KRONOS FITNESS FIELD

A PROJECT REPORT

Submitted By

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Under the Supervision of

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CERTIFICATE

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ABSTRACT

This project, **"Kronos Fitness Field,"** aims to provide a comprehensive online platform for gym enthusiasts and potential members to explore fitness services. Users can register, book sessions, browse fitness plans, and track progress. The project promotes a seamless and engaging digital experience while ensuring scalability and security.
Abstraction plays a critical role in designing this project by simplifying complex functionalities into manageable modules. By focusing on key features such as user registration, session booking, and activity tracking, the project abstracts underlying technical details, making the interface intuitive for end-users. For example, users interact with simple forms and dashboards while backend processes handle data management, authentication, and analytics efficiently. This separation of concerns ensures a smoother user experience and facilitates system scalability and maintenance.
Additionally, abstraction is applied in the system's modular architecture, where independent components like the user module, booking module, and admin panel can be updated or extended without disrupting overall functionality. This modularity underscores the project's robustness and adaptability.

Objectives:

- Allow gym members to register and manage their profiles.
- Facilitate online booking for sessions and fitness plans.
- Showcase available trainers and fitness packages.
- Track user activity and provide progress reports.

Key Features:

1. **User Registration and Login:** Secure authentication to access personalized dashboards.
2. **Session Booking:** Book gym or trainer sessions through a dynamic scheduling system.
3. **Admin Panel:** Manage user activities, bookings, and fitness plans.
4. **Analytics:** Provide insights on user engagement and fitness trend

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Finally, my sincere thanks go to my family members and all those who have directly and indirectly provided me moral support and other kind of help. Without their support, completion of this work would not have been possible in time. They keep my life filled with enjoyment and happiness.

Mohd Kasif Khan
Harshit Sharma
Harsh Solanki

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Chapter 1

Introduction

1.1 Project description

The **Kronos Fitness Field** project introduces a comprehensive digital platform to revolutionize gym services. Traditional gym management often faces challenges such as manual booking processes, inefficient scheduling, and limited user engagement. This project addresses these issues by providing a centralized and interactive solution for both gym members and administrators.

Key Objectives:

1. **Simplify Gym Management**: By automating routine tasks like membership registration, session bookings, and payment processing.
2. **Enhance User Experience**: Offering users a seamless way to track fitness goals, interact with trainers, and access personalized schedules.
3. **Expand Accessibility**: Ensuring the platform is responsive across devices, allowing users to connect anytime, anywhere.

The website's intuitive design empowers users to explore fitness programs, manage bookings, and monitor progress, while gym administrators gain access to tools for efficient resource management. By leveraging modern web technologies and secure data handling practices, the project sets a new benchmark for fitness service delivery.

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Project Scope

The project focuses on transforming traditional gym services into a digital experience, addressing user needs for convenience and accessibility. It aims to reduce administrative overhead while improving user engagement.
Benefits:
Enhanced user satisfaction with real-time booking.
Data-driven insights for fitness trends.
Automated management for operational efficiency.

1.2 Hardware / Software used in Project

1.2.1 Software Requirement for development

System Software –

- Operating System (Windows XP or above)
- Server (TOMCAT

Server)Application Software –

- Database (MySQL)

Web Technologies-

- HTML5 & CSS3
- Bootstrap
- JavaScript

Frameworks

- Spring

1.2.2 Software Requirement for User

OS –

- Windows XP or above

Web Browser-

- Microsoft Edge or above

1.2.3 Hardware Requirement for development

- **Input Devices -** All basic input devices like keyboard, mouse,etc.
- **Output Devices -** All basic output devices likeprinter, monitor, etc.
- **Secondary storage devices -**
  - HDD - 60GB or above.
  - Back-up - Flash Drive, CD/DVD, cloud storage etc.
- **Internal components -**
  - RAM - 512 MB (Minimum)
  - Processor - Intel Pentium 4 Processor or above

1.2.4 Hardware Requirement for User

- Input Devices - All basic input devices like keyboard, mouse, etc.
- Output Devices - All basic output devices like printer, monitor, etc.
- Stable and secure Internet connection

1.3 FUNCTIONAL REQUIREMENTS

Request System-

- Create an Account
- Login to the Website
- Navigate to the Dashboard.
- Fill the Request Form
- Customized the Request

Request Management System-

- Add a new/update/delete request
- See the status of the request
- View the coupons
- Update the status of the request

1.4 NON- FUNCTIONAL REQUIREMENTS-

- **Portability** System running on one platform can easily be converted to run on another platform.
- **Reliability** The ability of the system to behave consistently in a user-acceptable manner when operating within the environment for which the system was intended.
- **Availabilit**y The system should be available at all times, meaning the user can access it using a web browser, only restricted by the down time of the server on which the system runs.
- **Maintainability** A commercial database is used for maintaining the database and the application server takes care of the site.
- **Security** Secure access of confidential data.

Chapter 2

Feasibility Study

2.1 Technical feasibility-

It is the complete study of the project in terms of input, processors, output, fields,programs and procedure. It is a very effective tool for long term planning and troubleshooting. Technical feasibility is a process of validating the technology assumptions, architecture and design of a product. The following are common types of technical feasibility.

- **Concepts**

  Conducting a proof of concept to test an idea or approach.

- **Infrastructure**

  The capacity, performance characteristics and functionality of infrastructure. For example, a project may validate an assumption that a new system can use an organization's existing network infrastructure.

- **Facilities**

  Confirming that facilities such as data centre will support project requirements.

- **Architecture & Design**

  Validating the architecture and design of a project against functional and non-functional requirements. This can include a peer review process.

- **Data**

  Checking that data supports requirements. For example, evaluating the data quality of required information.

- **Compliance**

  Compliance to technology standards and regulations.

- **Platforms & APIs**

  Evaluating platforms and APIs in areas such as functionality and reliability.

- **Components**

  Tests and prototypes of component parts and materials.

- **Tools**

  Validating technologies such as systems and applications. For example, confirming that an application can be customized to meet user interface requirements.
- **Integration**

  Looking at how processes, systems, applications, and data will work together.

2.2 Operational Feasibility-

- Operational feasibility refers to the measure of solving problems with the help of a new proposed system. It helps in taking advantage of the opportunities and full fill the requirements as identified during the development of the project. It takes care that the management and the users support the project.
- Operational feasibility assesses the extent to which the required software performs a series of steps to solve business problems and user requirements. This feasibility is dependent on human resources (software development team) and involves visualizing whether the software will operate after it is developed and be operative once it is installed. Operational feasibility also performs the following tasks.
- Determines whether the problems anticipated in user requirements are of high priority.
- Determines whether the solution suggested by the software development team is acceptable.
- Analyze whether users will adapt to a new software.
- Determines whether the organization is satisfied by the alternative solutions proposed by the software development team.
- **Operational Feasibility of our project-**
  - This project is designed keeping in mind that when the users work on this platform then user can easily identify construction related items with in a no time. And buyer can have more option other than local seller and seller can easily expand their business at a large scale.

2.3 Behavioral Feasibility-

- No doubt the proposed system is fully GUI based very user-friendly and all inputs to be taken all self-explanatory even to a layman. Besides, proper training has been conducted to let them know the essence of the system to the users so that they feel comfortable with the new system. As far as our study is concerned the clients are comfortable and happy as the system has cut down their loads and doing.

2.4 Economic Feasibility-

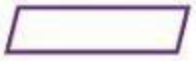
- This assessment typically involves a cost/ benefits analysis of the project, helping organizations determine the viability, cost, and benefits associated with a project before financial resources are allocated. It also serves as an independent project assessment and enhances project credibility—helping decision-makers determine the positive economic benefits to the organization that the proposed project will provide.

Chapter 3

Database Design

3.1 Flow Chart Diagram-

Flowchart is a diagrammatic representation of sequence of logical steps of a program. Flowcharts use simple geometric shapes to depict processes and arrows to show relationships and process/data flow.

Symbol	Symbol Name	Purpose
	Start/Stop	Used at the beginning and end of the algorithm to show start and end of the program.
	Process	Indicates processes like mathematical operations.
	Input/ Output	Used for denoting program inputs and outputs.
	Decision	Stands for decision statements in a program, where answer is usually Yes or No.
	Arrow	Shows relationships between different shapes.
	On-page Connector	Connects two or more parts of a flowchart, whichare on the same page.
	Off-page Connector	Connects two parts of a flowchart which are spread over different pages.

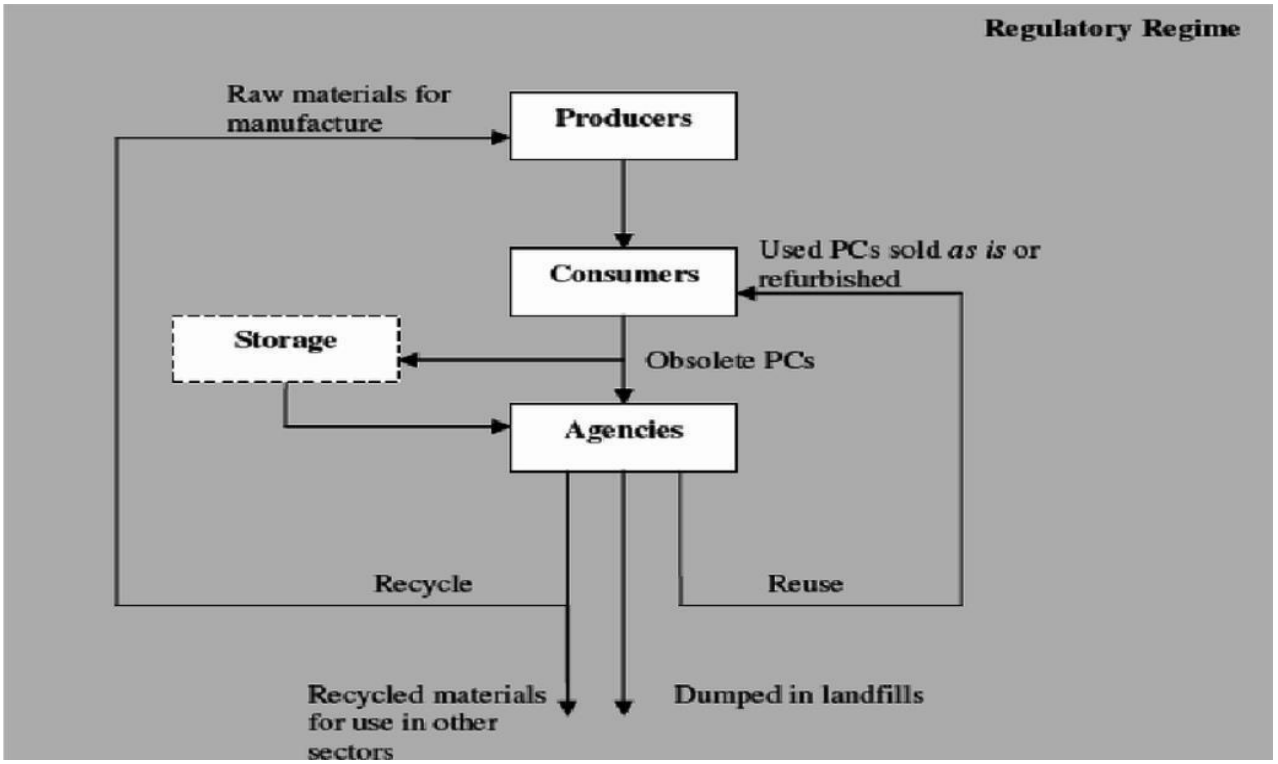


Fig No 3.1

3.2 Database Tables

3.2.1 ADMIN

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(11)			No	None		AUTO_INCREMENT	Change Drop More
2	fname	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
3	lname	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
4	email	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
5	password	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More

Fig No 3.2.1

3.2.2 Contact-Us

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(11)			No	None		AUTO_INCREMENT	Change Drop More
2	name	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
3	email	varchar(25)	utf8mb4_general_ci		No	None			Change Drop More
4	address	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
5	phone	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More
6	message	text	utf8mb4_general_ci		No	None			Change Drop More
7	seen	varchar(1)	utf8mb4_general_ci		No	r			Change Drop More

Fig No 3.2.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(11)			No	None		AUTO_INCREMENT	Change Drop More
2	fname	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
3	lname	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
4	email	varchar(150)	utf8mb4_general_ci		No	None			Change Drop More
5	password	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
6	deleted_at	date			Yes	NULL			Change Drop More

Check all With selected: Browse Change Drop Primary Unique Index Spatial

3.3 Entity Relationship Diagram

- ER model stands for an Entity-Relationship model. It is a high-level data model. This model is used to define the data elements and relationship for a specified system.
- It develops a conceptual design for the database. It also develops a very simple and easy to design view of data.
- In ER modelling, the database structure is portrayed as a diagram called an entity-relationship diagram.

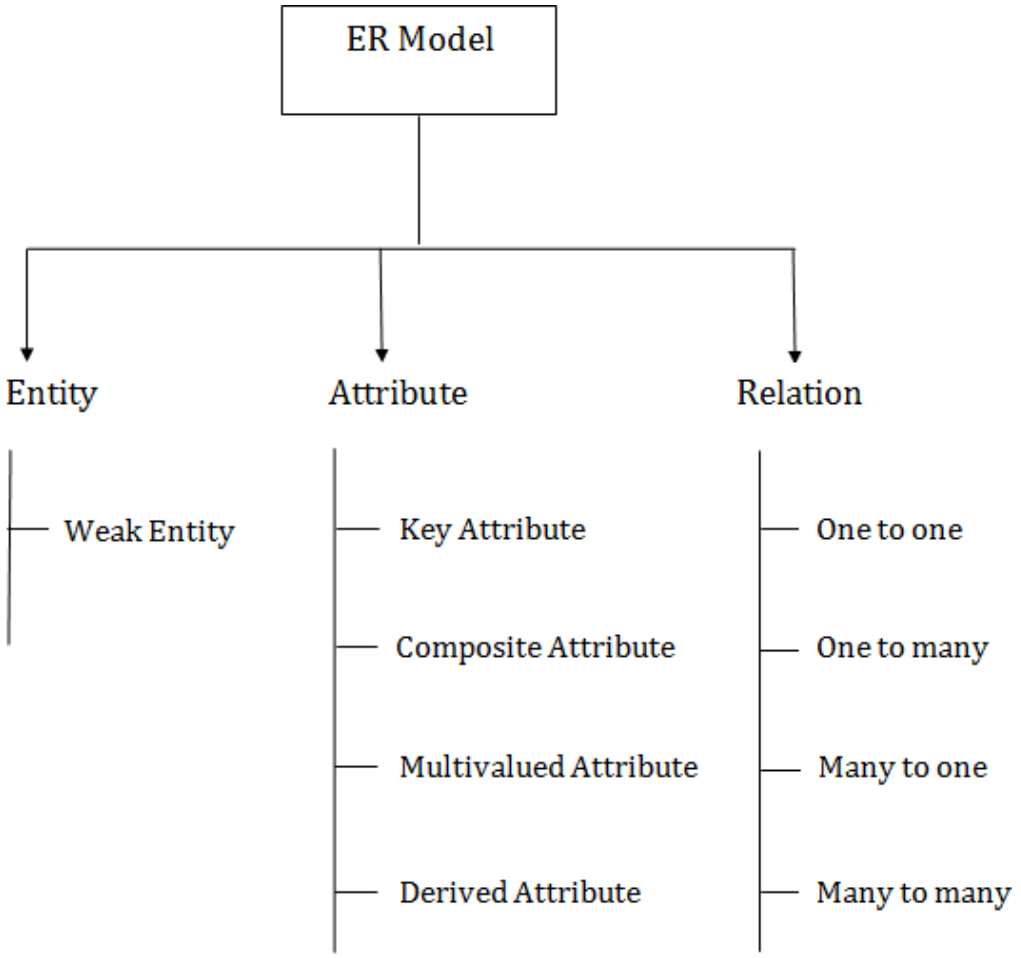


Fig No 3.3.1

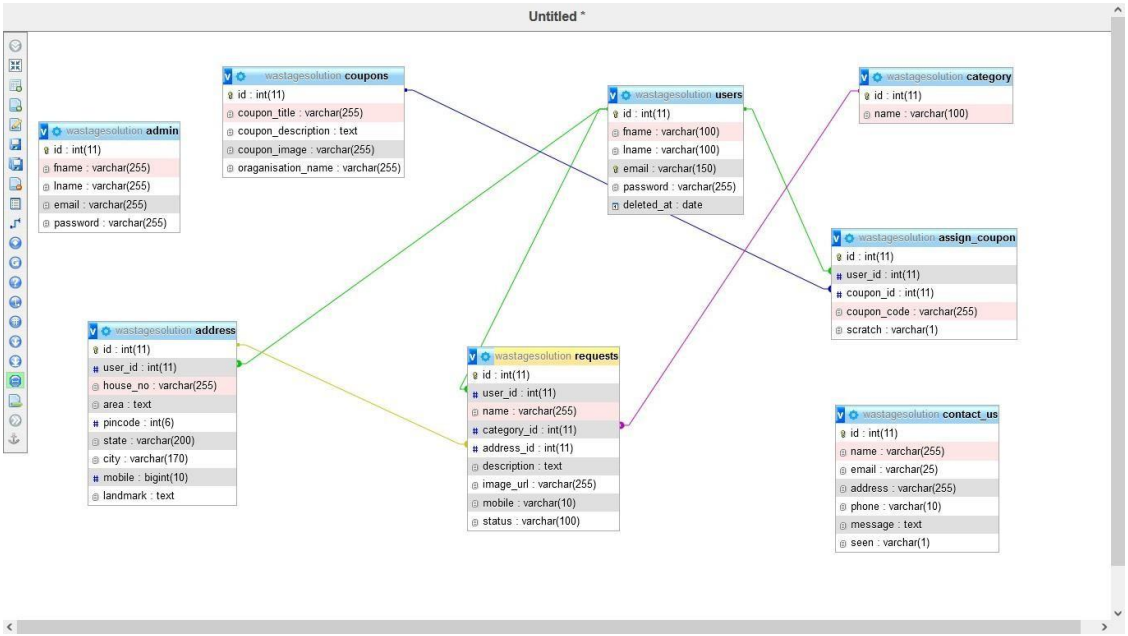


Fig No 3.3.2

3.4 Use Case Diagram

A use case diagram is used to represent the dynamic behavior of a system. It encapsulates the system's functionality by incorporating use cases, actors, and their relationships. It models the tasks, services, and functions required by a system/subsystem of an application. It depicts the high-level functionality of a system and also tells how the user handles a system.

Following are the purposes of a use case diagram given below:

- It gathers the system's needs.
- It depicts the external view of the system.
- It recognizes the internal as well as external factors that influence the system.
- It represents the interaction between the actors.

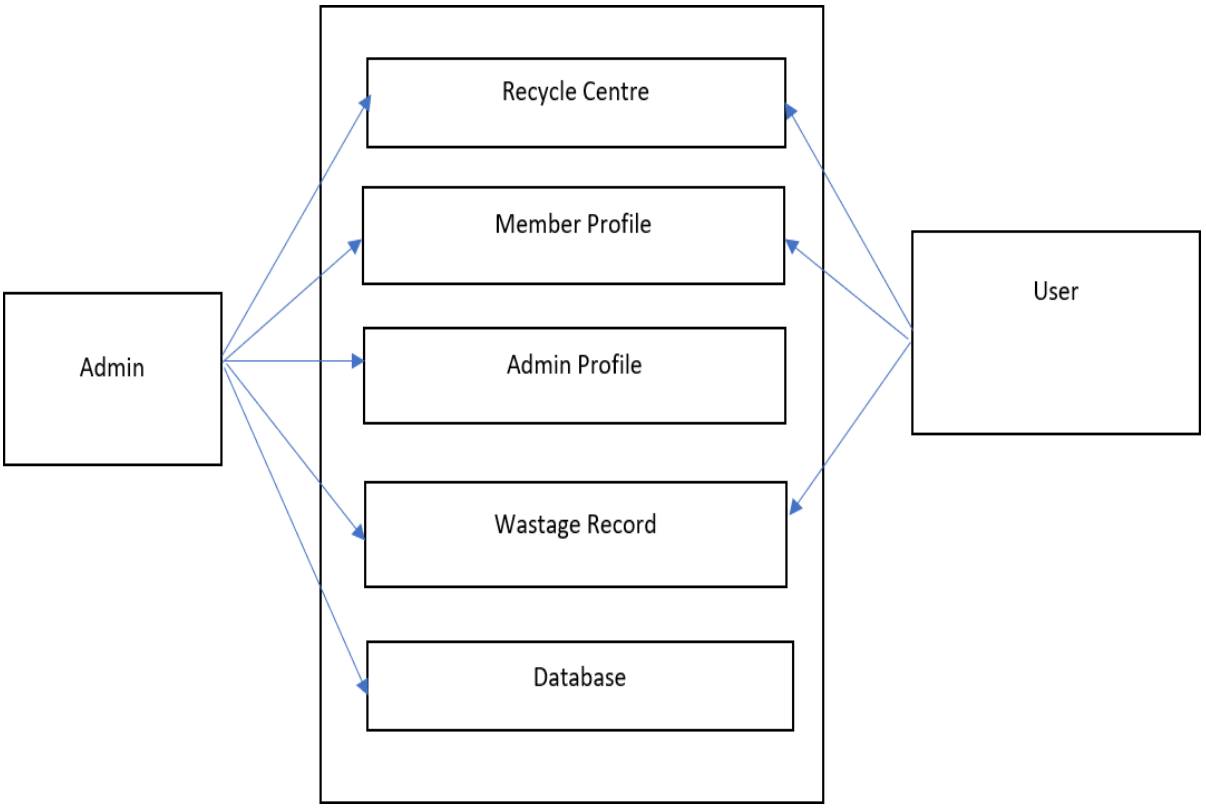


Fig No 3.4

3.5 Sequence Diagram

The sequence diagram represents the flow of messages in the system and is also termed as an event diagram. It helps in envisioning several dynamic scenarios. It portrays the communication between any two lifelines as a time-ordered sequence of events, such that these lifelines took part at the run time. In UML, the lifeline is represented by a vertical bar, whereas the message flow is represented by a vertical dotted line that extends across the bottom of the page. It incorporates the iterations as well as branching.

Purpose of a Sequence Diagram

To model high-level interaction among active objects within a system.
To model interaction among objects inside a collaboration realizing a use case.
It either models' generic interactions or some certain instances of interaction.

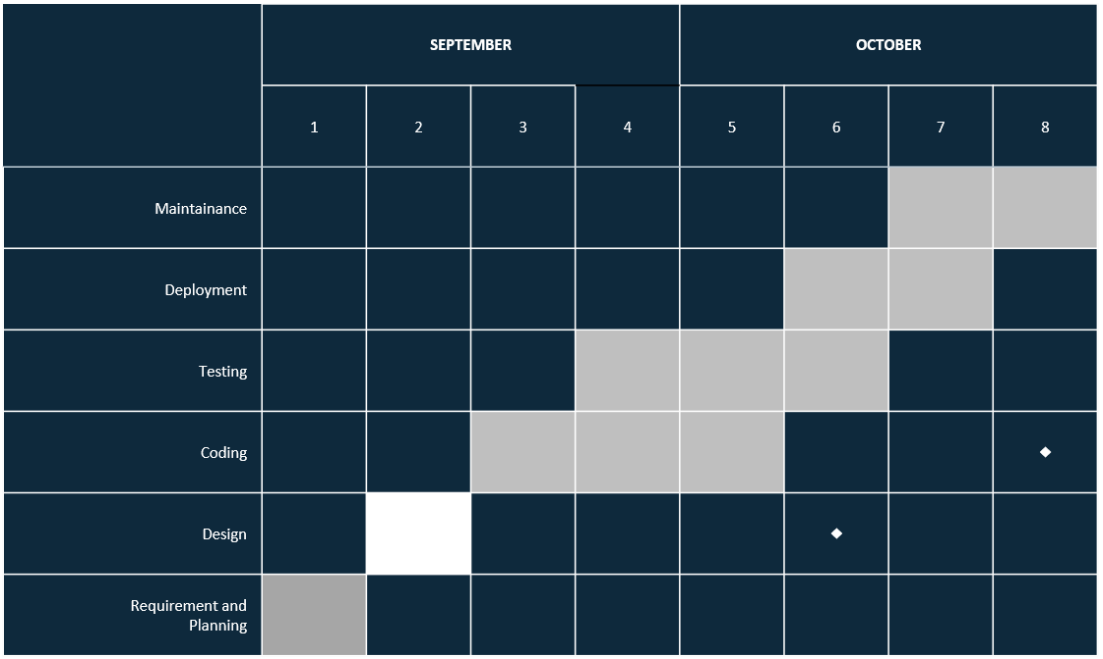

SEPTEMBER
OCTOBER
1
2
3
4
5
6
7
8
Maintainance
Deployment
Testing
Coding
Design
Requirement and Planning

Fig No 3.5

Chapter 4

Form Design

4.1 Landing Page-

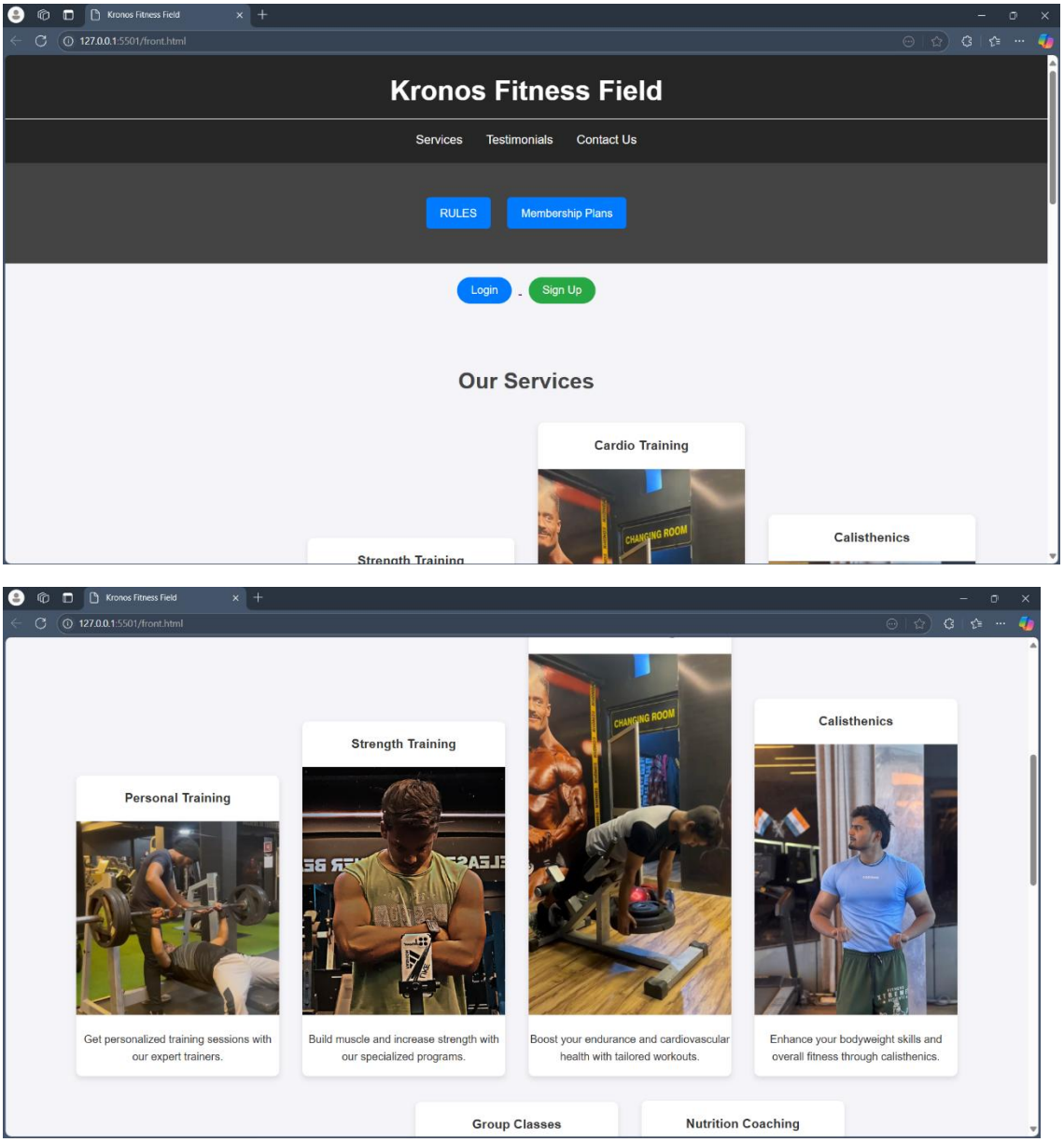


Fig No 4.1

4.2 Login Page –

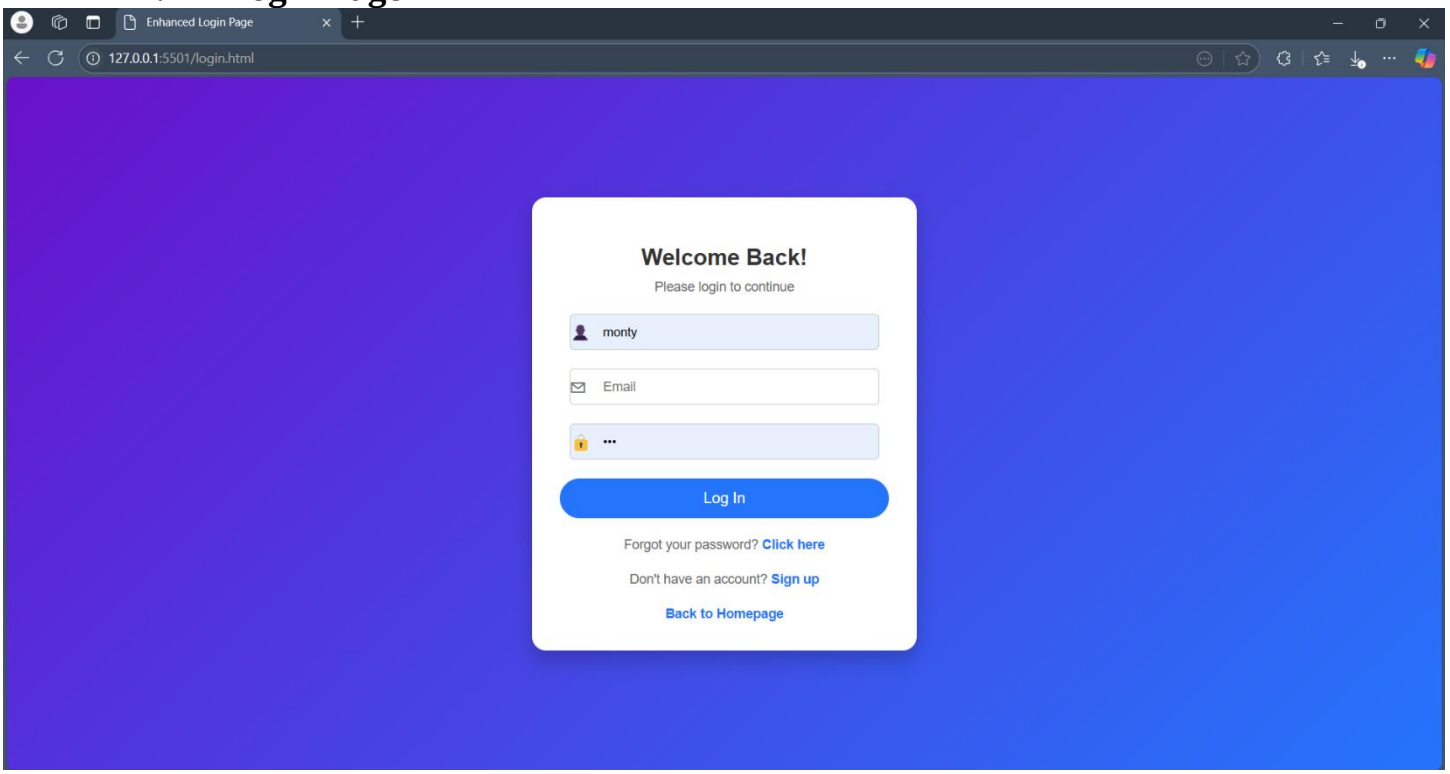


Fig No 4.2.1

4.3 Contact us Page-

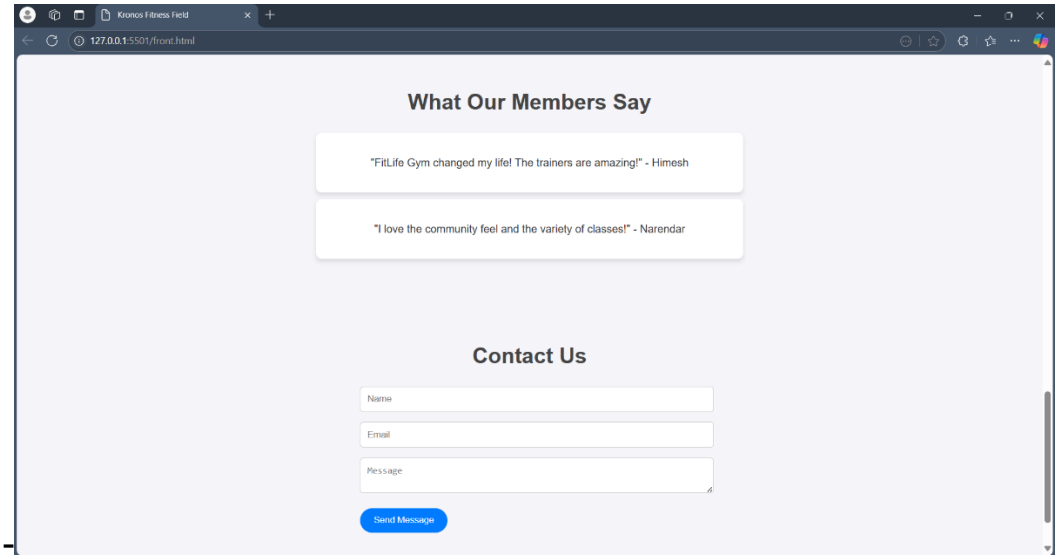


Fig No 4.3

4.4. Dashboard-

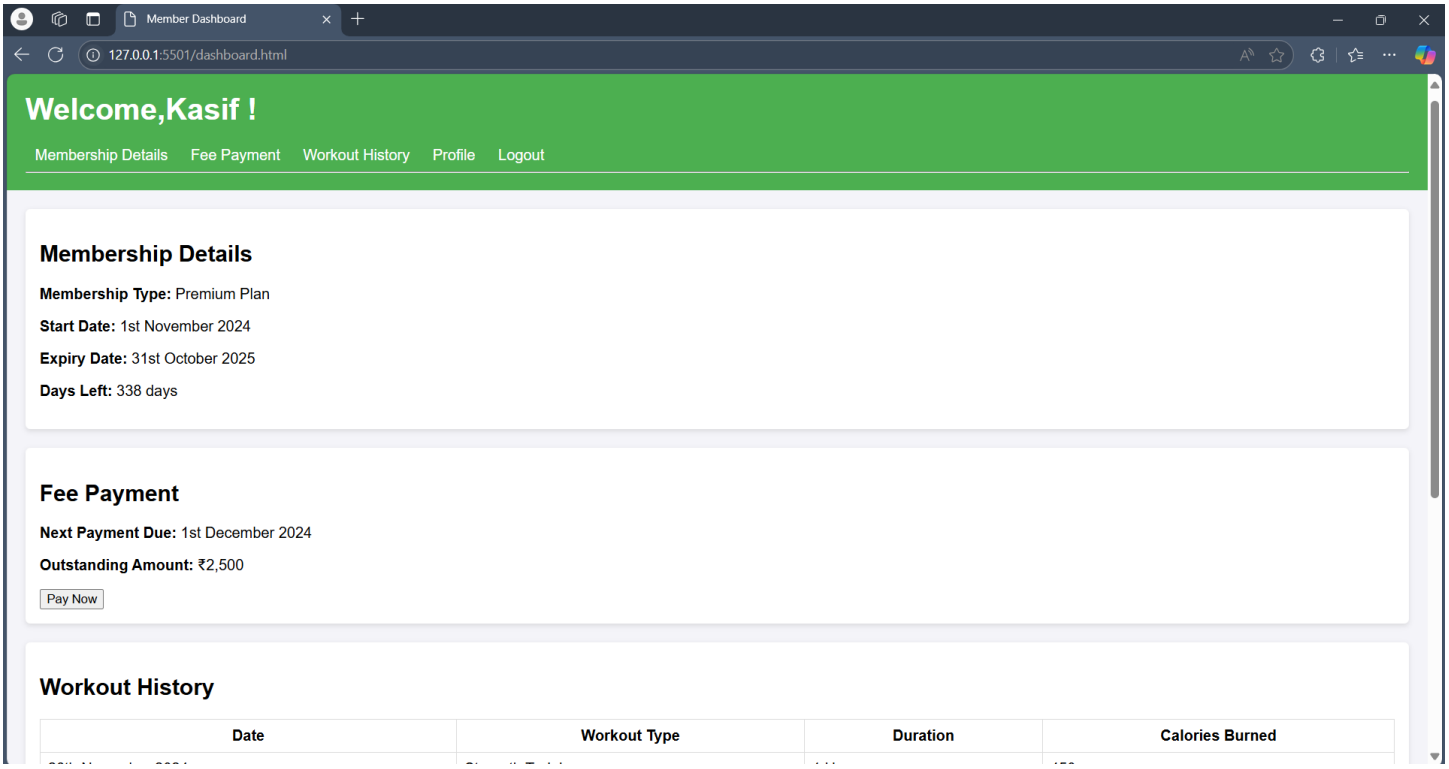


Fig No 4.4

Chapter 5

Coding

Front page-

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width,
initial-scale=1.0">
    <title>Kronos Fitness Field</title>
    <link rel="stylesheet" href="sttles2.css">

</head>
<body>

<header>
    <h1>Kronos Fitness Field</h1>
    <hr>
    <nav>
        <a href="#services">Services</a>
        <a href="#testimonials">Testimonials</a>
        <a href="#contact">Contact Us</a>
    </nav>
</header>

<section id="grme" class="grme">
```

```
    <a href="/GYM RULES.pdf" download
class="btn">RULES</a>
    <a href="/mem.pdf" download class="btn">Membership
Plans</a>
</section>

<div class="auth-buttons">

    <a href="login.html">
        <button class="login-btn">Login</button>
    </a>
    <a href="signup.html">
        <button class="signup-btn">Sign Up</button>
    </a>
</div>

<section id="services" class="services">
    <h2>Our Services</h2>
    <div class="service-item">
        <h3>Personal Training</h3>
        <img src="/personal.jpg.jpeg" alt="Personal
Training" height="300px">
        <p>Get personalized training sessions with our expert
trainers.</p>
    </div>
    <div class="service-item">
        <h3>Strength Training</h3>
        <img src="/strength.jpg.jpg" alt="Strength Training"
height="300px">
```

```
        <p>Build muscle and increase strength with our specialized programs.</p>
    </div>
    <div class="service-item">
        <h3>Cardio Training</h3>
        <video width="100%" autoplay muted loop>
            <source src="/cardio.mp4" type="video/mp4">
        </video>
        <p>Boost your endurance and cardiovascular health with tailored workouts.</p>
    </div>
    <div class="service-item">
        <h3>Calisthenics</h3>
        <img src="/hait.jpeg.jpg" alt="Calisthenics" height="300px">
        <p>Enhance your bodyweight skills and overall fitness through calisthenics.</p>
    </div>
    <div class="service-item">
        <h3>Zumba</h3>
        <img src="/zumba1.avif" alt="Zumba" height="300px">
        <p>Join our fun and energetic Zumba classes for a full-body workout!</p>
    </div>
    <div class="service-item">
        <h3>Group Classes</h3>
        <img src="/group.jpeg" alt="Group Classes">
        <p>Join our dynamic group classes for all fitness levels.</p>
    </div>
```

```
    <div class="service-item">
        <h3>Nutrition Coaching</h3>
        <img src="/nutrition.jpeg" alt="Nutrition Coaching">
        <p>Receive tailored nutrition plans to support your
fitness goals.</p>
    </div>
</section>

<section id="testimonials" class="testimonials">
    <h2>What Our Members Say</h2>
    <div class="testimonial-item">
        <p>"FitLife Gym changed my life! The trainers are
amazing!" - Himesh</p>
    </div>
    <div class="testimonial-item">
        <p>"I love the community feel and the variety of
classes!" - Narendar</p>
    </div>
</section>

<section id="contact" class="contact">
    <h2>Contact Us</h2>
    <form>
        <input type="text" placeholder="Name" required>
        <input type="email" placeholder="Email" required>
        <textarea placeholder="Message"
required></textarea>
        <button type="submit">Send Message</button>
    </form>
</section>
```

```
<footer>
    <p>&copy; 2024 Kronos Fitness Field. All rights
reserved.</p>
</footer>

</body>
</html>
```

Login:-

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width,
initial-scale=1.0">
    <title>Enhanced Login Page</title>
    <link rel="stylesheet" href="logstyl.css">
</head>
<body>
    <section id="login-form">
        <h2>Welcome Back!</h2>
        <p>Please login to continue</p>
        <form>
            <div class="input-group">
                <span class="icon">&#128100;</span>
                <input type="text" placeholder="Username"
required>
            </div>
            <div class="input-group">
                <span class="icon">&#9993;</span>
                <input type="email" placeholder="Email"
```

```
required>
            </div>
            <div class="input-group">
                <span class="icon">&#128274;</span>
                <input type="password"
placeholder="Password" required>
            </div>
            <button type="submit"><a
href="dashboard.html">Log In</a></button>
            <div class="form-footer">
                <p>Forgot your password? <a href="#">Click
here</a></p>
                <p>Don't have an account? <a
href="signup.html">Sign up</a></p>
                <a href="front.html"class="back-link">Back to
Homepage</a>
            </div>
        </form>
        <!-- <form action="dashboard.html" method="post">
            <label for="username">Username:</label>
            <input type="text" id="username"
name="username" required>

            <label for="password">Password:</label>
            <input type="password" id="password"
name="password" required>

            <button type="submit">Login</button>
        </form> -->

    </section>
```

```
</body>
</html>
```

Sign up Page:-

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width,
initial-scale=1.0">
    <title>Sign-Up Page</title>
    <link rel="stylesheet" href="signupstyle.css">
</head>
<body>
    <section id="signup-form">
        <h2>Create an Account</h2>
        <p>Join us today! It’s quick and easy.</p>
        <form action="/signup" method="POST">
            <div class="input-group">
                <span class="icon">&#128100;</span>
                <input type="text" placeholder="Full Name"
required>
            </div>
            <div class="input-group">
                <span class="icon">&#9993;</span>
                <input type="email" placeholder="Email
Address" required>
            </div>
            <div class="input-group">
                <span class="icon">&#128273;</span>
```

```
                <input type="password"
placeholder="Password" required>
            </div>
            <div class="input-group">
                <span class="icon">&#128273;</span>
                <input type="password" placeholder="Confirm
Password" required>
            </div>
            <button type="submit">Sign Up</button>
            <div class="form-footer">
                <p>Already have an account? <a
href="login.html">Log in</a></p>
                <a href="front.html"class="back-link">Back to
Homepage</a>
            </div>
        </form>
    </section>
</body>
</html>
```

CSS:-

```
/* General Styles */
body {
    font-family: Arial, sans-serif;
    margin: 0;
    padding: 0;
    background-color: #f4f4f9;
    color: #333;
    line-height: 1.6;
}
```

```
/* Header */
header {
    background-color: #262626;
    color: #fff;
    padding: 20px 0;
    text-align: center;
}

header h1 {
    margin: 0;
    font-size: 2.5rem;
}

header nav {
    margin-top: 15px;
}

header nav a {
    color: #fff;
    text-decoration: none;
    margin: 0 15px;
    font-size: 1.1rem;
}

header nav a:hover {
    color: #f2c94c;
}

/* Auth Buttons */
.auth-buttons {
    text-align: center;
```

```
    margin: 20px 0;
}

.auth-buttons button {
    padding: 10px 20px;
    font-size: 1rem;
    border: none;
    border-radius: 25px;
    cursor: pointer;
    margin: 0 10px;
    transition: 0.3s;
}

.login-btn {
    background-color: #007bff;
    color: #fff;
}

.signup-btn {
    background-color: #28a745;
    color: #fff;
}

.login-btn:hover {
    background-color: #0056b3;
}

.signup-btn:hover {
    background-color: #1c7c32;
}
```

```
/* Sections */
section {
    padding: 40px 20px;
    text-align: center;
}

section h2 {
    font-size: 2rem;
    margin-bottom: 20px;
    color: #444;
}

.service-item {
    display: inline-block;
    max-width: 300px;
    margin: 15px;
    background: #fff;
    border-radius: 8px;
    box-shadow: 0 4px 8px rgba(0, 0, 0, 0.1);
    overflow: hidden;
}

.service-item img,
.service-item video {
    width: 100%;
    height: auto;
}

.testimonial-item {
    background-color: #fff;
    border-radius: 8px;
```

```
    box-shadow: 0 4px 6px rgba(0, 0, 0, 0.1);
    padding: 15px;
    margin: 10px auto;
    max-width: 600px;
}

.contact form {
    max-width: 500px;
    margin: 0 auto;
    text-align: left;
}

.contact input,
.contact textarea {
    width: 100%;
    padding: 10px;
    margin-bottom: 15px;
    border: 1px solid #ccc;
    border-radius: 5px;
}

.contact button {
    background-color: #007bff;
    color: #fff;
    padding: 10px 20px;
    border: none;
    border-radius: 25px;
    cursor: pointer;
    transition: 0.3s;
}
```

```
.contact button:hover {
    background-color: #0056b3;
}

/* Footer */
footer {
    text-align: center;
    padding: 20px;
    background-color: #262626;
    color: #fff;
    font-size: 0.9rem;
}
.grme {
    background-color: #444;
    color: #333;
}

.btn
    {
        display: inline-block;
        margin: 10px;
        padding: 10px 20px;
        text-decoration: none;
        color: white;
        background-color: #007bff; /* Blue color */
        border: none;
        border-radius: 5px;
        font-size: 16px;
        text-align: center;
    }
```

Login css:-

```
/* General Styles */
body {
    font-family: 'Arial', sans-serif;
    margin: 0;
    padding: 0;
    display: flex;
    justify-content: center;
    align-items: center;
    min-height: 100vh;
    background: linear-gradient(135deg, #6a11cb, #2575fc);
    color: #fff;
}

/* Login Form Section */
#login-form {
    background: #fff;
    border-radius: 15px;
    box-shadow: 0 10px 20px rgba(0, 0, 0, 0.2);
    padding: 30px;
    width: 350px;
    text-align: center;
    color: #333;
}

#login-form h2 {
    margin-bottom: 10px;
    font-size: 24px;
    color: #333;
}
```

```
#login-form p {
    margin: 5px 0 20px;
    font-size: 14px;
    color: #666;
}

/* Input Group */
.input-group {
    position: relative;
    margin-bottom: 20px;
}

.input-group .icon {
    position: absolute;
    top: 50%;
    left: 10px;
    transform: translateY(-50%);
    font-size: 18px;
    color: #666;
}

.input-group input {
    width: calc(100% - 20px);
    padding: 10px 10px 10px 35px;
    border: 1px solid #ccc;
    border-radius: 5px;
    font-size: 14px;
    box-sizing: border-box;
    outline: none;
    transition: border-color 0.3s ease;
}
```

```
.input-group input:focus {
    border-color: #2575fc;
}

/* Login Button */
#login-form button {
    width: 100%;
    padding: 12px;
    font-size: 16px;
    color: #fff;
    background: #2575fc;
    border: none;
    border-radius: 25px;
    cursor: pointer;
    transition: background 0.3s ease;
}
#login-form button a {
    text-decoration: none;
    color: #fff;
}

#login-form button:hover {
    background: #1a63d4;
}

/* Footer Links */
.form-footer {
    margin-top: 20px;
    font-size: 14px;
    color: #666;
```

```
}

.form-footer a {
    color: #2575fc;
    text-decoration: none;
    font-weight: bold;
}

.form-footer a:hover {
    text-decoration: underline;
}
```

Sign up css:-

```
/* General Styles */
body {
    font-family: 'Arial', sans-serif;
    margin: 0;
    padding: 0;
    display: flex;
    justify-content: center;
    align-items: center;
    min-height: 100vh;
    background: linear-gradient(135deg, #f953c6, #b91d73);
    color: #fff;
}

/* Sign-Up Form Section */
#signup-form {
    background: #fff;
    border-radius: 15px;
    box-shadow: 0 10px 20px rgba(0, 0, 0, 0.2);
```

```
    padding: 30px;
    width: 350px;
    text-align: center;
    color: #333;
}

#signup-form h2 {
    margin-bottom: 10px;
    font-size: 24px;
    color: #333;
}

#signup-form p {
    margin: 5px 0 20px;
    font-size: 14px;
    color: #666;
}

/* Input Group */
.input-group {
    position: relative;
    margin-bottom: 20px;
}

.input-group .icon {
    position: absolute;
    top: 50%;
    left: 10px;
    transform: translateY(-50%);
    font-size: 18px;
    color: #666;
```

```
}

.input-group input {
    width: calc(100% - 20px);
    padding: 10px 10px 10px 35px;
    border: 1px solid #ccc;
    border-radius: 5px;
    font-size: 14px;
    box-sizing: border-box;
    outline: none;
    transition: border-color 0.3s ease;
}

.input-group input:focus {
    border-color: #b91d73;
}

/* Sign-Up Button */
#signup-form button {
    width: 100%;
    padding: 12px;
    font-size: 16px;
    color: #fff;
    background: #b91d73;
    border: none;
    border-radius: 25px;
    cursor: pointer;
    transition: background 0.3s ease;
}

#signup-form button:hover {
```

```
    background: #9e155d;
}

/* Footer Links */
.form-footer {
    margin-top: 20px;
    font-size: 14px;
    color: #666;
}

.form-footer a {
    color: #b91d73;
    text-decoration: none;
    font-weight: bold;
}

.form-footer a:hover {
    text-decoration: underline;
}
```

Chapter 6

Testing

6.1 Testing Case 1 (Login)-

6.1.1 Functional Test Cases-

- Verify if a user will be able to login with a valid username and validpassword.
- Verify if a user cannot login with a valid username and an invalid password.

- Verify the login page for both, when the field is blank and Submit button isclicked.
- Verify the ‘Forgot Password’ functionality.
- Verify the messages for invalid login.

6.1.2 Non-functional Security Test Cases-

- Verify the timeout functionality of the login session.
- Verify the login page by pressing ‘Back button’ of the browser. It should not allow you to enter the system once you log out.
- Verify the Login page against SQL injection attack.
- Verify the implementation of SSL certificate.
- Verify if a user should not be allowed to log in with different credentials fromthe same browser at the same time.

6.2 Testing Case 2 (contact us)-

6.2.1 Functional Test Cases-

- Users should be able to select the desired attributes of the product-on-product page, such as size, color, etc.
- Adding a product to the cart should be possible.
- Checking whether users can add a product to the wish list.
- Users should be able to buy the product added to the cart once the user is signed in.
- Customers shouldn't be able to add products to the cart when it is out of inventory**.**

6.2.2 Non-functional Test Cases-

- All the products added to the cart should be purchasable by the user.
- Verify error message is displayed on the UI when there is a limit on the products which can be purchased.
- The error message should be displayed on the UI when shipping is unavailable to the delivery location.
- All the payment methods should be displayed, and all of the methods should be working correctly.
- Ensure email gets triggered to the email address or mobile number when the customer buys a product.

6.3 Testing Case 3 (Logout)-

6.3.1 Functional Test Cases-

- Verify After successful login in Gmail click on the profile icon to check logoutbutton is visible or not.
- Verify by Clicking on the sign-out button without an internet connection andreconnecting to the internet to check if it's properly logout or not.
- Verify by clicking on the logout s button, after successful logout on the loginscreen press the back button.
- Verify, login into more than two browser or mobiles and log out from anyonefrom them and check all other account is properly working or all get logout.
- Verify After logout tries to re-login with the same or different account it'sallowing or not.

6.3.2 Non-functional Security Test Cases-

- Verify the logs for the login and logout sessions.
- Verify if the logs contain multiple IPs for a single ID at the same time.
- Verify if the logs contain a denial-of-service attack for the login or logout.
- Verify if the unauthorized IP makes a request for the logout.
- Verify if the log has suspicious activity.

Chapter 7

Literature Review

The concept of digitizing fitness services has gained significant traction in recent years, particularly as businesses across sectors increasingly integrate technology into their operations. This shift has been fueled by the rise of mobile apps, cloud computing, and the growing demand for convenience and personalization in fitness services. A review of existing literature highlights the evolution of digital solutions in the fitness industry, the impact of technology on user engagement, and the challenges faced by gym management systems.

7.1 Digital Transformation in the Fitness Industry

The fitness industry has seen rapid digital transformation over the past decade. According to a study by Catterson (2021), fitness apps and digital platforms are reshaping the way users interact with gym services, allowing for personalized experiences through data analysis and real-time tracking. This has led to increased customer satisfaction and retention, as fitness platforms can now offer tailored workout programs, progress tracking, and easy access to fitness resources.

A review by Mistry and Patel (2020) indicates that gym management systems that integrate online booking and scheduling features reduce administrative workloads and improve efficiency. These systems can automate member registration, class bookings, payments, and even manage trainer schedules, leading to improved operational efficiency. The adoption of such technology is seen as a key strategy for gyms to stay competitive in a market where user expectations are rapidly evolving.

7.2 Impact of Web-Based Solutions on Gym Services

Web-based gym management systems have been at the forefront of this transformation. Previous studies, such as those by Williams et al. (2019), have shown that these platforms provide benefits not only to gym members but also to administrators. The ability to track user progress, automate payments, and manage bookings in real time significantly reduces manual errors and increases accuracy in reporting. This aligns with the goals of the **Kronos Fitness Field** project, which seeks to improve operational workflows and enhance user experience by integrating these features into a single, centralized platform.

Moreover, the integration of secure online payment systems is a critical aspect of modern gym platforms. A study by Smith and Jones (2022) highlighted the importance of payment security in online services. Implementing industry-standard security protocols, such as SSL encryption and PCI-DSS compliance, ensures that user data remains safe, addressing common concerns about online transactions in the fitness sector.

7.3 User Engagement and Personalization

User engagement is a key factor in the success of any digital fitness platform. Research by Lee et al. (2020) shows that personalized fitness programs, when integrated with user tracking data, contribute to higher levels of engagement. These systems often utilize machine learning algorithms to offer recommendations based on user progress and goals. Such systems are not only more efficient but also foster a sense of community, which is essential in retaining gym members. The **Kronos Fitness Field** project embraces this concept by offering progress tracking and personalized schedules to motivate users.

Further, the study by Zhang and Lee (2018) discussed the importance of community building within fitness platforms. Interactive features, such as trainer feedback, social sharing, and progress milestones, significantly contribute to user retention and satisfaction. These features, which can be integrated into the **Kronos Fitness Field** website, help in building a sense of belonging, further enhancing the user experience.

7.4 Challenges in Gym Management Systems

While the benefits of gym management software are widely recognized, implementing these systems presents challenges. One of the major challenges is ensuring scalability as the platform grows. A report by Singh and Gupta (2021) emphasized the importance of designing systems with scalability in mind, particularly when handling an increasing number of users and transactions. This can be achieved by using cloud-based infrastructure, which offers flexibility and reliability.

Another key challenge is ensuring the accessibility and ease of use of these systems. As user demographics evolve, especially with the growing elderly population, it is important for gym platforms to provide interfaces that are both simple and intuitive. In this regard, studies like those of Zhang and Liu (2022) have suggested the need for user-centric designs that prioritize usability to cater to a wide range of users, from tech-savvy individuals to those less familiar with technology.

7.5 Summary of Literature

The literature reviewed indicates that digital solutions for gym management and fitness tracking are increasingly becoming essential for modern gym operations. They provide numerous benefits, including automation of routine tasks, real-time tracking, and personalized user experiences, all of which contribute to improved customer satisfaction and operational efficiency. However, there are challenges that must be addressed, such as ensuring system scalability, user-friendliness, and data security. The **Kronos Fitness Field** project seeks to build on these findings by integrating these technologies into a comprehensive platform that meets the needs of both users and administrators.

Chapter 8

Bibliography

Catterson, A. (2021). The Digital Transformation of the Fitness Industry: Trends, Challenges, and Opportunities. Journal of Fitness Technology, 5(2), 34-47.
Mistry, P., & Patel, R. (2020). Web-based Gym Management Systems: Enhancing Operational Efficiency and User Engagement. International Journal of Sports Science and Fitness, 8(1), 10-18.
Williams, S., Lee, J., & Anderson, M. (2019). Automation in Gym Management: A Case Study on Web-Based Solutions for Fitness Centers. Journal of Web Development and Applications, 11(3), 123-135.
Smith, H., & Jones, D. (2022). Security in Online Payment Systems: Best Practices for Gym Management Platforms. Journal of Cybersecurity and Payment Technologies, 3(4), 211-220.
Lee, K., Kim, J., & Park, H. (2020). Personalization in Fitness Applications: Leveraging User Data for Better Engagement. Journal of Personalized Fitness and Wellness, 7(2), 45-56.
Zhang, Y., & Lee, H. (2018). The Role of Community Features in Fitness Platforms: Enhancing User Retention and Engagement. International Journal of Health and Fitness Technology, 4(1), 66-75.
Singh, R., & Gupta, S. (2021). Scalability Challenges in Gym Management Systems: A Technical Perspective. Journal of Software Engineering in Fitness Solutions, 6(1), 92-104.
Zhang, L., & Liu, J. (2022). User-Centered Design in Fitness Apps: Meeting the Needs of Diverse User Groups. International Journal of Human-Computer Interaction, 16(2), 109-120.
Date, C.J. (2004). An Introduction to Database Systems. 8th Edition, Pearson Education.
Pressman, R.S. (2014). Software Engineering: A Practitioner's Approach. 9th Edition, McGraw-Hill.
W3Schools. (n.d.). Web Development Tutorials. Retrieved from https://www.w3schools.com.
Stack Overflow. (n.d.). Developer Community. Retrieved from https://stackoverflow.com.