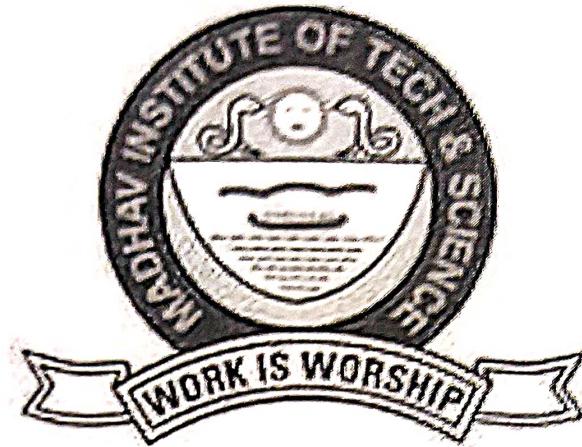


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NAAC Accredited A++ GRADE



## Minor Project Progress Report

On

## Food-O-Pedia

Submitted By:  
Anil Kumar  
(0901CS223D04)

Faculty Mentor:  
Prof. Kratika Sharma  
(Assistant Professor, Department of CSE)

Submitted To:

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**  
**MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE**  
**GWALIOR - 474005 (MP) est. 1957**

JUNE-DEC 2023

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## **CERTIFICATE**

This is certified that Anil Kumar (0901CS223D04) has submitted the project progress report titled "Food-O-Pedia Web application" under the mentorship of Prof. Kratika Sharma, in partial fulfilment of the requirement for the award of degree of Bachelor of Technology in Computer Science and Engineering from Madhav Institute of Technology and Science, Gwalior.

**Prof. Kratika Sharma**  
Faculty Guide  
Assistant Professor  
Computer Science & Engineering

**Dr. Manish Dixit**  
Professor and Head  
Computer Science & Engineering

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## **DECLARATION**

I hereby declare that the work being presented in this project progress report, for the partial fulfilment of requirement for the award of the degree of Bachelor of Technology in Computer Science and Engineering at Madhav Institute of Technology & Science, Gwalior is an authenticated and original record of my work under the mentorship of **Prof. Kratika Sharma, Assistant Professor**, Department of Computer Science & Engineering.

I declare that I have not submitted the matter embodied in this report for the award of any degree or diploma anywhere else.



Anil Kumar  
(0901CS223D04)  
3rd Year,  
Computer Science and Engineering

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## **ACKNOWLEDGEMENT**

The full semester project has proved to be pivotal to my career. I am thankful to my institute, **Madhav Institute of Technology and Science** to allow me to continue my disciplinary/interdisciplinary project as a curriculum requirement, under the provisions of the Flexible Curriculum Scheme (based on the AICTE Model Curriculum 2018), approved by the Academic Council of the institute. I extend my gratitude to the Director of the institute, **Dr. R. K. Pandit** and Dean Academics, **Dr. Manjaree Pandit** for this.

I would sincerely like to thank my department, **Department of Computer Science and Engineering**, for allowing me to explore this project. I humbly thank **Dr. Manish Dixit**, Professor and Head, Department of Computer Science and Engineering, for his continued support during the course of this engagement, which eased the process and formalities involved.

I am sincerely thankful to my faculty mentors. I am grateful to the guidance of **Prof. Kratika Sharma** Assistant Professor, Department of Computer Science & Engineering, for her continued support and guidance throughout the project. I am also very thankful to the faculty and staff of the department.



Anil Kumar

(0901CS223D01)

3rd Year,  
Computer Science and Engineering

## ABSTRACT

The "Food-O-Pedia" web application serves as a comprehensive platform for users to search, explore, and access a diverse collection of recipes. With an intuitive user interface, the application enables users to input specific ingredients, swiftly retrieving relevant recipes from an extensive database. This project aims to provide a seamless and enjoyable experience for individuals passionate about cooking or seeking culinary inspiration.

The application utilizes HTML, CSS, and JavaScript to create an engaging front-end interface. Users can enter ingredients in the search bar and click the "Search" button, triggering a dynamic search function. The JavaScript code efficiently filters through a pre-defined array of recipes, presenting matching results to the user. Each recipe is presented with its title, list of ingredients, and concise instructions, facilitating a quick overview.

The user interface is designed for accessibility and visual appeal, featuring a responsive layout that adapts to various screen sizes. The background image, chosen for its culinary aesthetics, enhances the overall user experience.

Additionally, the inclusion of a logo adds a personal touch to the application.

To enhance user experience, each recipe is collapsible, allowing users to toggle the visibility of detailed instructions. This feature streamlines the presentation of information, maintaining a clean and organized display.

While the current implementation manually includes a modest collection of recipes, the web application's structure is adaptable to external data sources. Future iterations could integrate a server-side component, enabling the application to interact with a database, providing scalability for a more extensive recipe library. The project exemplifies the potential for further development, showcasing a foundation for a versatile and user-friendly recipe management system.

In conclusion, Food-O-Pedia stands as a testament to the harmonious integration of web development technologies to create an interactive, visually appealing, and functional platform. As technology continues to evolve, this project offers a glimpse into the possibilities of digital solutions for culinary enthusiasts, fostering a community of sharing, learning, and enjoying the art of cooking.

## सार

"फूड -ओ-पीडिया" नामक वेब एप्लि केशन एक रेसिपी साझा करने और खोजने का सरल और आकषक मार्ग मदान करता है। इसमें प्रयोगकर्ताओं खारा सामग्रियों के आधार पर रेसिपीज़ खोज सकती है। एप्लि केशन ने HTML, CSS, और JavaScript का उपयोग करके एक आदशाक्षेब इंटरफ़ेस बनाया है जो उपयोगकर्ताओं को सुगमता से एक भंडार से रेसिपीज़ मार्ग करने मदद करता है।

खोज के लिए एक सरल खोज बटन के साथ, उपयोगकर्ताओं अपनी पसंदीदा खारा सामग्री दज़क्रर सकती है। फिर एप्लि केशन उपयोगकर्ताओं को उनकी आवार्ड करता है। आधार पर संबंधित रेसिपीज़ मदशित करता है। मदशित रेसिपीज़ का विवरण, सामग्री सूची, और निर्देश दिए जाते हैं। उपयोगकर्ताओं रेसिपी टाइटल पर क्लिक करके निर्देशों को देख सकती हैं। जिससे उपर्याही सामग्री और निर्देश मार्ग होते हैं।

एप्लि केशन का डिजाइन एक साधारण खोज और मदशित मोसेस को अनुकरण करता है, जिससे उपयोगकर्ताओं को आसानी से एक साझा करने और सीधे तरीके से विभिन्न रेसिपीज़ मिलती है। यह एक समृद्धि से भरपूर खारा सामग्रियों की दुनिया मार्ग उपयोगकर्ताओं को एक नए मार्ग की खोज करने का आनंद मदान करता है।

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# Introduction

## 1.1 Background

The Food-O-Pedia web application was developed in response to the growing interest in home cooking and the need for a convenient platform to search for diverse recipes. With the abundance of available ingredients, users often find it challenging to decide what to cook. This application aims to simplify the process by allowing users to search for recipes based on the ingredients they have on hand.

## 1.2 Objectives

The primary objectives of the Food-O-Pedia web application include:

- Provide a user-friendly interface for searching recipes.
- Dynamically display matching recipes based on user input.
- Allow users to toggle the visibility of recipe instructions.
- Enhance the overall cooking experience for users.

# System Architecture

## 2.1 Frontend Architecture

### HTML Structure

The HTML structure of the application includes:

- A container div to organize the content.
- Input field and search button for user interaction.
- Results div for displaying matching recipes dynamically.

### CSS Styling

CSS is used for styling the interface, incorporating a background image, setting font styles, and ensuring a responsive design. Flexbox is utilized for layout organization, creating a visually appealing and user-friendly experience.

### JavaScript Interactivity

JavaScript is crucial for the interactivity of the application. Event listeners are employed to trigger the recipe search when the search button is clicked. The script dynamically creates HTML elements for each recipe and toggles the visibility of recipe instructions upon user interaction.

## 2.2 Backend

As of the current implementation, the application operates entirely on the client-side, with no backend server. However, for future scalability and additional features, integrating a backend server could be considered.

# Features

## 3.1 Recipe Search

The recipe search functionality allows users to enter ingredients in the input field and click the search button. The algorithm filters recipes based on the entered ingredients, providing a dynamic and responsive experience.

## 3.2 Recipe Display

Matching recipes are dynamically displayed in the results div. Each recipe is presented in a separate div, containing the title and ingredients. The use of flexbox ensures a consistent and visually appealing layout.

## 3.3 Toggle Instructions

To enhance user experience, the application allows users to toggle the visibility of recipe instructions. Clicking on a recipe title reveals or hides the instructions, providing a clean and organized display.

# Technologies Used

## 4.1 HTML

HTML is employed for structuring the content of the web page. The organization includes div elements for the container, input field, search button, and results.

## 4.2 CSS

CSS plays a crucial role in styling the user interface. Key aspects include the background image, font styles, button design, and the overall responsive design to ensure a pleasant user experience.

## 4.3 JavaScript

JavaScript is used to make the webpage interactive. Event listeners are implemented to capture user input and trigger the recipe search. Dynamic creation of HTML elements ensures real-time updates to the displayed recipes.

# Implementation Details

## 5.1 Search Algorithm

The search algorithm iterates through the recipes, filtering based on the entered ingredients. The **toLowerCase** method is used to ensure a case-insensitive search, enhancing the user experience.

## 5.2 Recipe Rendering

Upon a successful search, the script dynamically creates HTML elements for each matching recipe. Flexbox is utilized to organize and present the recipes in an aesthetically pleasing manner.

## 5.3 Toggle Functionality

The toggle functionality is implemented using event listeners on the recipe titles. Clicking a title toggles the display of recipe instructions between visible and hidden states. The use of CSS transitions ensures a smooth and visually appealing transition effect.

# Challenges Faced

## 6.1 User Interface Challenges

During the development process, challenges were encountered in designing an intuitive and user-friendly interface. Ensuring a responsive design that looks appealing on various devices posed a significant challenge. This was addressed through thorough testing and the use of flexible layouts.

## 6.2 Technical Challenges

Technical challenges included debugging issues related to dynamic HTML element creation and ensuring consistent behavior across different web browsers. Utilizing browser developer tools and adopting best practices in JavaScript coding helped overcome these challenges.

# Testing and Debugging

## 7.1 Testing Methods

Testing methods involved both manual testing and automated testing tools. Manual testing included entering various ingredients, ensuring correct filtering, and validating the toggle functionality. Automated testing tools were used for cross-browser testing to ensure compatibility.

## 7.2 Debugging Process

The debugging process involved identifying and resolving issues related to dynamic HTML element creation, ensuring correct event listener functionality, and addressing CSS styling inconsistencies. Regular testing and debugging iterations were crucial in achieving a stable and reliable application.

# Future Enhancements

## 8.1 Additional Features

To enhance the Food-O-Pedia web application, several additional features could be considered for future development. These may include:

- User accounts for saving favorite recipes.
- Advanced search options, such as filtering by cuisine or dietary restrictions.
- Integration with external APIs for more extensive recipe databases.
- 

## 8.2 Performance Improvements

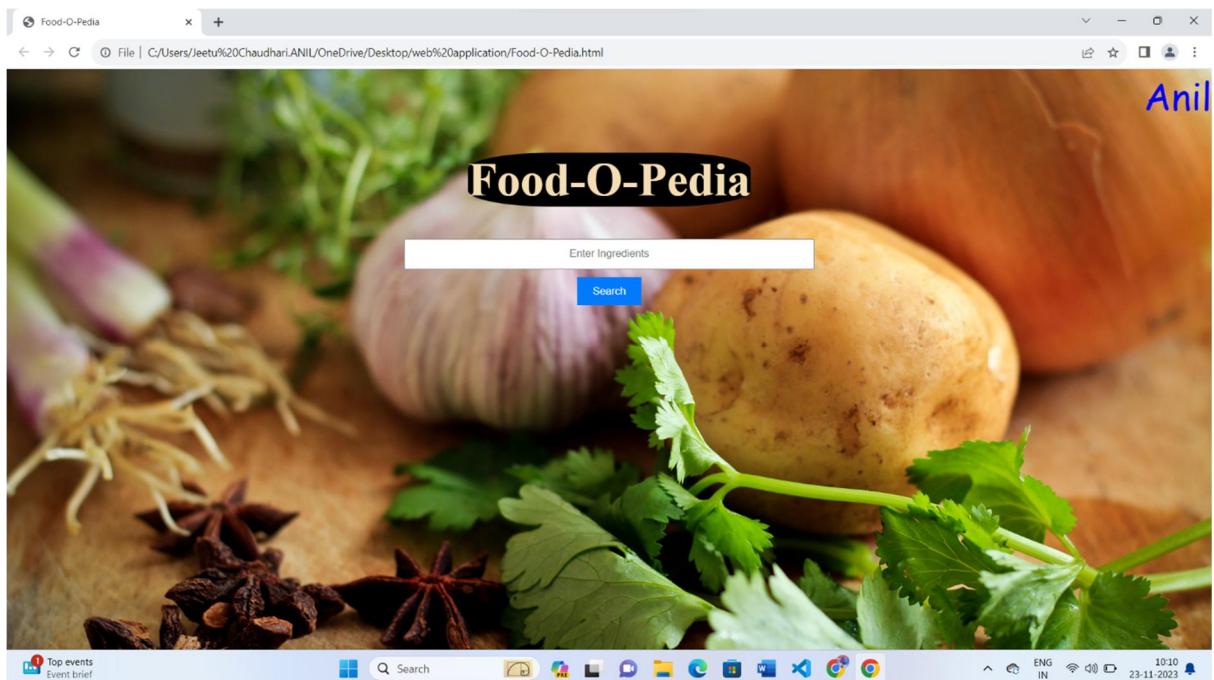
To improve performance, optimizing code for faster load times and implementing caching mechanisms could be explored. This includes minimizing unnecessary DOM manipulations and optimizing image loading.

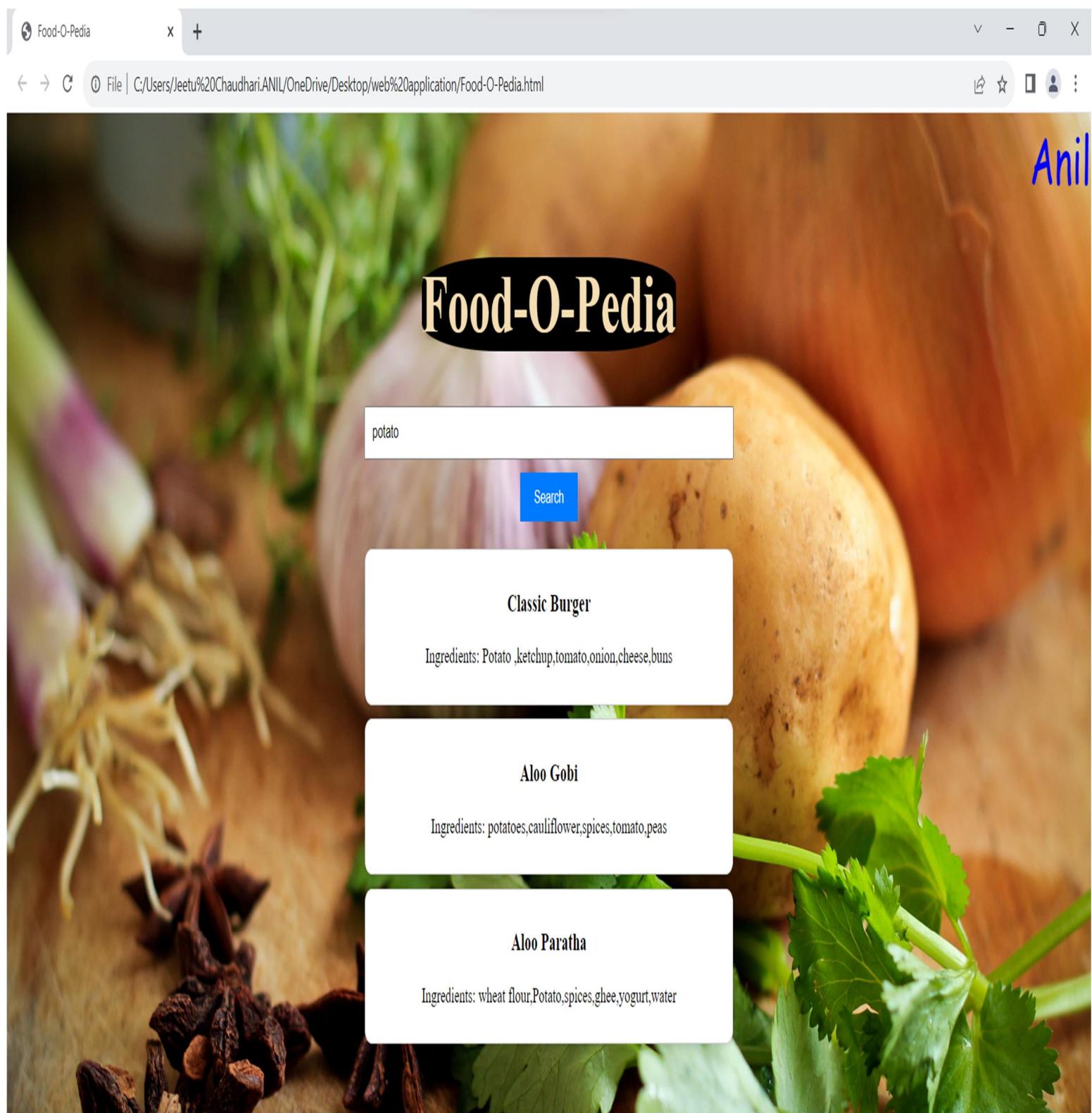
# Conclusion

The Food-O-Pedia web application successfully achieves its objectives by providing a user-friendly interface for searching and displaying recipes. The use of HTML, CSS, and JavaScript ensures an interactive and visually appealing experience for users. Despite the encountered challenges, the implementation demonstrates effective solutions, and the testing process validates the application's reliability.

# Screenshots

Provide screenshots of the Food-O-Pedia web application to visually represent its appearance and functionality. Include images of the search interface, displayed recipes, and the toggle functionality in action.





The screenshot shows a Microsoft Edge browser window with a code editor interface. The title bar includes standard menu items like File, Edit, Selection, View, Go, Run, Terminal, Help, and a search bar. On the left, there's a vertical toolbar with icons for file operations, search, and other utilities. The main area displays a file named "Food-O-Pedia.html" with its path: C:\Users\Jeetu Chaudhari.ANIL\OneDrive\Desktop\web application\Food-O-Pedia.html. The code is written in HTML and JavaScript, featuring a search functionality for recipes. The right side of the screen shows a large preview pane displaying the rendered HTML content. At the bottom, there are status bars for file navigation (Ln 293, Col 13), document settings (Spaces: 4, UTF-8, CRLF), and developer tools (HTML, Go Live, Prettier). The taskbar at the bottom also shows the current weather (14°C Haze) and system notifications.

```
<!DOCTYPE html>
<html>
<head>
    <title>Food-O-Pedia</title>
</head>
<body>
    <div class="logo">Anil</div>
    <div class="container">
        <h1>Food-O-Pedia</h1>
        <input id="searchInput" type="text" placeholder="Enter Ingredients">
        <button id="searchBtn">Search</button>
        <div id="results"></div>
    </div>
    <script>
        var searchBtn = document.getElementById('searchBtn');
        searchBtn.addEventListener('click', searchRecipes);

        // Modify the searchRecipes function
        function searchRecipes() {
            var searchInput = document.getElementById('searchInput').value;
            var resultsDiv = document.getElementById('results');
            resultsDiv.innerHTML = '';

            var matchingRecipes = recipes.filter(function (recipe) {
                return recipe.ingredients.some(function (ingredient) {
                    return ingredient.toLowerCase().includes(searchInput.toLowerCase());
                });
            });

            if (matchingRecipes.length > 0) {
                matchingRecipes.forEach(function (recipe) {
                    var recipeDiv = document.createElement('div');
                    recipeDiv.className = 'recipe';

                    var title = document.createElement('h3');
                    title.textContent = recipe.title;

                    var ingredients = document.createElement('p');
                    ingredients.textContent = 'Ingredients: ' + recipe.ingredients.join(',');

                    var instructions = document.createElement('p');
                    instructions.textContent = 'Instructions: ' + recipe.instructions;
                    instructions.className = 'instructions';
                    // Add a class for styling
                    instructions.style.display = 'none';

                    recipeDiv.appendChild(title);
                    recipeDiv.appendChild(ingredients);
                    recipeDiv.appendChild(instructions);
                    resultsDiv.appendChild(recipeDiv);
                });
            }
        }
    </script>

```

File Edit Selection View Go Run Terminal Help ← → ⌂ Search

C:\Users\Jeetu Chaudhari\ANIL>OneDrive>Desktop>web application>Food-O-Pedia.html>html>body>script>searchRecipes>matchingRecipes.forEach() callback

```
// Add a click event listener to the recipe title to toggle instructions visibility
title.addEventListener('click', function () {
  if (instructions.style.display === 'none') {
    instructions.style.display = 'block';
  } else {
    instructions.style.display = 'none';
  }
});

recipeDiv.appendChild(title);
recipeDiv.appendChild(ingredients);
recipeDiv.appendChild(instructions);
resultsDiv.appendChild(recipeDiv);
});

} else {
  var message = document.createElement('p');
  message.textContent = 'No Recipe Found';
  resultsDiv.appendChild(message);
}

}

var recipes = [
  {
    title: 'Pasta Carbonara',
    ingredients: ['pasta', 'eggs', 'bacon', 'cheese', 'pepper'],
    instructions: '1. Boil pasta until al dente. 2. Cook bacon until crispy. 3. Mix eggs, cheese, and pepper. 4. Toss pasta with egg mixture. 5. Crumble bacon on top.'
  },
  {
    title: 'Chicken Stir-Fry',
    ingredients: ['chicken', 'vegetables', 'soy sauce', 'garlic'],
    instructions: '1. Cut chicken into small pieces. 2. Stir-fry chicken and vegetables in a hot pan. 3. Add soy sauce and garlic. 4. Stir-fry until cooked.'
  },
  {
    title: 'Caprese Salad',
    ingredients: ['tomato', 'mozzarella', 'basil', 'olive oil'],
    instructions: '1. Slice tomatoes and mozzarella. 2. Arrange slices on a plate. 3. Sprinkle basil leaves. 4. Drizzle with olive oil. 5. Season with salt and pepper.'
  },
  {
    title: 'Chocolate Cake',
    ingredients: ['flour', 'sugar', 'cocoa powder', 'eggs', 'butter'],
    instructions: '1. Mix dry ingredients. 2. Beat eggs and sugar. 3. Add cocoa and melted butter. 4. Combine wet and dry ingredients. 5. Bake until done.'
  },
]
```

Ln 60, Col 55 Spaces: 4 UTF-8 CRLF ⓘ HTML ⓘ Go Live ⓘ Prettier

14°C Haze ENG IN 00:56 23-11-2023

File Edit Selection View Go Run Terminal Help ← → ⌂ Search

C:\Users\Jeetu Chaudhari\ANIL>OneDrive>Desktop>web application>Food-O-Pedia.html>html>body>script>recipes

```
title: 'Classic Burger',
ingredients: ['Potato', 'ketchup', 'tomato', 'onion', 'cheese', 'buns'],
instructions: '1. Make potato patties (aloo tikki). 2. Grill buns. 3. Assemble burger with ketchup, patties, cheese, and veggies.'

},
{
  title: 'Chicken Tikka Masala',
  ingredients: ['chicken', 'yogurt', 'tomatoes', 'spices', 'cream', 'onion', 'garlic', 'ginger'],
  instructions: '1. Marinate chicken in yogurt and spices. 2. Grill chicken. 3. Simmer in tomato-based sauce with cream and spices. 4. Garnish with onions and garlic.'
},
{
  title: 'Palak Paneer',
  ingredients: ['paneer (Indian cottage cheese)', 'spinach', 'tomato', 'cream', 'spices'],
  instructions: '1. Cook spinach and tomatoes. 2. Blend into a puree. 3. Add spices and cream. 4. Cook with paneer until creamy.'
},
{
  title: 'Aloo Gobi',
  ingredients: ['potatoes', 'cauliflower', 'spices', 'tomato', 'peas'],
  instructions: '1. Sauté potatoes, cauliflower, and peas with spices. 2. Add tomatoes. 3. Cook until tender.'
},
{
  title: 'Butter Chicken',
  ingredients: ['chicken', 'butter', 'cream', 'tomato', 'spices'],
  instructions: '1. Marinate chicken in yogurt and spices. 2. Grill chicken. 3. Simmer in a tomato-based sauce with butter and cream.'
},
{
  title: 'Biryani',
  ingredients: ['rice', 'chicken or vegetables', 'spices', 'saffron', 'yogurt'],
  instructions: '1. Cook rice. 2. Sauté chicken or vegetables with spices. 3. Layer rice and chicken/vegetables. 4. Garnish with saffron and yogurt.'
},
{
  title: 'Tandoori Chicken',
  ingredients: ['chicken', 'yogurt', 'spices', 'lemon juice'],
  instructions: '1. Marinate chicken in yogurt, spices, and lemon juice. 2. Grill until charred and cooked.'
},
{
  title: 'Chana Masala',
  ingredients: ['chickpeas (Chana)', 'tomatoes', 'spices', 'onion', 'garlic', 'ginger'],
  instructions: '1. Sauté onions, garlic, and ginger. 2. Add spices and tomatoes. 3. Cook with chickpeas until fragrant.'
},
{
  title: 'Dal Makhani',
  ingredients: ['black lentils', 'kidney beans', 'cream', 'spices', 'butter'],
  instructions: '1. Cook black lentils and kidney beans. 2. Simmer in a creamy tomato-based sauce with spices and butter.'
}
```

Ln 136, Col 15 Spaces: 4 UTF-8 CRLF ⓘ HTML ⓘ Go Live ⓘ Prettier

14°C Haze ENG IN 00:57 23-11-2023

File Edit Selection View Go Run Terminal Help ← → Search

C:\Users\Jeetu Chaudhari\ANIL>OneDrive>Desktop>web application> Food-O-Pedia.html> html> body> script

```
186 var matchingRecipes = recipes.filter(function(recipe){  
187     return recipe.ingredients.some(function(ingredient){  
188         return ingredient.toLowerCase().includes(searchInput.toLowerCase());  
189     });  
190 });  
191 //check for matching recipes and display  
192 if(matchingRecipes.length > 0){  
193     matchingRecipes.forEach(function(recipe){  
194         var recipeDiv = document.createElement('div');  
195         recipeDiv.className = 'recipe';  
196  
197         //display recipe title  
198         var title = document.createElement('h3');  
199         title.textContent = recipe.title;  
200         //display recipe ingredients  
201         var ingredients = document.createElement('p');  
202         ingredients.textContent = 'Ingredients: ' + recipe.ingredients.join(',');  
203  
204         recipeDiv.appendChild(title);  
205         recipeDiv.appendChild(ingredients);  
206         resultsDiv.appendChild(recipeDiv);  
207     });  
208 }else{  
209     //display no recipe found message  
210     var message = document.createElement('p');  
211     message.textContent = 'No Recipe Found';  
212     resultsDiv.appendChild(message);  
213 }  
214  
215 </script>  
216 </body>  
217 <style> /*Css code is here*/  
218 body{  
219     margin:0;  
220     padding:0;  
221     background: url(/img/syd-wachs-eppNTYI657E-unsplash.jpg);  
222     background-repeat: no-repeat;  
223     background-attachment: fixed;  
224     background-position: center center;  
225     background-size:cover;  
226 }
```

Ln 183 Col 11 Spaces:4 UTF-8 CR LF HTML Go Live Prettier

14°C Haze ENG IN 00:58 23-11-2023

```
C: > Users > Jeetu Chaudhari.ANIL > OneDrive > Desktop > web application > <> Food-O-Pedia.html > html > style > .recipe
276     }
277     .recipe:hover{
278         transform: scale(1.05);
279         box-shadow: 0px 4px 8px □rgba(0,0,0,0.1);
280     }
281     .recipe p.instructions {
282         color: ■red;
283     }
284     .logo {
285         font-size: 3rem;
286         font-family: 'Niconne', cursive;
287         border-radius: 10px;
288         color: ■blue;
289         display: flex;
290         justify-content: right;
291     }
292
293     </style>
294 </html>
```