INDIAN FOOD EDA

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1.INTRODUCTON:

Indian cuisine consists of a variety of regional and traditional cuisines native to the Indian subcontinent. Given the diversity in soil, climate, culture, ethnic groups, and occupations, these cuisines vary substantially and use locally available spices, herbs, vegetables, and fruits. Indian food is also heavily influenced by religion, in particular Hinduism, cultural choices and traditions.This dataset consists of information about various Indian dishes, their ingredients, their place of origin, etc.

1.1. PROJECT OVERVIEW:

The aim of this project is to perform Exploratory Data Analysis (EDA) on a dataset related to Indian food. Exploratory Data Analysis is a crucial step in data analysis that helps in understanding the dataset, discovering patterns, and extracting insights. In this project, we will explore various aspects of Indian cuisine, such as ingredients, recipes, regional variations, and popularity.

1.2. PURPOSE:

Exploratory Data Analysis:

1. Descriptive Statistics: Calculating basic statistics such as mean, median, mode, range, and standard deviation of different attributes. This provides an initial overview of the dataset.
2. Data Visualization: Creating visual representations of the data to identify patterns, trends, and relationships. This can be done using charts, graphs, heatmaps, scatter plots, and geographical maps. For example, visualizing the distribution of recipes across different regions or plotting the popularity of dishes over time.
3. Ingredient Analysis: Analyzing the most commonly used ingredients, their frequency, and variations across different regions. This can help identify key
4.Regional Variations: Investigating the diversity of Indian cuisine across differentregions and states. This can include analyzing the prevalence of specific dishes,spices,cooking styles, and regional specialties.
5. Popularity and Ratings: Analyzing the popularity and ratings of Indian dishes or cuisines. This can involve examining user reviews, ratings, social media mentions, or any available popularity metrics to identify popular dishes or trends.

6. Nutritional Analysis: Exploring the nutritional content of Indian dishes, such as calories, macronutrients, and common ingredients contributing to specific nutritional values. This can help understand the health aspects of Indian cuisine.

2.LITERATURE SURVEY:

Food and taste are resolute by its culture, anatomy, and genetics. Almost every eatable which are consumed by humans are associated with some of its tradition so as to explore taste and uniqueness. Some people pays top dollar for escargot in fine restaurants while others stomp on the same snail when they find it in the garden. One person's haute cuisine is another person's pest. A destination's local cuisine is "deeply rooted in a particular place, space, and time, its culinary traditions reveal the character of the society and mentality of it members" (Bessiere, 1998, p. 28).

As the world cuisine is becoming increasingly popular in India we also need our local food to be pushing traditional boundaries with a vision of making Indian Cuisine a world Healthiest Cuisine. (Prem Ram and Sonia Sharma (2015). Cuisine is inextricably linked to the destination in terms of its cultural heritage, political, social, and economic identity. As such, cuisine plays an important role in establishing the destination's overall tourism image (Crofts, 2010; Everett & Aitchison, 2008; Kivela & Crotts, 2005; Lockie, 2001). Indian cuisine has gained a primary place, especially in the Western world as a result of globalization and other factors such as immigration, availability of recipes on the web and increased tourism activities. From „chicken tikka masala" becoming the national dish of Britain to many Indian recipes appearing on various international flights, Indian food items have secured their place on the new global menu. Indian cuisine has evolved over the years and it has a strong connection to its culture, history, and geography. The dietary patterns have also evolved based on various religious practices. (Mangalassary, 2015).

Cultural shifts in culinary behavior can be caused by such changes as "male out-migration, inter-class rivalry and imitation, changing caste relations (in India), and market conditions" (Mintz & Du Bois, 2002, p. 104). More and more Indians today are global citizen who embrace global trends. There is a major culinary revolution going on in the capital with provides ample Cuisine for thought. Japanese Cuisine has taken a lead and Sushi Counters are found in each

and every market. Continental, Thai Spanish, and Italian cuisine is what the younger generation demands says Hussain, S.

2.2.REFERENCES :

1. Chen, M.; Dhingra, K.; Wu, W.; Yang, L.; Sukthankar, R.; Yang, J. PFID: Pittsburgh Fast Food Image Dataset. In Proceedings of the ICIP 2009, Cairo, Egypt, 7–10 November 2009;

2. Chen, M. Y., Yang, Y. H., Ho, C. J., Wang, S. H., Liu, S. M., Chang, E., & Ouhyoung, M. (2012, November). Automatic chinese food identification and quantity estimation. In SIGGRAPH Asia 2012 Technical Briefs (p. 29). ACM.

3. Lowe, D.G. Object Recognition from Local Scale Invariant Features. In Proceedings of the ICCV'99, Corfu, Greece, 20– 21 September 1999; pp. 1150–1157.

4. Yanai, K., & Kawano, Y. (2015, June). Food image recognition using deep convolutional network with pre-training and fine-tuning. In Multimedia & Expo Workshops (ICMEW), 2015 IEEE International Conference on (pp. 1-6). IEEE.

5. Kagaya, H.; Aizawa, K.; Ogawa, M. Food Detection and Recognition using Convolutional Neural Network. In Proceedings of the MM'14, Orlando, FL, USA, 3–7 November 2014; pp. 1055– 1088. 6. Probst, Y., Nguyen, D. T., Tran, M. K., & Li, W. (2015). Dietary assessment on a mobile phone using image processing and pattern recognition techniques: Algorithm design and system prototyping. Nutrients, 7(8), 6128-6138.

2.3. PROBLEM STATEMENT DEFINITION:

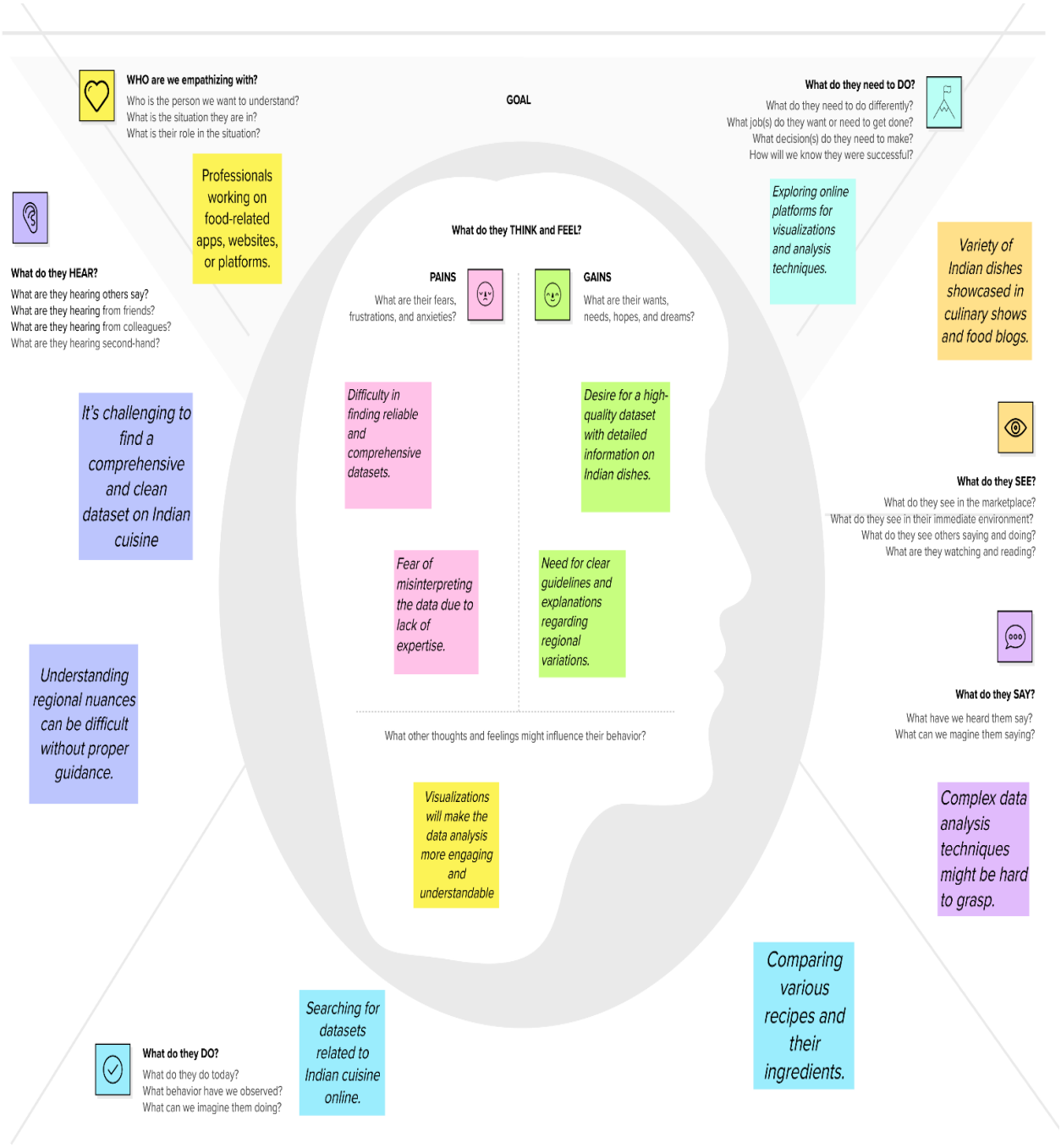
Indian cuisine consists of a variety of regional and traditional cuisines native to India. Given the diversity in soil, climate, culture, ethnic groups, and occupations, these cuisines vary substantially and use locally available spices, herbs, vegetables, and fruits.

3.IDEATION & PROPOSED SOLUTION:

The proposed solution for an exploratory data analysis (EDA) project focusing on Indian food involves a systematic approach to collecting, cleaning, and analyzing diverse datasets related to Indian cuisine. The initial steps include data collection from various sources, data cleaning, and preliminary exploration to understand the dataset's characteristics. Feature engineering may be employed to create additional variables that enhance the analysis. The

analysis delves into various aspects of Indian food, including the identification of regional cuisine trends, nutritional content of dishes, sentiment analysis of user reviews, and insights into Indian restaurants. The project culminates in the creation of data visualizations and a comprehensive report or presentation summarizing the findings, including actionable recommendations for stakeholders in the food industry, nutritionists, and culinary enthusiasts. Continuous engagement with stakeholders and thorough documentation of the entire EDA process are crucial components of this proposed solution, ensuring the project's transparency and impact.

3.1 Empathy Map Canvas :



3.2 Ideation & Brainstorming :

4.REQUIREMENT ANALYSIS:

4.1.Functional Requirements:

- Data Collection: The system should collect data from various sources, including recipe websites, restaurant menus, and food delivery apps, to ensure a comprehensive dataset for analysis.
- Data Cleaning: The system should clean and preprocess the collected data to remove duplicates, address missing values, and standardize formats for consistency.

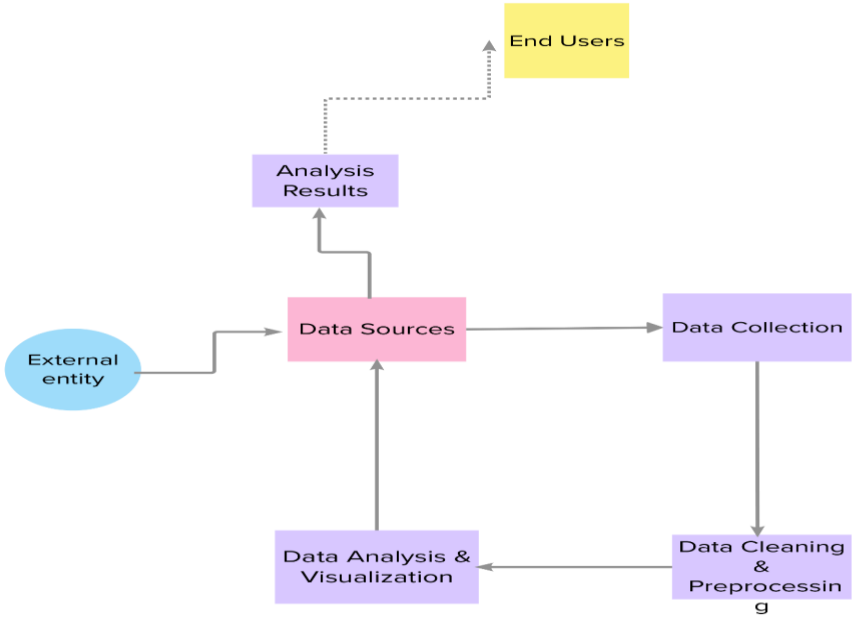
- Data Analysis: The system should provide tools for basic data analysis, including summary statistics, data visualization, and exploration of key variables such as ingredients, regional cuisines, and nutritional information.
- Visualization and Reporting: The EDA tool should offer data visualization capabilities, enabling the creation of charts, graphs, and maps to effectively communicate insights. It should also provide a platform for generating comprehensive reports or presentations summarizing the findings.

4.2. Non-Functional Requirements:

- Scalability: The system should be able to handle a growing dataset and increasing user demands as the project evolves.
- Usability: The user interface should be intuitive and user-friendly, ensuring that analysts and stakeholders can easily access and interpret the analysis results.
- Performance: The system should provide efficient data processing and analysis capabilities to minimize processing times.
- Availability: The system should be accessible and available for use by authorized users without excessive downtime.
- Reliability: It should be robust and reliable, minimizing errors and disruptions during data collection, cleaning, and analysis.
- Data Quality: Ensuring data quality and integrity, with validation and cleansing procedures in place to maintain high data accuracy.

5. PROJECT DESIGN :

5.1 Data Flow Diagrams & User Storie

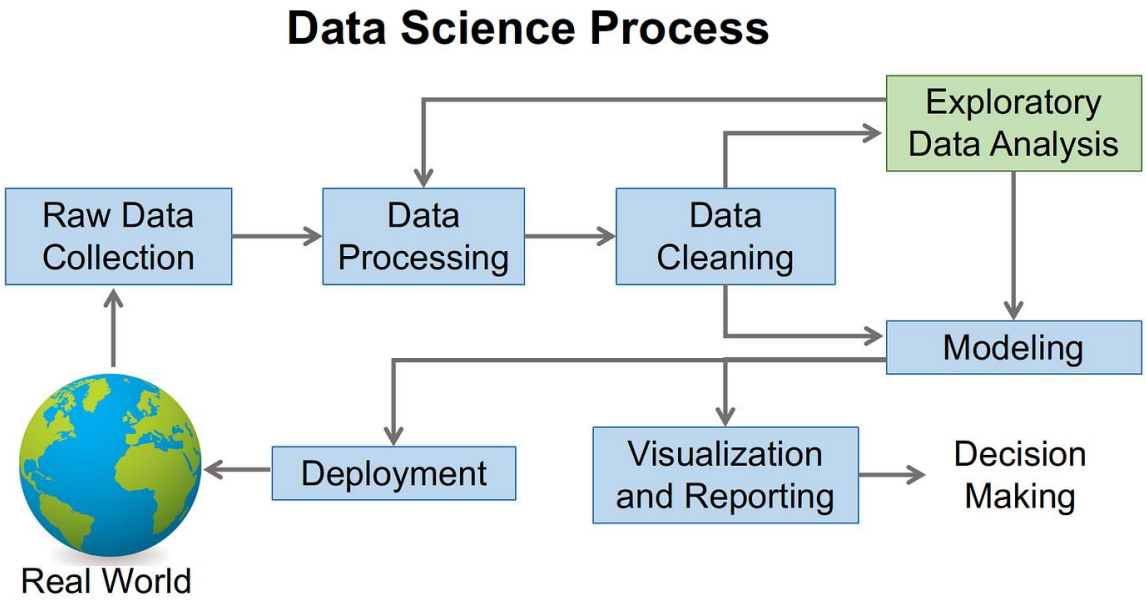


User Stories

Use the below template to list all the user stories for the product.

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Data Analyst	Access to Comprehensive Dataset	US001	As a Data Analyst, I want access to a comprehensive dataset on Indian cuisine, so I can perform in-depth exploratory data analysis.	- Dataset is obtained from reliable sources. - Dataset is cleaned, removing duplicates and handling missing values. - Data is in a structured format suitable for analysis.	High	Sprint-1
Food Enthusiast	Explore Popular Indian Dishes	US002	As a Food Enthusiast, I want to explore popular Indian dishes, understand their ingredients, and discover unique recipes.	- Dishes are categorized by popularity and region. - Ingredients and cooking methods are clearly listed for each dish.	High	Sprint-1
Researcher	Access to Authentic Culinary Data	US003	As a Researcher, I want access to authentic and detailed information about Indian recipes and cooking methods.	- Recipes are authentic and sourced from credible culinary references. - Detailed cooking methods and historical context are provided.	High	Sprint-1
Educator	Educational Resources on Data Analysis	US004	As an Educator, I want educational resources and clear explanations on data analysis techniques applied to Indian cuisine.	- Tutorials are beginner-friendly, explaining each step in the data analysis process. - Examples are related to Indian cuisine for relevance.	Medium	Sprint-1
Food Blogger	Access to Unique Culinary Insights	US005	As a Food Blogger, I want access to unique insights and trends in Indian cuisine, so I can create engaging content for my audience.	- Insights highlight unique aspects of Indian cuisine, such as rare ingredients or lesser-known regional dishes.	Medium	Sprint-2

5.2 SOLUTION ARCHITECTURE:



6. PROJECT PLANNING & SCHEDULING

6.1 Technical Architecture

6.2 Sprint Planning & Estimation

Use the below template to create product backlog and sprint schedule

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	2	High	
Sprint-1		USN-2	As a user, I will receive confirmation email once I have registered for the application	1	High	
Sprint-2		USN-3	As a user, I can register for the application through Facebook	2	Low	
Sprint-1		USN-4	As a user, I can register for the application through Gmail	2	Medium	
Sprint-1	Login	USN-5	As a user, I can log into the application by entering email & password	1	High	
	Dashboard					

7. CODING & SOLUTIONING

```
<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="utf-8">
  <meta content="width=device-width, initial-scale=1.0" name="viewport">

  <title>Indian Food EDA</title>
  <meta content="" name="description">
  <meta content="" name="keywords">

  <!-- Favicons -->
  <link href="assets/img/favicon.png" rel="icon">
  <link href="assets/img/apple-touch-icon.png" rel="apple-touch-icon">

  <!-- Google Fonts -->
  <link
href="https://fonts.googleapis.com/css?family=Open+Sans:300,300i,400,400i,600,600i,700,700
i|Raleway:300,300i,400,400i,500,500i,600,600i,700,700i|Poppins:300,300i,400,400i,500,500i,
600,600i,700,700i" rel="stylesheet">

  <!-- Vendor CSS Files -->
  <link href="assets/vendor/aos/aos.css" rel="stylesheet">
  <link href="assets/vendor/bootstrap/css/bootstrap.min.css" rel="stylesheet">
  <link href="assets/vendor/bootstrap-icons/bootstrap-icons.css" rel="stylesheet">
  <link href="assets/vendor/boxicons/css/boxicons.min.css" rel="stylesheet">
  <link href="assets/vendor/glightbox/css/glightbox.min.css" rel="stylesheet">
  <link href="assets/vendor/remixicon/remixicon.css" rel="stylesheet">
  <link href="assets/vendor/swiper/swiper-bundle.min.css" rel="stylesheet">
```

```
  <!-- Template Main CSS File -->
  <link href="assets/css/style.css" rel="stylesheet">

  <!-- =======================================================
  * Template Name: Vesperr
  * Updated: Sep 18 2023 with Bootstrap v5.3.2
  * Template URL: https://bootstrapmade.com/vesperr-free-bootstrap-template/
  * Author: BootstrapMade.com
  * License: https://bootstrapmade.com/license/
  ======================================================= -->
</head>

<body>

  <!-- ======= Header ======= -->
  <header id="header" class="fixed-top d-flex align-items-center">
    <div class="container d-flex align-items-center justify-content-between">

      <div class="logo">
        <h1><a href="index.html">Indian Food EDA</a></h1>
        <!-- Uncomment below if you prefer to use an image logo -->
        <!-- <a href="index.html"><img src="assets/img/logo.png" alt="" class="img-
fluid"></a>-->
      </div>

      <nav id="navbar" class="navbar">
        <ul>
          <li><a class="nav-link scrollto active" href="#hero">Home</a></li>
          <li><a class="nav-link scrollto" href="#about">About</a></li>
          <li><a class="nav-link scrollto" href="#services">Dashboard</a></li>
          <li><a class="nav-link scrollto " href="#portfolio">Story</a></li>
          <li><a class="nav-link scrollto" href="#team">Report</a></li>
          <li><a class="nav-link scrollto" href="#contact">Contact</a></li>
          <li><a class="getstarted scrollto" href="#about">Get Started</a></li>
        </ul>
        <i class="bi bi-list mobile-nav-toggle"></i>
      </nav><!-- .navbar -->

    </div>
  </header><!-- End Header -->

  <!-- ======= Hero Section ======= -->
  <section id="hero" class="d-flex align-items-center">

    <div class="container">
      <div class="row">
        <div class="col-lg-6 pt-5 pt-lg-0 order-2 order-lg-1 d-flex flex-column justify-
content-center">
          <h1 data-aos="fade-up">India Food Analysis</h1>
          <h2 data-aos="fade-up" data-aos-delay="400">Indian cuisine consists of a variety
of regional and traditional cuisines native to the Indian subcontinent</h2>
          <div data-aos="fade-up" data-aos-delay="800">
            <a href="#about" class="btn-get-started scrollto">Get Started</a>
```

```
          </div>
        </div>
        <div class="col-lg-6 order-1 order-lg-2 hero-img" data-aos="fade-left" data-aos-
delay="200">
          <img src="assets/img/hero-img.png" class="img-fluid animated" alt="">
        </div>
      </div>
    </div>

  </section><!-- End Hero -->

  <main id="main">

    <!-- ======= Clients Section ======= -->
    <!--<section id="clients" class="clients clients">
      <div class="container">

        <div class="row">

          <div class="col-lg-2 col-md-4 col-6">
            <img src="assets/img/clients/client-1.png" class="img-fluid" alt="" data-
aos="zoom-in">
          </div>

          <div class="col-lg-2 col-md-4 col-6">
            <img src="assets/img/clients/client-2.png" class="img-fluid" alt="" data-
aos="zoom-in" data-aos-delay="100">
          </div>

          <div class="col-lg-2 col-md-4 col-6">
            <img src="assets/img/clients/client-3.png" class="img-fluid" alt="" data-
aos="zoom-in" data-aos-delay="200">
          </div>

          <div class="col-lg-2 col-md-4 col-6">
            <img src="assets/img/clients/client-4.png" class="img-fluid" alt="" data-
aos="zoom-in" data-aos-delay="300">
          </div>

          <div class="col-lg-2 col-md-4 col-6">
            <img src="assets/img/clients/client-5.png" class="img-fluid" alt="" data-
aos="zoom-in" data-aos-delay="400">
          </div>

          <div class="col-lg-2 col-md-4 col-6">
            <img src="assets/img/clients/client-6.png" class="img-fluid" alt="" data-
aos="zoom-in" data-aos-delay="500">
          </div>

        </div>

      </div>
    </section>--><!-- End Clients Section -->
```

```
    <!-- ======= About Us Section ======= -->
    <section id="about" class="about">
      <div class="container">

        <div class="section-title" data-aos="fade-up">
          <h2>About Us</h2>
        </div>

        <div class="row content">
          <div class="col-lg-6" data-aos="fade-up" data-aos-delay="150">
            <p>
              Welcome to "Indian Food EDA".
              Our Indian food has become ubiquitous throughout the world. In this dataset, we will perform an analysis on many different types on Indian cuisines in hopes to find something compelling or just fun information that we did not know before.
              <!--Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore
              magna aliqua. -->
            </p>

          </div>

        </div>

      </div>
    </section><!-- End About Us Section -->

    <!-- ======= Counts Section ======= -->


              <!-- End Counts Section -->

    <!-- ======= Services Section ======= -->
    <section id="services" class="services">
      <div class="container">

        <div class="section-title" data-aos="fade-up">
          <h2>Dashboard</h2>

        </div>

        <div >
          <iframe
src="https://us3.ca.analytics.ibm.com/bi/?perspective=dashboard&amp;pathRef=.my_folders%2Fif%2Bdashboard&amp;closeWindowOnLastView=true&amp;ui_appbar=false&amp;ui_navbar=false&amp;shareMode=embedded&amp;action=view&amp;mode=dashboard&amp;subView=model0000018b7fd4fa50_00000002" width="1200" height="800" frameborder="0" gesture="media" allow="encrypted-media" allowfullscreen=""></iframe>
        </div>
      </div>
    </section><!-- End Services Section -->

    <!-- ======= More Services Section ======= -->
```

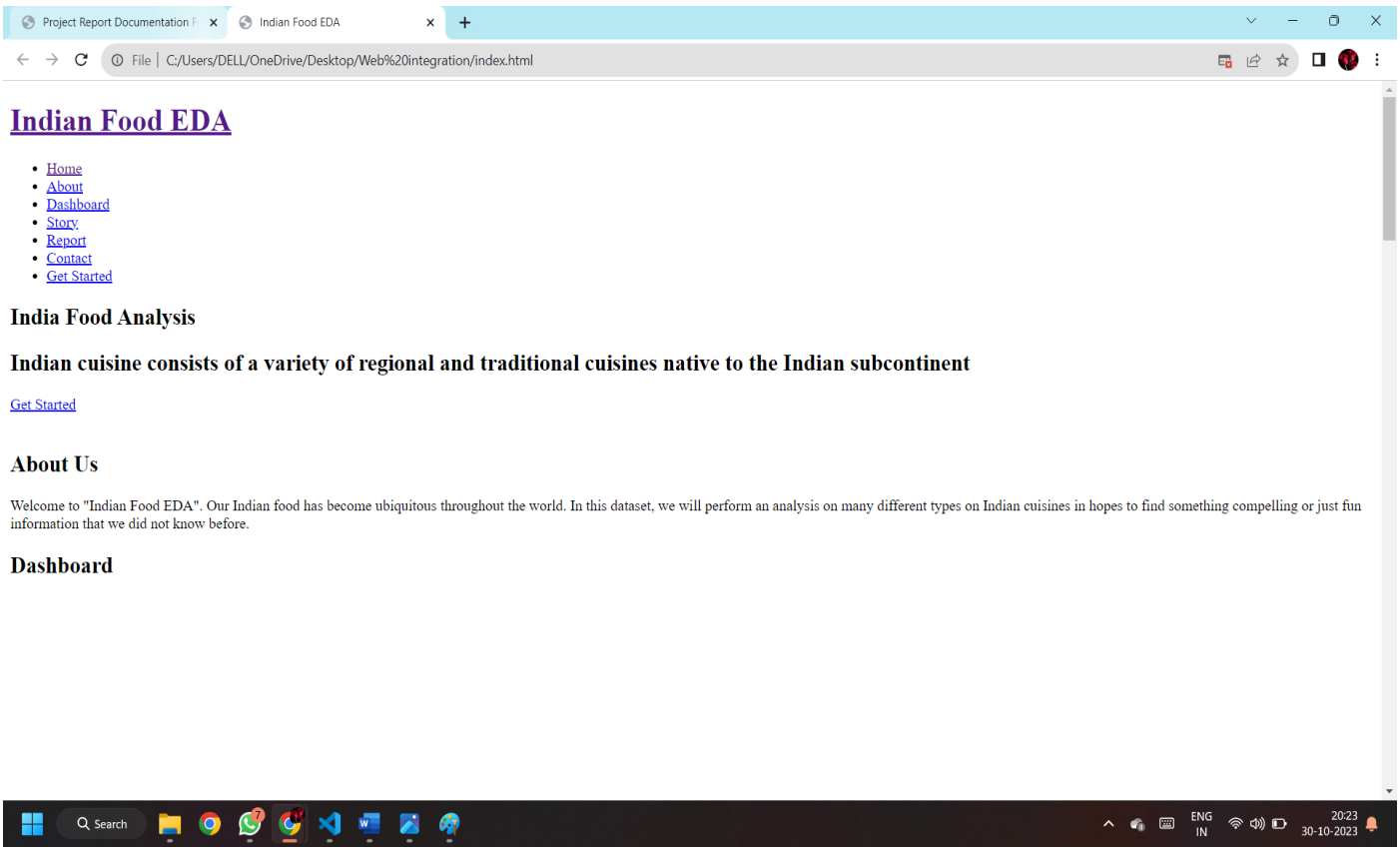
```
        <!-- End More Services Section -->

    <!-- ======= Features Section ======= -->

         <!-- End Features Section -->

    <!-- ======= Testimonials Section ======= -->

                <!-- End testimonial item -->

          <!-- End testimonial item -->

          <!-- End testimonial item -->

           <!-- End Testimonials Section -->

    <!-- ======= Portfolio Section ======= -->
    <section id="portfolio" class="portfolio">
      <div class="container">

        <div class="section-title" data-aos="fade-up">
          <h2>Story</h2>
        </div>

        <div >
          <iframe
src="https://us3.ca.analytics.ibm.com/bi/?perspective=story&amp;pathRef=.my_folders%2FIF%2
BStory&amp;closeWindowOnLastView=true&amp;ui_appbar=false&amp;ui_navbar=false&amp;shareMod
e=embedded&amp;action=view&amp;sceneId=model0000018b7fd08fab_00000000&amp;sceneTime=0"
width="1200" height="800" frameborder="0" gesture="media" allow="encrypted-media"
allowfullscreen=""></iframe>
        </div>
      </div>
    </section><!-- End Portfolio Section -->

    <!-- ======= Team Section ======= -->
    <section id="team" class="team section-bg">
      <div class="container">

        <div class="section-title" data-aos="fade-up">
          <h2>Report</h2>
        </div>

        <div >

          <iframe
src="https://us3.ca.analytics.ibm.com/bi/?pathRef=.my_folders%2FIf%2BReport&amp;closeWindo
wOnLastView=true&amp;ui_appbar=false&amp;ui_navbar=false&amp;shareMode=embedded&amp;action
=edit" width="1200" height="800" frameborder="0" gesture="media" allow="encrypted-media"
allowfullscreen=""></iframe>
        </div>
      </div>
    </section><!-- End Team Section -->
```

```
    <!-- ======= Pricing Section ======= -->

    <!-- End Pricing Section -->

    <!-- ======= F.A.Q Section ======= -->




    <!-- ======= Contact Section ======= -->
    <section id="contact" class="contact">
      <div class="container">

        <div class="section-title" data-aos="fade-up">
          <h2>Contact Us</h2>
        </div>

        <div class="row">

          <div class="col-lg-4 col-md-6" data-aos="fade-up" data-aos-delay="100">
            <div class="contact-about">
              <div class="social-links">
                <a href="#" class="twitter"><i class="bi bi-twitter"></i></a>
                <a href="#" class="facebook"><i class="bi bi-facebook"></i></a>
                <a href="#" class="instagram"><i class="bi bi-instagram"></i></a>
                <a href="#" class="linkedin"><i class="bi bi-linkedin"></i></a>
              </div>
            </div>
          </div>

          <div class="col-lg-3 col-md-6 mt-4 mt-md-0" data-aos="fade-up" data-aos-
delay="200">
            <div class="info">
              <div>
                <i class="ri-map-pin-line"></i>
                <p>A108 Adam Street<br>New York, NY 535022</p>
              </div>

              <div>
                <i class="ri-mail-send-line"></i>
                <p>info@example.com</p>
              </div>

              <div>
                <i class="ri-phone-line"></i>
                <p>+1 5589 55488 55s</p>
              </div>

            </div>
          </div>

          <div class="col-lg-5 col-md-12" data-aos="fade-up" data-aos-delay="300">
```

```
            <form action="forms/contact.php" method="post" role="form" class="php-email-
form">
              <div class="form-group">
                <input type="text" name="name" class="form-control" id="name"
placeholder="Your Name" required>
              </div>
              <div class="form-group">
                <input type="email" class="form-control" name="email" id="email"
placeholder="Your Email" required>
              </div>
              <div class="form-group">
                <input type="text" class="form-control" name="subject" id="subject"
placeholder="Subject" required>
              </div>
              <div class="form-group">
                <textarea class="form-control" name="message" rows="5"
placeholder="Message" required></textarea>
              </div>
              <div class="my-3">
                <div class="loading">Loading</div>
                <div class="error-message"></div>
                <div class="sent-message">Your message has been sent. Thank you!</div>
              </div>
              <div class="text-center"><button type="submit">Send Message</button></div>
            </form>
          </div>

        </div>

      </div>
    </section><!-- End Contact Section -->

  </main><!-- End #main -->

  <!-- ======= Footer ======= -->
  <footer id="footer">
    <div class="container">
      <div class="row d-flex align-items-center">
        <div class="col-lg-6 text-lg-left text-center">
          <div class="copyright">
            &copy; Copyright <strong>Vesperr</strong>. All Rights Reserved
          </div>
          <div class="credits">
            <!-- All the links in the footer should remain intact. -->
            <!-- You can delete the links only if you purchased the pro version. -->
            <!-- Licensing information: https://bootstrapmade.com/license/ -->
            <!-- Purchase the pro version with working PHP/AJAX contact form:
https://bootstrapmade.com/vesperr-free-bootstrap-template/ -->
            Designed by <a href="https://bootstrapmade.com/">BootstrapMade</a>
          </div>
        </div>
        <div class="col-lg-6">
          <nav class="footer-links text-lg-right text-center pt-2 pt-lg-0">
            <a href="#intro" class="scrollto">Home</a>
```

```
            <a href="#about" class="scrollto">About</a>
            <a href="#">Privacy Policy</a>
            <a href="#">Terms of Use</a>
          </nav>
        </div>
      </div>
    </div>
  </footer><!-- End Footer -->

  <a href="#" class="back-to-top d-flex align-items-center justify-content-center"><i
class="bi bi-arrow-up-short"></i></a>

  <!-- Vendor JS Files -->
  <script src="assets/vendor/purecounter/purecounter_vanilla.js"></script>
  <script src="assets/vendor/aos/aos.js"></script>
  <script src="assets/vendor/bootstrap/js/bootstrap.bundle.min.js"></script>
  <script src="assets/vendor/glightbox/js/glightbox.min.js"></script>
  <script src="assets/vendor/isotope-layout/isotope.pkgd.min.js"></script>
  <script src="assets/vendor/swiper/swiper-bundle.min.js"></script>
  <script src="assets/vendor/php-email-form/validate.js"></script>

  <!-- Template Main JS File -->
  <script src="assets/js/main.js"></script>

</body>

</html>
```

8: Output Screenshots



9. ADVANTAGES & DISADVANTAGES

- Cultural and Culinary Insights: EDA can provide deep insights into the rich and diverse world of Indian cuisine, helping to understand regional differences, traditional cooking methods, and cultural nuances.
- Health and Nutrition Understanding: EDA can shed light on the nutritional content of Indian dishes, helping individuals make informed dietary choices. It's valuable for both health-conscious consumers and nutritionists.
- Business and Marketing Insights: For the food industry, EDA can reveal trends in restaurant preferences, popular dishes, and regional specialties, which can inform marketing strategies and menu optimization.
- Recipe Enhancement: The analysis can lead to improvements in recipes by identifying popular ingredients, flavor profiles, and cooking techniques, allowing for the creation of more appealing dishes.
- Customer Satisfaction: Analyzing user reviews and ratings helps restaurants and food delivery services understand customer satisfaction and areas for improvement.

Disadvantages of Indian Food EDA:

- Data Quality: EDA heavily relies on data quality. Inaccurate, incomplete, or biased data can lead to flawed conclusions and insights. Ensuring data accuracy can be challenging.
- Data Availability: Access to comprehensive and relevant Indian food data can be limited. Some information may be available only in certain regions or may not be digitized.
- Data Privacy and Ethics: EDA can involve personal data, such as user reviews or health-related information. Ensuring data privacy and ethical data usage is crucial but can be challenging.
- Interpretation Bias: Data interpretation is subjective and can be influenced by analysts' biases. Ensuring impartial and objective analysis can be a challenge.
- Complexity: Indian cuisine is incredibly diverse, making the analysis more complex. The presence of numerous regional variations and unique ingredients can complicate the analysis.

10. CONCLUSION

The EDA on Indian food dataset provides valuable insights into the characteristics, variations, and popularity of Indian cuisine. The analysis helps in understanding the diversity of Indian food, identifying key ingredients, regional variations, and popular dishes. These insights can be useful for culinary enthusiasts, food researchers, nutritionists, and even restaurant owners looking to understand Indian cuisine better or develop new recipes.

11. FUTURE SCOPE:

he future scope of Exploratory Data Analysis (EDA) for Indian food is highly promising and multi-faceted. EDA in this context is poised to play a pivotal role in various domains, from health and nutrition to the culinary industry and cultural exploration. As people increasingly prioritize healthier eating, EDA can contribute significantly by providing insights into the nutritional content of Indian dishes, enabling the development of balanced and health-conscious recipes and dietary recommendations.

In the food industry, EDA can be a game-changer. It offers the potential to optimize menus, improve food quality, and cater to diverse tastes and regional preferences. It can help businesses predict food trends and adapt to shifting consumer demands. Moreover, EDA can facilitate the documentation and preservation of India's rich culinary traditions and regional variations, promoting cultural exploration and heritage preservation.

Furthermore, the future of EDA for Indian food extends to personalized nutrition, allowing individuals to make informed dietary choices that align with their health goals and cultural preferences. It can also support sustainability efforts by identifying eco-friendly ingredients and cooking methods within Indian cuisine. EDA has the potential to contribute to healthcare by offering insights into the effects of Indian diets on health conditions, enabling the development of dietary interventions and preventive measures.

12. APPENDIX Source Code GitHub & Project Demo Link

GitHub Link : https://github.com/Sweetzs/NaanMudhalvan-NM2023TMID03207

Project Demo Link : https://drive.google.com/file/d/1-wIs74pxi659RGtasc_4rF5uRcRstajj/view?usp=sharing