FITNESS WEBSITE

Cluster Innovation Centre, University of Delhi

Delhi - 110007

This report is submitted as the fulfillment of the Semester Long Project requirements of B.Tech (Information Technology & Mathematical Innovations)

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Certificate of Completion

This is to certify that Vipul Wasnik has completed this project under my guidance and supervision as per the contentment of the requirements of the 6th semester in the course B.Tech (Information Technology and Mathematical Innovations) at the Cluster Innovation Centre, University of Delhi.

Anjani Kumar Verma

Acknowledgement

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Table of Contents

1. INTRODUCTION

The world is becoming increasingly health-conscious, with more and more people recognizing the importance of maintaining a healthy lifestyle through regular exercise. As a result, the fitness industry has grown exponentially in recent years, with countless individuals looking for information on the best exercises to perform to achieve their fitness goals. In response to this demand, a fitness website has been developed using a range of cutting-edge technologies, including HTML, CSS, Javascript, React, React Router, node JS, and NPM.

The fitness website offers a wide range of features that make it a comprehensive resource for users looking to improve their fitness levels. In particular, the website provides a range of exercises for every muscle group, recommendations for similar exercises, and video tutorials to help users perform exercises correctly. Additionally, the website has been designed to be user-friendly and accessible, with a responsive design that ensures that it can be accessed on a range of devices, including desktop computers, tablets, and smartphones.

This report will provide a detailed overview of the fitness website, including the technologies used to develop it, the methodology used in its development, its key features, and plans for future development. The report will conclude with an assessment of the potential impact of the fitness website on the health and fitness industry, as well as its potential to help users achieve their fitness goals and lead healthier lives.

2. BACKGROUND RESEARCH

The development of fitness websites has become increasingly popular in recent years, as more people turn to online resources to help them achieve their fitness goals. A number of studies have explored the effectiveness of online resources for promoting physical activity and improving health outcomes.

A study published in the Journal of Medical Internet Research found that online resources, including fitness websites, can be effective in promoting physical activity and improving health outcomes in individuals. The study found that online resources were particularly effective in promoting physical activity among individuals who were not already regularly active.

Another study published in the Journal of Sports Science and Medicine found that online resources can be effective in improving fitness levels and promoting healthy lifestyles. The study found that the use of online resources, including fitness websites, was associated with significant improvements in physical fitness, body composition, and overall health.

The development of user-friendly and comprehensive fitness websites is crucial in ensuring that individuals have access to the resources they need to achieve their fitness goals. In particular, the inclusion of video tutorials and recommendations for similar exercises can help individuals to perform exercises correctly and effectively, reducing the risk of injury and ensuring that they are able to achieve maximum benefit from their workouts.

Overall, the literature suggests that the development of fitness websites can be an effective strategy for promoting physical activity and improving health outcomes in individuals. The development of user-friendly and comprehensive websites, such as the fitness website developed in this project, can play an important role in supporting individuals in achieving their fitness goals and leading healthier lives.

3. OBJECTIVE OF THE PROJECT

The main objective of the fitness website is to provide users with a comprehensive and user-friendly resource for improving their fitness levels. The website achieves this objective by offering a range of features designed to help users achieve their fitness goals, including:

1. Different Exercises for Every Muscle Group: The website provides users with a wide range of exercises for every muscle group, allowing users to target specific areas of their body and tailor their workouts to their individual needs.
2. Recommendations for Similar Exercises: In addition to providing a range of exercises for every muscle group, the website also recommends similar exercises that users may find helpful.
3. Video Tutorials: The website features video tutorials that demonstrate how to perform exercises correctly, ensuring that users can achieve maximum benefit from their workouts.
4. User-Friendly Interface: The website has been designed with a user-friendly interface that makes it easy for users to navigate and access the information they need.
5. Responsive Design: The website's responsive design ensures that it can be accessed on a range of devices, including desktop computers, tablets, and smartphones.

The objective of the fitness website is to provide a comprehensive and user-friendly resource for individuals seeking to improve their fitness levels, regardless of their level of experience or fitness goals. The website aims to empower users with the information and tools they need to achieve their fitness goals and lead healthier lives.

4. TECHNOLOGIES USED

The fitness website has been developed using a range of technologies to ensure that it provides users with a comprehensive and user-friendly resource for improving their fitness levels. The technologies used in this project include:

1. HTML: This is the markup language used to structure the content of the website.
2. CSS: This is the styling language used to make the website visually appealing and improve user experience.
3. Javascript: This programming language is used to make the website interactive and dynamic, allowing for features such as search and filter functions.
4. React: This is a popular Javascript library used for building user interfaces, making it an ideal choice for developing the fitness website's front-end.
5. React Router: This library is used to enable navigation between different pages on the website, making it easier for users to access the information they need.
6. Node JS: This is an open-source, cross-platform Javascript runtime environment used to build back-end servers for web applications.
7. NPM: This is a package manager used to install and manage dependencies required for the development of the fitness website.

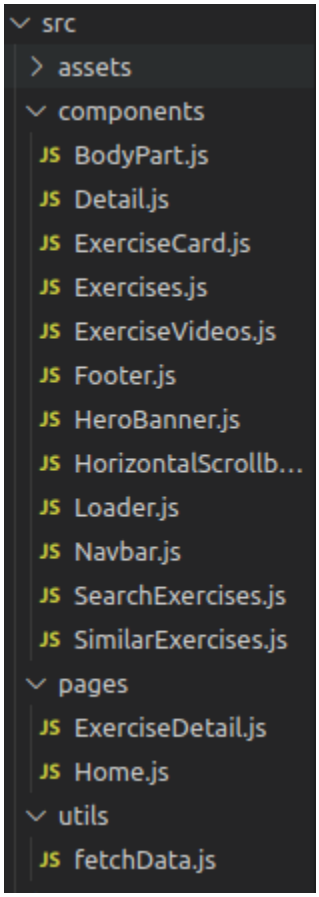
Each of these technologies has been selected for a specific purpose in the development of the fitness website. HTML and CSS are used to structure and style the content of the website, while Javascript and React are used to make the website interactive and dynamic. React Router is used to enable seamless navigation between pages, while Node JS is used to build the back-end server for the website. Finally, NPM is used to manage dependencies required for the development of the website.

5. METHODOLOGY

The website has been developed using an Agile methodology, with an iterative approach to development. The development process began with the creation of a basic prototype, which was used to gather feedback and refine the design and functionality of the website.

During the development I have also consulted a fitness expert to ensure that the exercises and recommendations provided on the website were accurate and effective.

The React App is made up of the following components, each component doing a particular function of the website:



1. **BodyPart.js** : This component is responsible for displaying a list of body parts or muscle groups that users can select to view exercises for.
2. **Detail.js** : This component is used to display more detailed information about a particular exercise, such as instructions for how to perform it, variations or modifications, and any safety precautions.
3. **ExerciseCard.js** : This component is used to display a single exercise as a card or tile, with an image, the name of the exercise, and some basic information like the number of reps or sets.
4. **ExerciseVideos.js** : This component is responsible for displaying videos of exercises, possibly as part of the Detail.js component or on a separate page.
5. **Footer.js** : This component is used to display a footer at the bottom of the website with links to important pages, contact information, or social media profiles.
6. **HeroBanner.js** : This component is used to display a large banner at the top of the website, which includes a call-to-action or a brief description of the website's purpose.
7. **HorizontalScrollbar.js** : This component is used to display a horizontal scrollbar that allows users to scroll through a list of exercises or other content.
8. **SearchExercises.js** : This component is used to provide a search bar or input field that users can use to search for exercises by name or keyword.
9. **SimilarExercises.js** : This component is used to display a list of exercises that are similar to the one currently being viewed, based on factors like muscle groups targeted, equipment needed, or difficulty level.
10. **ExerciseDetail.js** : This component is used to display more detailed information about a particular exercise, including images, videos, instructions, and variations.
11. **Home.js** : This component is used as the main landing page for the website, providing an overview of the available exercises and possibly some featured or popular exercises.
12. **fetchData.js** : This component is used to fetch data from an external API called ExerciseDB database, which can then be used to populate other components with exercise information, images, or videos.

Overall, React app is created with a variety of components that work together to provide a useful fitness resource for users.

6. COMPETITIVE ANALYSIS

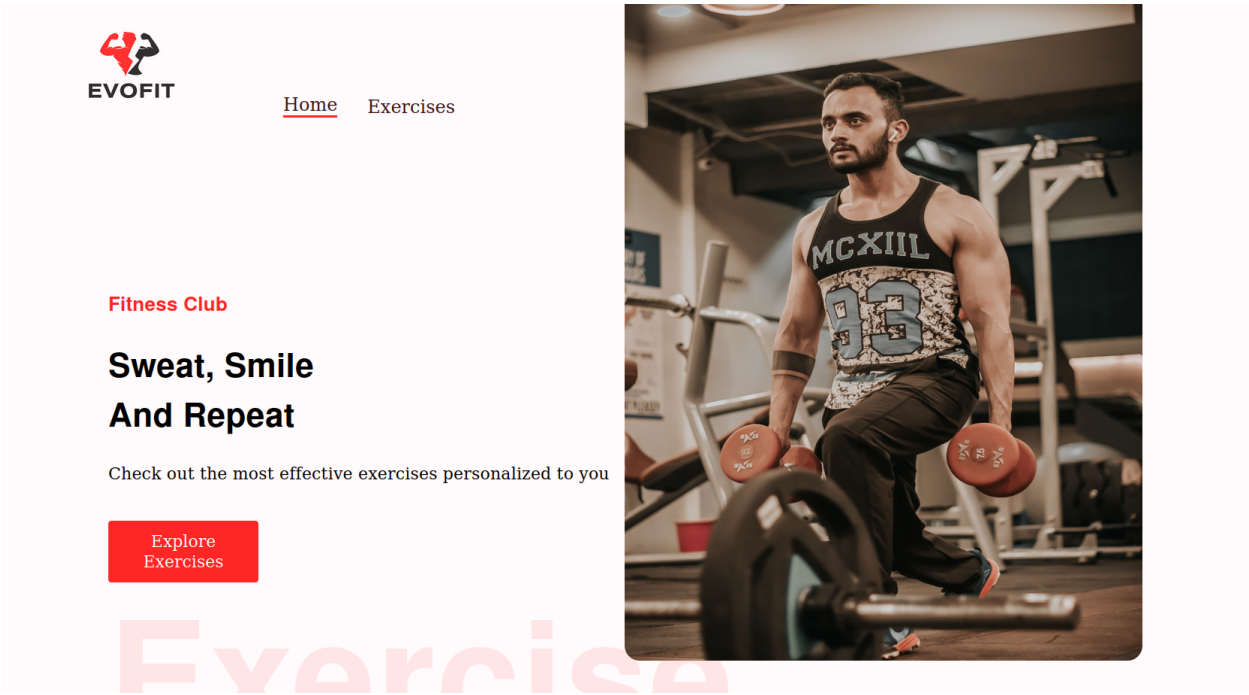
In the development of a fitness website, it is important to understand the features and design of similar websites in the market to create a unique and compelling user experience. Here is a competitive analysis of the fitness website developed in this project:

1. MyFitnessPal: MyFitnessPal is a popular fitness app that allows users to track their diet and exercise, as well as set goals and connect with other users. The app features a comprehensive database of foods and exercises, as well as a user-friendly interface. However, the app does not offer personalized workout recommendations or video tutorials.
2. Bodybuilding.com: Bodybuilding.com is a popular fitness website that offers a wide range of workout plans, exercise guides, and nutrition advice. The website also features an online store where users can purchase supplements and workout gear. However, the website can be overwhelming for beginners, and may not offer personalized recommendations for individual users.
3. Fitness Blender: Fitness Blender is a fitness website that offers free workout videos and exercise programs. The website features a clean and simple design, as well as a wide range of workouts for different fitness levels and goals. However, the website does not offer personalized workout recommendations or a comprehensive exercise database.

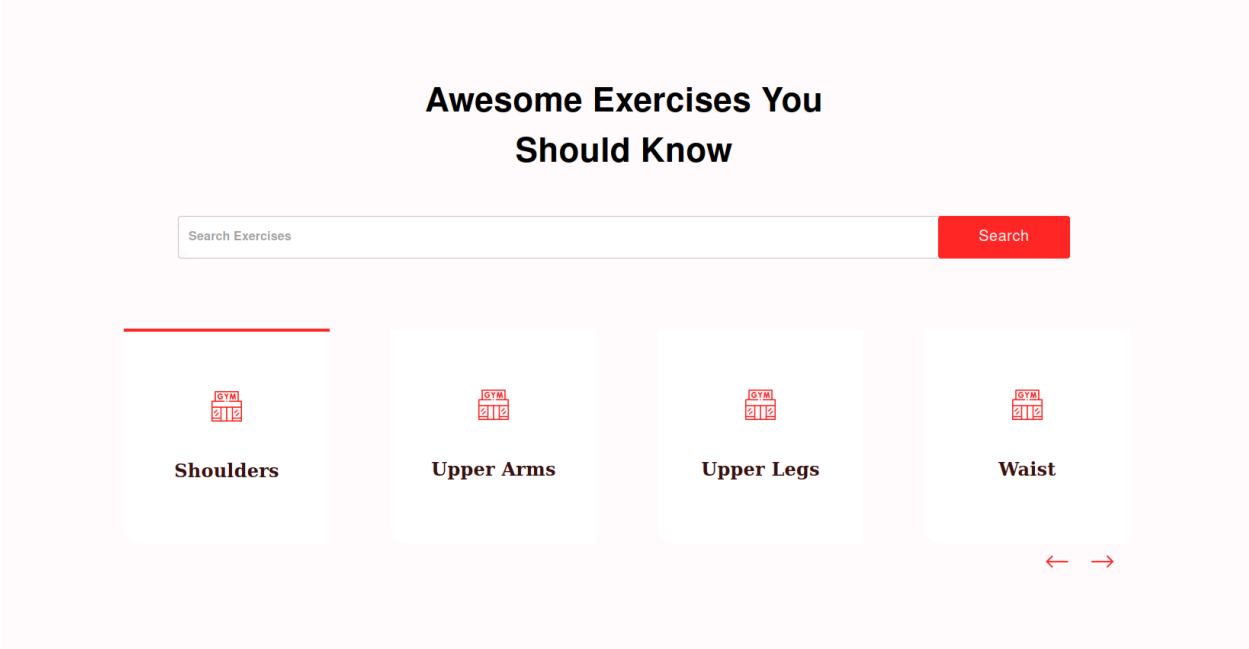
In comparison to these competitors, the fitness website developed in this project offers a comprehensive database of exercises for every muscle group, personalized workout recommendations, and video tutorials for each exercise. The website also features a clean and user-friendly design, making it easy for users to navigate and find the information they need. Additionally, the website is free to use and does not require users to sign up or purchase a subscription, making it accessible to a wide range of users. Overall, the fitness website developed in this project offers a unique and compelling user experience that differentiates it from its competitors.

7. RESULT and Screenshots

1.Home Page



2. Muscle Group Section



3. All Exercises

Showing Results

Chest Pectorals

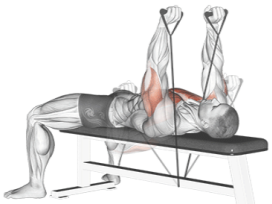
Archer Push Up

Chest Pectorals

Assisted Chest Dip (Kneeling)

Chest Pectorals

Assisted Seated Pectoralis Major Stretch With Stability Ball



0/exercise/0009

4. Exercise Detail

Barbell Deadlift

Exercises keep you strong. Barbell Deadlift bup is one of the best
exercises to target your glutes. It will help you improve your mood and gain energy.

- Upper Legs
- Glutes
- Barbell

5. Exercise Video

Barbell

Watch Video Tutorial

Similar Target Muscle exercises

6. Similar Exercises

Similar Target Muscle exercises

Upper Legs Glutes

Band Straight Back Stiff Leg

Upper Legs Glutes

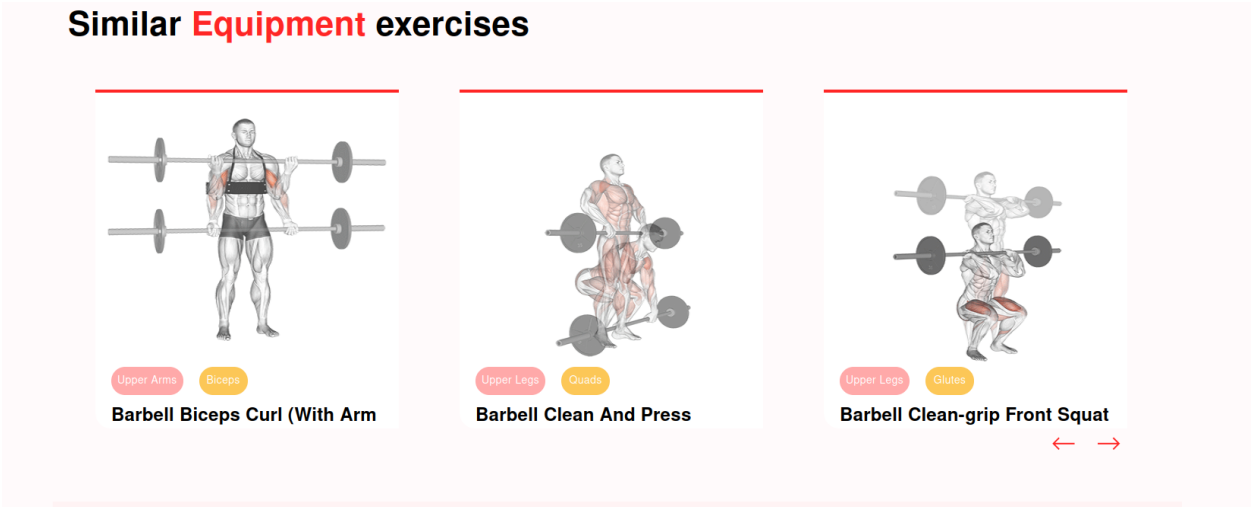
Barbell Clean-grip Front Squat

Upper Legs Glutes

Barbell Deadlift

← →

7. Similar Equipment Exercises



8. FUTURE WORK

While the fitness website developed in this project offers a comprehensive database of exercises and personalized workout recommendations, there is still potential for further development and improvement. Here are some ideas for future work that could enhance the website:

1. Diet Plans: To offer a more complete fitness experience, the website could include diet plans and nutrition advice. This could be achieved by partnering with nutrition experts or developing a database of healthy recipes and meal plans that users could access.
2. Workout Challenges: To keep users engaged and motivated, the website could offer workout challenges that users could participate in. These challenges could include specific workouts or exercises to complete within a certain timeframe, and could be designed for different fitness levels and goals.
3. Community Features: To foster a sense of community among users, the website could include features that allow users to connect and share their progress with others. This could include a social feed where users could post updates, photos, and videos of their workouts, as well as the ability to follow and interact with other users.
4. Progress Tracking: To help users track their progress and set goals, the website could include tools for logging and tracking workouts, as well as measuring progress over time. This could include features such as workout history, personal records, and progress charts.
5. Mobile App: To make the website more accessible and convenient for users, a mobile app could be developed that allows users to access workouts, track progress, and connect with other users on-the-go.

By implementing these additional features, the fitness website developed in this project could become an even more valuable resource for users looking to improve their fitness and overall health.

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https://unsplash.com/photos/PcBbrjiShAk?utm_source=unsplash&utm_medium=referral&utm_content=creditShareLink