

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
JNANASANGAMA, BELAGAVI - 590018



**Project Report (21PSC122)**  
**on**

**Hangman Game**

*Submitted in partial fulfillment for the award of degree of*

**Bachelor of Engineering**

**in**

**Computer Science & Engineering**

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**Department of Computer Science and Engineering**

**2021 - 2022**

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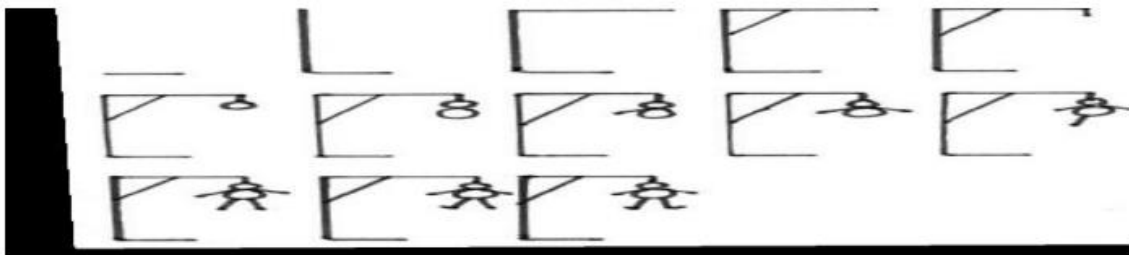
## Introduction

**Hangman** is a quick and easy game for at least two people that requires nothing more than paper, a pencil, and the ability to spell. One player, the "host," makes up a secret word, while the other player tries to guess the word by asking what letters it contains. However, every wrong guess brings them one step closer to losing. Hangman can also be customized to make the game easier, harder, or educational, and there are apps and websites to play online if you would like. Hangman can be adapted by people of all ages and can be used in a variety of settings. Hangman is not only far more interactive than some spelling rote learning method, but also it is far more enjoyable.

The steps to play a basic game of hangman are -

1. Choose one person to be the "host." This is the person that invents the puzzle for the other person to solve. They will be tasked with choosing a word or phrase that "the players" will have to solve.
2. If you are the host, choose a secret word. The other players will need to guess your word letter by letter, so choose a word you think will be difficult to guess. Difficult words usually have uncommon letters, like "z," or "j," and only a few vowels.
3. Draw a blank line for each letter in the word. For example, if the executioner chooses the word "zipper," she/he would draw six blanks, one for each letter  
( \_ \_ \_ \_ \_ ). The host does not tell anyone else the secret word.
4. Start guessing letters if you are the player. Once the word has been chosen and the players know how many letters in the secret word, begin guessing which letters are in the word by asking the host. For example, you might begin by asking, "is there an 'e' in your word?"
5. Fill the letter in the blanks if the players guess correctly. Whenever the players guess a letter that is in the secret word, the host fills it into the blank where it occurs. For example, if the word is "zipper" and the players guess "e," then the host will fill in the 5th blank with an "e:" ( \_ \_ \_ e \_ ).
6. Draw part of the "hangman" when the players guess wrong. Whenever the players guess a letter that is not in the secret word they get a strike that brings them closer to losing. To show this, the host draws a simple stick figure of a man being hung, adding a new part to the drawing with every wrong answer. This is also where you can adjust the difficulty of the game -- the more marks you make, the more wrong guesses the player gets and the easier the game is. The classic order is:
  - First wrong answer: Draw a small circle for the "head" underneath the horizontal line of the "L."
  - Second: Draw a line down from the bottom of the head for the "neck."
  - Third: Draw two arms out from the middle of his body for the "arms."
  - Fourth: Draw a line down from the bottom of the neck for the "upper body."
  - Fifth: Draw another line down from the bottom of the upper body for the "lower body."

- Sixth: Draw two diagonal lines from the bottom of the body for the two "legs." Once you draw the entire body, the players have lost the game.
7. The players win when they guess the correct word. If the players get every letter of the word before the host finishes drawing then they win.
  8. Play online or on an app to practice by yourself. Thanks to its simplicity, online hangman games are everywhere, and easy to find with a quick internet search for "online hangman." Many games use online dictionaries to choose words, allowing you to practice building your vocabulary while you play. You can even play games against opponents from all over the world with some apps.



**Chart 1. Illustration of Hangman Game**

## **Problem Statement & Objectives**

### **Problem Statement**

A major problem in education is lack of motivation. Gaining students' motivation is one of the tasks that one has to do for the students to have the willingness to learn, but to create a highly motivating environment in the classroom is not easy. For example when the students learn English. English is an international language. And in this global era, it is necessary for people to be able to speak English. But every student has different motivation to learn, and it is an important task to create a motivational environment in the learning process.

One of the strategies to teach English is by using games. Game is an activity with rules, a goal and an element of fun. In other words, games are an interesting strategy to teach the students and it also has some purpose and steps. By using games, teaching learning activities will be more fun, and students will have an interest in learning the material. Also students will understand the material easily.

Language games are a general term used to cover a variety of language activities, and the function of language games is to practice specific language items such as grammar, sentence structures, vocabulary, and spelling, and it is important to develop language skill. Students can get a lot of knowledge and new experiences by playing language games, because the students can learn languages in different and fun ways. Language Games will give them much benefit which is very important for their language skills.

### **Objectives**

By playing the Hangman game, students will think about the letter which is in the word. They will also think about what the right word is. Hangman game also can be one way to help students practice their confidence to express their thoughts. It means that by using Hangman Game, students can practice the alphabet and vocabulary which is really important for their English skill and it can also create a fun atmosphere in teaching learning activities. Hangman game can also be played to learn all skills in English.

Hence the aim of this project is to engage the students and teach them the language in a more interactive way so that it is playful and educational at the same time.

## Strategy

Like every other game, there exists a strategy to play the hangman game. The fact that the twelve most commonly occurring letters in the English language are e-t-a-o-i-n-s-h-r-d-l-u (from most to least), along with other letter-frequency lists, are used by the guessing player to increase the odds when it is their turn to guess. On the other hand, the same lists can be used by the puzzle setter to stump their opponent by choosing a word that deliberately avoids common letters (e.g. rhythm or zephyr) or one that contains rare letters (e.g. jazz).

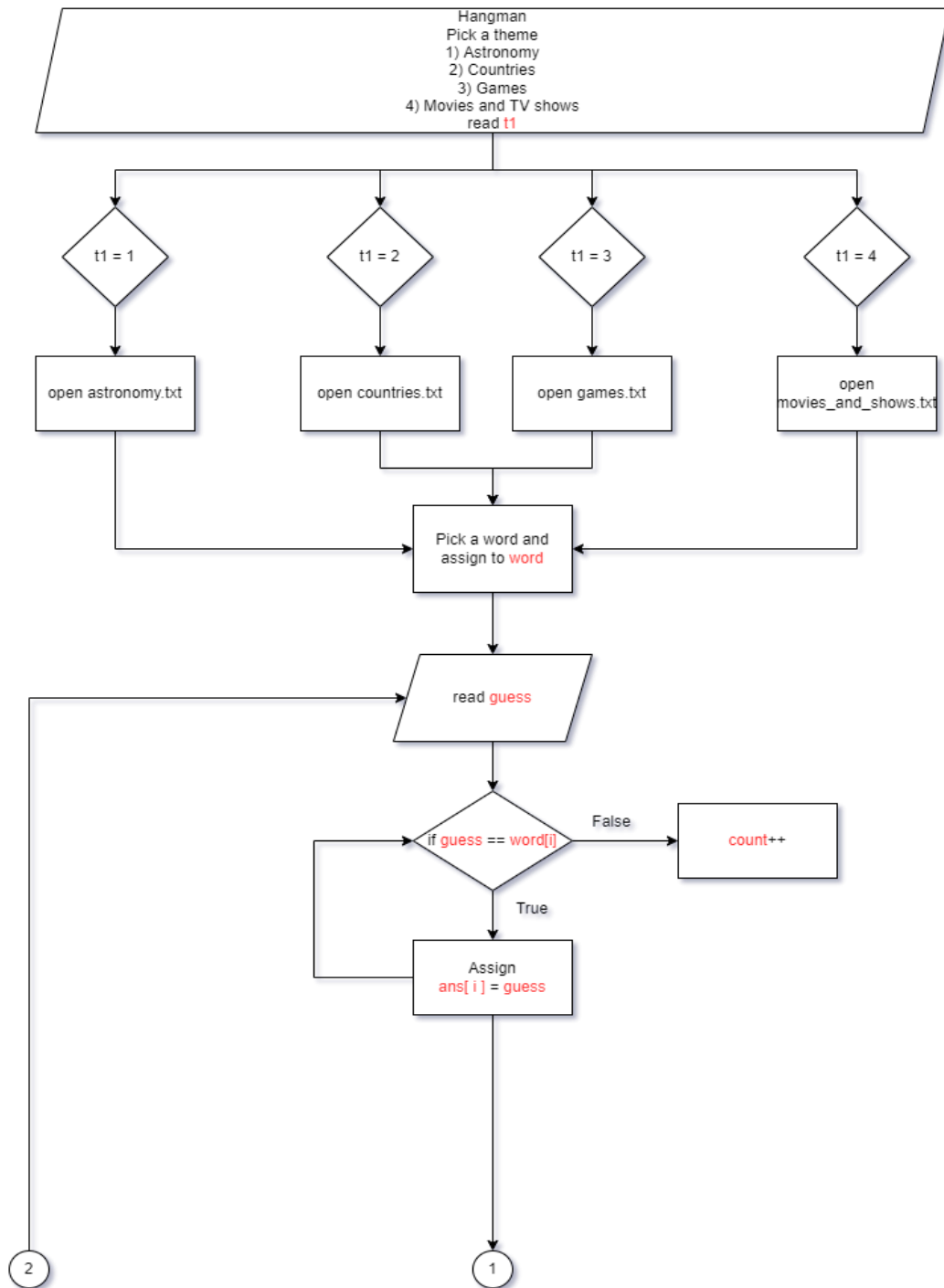
Hence, the strategies to keep in mind are -

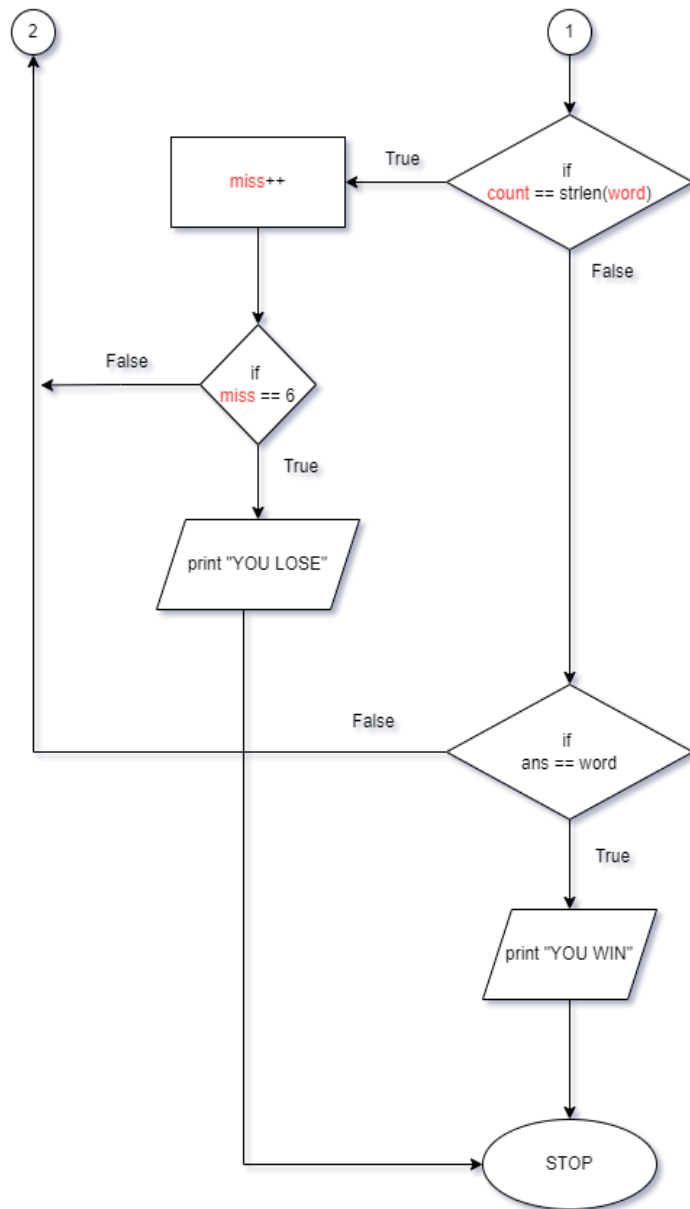
- 1. Use your vowels:** A common strategy is to guess vowels first, as English only has five vowels (a, e, i, o, and u, while 'y' may sometimes, but rarely, be used as a vowel) and almost every word has at least one. Looking at vowels is a good way to start. Since there are only 5, you can fill in some blanks pretty quickly. They can even help you guess the answer straight away. For example, if you try the letter A and the word looks like this ' \_A\_A\_A ', you might be able to guess straight away that the answer is BANANA just from one letter.
- 2. Etaoin shrdlu:** "Etaoin shrdlu" is two words listing the most commonly used letters in the English language, in order of frequency. "E" is the most commonly used letter, "t" is second-most common, etc. After trying your vowels, try out a few letters from this list to see if they appear in the word!
- 3. Break down phrases:** When trying to guess a phrase, break it up and look at each word rather than focus on the letters. If you can guess just one word then it may lead you to the other words in the saying. You can also use the tip at the top of the window for extra help.
- 4. Don't forget your Js and Zs:** The letters J and Z always trip people up. They're both fairly rare and it's not always obvious when you need one to complete a word or phrase. Don't guess a Z or a J at the very beginning, but keep them in mind as you play.

It can be helpful to learn the most difficult and most common words used in Hangman. One of the hardest words in Hangman is Jazz. Jazz is great because it includes J and Z, two of the most uncommon letters in the alphabet. Along with this, it only has 3 letters in it, which makes it harder for players to guess. Other great options are words that don't use the typical A, E, I, O, and U vowels. Some great examples are psych and synth. Both will be hard for opponents to guess due to their lack of vowels.

## Methodology

### Flowchart







## Algorithm

**Step 1:** START

**Step 2:** Prompt user to enter a theme of choice

**Step 3:** Pick a random word from the file of theme chosen

**Step 4:** ASSIGN the word to WORD

**Step 5:** Initiate another array of the same length as word, but each character is an “\_”.

**Step 6:** Initialize variable “miss” = 0

**Step 7:** Prompt the user to guess a letter ‘a’ through ‘z’.

**Step 8:** For each iteration, test whether the character entered by the player matches the letter of the number of the current iteration.

**Step 9:** If the guess entered is right, count++. If the guess entered is wrong, miss++.

**Step 10:** REPEAT step 5 to 8 until miss<6 and count !=strlen(word)

**Step 11:** If count ==strlen(word), You Win. If miss==6, You Lose.

**Step 12:** STOP

## Implementation & Outcome

1. Display the welcome page of the game.

```

      sss
      sss
      sss
      ssssss.  sssss.  ssssss.  .dssb.  ssssss.dssb.  sssss.  ssssss.
      sss "ssb  "ssb sss "ssbdssP"ssbsss "sss "ssb  "ssbsss "ssb
      sss sss.dsssss sss ssssss ssssss sss sss.dsssss sss
      sss ssssss sss sss sssysss ssssss sss ssssss ssssss sss
      sss sss"Ysssss sss sss "Ysssss sss sss"Ysssss sss
      sss
      Ysb dssP
      "YssP"

```

2. Display the themes available and ask the player to enter the theme of choice

```

Themes Available -
1. ASTRONOMY
2. COUNTRIES
3. GAMES
4. MOVIES AND TV SHOWS

Enter the theme of choice
2

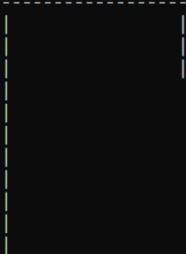
```

3. Display the blank spaces for the user to input their guess.

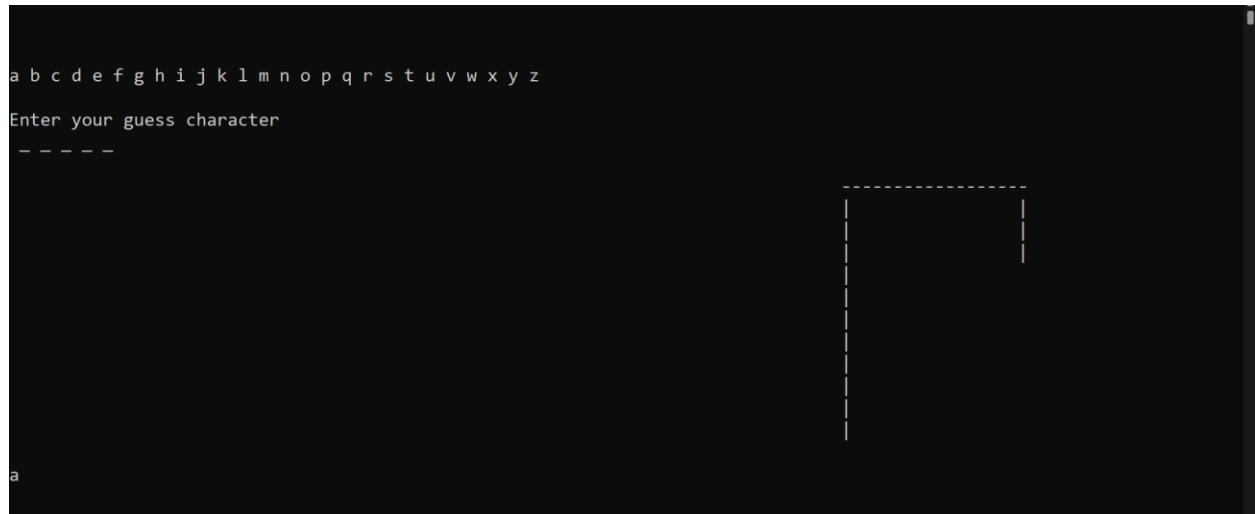
```

a b c d e f g h i j k l m n o p q r s t u v w x y z
Enter your guess character
- - - - -

```



4. The player enters their guess and the guess is registered



If the guess is correct, remove the letter from the tray of alphabets and place it in the appropriate blank space.



The player is asked to enter their guess again and the guess is registered.



If the guess is incorrect, remove the letter from the tray of alphabets and hang a part of the hangman.



5. If the player guesses the word correctly before they run out of chances, they **WIN**.





## Future Scope

The following ideas can be implemented to make the game more competitive and educational in multiple aspects.

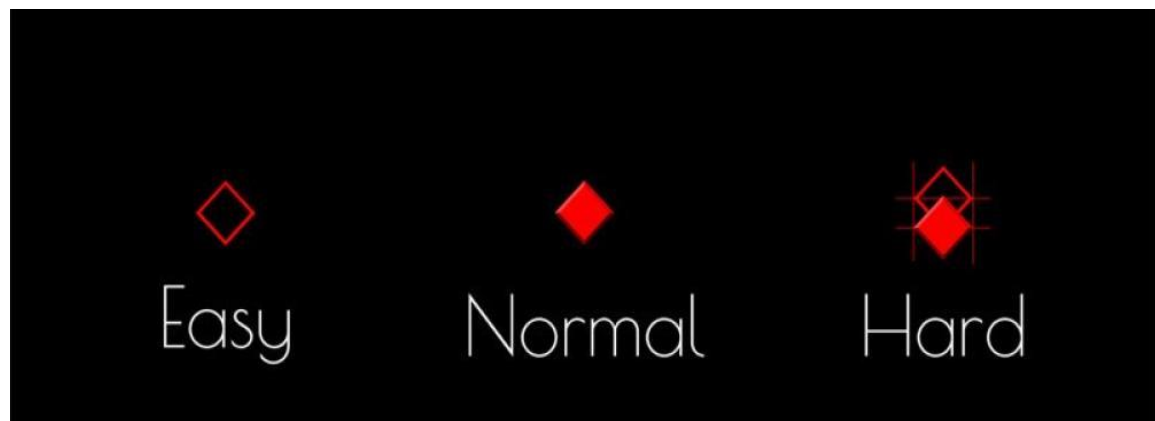
### I. Leaderboard

The leaderboard is a board that shows the names and positions of the leading competitors in a competition, especially a golf tournament.

< S T A T I S T I C S >					
sn	Name	Accuracy	Score	Date	Time
1	pushkar	82.5%	5115	24/08/2009	[01:11:55]
2	suyogya	96.5%	4537	13/05/2007	[16:43:08]
3	suyogya	93.5%	3646	13/05/2007	[16:48:00]
4	sujan	89.8%	1437	13/05/2007	[16:46:24]
5	asd	76.9%	1308	23/05/2008	[08:27:02]
6	pushkar	84.2%	1263	13/05/2007	[16:41:47]
7	sujan	77.9%	1246	22/08/2007	[16:07:04]
8	sujan	100.0%	1200	16/08/2007	[23:49:12]
9	regan	80.0%	1120	13/05/2007	[16:45:00]
10	Jack	49.6%	794	26/05/2014	[18:35:11]

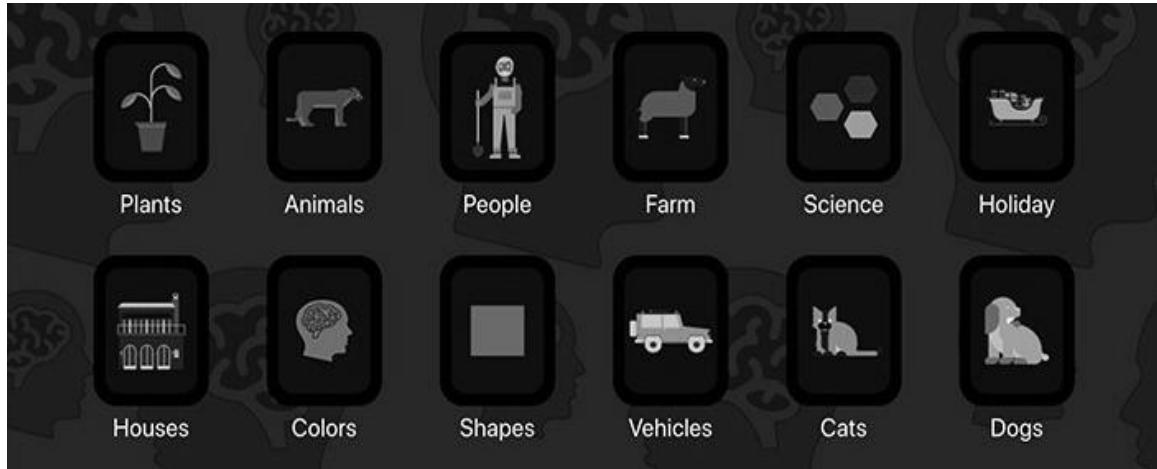
### II. Difficulty Mode

Many strategy games, RPGs, and action games have difficulty levels. Often, you start the game at 'Normal', though sometimes at 'Easy', then work your way up. This helps the game not become too overwhelming for beginners.



### III. More Themes

More themes will present the player a wider selection to help better their vocabulary in any given theme.



### IV. Clues

Clues can help the player when they are stuck in a particular stage of the game and provide them assistance in the word guessing process.



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