BIKE SPOT

A DESIGN PROJECT REPORT

Submitted by

KABILAN P

LOGESHWARAN P

NACHIAPPAN PL

in partial fulfillment for the award of the degree of

BACHELOROFENGINEERING

in

COMPUTERSCIENCEANDENGINEERING

K RAMAKRISHNANCOLLEGEOFTECHNOLOGY

(An Autonomous Institution, affiliated to Anna University Chennai and Approved by AICTE, New Delhi)

SAMAYAPURAM – 621 112

DECEMBER, 2024

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BONAFIDECERTIFICATE

Certified that this project report titled **"BIKE SPOT"** is the Bonafide work of **KABILAN P(811722104066), LOGESHWARAN P(811722104083), NACHIAPPAN PL (811722104097)** who carried out the project under my supervision. Certified further, that to the best of my knowledge the work reported here in does not form part of any other project report or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

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INTERNAL EXAMINER **EXTERNAL EXAMINER**

DECLARATION

We jointly declare that the project report on **"BIKE SPOT"** is the result of original work done by us and best of our knowledge, similar work has not been submitted to **"ANNAUNIVERSITY CHENNAI"** for the requirement of Degree of **BACHELOR OF ENGINEERING**. This project report is submitted on the partial fulfilment of the requirement of the award of Degree of **BACHELOR OF ENGINEERING**.

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ACKNOWLEDGEMENT

It is with great pride that we express our gratitude and in-debt to our institution **"K RAMAKRISHNAN COLLEGE OF TECHNOLOGY (AUTONOMOUS)"**, for providing us with the opportunity to do this project.

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ABSTRACT

Bike Spot Service Center is an innovative project designed to provide cyclists with easy access to a list of bike repair shops and service centers. This platform offers detailed information about each service center, including the **place** (location), **phone number**, **starting price** for various services, and **finishing hours** of operation. Users can search for bike repair shops based on proximity and service offerings, making it an essential tool for anyone looking to maintain or repair their bike. Whether it's a quick tire change or a comprehensive tune-up, the directory ensures that cyclists can find the right service center quickly and efficiently.The directory is built to be **user-friendly**, allowing users to navigate through a clear, simple interface. It includes features like a place, phone number, starting price, and finishing hours of use for people of all technical upfront. Starting prices for common repairs, giving users a transparent idea of costs upfront. Additionally, each bike service center provides its hours of operation, including special timings on weeks to ensure users can plan their visits accordingly. This makes the **Bike Spot Service Center** a reliable and practical tool for bike in need of repairs, whether they are experienced riders or casual users.

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LIST OF ABBREVIATIONS

ABBREVIATION		EXPANSION
IA	-	Information & Address
UML	-	Unified Modeling Language
CL	-	Convenient Location
BSI	-	Bike service infrastructure
BFC	-	Bike-Friendly community
BIS	-	Bike information system

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION TO BIKE SPOT

Bike Spot is a revolutionary platform aimed at simplifying the process of finding bike repair shops and service centers. Whether a rider needs a quick tire change or a complete bike tune-up, this service allows users to locate the nearest service providers with ease. By offering detailed information about each shop—including location, phone number, starting prices for various services, and hours of operation—the platform enables cyclists to make informed decisions based on their immediate repair needs.

The directory is designed to be intuitive and user-friendly, ensuring that individuals with varying levels of technical knowledge can access and utilize the information without hassle. With clear details about service offerings and pricing, users can get a transparent idea of potential costs upfront. Moreover, the platform includes information about the hours of operation for each service center, along with special timings for weekends or holidays, allowing users to plan their visits accordingly.

This makes the **Bike Spot** an invaluable tool for cyclists, whether they are experienced riders or casual users. By streamlining the process of locating repair services, it ensures that bike owners can maintain and repair their bikes efficiently, enhancing their cycling experience and reducing downtime caused by mechanical issues.

1.The Need for a Bike Repair Service Directory

Cycling is an activity that is enjoyed by millions of people worldwide, but like any other form of transportation, bikes require maintenance and repair from time to time. Finding a reliable and nearby bike repair shop when a mechanical issue arises is not always a straightforward process, particularly in unfamiliar areas. Bikes may spend valuable time searching for a service center, which can be frustrating and, in some cases, lead to delayed repairs or missed opportunities for timely service. The **Bike Spot Service Center** addresses this issue by providing a centralized, easy-to-navigate platform where cyclists can quickly find detailed information about repair shops near them, making it a crucial tool for every cyclist’s maintenance needs.

1.2 Platform Features

1.2.1 Comprehensive Directory of Bike Repair Shops

The heart of the **Bike Spot Service Center** platform is its comprehensive directory of bike repair shops and service centers. This directory is regularly updated to ensure accuracy and provide the most current information. Each entry in the directory includes detailed descriptions, allowing cyclists to make informed decisions based on their specific needs. Users can search for bike shops by entering a location or simply by allowing the platform to access their current GPS coordinates. The search results are presented clearly, with filters that allow users to narrow their search by services offered, price ranges, and shop ratings.

1.2.2 Detailed Service Center Information

Each service center listed in the directory comes with a wealth of information that cyclists need to make a quick, well-informed decision. These details include the **location** (address or GPS coordinates), **phone number** for direct contact, **starting prices** for common repairs, and **operating hours**. By providing this essential information upfront, the platform ensures transparency, which is particularly valuable when it comes to pricing. Users can see an estimate of repair costs for services like tire changes, brake repairs, and bike tune-ups, giving them the confidence to move forward with their repairs.

1.2.3 Searchable by Proximity and Services

One of the standout features of the **Bike Spot Service Center** is its ability to search for repair shops based on proximity. Using the GPS feature in smartphones or inputted locations, users can view nearby bike repair shops sorted by distance. This proximity-based search ensures that cyclists can find a repair shop that is not only reliable but also convenient. Furthermore, the platform allows users to filter results based on the specific services they require, such as tire repair, brake adjustment, or complete overhauls, making it easier for users to find the service center that best meets their needs.

1.2.4 Transparent Pricing for Common Services

One of the most common concerns cyclists have when seeking bike repairs is the cost. Uncertainty about pricing can deter bike owners from seeking timely repairs or service. To alleviate this, the **Bike Spot Service Center** platform includes **starting prices** for common repairs at each shop, offering users

transparency and a clearer understanding of the potential costs involved. By knowing the starting price for a service, users are better equipped to make decisions and avoid surprises when it comes time to pay.

1.2.5 Operating Hours and Special Timing Information

Another key feature of the platform is the inclusion of the **operating hours** of each service center. Not only do users get standard working hours, but they are also provided with information on special timings, such as extended hours on weekends, holiday hours, and any other unique scheduling practices. This allows cyclists to plan their visits more efficiently, ensuring that they can get their bikes serviced at a time that works best for them.

1.3 User-Friendly Interface

The **Bike Spot Service Center** platform is designed with simplicity and accessibility in mind. Its user interface is intuitive, making it easy for anyone—regardless of technical expertise—to navigate and use the platform. Cyclists can quickly find relevant information without unnecessary complexity or confusion. Whether users are using the platform through their smartphone or computer, the streamlined design ensures that information is easily accessible. The search bar, filters, and result displays are all designed for quick use, ensuring that cyclists spend less time searching for repair shops and more time riding their bikes.

1.3.1 Accessible for bike of All Experience Levels

The **Bike Spot Service Center** platform is built to serve cyclists of all experience levels. Whether the user is an experienced rider who needs complex repairs or a casual cyclist looking for a quick tune-up, the platform’s features cater to their needs. The directory is designed to help users with minimal technical knowledge access critical information easily. For example, the inclusion of basic repair costs for common services provides all users—whether they are seasoned cyclists or new to the sport—with a transparent idea of what to expect in terms of price. Furthermore, the platform's intuitive interface ensures that even first-time users can quickly and easily locate bike repair shops nearby.

1.3.2 Convenience and Efficiency

In the fast-paced world of cycling, convenience is key. The **Bike Spot Service Center** platform saves time by offering a centralized location for finding reliable bike repair shops. By removing the need for cyclists to manually search for service centers through multiple platforms or guesswork, the directory streamlines the process and provides an efficient solution. This feature is particularly valuable for cyclists who are traveling, as they can quickly find service centers in unfamiliar locations, preventing unnecessary delays and ensuring that their bikes are ready for their next ride.

1.4 Benefits to bike service

1.4.1 Quick Access to Information

The **Bike Spot Service Center** platform is specifically designed to ensure that cyclists can easily access all the essential details about bike repair shops quickly. In today's fast-paced world, time is precious, and when a cyclist's bike breaks down or requires maintenance, they need a fast and reliable way to find help. By providing a centralized database, the platform streamlines the process of finding bike repair centers, saving users from having to search through multiple websites or apps. It offers a comprehensive set of information for each repair shop, including the services offered, pricing details, the shop's location, contact number, and hours of operation. With this wealth of information available at their fingertips, cyclists can make decisions on which service center to visit without wasting valuable time.

1.4.2 Cost Transparency

Cost transparency is one of the standout features of the **Bike Spot Service Center** platform. Cyclists, whether they are seasoned riders or casual users, often face uncertainty when it comes to the cost of bike repairs. Without clear information about the starting prices for common services, cyclists may hesitate to seek repairs or may not fully understand what to expect in terms of cost. By offering upfront pricing for services such as tire repairs, brake adjustments, and basic tune-ups, the platform empowers users with transparent information that helps them make informed decisions before committing to a particular service center. This transparency not only builds trust with the user but also ensures that there are no hidden fees or surprise charges when they visit the repair shop. Cyclists can compare prices across multiple service centers, selecting the shop that best fits their budget and repair needs.

1.4.3 Proximity-Based Search

The **Bike Spot Service Center** platform enhances user convenience by offering a proximity-based search function, ensuring cyclists can find the nearest bike repair shops quickly and efficiently. Cyclists often face the problem of being far from home or their usual repair shops when their bike requires attention. By utilizing technology, the platform allows users to search for nearby bike repair centers based on their current location. This proximity-based search results in a list of service centers sorted by distance, so cyclists can easily identify which shops are closest to them, saving time and reducing the effort required to find a reliable repair shop.

1.4.4 User-Friendly Design

The design of the **Bike Spot Service Center** platform is focused on accessibility and ease of use, making it suitable for cyclists of all experience levels, from casual users to experienced riders. The user interface is simple, clear, and intuitive, with a layout that prioritizes usability and convenience. Whether users access the platform through their smartphones, tablets, or computers, they will find that the design is easy to navigate, ensuring a smooth experience regardless of their technical proficiency. The search function is straightforward, with clear input fields for location and service requirements, allowing users to quickly find nearby repair centers. Filters are available to refine search results based on services offered, pricing, and customer ratings, making it easy for users to narrow down their options.

CHAPTER 2

LITERATURE SURVEY

Literature survey is a text written by someone to consider the critical points of current knowledge including substantive findings, as well as theoretical sections.

1.OPTIMIZATION OF URBAN BIKE SERVICE SPOT ALLOCATION FOR ENHANCED ACCESSIBILITY AND MAINTENANCE EFFICIENT,PUBLISHED IN 2023

AUTHORS: Arun mehta, Priya sharma, Mr. Rajat singh

The research combines geospatial analysis, demand forecasting, and stakeholder surveys to propose a data-driven approach for the placement of service spots. Key factors such as proximity to high-traffic areas, availability of repair services, and integration with public transport networks are discussed. Case studies from cities like Amsterdam, Copenhagen, and Bangalore are analyzed to illustrate successful implementations. The study also identifies challenges such as budget constraints, urban congestion, and community engagement.

The findings highlight the importance of an interdisciplinary approach involving urban planners, transport engineers, and policymakers to ensure sustainable and user-friendly bike service systems. The paper concludes with recommendations for future research and practical frameworks for cities aiming to promote eco-friendly transportation solutions.

2. OVERCOMMING BARRIERS TO E-COMMERCE ADOPTION FOR SMALL BUSINESSES, PUBLISHED IN 2022

AUTHOR: Er. Shrinidhi Gindi

Overcoming Barriers to E-Commerce Adoption for Small Businesses," published in 2022, addresses the challenges small businesses face when adopting e-commerce solutions. Despite the growing importance of online presence, many small businesses encounter barriers such as limited technical expertise, high setup costs, and concerns

about online security. The paper emphasizes the need for affordable, user-friendly platforms that cater to the unique needs of small businesses. It also highlights the importance of educating business owners on the benefits of e-commerce and providing ongoing support to ease the transition. Additionally, the study advocates for government and industry initiatives to offer financial incentives and technical training. By overcoming these barriers, small businesses can tap into the vast opportunities of the digital marketplace, driving growth and reaching a broader customer base.

3. THE ROLE OF RECOMMENDATION SYSTEM IN ENHANCING E-COMMERCE EXPERIENCE, PUBLISHED IN 2021

AUTHOR: Gaus shaikh

The Role of Recommendation Systems in Enhancing E-Commerce Experience" explores how recommendation systems significantly improve the online shopping experience by providing personalized product suggestions to users. These systems leverage data from user interactions, such as browsing history, purchase behavior, and preferences, to recommend products that align with individual tastes and needs. By offering tailored suggestions, recommendation systems enhance customer satisfaction, increase engagement, and drive sales, making the shopping process more efficient and enjoyable. Furthermore, they help e-commerce platforms stand out in a competitive market by improving customer retention and loyalty. Recommendation algorithms, including collaborative filtering, content-based filtering, and hybrid models, can predict and suggest products based on similar user preferences or item characteristics, optimizing the product discovery process. This personalized approach reduces decision fatigue, as customers are presented with options they are more likely to purchase. For businesses, recommendation systems increase average order value, enhance cross-selling and up-selling opportunities, and help in targeting the right customers with the right products. In turn, the e-commerce experience becomes more dynamic and tailored, contributing to the growth of both customer satisfaction and business profitability.

CHAPTER 3

SYSTEM ANALYSIS

The process of analyzing the current attendance system and the proposed improvements using Bike service spot is detailed in this system analysis.

3.1 EXISTING SYSTEM

The existing system for bike service, as represented in the diagram, facilitates a structured interaction between the customer and the service center. It integrates key modules such as availability checks, pricing details, and estimated finishing time. The system ensures that customers can easily request services and that the service centers can efficiently manage and complete those requests. Despite its functionality, this system has room for improvement in automation and user convenience.

Customer Interaction

The customer is at the core of the system. Initially, the user engages with the service platform. This step involves selecting the desired bike service, adding it to a virtual cart, and proceeding with the service request. The system captures specific details such as the service type, vehicle model, and any additional notes provided by the customer. While this step ensures clarity in service requirements, it may lack features like recommendations for additional services or predictive maintenance.

Service Center Coordination

Once the customer creates a cart, the request is directed to the Service Center module. This centralized hub manages the core processes of the system, including service validation, pricing inquiries, and completion timelines. The service center acts as a bridge between the customer's requirements and the backend modules, ensuring that all necessary details are verified and processed before confirming the service request. However, manual intervention at this stage can slow down operations and lead to potential inaccuracies.

Availability Service

A critical component of the system is the Availability Service module. The system verifies whether the requested service can be fulfilled based on current resources, technician availability, and spare part inventory. The IsItemAvailable() function checks these parameters and returns a response to the service center. While this ensures that customers do not face unexpected cancellations, the process could benefit from real-time inventory updates and automated notifications in case of unavailability.

Pricing Service

Another integral part of the existing system is the Pricing Service, which calculates the cost of the requested service. The GetPrice() function retrieves the price details based on the selected service type, additional tasks, and any applicable discounts or offers. While this system ensures transparency, it may not account for dynamic pricing models or personalized discounts that could enhance customer satisfaction. Additionally, integrating multiple payment methods at this stage could further streamline the process.

Finishing Time Estimation

The Finishing Time module is crucial for setting customer expectations. Based on the type of service, technician workload, and spare part availability, the system estimates the time required to complete the job. This information is shared with the customer, allowing them to plan accordingly. However, in its current state, the system may lack accuracy due to its dependence on static data rather than real-time updates, which could result in delays or customer dissatisfaction.

Customer Feedback and Ratings

The current system collects minimal feedback from customers regarding their experience and satisfaction with the service. This lack of data can hinder efforts to identify pain points and implement improvements. Features like post-service surveys or rating systems could help bridge this gap. Furthermore, adding features such as live tracking of service progress or push notifications for updates would significantly enhance the user experience.

Opportunities for Modernization

The existing system can be upgraded with modern tools and technologies to address its shortcomings. For example, integrating IoT sensors into bikes could enable predictive maintenance alerts, while AI algorithms could optimize technician assignments and inventory levels. A mobile-friendly interface with personalized recommendations and loyalty programs could attract and retain more customers. Finally, advanced analytics could provide valuable insights to service centers, enabling them to make data-driven decisions.

3.2 PROPOSED SYSTEM

Proposed System Overview

The proposed bike service system simplifies the process of booking bike maintenance or repair services using a digital platform such as a mobile application or website. It provides customers with an intuitive interface for service selection, payment options, and tracking. The flow is designed to improve user convenience, reduce service delays, and ensure customer satisfaction.

User Authentication

The first step involves users accessing the application or website. New users are required to sign up by creating an account, while existing users log in with their credentials. This step ensures secure access and allows the system to personalize the user experience based on their service history and preferences.

Service Search and Selection

Once logged in, users can search for specific bike services such as engine repair, oil change, tire replacement, or general servicing. A robust search function helps customers quickly locate the desired service. After identifying their requirement, users can select the appropriate service, which includes details such as pricing, estimated service time, and other related features.

Price Options

For users opting for price, the system securely processes transactions using encrypted payment gateways. This ensures the safety of sensitive financial information while maintaining transaction transparency. The platform verifies payments in real time to avoid delays in order confirmation.

Feedback and Ratings

Once the service is completed, the system prompts users to confirm receipt and provide feedback. Customer reviews and ratings help improve service quality and build trust in the platform.

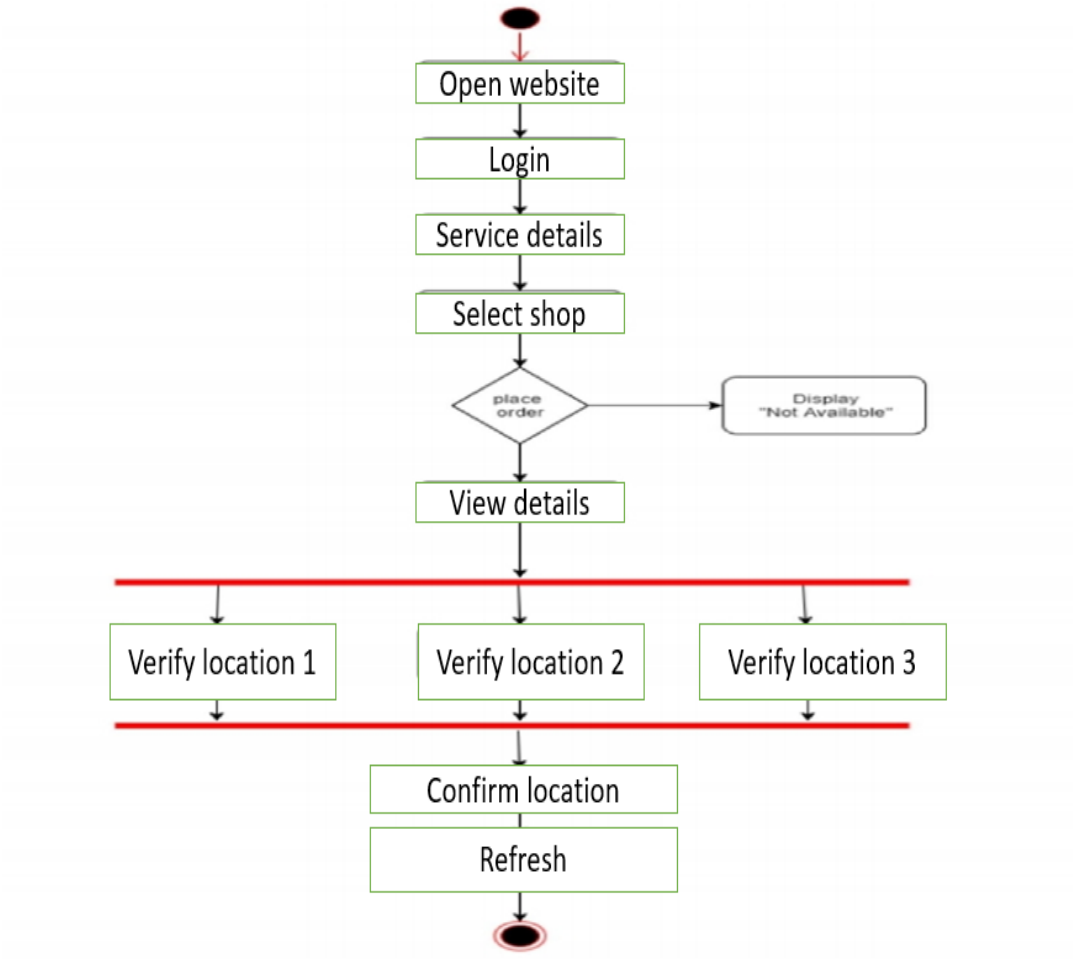

Fig 3.1: Proposed System diagram

CHAPTER 4

SYSTEM REQUIREMENTS

The requirements specification is a technical specification of requirements for the hardware products. It is the first step in the requirements analysis process it lists the requirements of a particular hardware system including functional, performance and safety requirements. The requirements also provide usage scenarios from a user and an operational perspective. The purpose of hardware requirements specification is to provide a detailed overview of the hardware project, its parameters and goals. This describes the project target and its user interface, hardware and software requirements.

4.1 HARDWARE REQUIREMENTS

Ram: 4.00 GB

Processor: Intel(R) Pentium(R) 2.11 GHz

Hard Disk: 520 GB

4.1 SOFTWARE REQUIREMENTS

Operating System: Windows

Software: VS Code

Language: Html, CSS, React

CHAPTER 5

SYSTEM DESIGN

System architecture is the process of defining the architecture, modules, interfaces and data for a system to satisfy specified requirements.

5.1 USECASE DIAGRAM

The Bike Spot Service Center project involves key actors and use cases to define how the system functions and interacts with its users. The primary actors are the Customer and the Bike Service Spot. The Customer represents the user seeking bike repair services, while the Bike Service Spot represents the entity that provides these services.The main use cases include **Login**, where the customer logs into the system to access available services; **Nearest Repair Shop**, where the system identifies and displays the nearest available repair shop based on the customer's location; and **View Details**, which allows the customer to access detailed information about the repair shop, including its services, ratings, and contact details. Additionally, the **Mail Received** use case allows the customer to receive notifications and updates related to their repair requests and service status. **Reviews and Rating** is another important use case where the customer can provide feedback and rate the service received at the repair shop.

The relationships between these actors and use cases are as follows: The **Customer** initiates the **Login** process, requests the **Nearest Repair Shop**, views **Details** of the selected repair shop, receives **Mail** notifications, and provides **Reviews and Ratings**. The **Bike Service Spot** is involved in the **Nearest Repair Shop** use case by allowing the system to identify available locations. It also handles sending **Mail** updates to customers and processing **Reviews and Ratings** provided by customers.

This use case diagram emphasizes the core functionalities related to bike repair services, with the possibility of incorporating additional features such as booking appointments, tracking repair progress, and payment processing. The level of detail in the use case descriptions can vary based on the specific requirements and the purpose of the diagram. Enhancements can include adding associations and dependencies between use cases to show the flow of interactions more comprehensively. Overall, this use case diagram provides a clear visual representation of the interactions between the customer and the bike service spot, offering insight into the system’s essential functionalities and requirements.

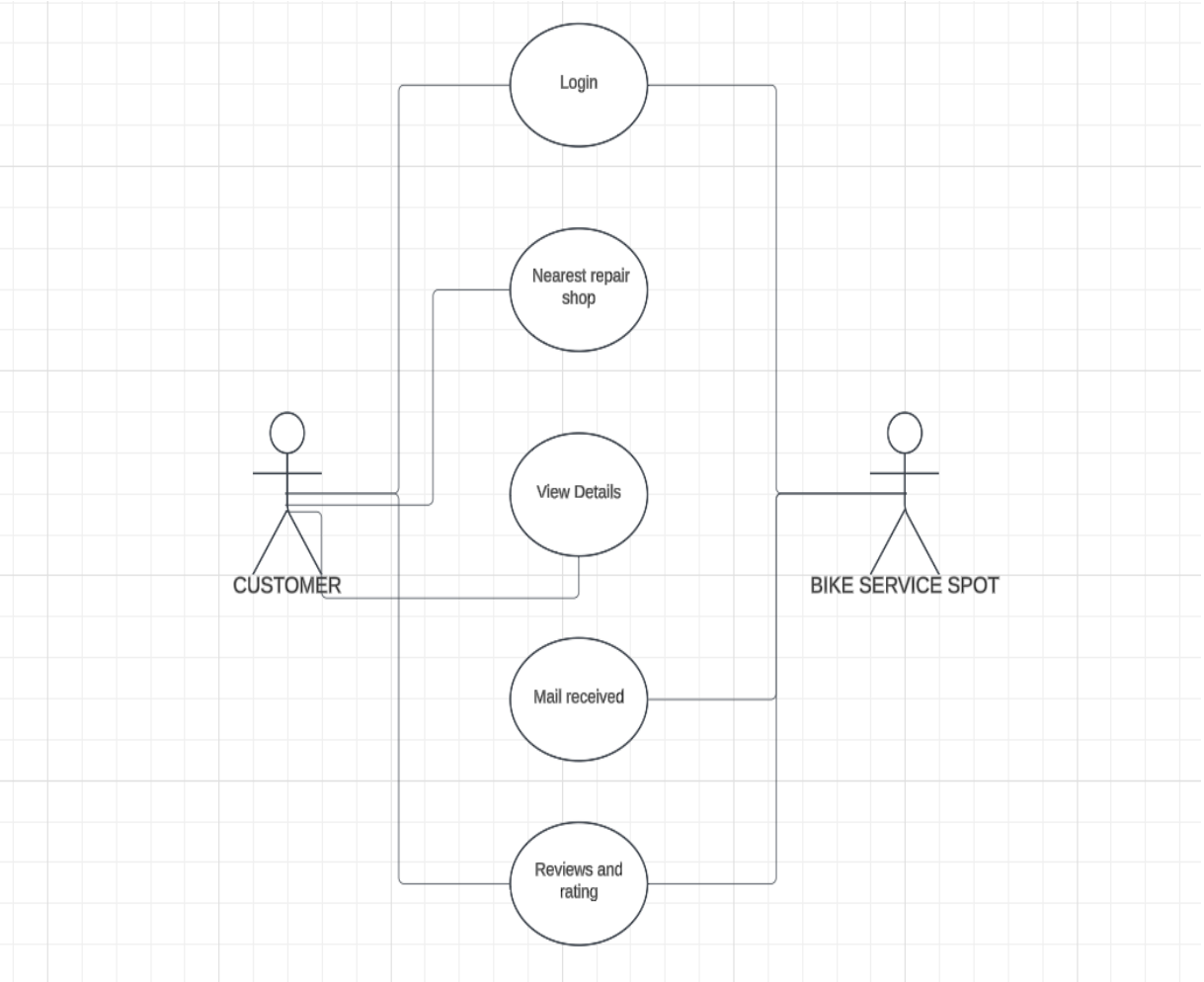

Fig 5.1: Usecase Diagram

5.2 STATE DIAGRAM

The state diagram describes the main process of a user interacting with the Bike Spot Service Center system. The process begins with the **Login** state, where the user initiates their session by logging in. Once logged in, the system transitions to the **Find Nearest Service Shop** state, identifying the closest service shop based on the user's current location. Following this, the **Price and Finishing Time** state is reached, where the system calculates and presents an estimated price and completion time for the service. The user can then proceed to the **View Details** state, where they can review detailed information about the service, including pricing and timing.

There are two primary transitions depicted in the diagram: from **Login** to **Find Nearest Service Shop**, and from **Price and Finishing Time** to **View Details**. The diagram also includes a **Refresh** state, which acts as a loop allowing users to repeatedly view details or modify their service request. However, the diagram does not specify an end state or termination condition, leaving it unclear how the user exits the process after viewing the service details.

To make the state diagram more comprehensive, some improvements could be made. For example, **error handling** states could be added to address scenarios like failed login attempts or when a service shop is unavailable. Additionally, incorporating user interaction states, such as canceling a request or updating service details, would add more flexibility. Including a clear **end state**, such as **Logout** or a termination state, would help clarify the process's completion.

Beyond these improvements, it’s important to consider aspects like **user experience** and **system architecture**. While the diagram focuses on user interactions, it doesn’t provide insights into the user interface or how the system communicates with backend components, such as databases or external services. Including these elements would make the diagram more informative and complete.

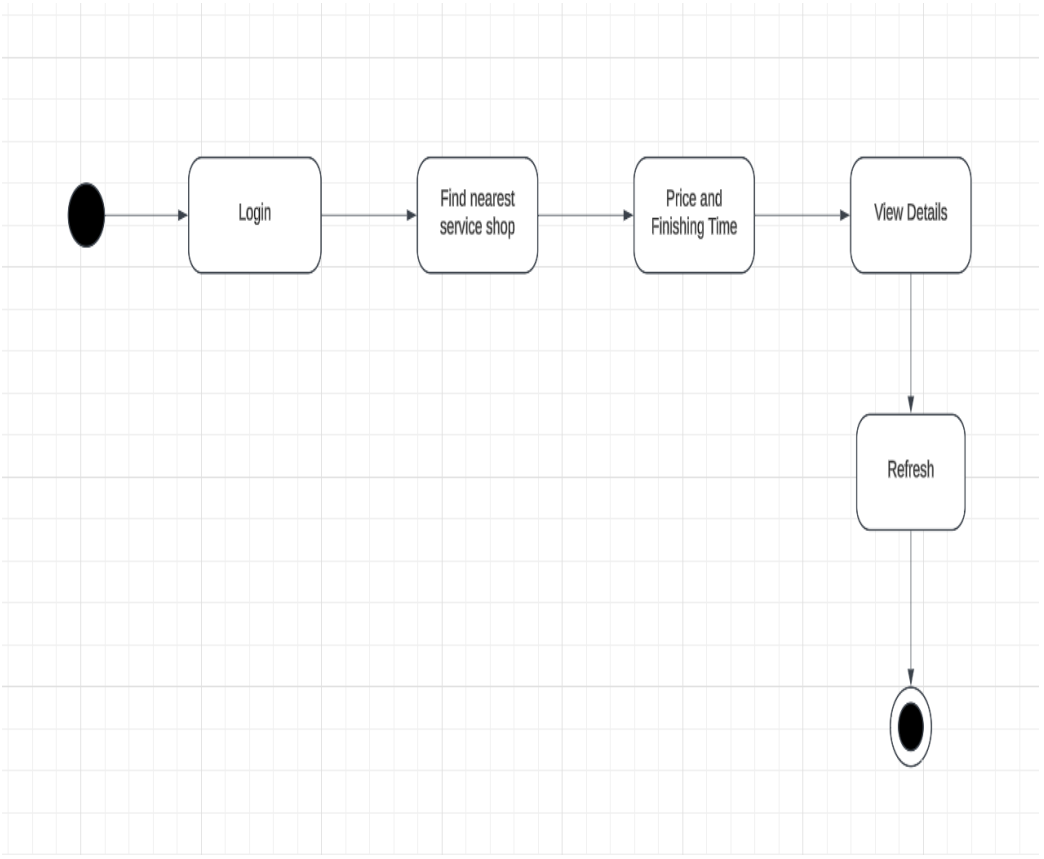

Fig 5.2: State Diagram

CHAPTER 6

MODULE DESCRIPTION

The platform streamlines user interactions by integrating secure login, personalized location-based recommendations, and detailed service information. It leverages advanced filtering techniques to suggest relevant places and services while ensuring data privacy through secure storage. By collecting and analyzing feedback and operational data, it enhances user satisfaction and service efficiency.

1. Login: Email and password
2. Location : Address
3. Service details: Phone number, Price, Finishing time
4. Data collection: Service center and view details

6.1 LOGIN

First user must login the web page and add their location. These modules manage the logic of user authentication, password management, and user sessions. User Management:Register users.Store user data (name, email, password hash, etc.). Authentication:Validate user credentials during login.Ensure passwords are hashed and stored securely. Session Management:Create and maintain user sessions (using tokens, cookies, or session-based authentication).Track login status using JWT (JSON Web Token), or session IDs.

6.2 LOCATION

Location-based Filtering Location Services: Uses the user's current location to suggest nearby places.Proximity Search: Suggests locations within a certain radius from the user’s current or inputted location.Recommendation Engines Collaborative Filtering: Recommends locations based on the preferences and behaviors of similar users.Content-based Filtering. Suggests locations based on the attributes of places that match the user’s preferences (e.g., type of cuisine, tourist attraction).Hybrid Models: Combines both collaborative and content-based filtering for better suggestions.

6.3 SERVICE DETAILS

Service Overview ModuleDescription: Provides a summary of the service being offered.Key

Key Information: Operating hours, available time slots, service regions, and scheduling options.Use Case: Used in appointment service systems or on-demand services.

6.4 DATA COLLECTION

- **Purpose:** To optimize service efficiency, improve customer satisfaction, and ensure operational transparency by collecting data on locations, services, and feedback.
- **Implementation:** Data is collected from front (location-based) and back (service details) sides, including shop info, service times, fees, and customer feedback.
- **Storage:** Data is securely stored in cloud databases with manual backups, ensuring privacy, security, and easy access for analysis and improvements.

CHAPTER 7

CONCLUSION AND FUTURE ENHANCEMENTS

Conclusion conveys the completion and also defines the limitations that are not processed. Future enhancements provide an innovation that could be made in this project.

7.1 CONCLUSION

This setup allows for a efficient bike service experience, catering to both locals and travelers. With well-placed spots at prime locations and clear service information, users can easily access necessary services and give feedback, improving overall customer satisfaction. The implementation of a well-structured Bike Spot service system at strategic locations in Trichy will significantly improve convenience and accessibility for commuters and customer be like.

7.2 FUTURE ENHANCEMENTS

Future enhancements for the **Bike Spot Service Center** can greatly improve its functionality and user experience. One potential improvement is the integration of a booking and appointment system, allowing users to schedule repairs directly through the platform. This could include selecting a date and time slot, with automated notifications and reminders to help manage appointments. Additionally, implementing real-time availability tracking and repair progress updates would provide users with more transparency and control over their service requests.

Another valuable feature would be the addition of user reviews and feedback. This would allow users to rate their experiences and leave detailed comments, aiding others in selecting the best service center for their needs. Enhanced search and filtering options could also make it easier for users to find specific types of repairs, compare service centers based on ratings, prices, and proximity, and find special offers.

Incorporating secure online payment solutions would streamline the payment process, allowing users to pay for services directly on the platform using credit cards, digital

wallets, or other payment methods. This could be coupled with a loyalty program to reward repeat customers with discounts or points that can be redeemed for future services.

A mobile app version of the directory would provide users with on-the-go access, notifications for upcoming appointments, and the convenience of booking and searching services directly from their smartphones. Including an interactive map with directions and filters for different service types would further enhance user navigation.

To cater to emergency needs, a feature for urgent repair requests or roadside assistance could be added, along with a 24/7 support line for customer inquiries. A personalized user dashboard, where registered users can manage their repair history and appointments, would add further convenience and personalization.

For service centers, a management portal could be developed to allow them to update their service details, pricing, and availability. This would also include analytics tools to help service centers better understand customer demand and improve their offerings.

APPENDICES

APPENDIX A

LOGIN PAGE

```
Import React,{useState } from "react";
import './Login.css';
import HomePage from "./Homepage";
const LoginPage = () => {
  const [email, setEmail] = useState("");
  const [password, setPassword] = useState("");
  const [error, setError] = useState(null);
  const [isLoggedIn, setIsLoggedIn] = useState(false);
  const handleSubmit = (e) => {
    e.preventDefault();
    if (email === "admin@react.com" && password === "123") {
      setIsLoggedIn(true);
    } else {
      setError("Invalid
email or password.");
    }
  };

  if (isLoggedIn) {
return <HomePage/>;
  }

  return (
    <div
className="logincontain
er">
      <h2>LOGIN</h2>
      {error && <p
className="error-
message">{error}</p>}
```

```
    <form
onSubmit={handleSubmit
} className="login-
form">
      <div
className="form-
group">

<label>Email:</label>
       <input type="email"
value={email}
         onChange={(e) =>
setEmail(e.target.value)}

placeholder="Enter your
email"
       />
      </div>
      <div
className="form-
group">

<label>Password:</label>
       <input
         type="password"
         value={password}
         onChange={(e) =>
setPassword(e.target.value
)}

placeholder="Enter your
password"
       />
      </div>
      <button
type="submit"
className="login-
button">
        Login
      </button>
```

```
      </form>
    </div>
  );
};

export default LoginPage;
```

LOGIN CSS

```
.login-form {
    display: flex;
    flex-direction: column;
  }

  .form-group {
    margin-bottom: 15px;
    color: #fff;

  }

  .form-group label {
    display: block;
    margin-bottom: 5px;
  }

  .form-group input {
    width: 20rem;
    padding: 8px;
    box-sizing: border-box;
  }

  .login-button {
    padding: 10px;
    background-color:
```

```
#4CAF50;
    color: white;
    border: none;
    border-radius: 4px;
    cursor: pointer;
    width: 20rem;
  }

  .login-button:hover {
    background-color:
#45a049;
  }

  .error-message {
    color: red;
    margin-bottom: 10px;
  }

 .login-container{
    margin-left: 40em;
    margin-top: 8em;
 }

.login-container h2{
    margin-left: 1.75em;
    font-size: 3em;
    color: #9aacc2;
}
```

HOMEPAGE

```
import React from 'react';
import './HomePage.css';
// Optional: Style the page
```

```
const HomePage = () => {
  return (
    <div
className="homepage">
      {/* Header */}
      <header
className="header">
        <h1>Bike spot</h1>
        <nav>
          <a
href="/">Home</a>
          <a
href="/bikes">Bikes</a>
          <a
href="/services">Services
</a>
          <a
href="/reviews">Reviews
</a>
          <a
href="/contact">Contact
Us</a>
        </nav>
      </header>

      {/* Hero Section */}
      <section
className="hero">
        <h2>Your One-Stop
Spot for Every
Bikes</h2>
        <button>Explore
Bikes</button>
      </section>

      {/* Main Section -
Featured Bikes */}
```

```
      <section
className="section">

        <h3>Featured
Bikes</h3>

        <div
className="card-
container">

          <BikeCard
name="SR  WORKS
(samayapuram)
PH:7010504161"
type="ALL MODELS"
price="Starting at RS 200
and Finishing time min
ONEDAY" />

          <BikeCard
name="ATR BIKE CARE
(samayapuram)
PH:8432712508"
type="ALL MODELS"
price="Starting at RS 400
and Finishing time TWO
to THREE hours" />

          <BikeCard
name="LNK BIKE SPOT
(tolgate) PH:9432826321"
type="ALL MODELS"
price="Starting at RS 250
and Finishing time min
ONEDAY" />

          <BikeCard
name="PSL CARE
(tolgate) PH:8110051551"
type="ALL MODELS"
price="Starting at RS 450
and Finishing time TWO
to THREE hours"  />

          <BikeCard
name="SPY BIKE
WORKS (m.nallur)
PH:9853887121"
type="ALL MODELS"
price="Starting at RS 300
and Finishing time min
ONEDAY" />

          <BikeCard
name="SPAR BIKE
```

```
WORKS (m.nallur)
PH:9457221580"
type="ALL MODELS"
price="Starting at RS 500
and Finishing time TWO
to THREE hours" />

        </div>

      </section>


      {/* Customer Reviews
Section */}

      <section
className="section">

        <h3>Customer
Reviews</h3>

        <div
className="card-
container">

          <ReviewCard
name="John Doe"
rating="5" review="Great
bikes and service!" />

          <ReviewCard
name="Jane Smith"
rating="4" review="Loved
the bike options
available." />

          <ReviewCard
name="James"
rating="4.5" review="
bike service is nice" />

        </div>

      </section>


      {/* Footer */}

      <footer
className="footer">

        <p>Contact us at:
info@bikespot.com</p>

        <p>Follow us on
social media!</p>
```

```
        <nav>
          <a
href="/">Home</a>
          <a
href="/bikes">Bikes</a>
          <a
href="/services">Services
</a>
        </nav>
      </footer>
    </div>
  );
};

// Bike Card Component
const BikeCard = ({
name, type, price }) => (
  <div className="card">
    <h4>{name}</h4>
    <p>{type}</p>
    <p>{price}</p>
    <button> <a
href="https://www.bikesp
ot.org/">Learn
More</a></button>
  </div>
);

// Service Card
Component
const ServiceCard = ({
title, description }) => (
  <div className="card">
    <h4>{title}</h4>
    <p>{description}</p>
    <button>View
Options</button>
```

```
  </div>
);

// Review Card
Component
const ReviewCard = ({
name, rating, review }) =>
(
  <div className="card">
    <h4>{name}</h4>
    <p>Rating: {rating} /
5</p>
    <p>"{review}"</p>
  </div>
);

export default HomePage;
```

HOMEPAGE CSS

```
* Basic resets and layout
*/
body {
    font-family: Arial, sans-
serif;
    margin: 0;
    padding: 0;
    box-sizing: border-box;
    background-image:
url(../assets/Loginbike.jpg
);
  }

  .header {
    display: flex;
    justify-content: space-
between;
```

```
    padding: 1rem;
    background-color:
#333;
    color: white;
    width: 93em;

  }

  .header nav a {
    color: white;
    margin: 3em 1rem;
    font-size: 2em;
    text-decoration: none;
  }

  .hero {
    text-align: center;
    padding: 2rem;
    background: #f4f4f4;
  }

  .hero h2 {
    margin: 0;
    font-size: 2rem;
  }

  .hero button {
    padding: 0.5rem 1rem;
    background: #333;
    color: white;
    border: none;
    cursor: pointer;
  }
```

```
  .section {
    padding: 2rem;
    text-align: center;
  }

  .section h3 {
    margin-bottom: 1rem;
  }

  .card-container {
    display: flex;
    justify-content: center;
    flex-wrap: wrap;
    display: grid;
  grid-template-columns:
repeat(3, 1fr); /* 3
columns */
  gap: 2em; /* Adjust gap
size here */
  padding: 20px;
  margin-left: 10em;
  }

  .card {
    background: white;
    border: 1px solid #ddd;
    padding: 1rem;
    width: 200px;
    text-align: center;
    border-radius: 8px;
    box-shadow: 0px 4px
8px rgba(238, 235, 235,
0.1);
  }
```

```
  .card img {
    width: 100%;
    border-radius: 8px;

  }

  .card h4 {
    margin: 0.5rem 0;
  }

  .card button {
    background: #6c93f4;
    color: white;
    border: none;
    padding: 0.5rem 1rem;
    cursor: pointer;
  }

  .footer {
    padding: 1rem;
    background-color:
#333;
    color: white;
    text-align: center;
  }

  h3{
     color: #f8f3f3;
  }
```

VIEW DETAIL

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

```
  <head>
    <meta charset="UTF-8"
/>
    <meta
name="viewport"
content="width=device-
width, initial-scale=1.0"
/>
    <title>Bike spot</title>
  </head>
  <body>
    <div id="root"></div>
    <script type="module"
src="/src/main.jsx"></scri
pt>
  </body>
</html>
```

APPENDIX B

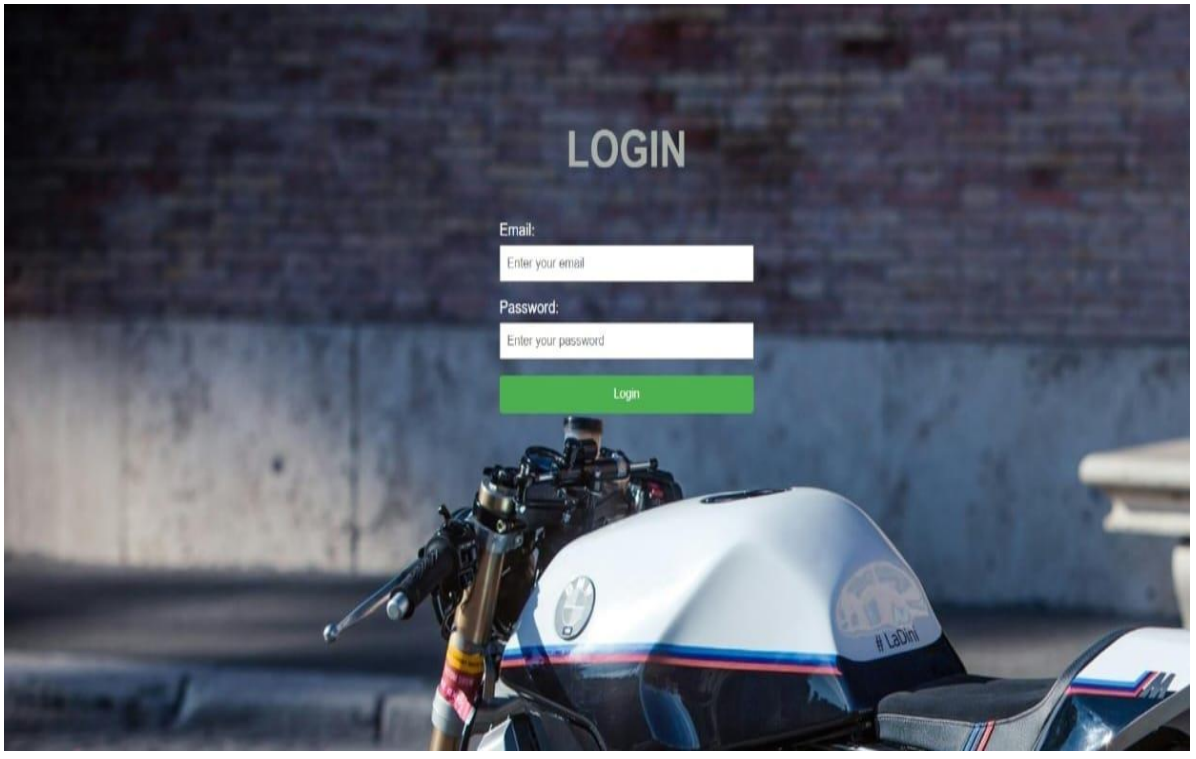

Fig: B.1 Login page

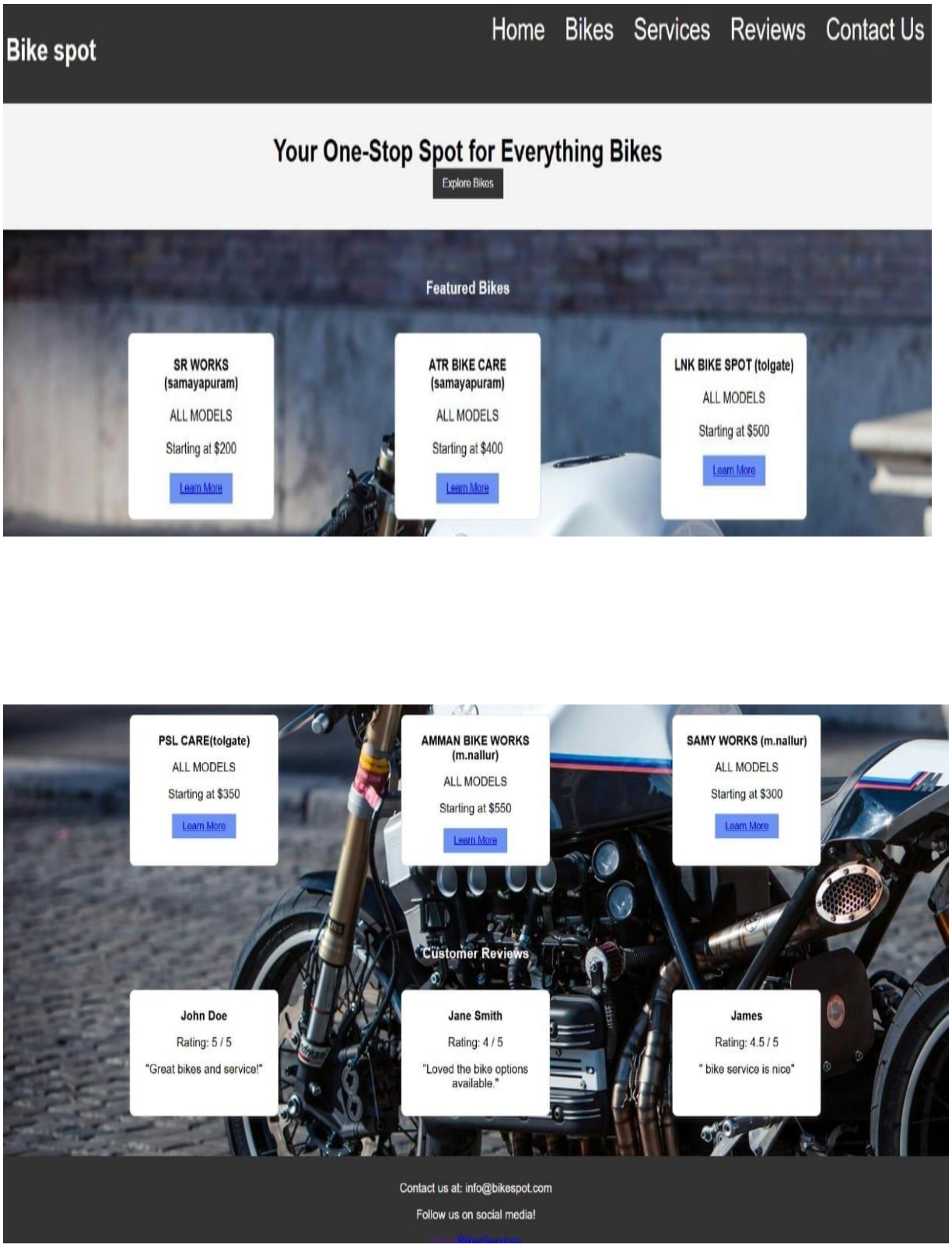

Fig: B.2 Home page

Fig:B.3 View details

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