowledge. The game can be specified to a single domain which can also help in improving the domain specific knowledge.

VIII.REFERENCES

[1] Head-First Python, 2nd edition Paul Barry (O'Reilly, 2016).

[2] Think Python: How to Think Like a Computer Scientist, 2nd edition Allen B. Downey (O'Reilly, 2015).

[3] Beginning Game Development with Python and Pygame: From Novice to Professional author: Will McGugan

[4] Diophantus maze game: Play it to learn mathematics or implement it to learn game programming in PythonD Koupritzioti, S Xinogalos - Education and Information Technologies, 2020 - Springer

[5] Application of game theory for decision making on the development of it productsV Morozov, O Mezentseva, M Proskurin - … : 2020 International Scientific …, 2021 - Springer.