

Government Polytechnic, Pune-16

(An Autonomous Institute of Government of Maharashtra)



A

Micro-Project

Report On

“Word Scramble Game”

Submitted By

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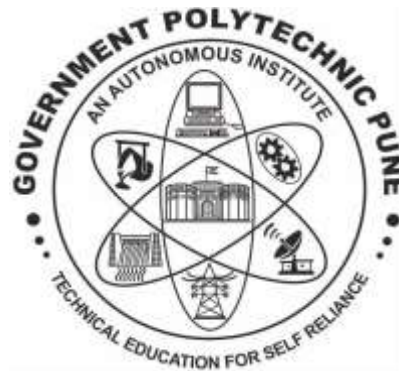
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Under the Guidance of

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(An Autonomous Institute of Government of Maharashtra)



Certificate

This to certify that Kanchan Jaiswal, Sakshi Kakade and Sai Kulkarni with Enrollment No. 2006053, 2006056, 2006067 respectively, the Students of Government Polytechnic Pune, Third Year Diploma in Computer Engineering have successfully completed the Microproject titled “Word Scramble Game” as part of diploma curriculum in academic year 2022-23.

Micro-Project Guide

(Smt. Priya Zade)

H.O.D

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Principal

(Dr. V. S. Bandal)

Acknowledgement

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Abstract

Word Scramble is a challenging vocabulary game. This game is designed to help people practice their spelling and learn new words. In this, they have provided words in shuffled manner. They must rearrange the given letters to form the word. This game is a great way to help people build, test and enhance their vocabulary and spelling skills.

Word Scramble games present you with the letters of a word or words mixed up, like the letter tiles have been tossed in a bag. It's your job to try to use your language skills to locate the vowels and reprocess the letters into a readable word, usually in a certain amount of time. It requires visualizing the words in your head and having a basic understanding of how spelling rules work in order to properly and efficiently unscramble the mess of letters on your screen. Reading, exposing yourself to new words, and paying attention to spelling rules will all help you to build a mental lexicon for being word-savvy enough to unscramble whatever mix of letters you're presented with. But even the most prolific reader can have trouble with the logic of a word scramble. It's great practice for logic, critical thinking, and mental word play.

Introduction

- **Purpose**

Word scramble is a game where the letters that can make a meaningful word are shuffled or scrambled randomly, and players have to find out the correct word using those random letters. The purpose of Word Scramble Game is to build users vocabulary skills. Word games continue to be popular pastimes and provide a great opportunity to engage in lighthearted competition among family and friends.

- **Scope**

Scope of this project is very broad in terms of enhancing user experience.

Few of them are:

1. This can be used school or college competitions.
2. Additional tasks can be added.
3. Can be used anywhere any time as it is a web-based application (user Location doesn't matter).
4. No restriction about names and passwords provided.

- **Features**

1. Build Vocabulary
2. Improve focus
3. Stimulate brain
4. Boosts feel-good substances

Requirements

Software Requirements

- Browser: Internet Explorer or Mozilla Firefox or Opera
- Operating System: Any Windows version/ Linux/ Mac

Hardware Requirements

- Processor: Intel
- Ram: 512 MB or more

Functional Requirements

- The system gives in detail description of Word Scramble Game.
- All the information about the game is provided to user in the form of hint.
- All the necessary information is rendered in proper manner.
- The functionality of timer is properly running.

Non-Functional Requirements

- Runs on low performance systems and on any environment.
- Cost effective deployment (When buying about storage space)
- All the languages used to develop the system are Client-side scripting languages which provide dynamic system.

About HTML, CSS and Java script:

▪ **HTML**

It is a markup language that we use to structure and give meaning to our web content, for example defining paragraphs, headings, and data tables, or embedding images and videos in the page.

HTML applications are:

- 1) Web pages development
- 2) Web document creation
- 3) Internet navigation
- 4) Responsive images on web pages

▪ **CSS**

CSS is a language of style rules that we use to apply styling to our HTML content, for example setting background colors and fonts, and laying out our content in multiple columns.

CSS helps at:

- 1) Managing Dynamic Web templates
- 2) E-commerce
- 3) Ease of accessibility

▪ **JavaScript**

JavaScript is a scripting language that enables you to create dynamically updating content, control multimedia, animate images, and pretty much everything else. (Okay, not everything, but it is amazing what you can achieve with a few lines of JavaScript code.) JavaScript provides:

- 1) Speed
- 2) Simplicity
- 3) Rich Interfaces
- 4) Less Overhead

Snapshots

Html File: Index.html

```
<> Index.html > html > body > div.container > div.content > div.details
1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta http-equiv="X-UA-Compatible" content="IE=edge">
6      <meta name="viewport" content="width=device-width, initial-scale=1.0">
7      <title>Word Scramble Game</title>
8      <link rel="stylesheet" href="sty.css">
9      <script src="js/words.js" defer></script>
10     <script src="js/script.js" defer></script>
11 </head>
12 <body>
13     <div class="container">
14         <h2>Word Scramble</h2>
15         <div class="content">
```

```
16         <p class="word"></p>
17         <div class="details">
18             <p class="hint">Hint: <span></span></p>
19             <p class="time">Time Left: <span><b>30</b>s</span></p>
20         </div>
21         <input type="text" placeholder="Enter a valid name">
22         <div class="buttons">
23             <button class="refresh-word">Refresh Word</button>
24             <button class="check-word">Check Word</button>
25         </div>
26     </div>
27 </div>
28 </body>
29 </html>
```

Word Scramble Game

Css File: sty.css

```
# sty.css > ...
1  @import url('https://fonts.googleapis.com/css?family=Poppins:wght@400;500;600&display=swap');
2  * {
3      margin: 0;
4      padding: 0;
5      box-sizing: border-box;
6      font-family: 'Poppins', sans-serif;
7  }
8  body{
9      display: flex;
10     align-items: center;
11     justify-content: center;
12     min-height: 100vh;
13     background: #1f46e4;
14 }
15 .container{
16     width: 450px;
17     border-radius: 7px;
18     background: #fff;
19 }
```

```
20 .container h2{
21     font-size: 25px;
22     font-weight: 500;
23     padding: 18px 25px;
24     border-bottom: 1px solid #ccc;
25 }
26 .container .content{
27     margin: 25px 20px 35px;
28 }
29 .content .word{
30     font-size: 33px;
31     font-weight: 500;
32     text-align: center;
33     letter-spacing: 24px;
34     margin-right: -24px;
35     text-transform: uppercase;
36 }
37 .content .details{
38     margin: 25px 0 20px;
39 }
```

Word Scramble Game

JavaScript File: word.js

```
js > JS words.js > [e] words
1  const words = [
2      {
3          word: "addition",
4          hint: "The process of adding numbers"
5      },
6      {
7          word: "meeting",
8          hint: "Event in which people come together"
9      },
10     {
11         word: "number",
12         hint: "Math symbol used for counting"
13     },
14     {
15         word: "exchange",
16         hint: "The act of trading"
17     },
18     {
19         word: "canvas",
20         hint: "Piece of fabric for oil painting"
21     },
```

```
22     {
23         word: "garden",
24         hint: "Space for planting flower and plant"
25     },
26     {
27         word: "pocket",
28         hint: "A bag for carrying small items"
29     },
30     {
31         word: "needle",
32         hint: "A thin and sharp metal pin"
33     },
34     {
35         word: "expert",
36         hint: "A person with extensive knowledge"
37     },
38     {
39         word: "statement",
40         hint: "A declaration of something"
41     },
42 ]
```

Word Scramble Game

JavaScript File: script.js

```
js > JS script.js > [?] initTimer > [?] setInterval() callback
1  const wordText = document.querySelector(".word"),
2  hintText = document.querySelector(".hint span"),
3  timerText = document.querySelector(".time b"),
4  inputField = document.querySelector("input"),
5  refreshBtn = document.querySelector(".refresh-word"),
6  checkBtn = document.querySelector(".check-word");
7
8  let correctWord, timer;
9
10 const initTimer = maxTime => {
11     clearInterval(timer);
12     timer = setInterval(() => {
13         if(maxTime > 0){
14             maxTime--;
15             return timerText.innerText = maxTime;
16         }
17         clearInterval(timer);
18         alert(`Time off!! ${correctWord.toUpperCase()} was correct word`);
19         initGame();
20     }, 1000);
21 }
```

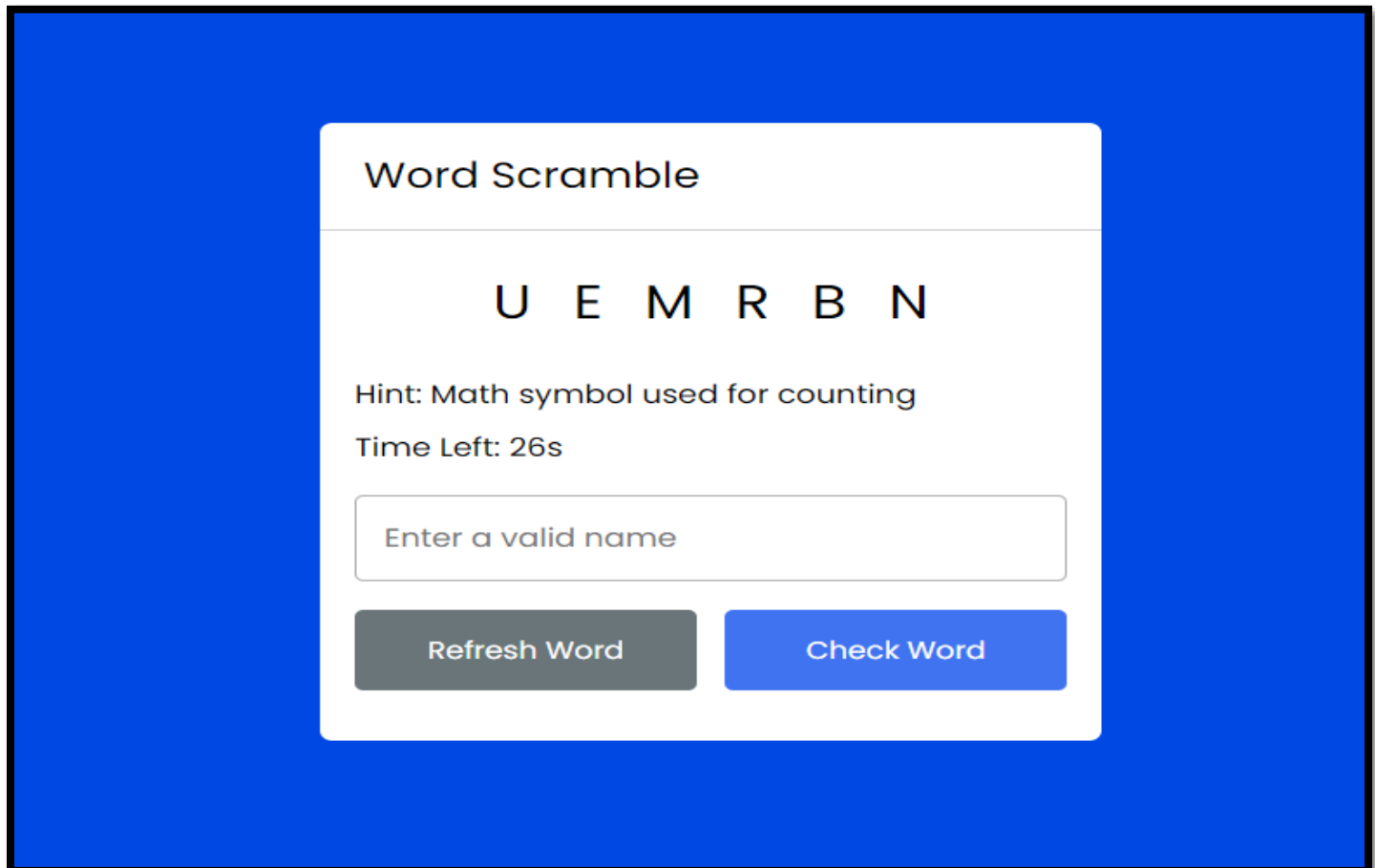
```
23 const initGame = () => {
24     initTimer(30);
25     let randomObj = words[Math.floor(Math.random() * words.length)];
26
27     let wordArray = randomObj.word.split("");
28     for (let i = wordArray.length - 1; i > 0; i--)
29     {
30         let j = Math.floor(Math.random() * (i+1));
31         let temp = wordArray[i];
32         wordArray[i] = wordArray[j];
33         wordArray[j] = temp;
34     }
35     wordText.innerText = wordArray.join("");
36     hintText.innerText = randomObj.hint;
37     correctWord = randomObj.word.toLowerCase();
38     inputField.value = "";
39     inputField.setAttribute("maxlength", correctWord.length);
40
41     console.log(randomObj);
42 }
43 initGame();
```

Word Scramble Game

```
45  const checkWord = () => {
46      let userWord = inputField.value.toLocaleLowerCase();
47      if(!userWord) alert("Please enter a word check");
48
49      if(userWord !== correctWord) return alert(`Oops! ${userWord} is not a correct word`);
50
51      alert(`Congrats! ${userWord.toUpperCase()} is a correct word`);
52      initGame();
53  }
54
55  refreshBtn.addEventListener("click", initGame);
56
57  checkBtn.addEventListener("click", checkWord);
58
```

Output

Front view of the project:

The image shows the front view of a web application for a Word Scramble game. The interface is centered on a white card with rounded corners, set against a solid blue background. At the top of the card, the title "Word Scramble" is displayed in a black, sans-serif font. Below the title, the scrambled letters "U E M R B N" are shown in a large, black, spaced-out font. Underneath the letters, a hint is provided: "Hint: Math symbol used for counting". Below the hint, the text "Time Left: 26s" is displayed. A text input field with a light gray border and placeholder text "Enter a valid name" is positioned below the time. At the bottom of the card, there are two buttons: a gray "Refresh Word" button and a blue "Check Word" button with white text.

Word Scramble Game

After entering correct answer:

This page says
Congrats! NEEDLE is a correct word

OK

Word Scramble

N L E E D E

Hint: A thin and sharp metal pin
Time Left: 22s

Refresh Word Check Word

After entering wrong answer:

This page says
Oops! neumrb is not a correct word

OK

Word Scramble

R M N E U B

Hint: Math symbol used for counting
Time Left: 22s

Refresh Word Check Word

Word Scramble Game

In case if timer offs:

This page says
Time off!! NUMBER was correct word

OK

Word Scramble

U E M R B N

Hint: Math symbol used for counting
Time Left: 14s

Refresh Word Check Word

Conclusion

By doing this microproject we went through the process of developing a micro-project which helped us to develop our skills. Through this process we learnt team work, communication skills and presentation skills.

This process helped us to enhance our programming skills. It enhanced our knowledge about JavaScript Language. Thus, this process helped us to enrich our skills.

At last we are able to develop a fully-featured Word Scramble Game which is mostly used by everyone.

References

<https://www.codingnepalweb.com>

www.theoaklandpress.com

www.w3school.com