A Mini Project Synopsis on

FitGeek - Interactive Fitness website

T.E. - I.T Engineering

Submitted By

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CERTIFICATE

This to certify that the Mini Project report on Leave Management Application has been submitted by Shreya Mahajan(20104001), Saniya Dutta(20104041), Anusha Gondhalekar (20104127) who are Bonafede students of A. P. Shah Institute of Technology, Thane, Mumbai, as a partial fulfilment of the requirement for the degree in **Information Technology**, during the academic year **2022-23** in the satisfactory manner as per the curriculum laid down by University of Mumbai.

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ABSTRACT

There was a time when people did not show their concern towards health and fitness but now people have started to emphasize the need to be fit. This has lead to an increase in the demand of developing fitness mobile apps. Smartphones and mobile apps have become an essential element of everyone's everyday life and fitness is no exception. Health and fitness have become top priority of everyone today. Staying fit has become a trend and people are now even hiring coaches and personal fitness trainer. Gyms and fitness centres have become more focused to help their trainees be more fit and fine. This is causing a great boost to the mobile app development company focusing Fitness apps.

A fitness-based mobile app is a great idea for a start-up for folks who are highly interested in this field. There are many competitors in the niche of fitness and sports. Getting fitness apps, people can observe their health progress with real-time analysis.

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Chapter 1

Introduction

In today's world fitness is the new trend which everyone is trying to catch. Yet some fitness geeks find it difficult to train their body in the right way. For them, "FitGeek" has been developed to override the problems prevailing in the practicing manual system. This software is supported to eliminate and in some cases reduce the hardships faced by this existing system. Moreover this system is designed to fulfil particular needs of the person to carry out exercises in a smooth and effective manner.

It also provides error message while entering invalid data. No formal knowledge is needed for the user to use this system. Thus by this all it proves it is user-friendly.

"FitGeek- An Interactive Website" as described above, can lead to error free, secure, reliable and fast management system. Every user has challenges to overcome and managing the informations of the Trainer, Facility, Time Slot, Calorie Intake, Appointments. Also, for those busy executives who are always on the go, our website can be accessed from remote locations which will allow them to manage their workforce anywhere, at all times. These systems will ultimately allow you to better manage resources.

The aim is to automate its existing fitness system by the help of computerised exercise access and fulfilling their requirements, so that their valuable data/information can be stored for a longer period with easy accessing and manipulation of the same. Basically the project describes how to manage for good performance and better services for the clients.

1.1. Purpose

1. To build an application program to reduce the manual work for managing the Gym, Trainer, Time Slot, Member.

2. To tracks all the details about the Member, Facility, Fitness Class.

3. To provide the user with instructions and examples of one or more types of exercise, physical activity, nutritional programs, or some other fitness topic.

4. To avail the user with gym-like facilities and training at home virtually.

5. To keep the user motivated to be healthy.

1.2 Problem Identified:

1. People rely on irrelevant knowledge and incorrect workout plans available on the internet which can cause some serious injuries or which isn't suitable for their body type.

2. The right guidance available is not feasible for everyone economically.

3. People can miss out on their gym when they are out of town.

1.3. Objectives

1. To obtain right guidance regarding fitness conveniently and economically.
2. To learn exercises with the help of right instructions and animations.
3. To keep a daily track of calorie intake.
4. To calculate the Body Mass Index and determine the scale.
5. To create awareness about recent updates in healthcare.
6. To provide the user with access to the exercises even remotely.
7. To allow the user to book appointments easily.
8. To provide the user with an interactive chart displaying their health levels.

1.4. Scope

1. For modern gyms to achieve success and optimize their business potential.
2. To utilize resources in an efficient manner by increasing their productivity through automation.
3. For economical class to provide them quality fitness assistance with good deal membership.

Chapter 2

Literature Review

IEEE Xplore- Strength Training: A Fitness Application for Indoor Based Exercise Recognition and Comfort Analysis
LINK: https://ieeexplore.ieee.org/document/8260796/

Data collected by fitness trackers could play an important role in improving the health and well-being of the individuals who wear them. Many insurance companies even offer monetary rewards to participants who meet certain steps or calorie goals. However, in order for it to be useful, the collected data must be accurate and also reflect real-world performance. While previous studies have compared step counts data in controlled laboratory environments for limited periods of time, few studies have been done to measure performance over longer periods of time, while the subject does real-world activities. There are also few direct comparisons of a range of health indicators on different fitness tracking devices. In this study, we compared step counts, calories burned, and miles travelled data collected by three pairs of fitness trackers over a 14-day time period in free-living conditions. Our work indicates that the number of steps reported by different devices worn simultaneously could vary as much as 26%. At the same time, the variations seen in distance travelled, based on the step count, followed the same trends. Little correlation was found between the number of calories burned and the variations seen in the step count across multiple devices. Our results demonstrate that the reporting of health indicators, such as calories burned and miles travelled, are heavily dependent on the device itself, as well as the manufacturer's proprietary algorithm to calculate or infer such data. As a result, it is difficult to use such measurements as an accurate predictor of health outcomes, or to develop a consistent criteria to rate the performance of such devices in head-to-head comparisons.

IEEE Xplore-
Link: https://ieeexplore.ieee.org/abstract/document/7894077

Recent technological advances have created enormous opportunities for developing applications that support training from home - particularly for older adults, who often are socially more isolated, are physically less active, and have fewer chances to train in a gym. In this article, the authors review current fitness applications and their features alongside the design challenges and opportunities of fitness applications for trainees at home.

Chapter 3

3.1. Proposed System

Fitness Gym Management System provides a computer-based management system for keeping all records about Members, Machinery, Expenses, transactions, and Salaries in an efficient and accessible database. This system helps the Owner and Admin to maintain large data about users and their daily transactions in gymnasium System is helping in creating reports, manage salaries, expenses, and machinery record.

3.2. Features and functionalities

The system design will give full functionality and offer different exercises according to their needs. It offers a well-defined and aesthetic interface, along with saving the details of each user.

- Admin Account to control the access and maintain security.
- Robust database back-end.
- Well-designed graph depicting the calorie intake.
- Accuracy in calculations.
- Easy & fast retrieval of information.
- Decrease the load of the person involved in existing manual system.
- Access of any information individually by the Admin.
- Easy to register.
- User can avail different exercises available on the website with the guidance of online coaches available for them at user's convenience.
- Users can track calories burnt in a day to judge their health and performance.
- User can calculate their BMI for selecting a suitable workout plan in their fitness journey.
- In case of emergencies, appointments with doctors can be booked via the website.

Chapter 4

Requirement Analysis

- Login and registration system is available for users who wish to access the website.
- On Dashboard, users can navigate through latest health-related news and several tabs.
- Authentication of user whenever he/she logs into the system.
- Username of the user is displayed on the profile.
- Generation of calorie intake graph.

Chapter 5

Project Design

System Design of "FitGeek: Interactive Fitness website"

In this phase, a logical system is built which fulfils the given requirements. Design phase of software development deals with transforming the client's requirements into a logically working system. Normally, design is performed in the following two steps:

- **Primary Design Phase**:

In this phase, the system is designed at block level. The blocks are created on the basis of analysis done in the problem identification phase. Different blocks are created for different functions emphasis is put on minimising the information flow between blocks. Thus, all activities which require more interaction are kept in one block.

- **Secondary Design Phase**:

In the secondary phase the detailed design of every block is performed.

The general tasks involved in the design process are the following:

1. Design various blocks for overall system processes.

2. Design smaller, compact and workable modules in each block.

3. Design various database structures.

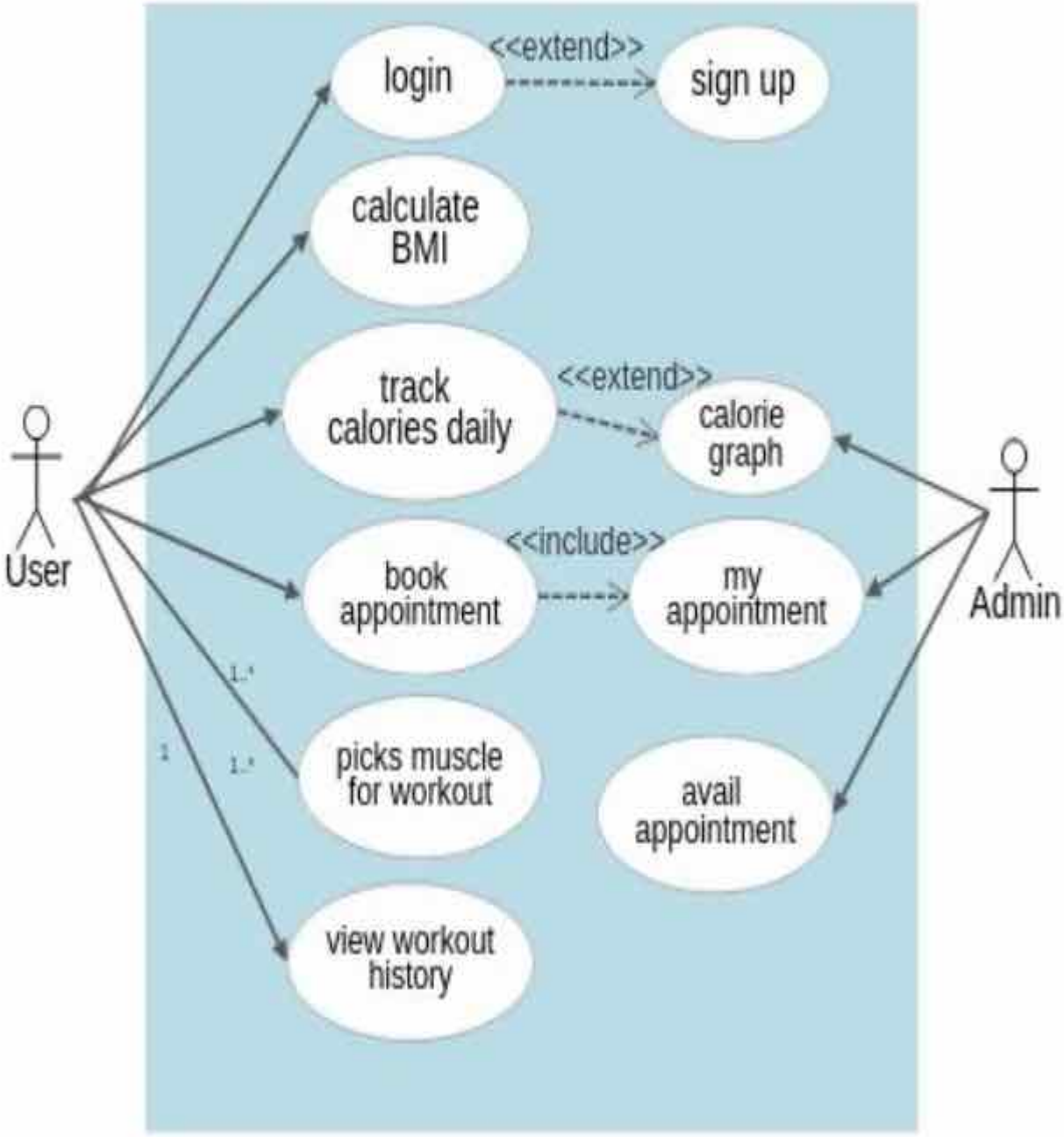
4. Specify details of programs to achieve desired functionality.

5. Design the form of inputs, and outputs of the system.

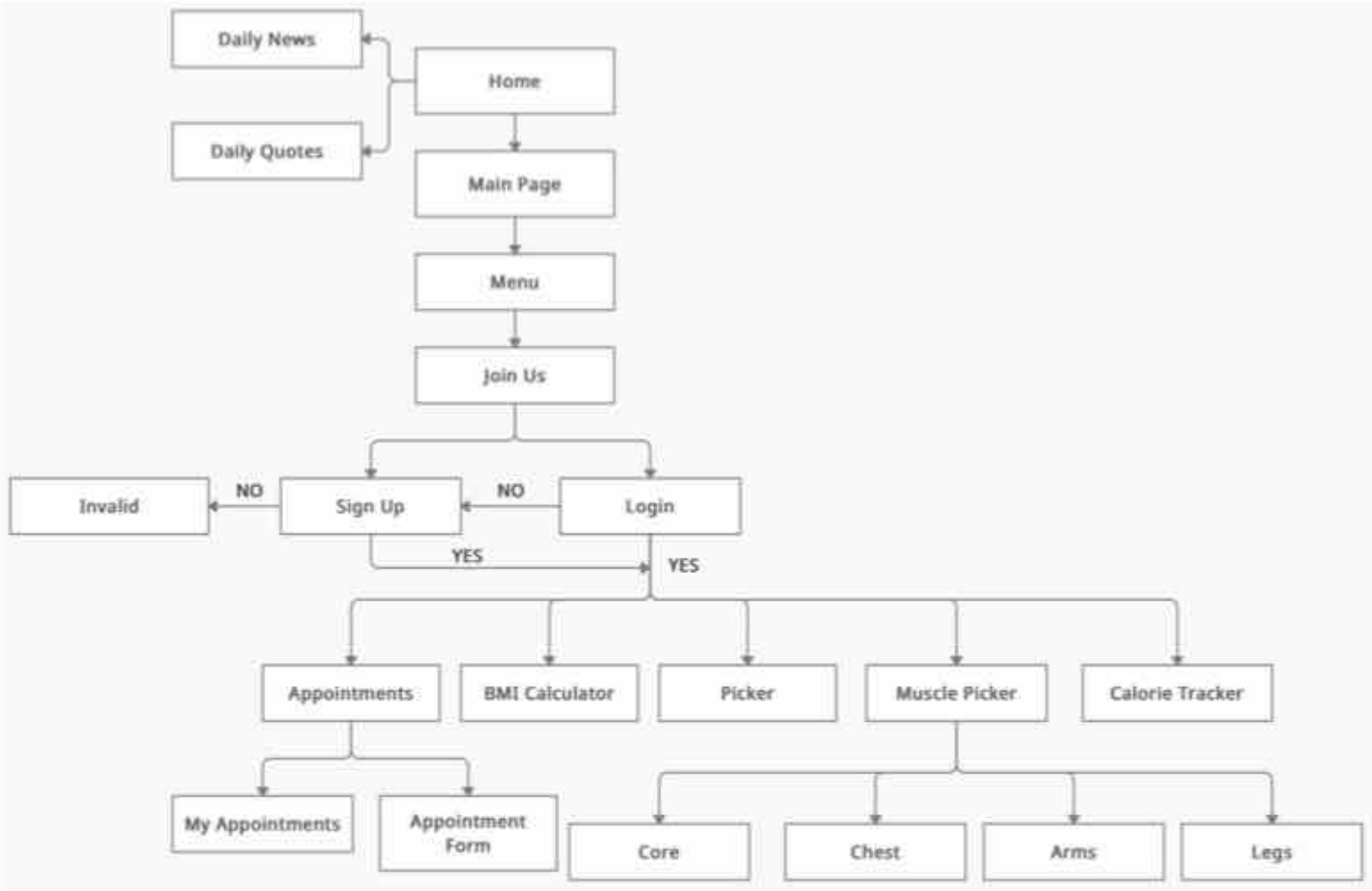
6. Perform documentation of the design.

7. System reviews.

5.1. USE CASE DIAGRAM



5.2 DFD (Data Flow Diagram)



Chapter 6: Technical Specifications

Software requirements:

- FRONT-END: HTML CSS JS.

- BACK-END: DJANGO.

- EDITOR: VISUAL STUDIO CODE.

Chapter 7

Project Scheduling

Sr. No	Group Member	Time duration	Work to be done
1	Shreya Mahajan	1st week of July	Implementing 1st module(Designing dashboard of the website which includes latest news, menu bar, and the 'Join us section' for login and sign up, also the database)
		2nd week of July	Testing 1st module (designing the body picker, BMI calculator and database)
2	Saniya Dutta	3rd week of July	Implementing 2nd module (designing the appointments section, tracker, OTP generation.)
3	Anusha Gondhalekar	By the end of march August	Implementing 3rd module (adding validations, workout history)

4	Shreya Mahajan	2nd week of August	Implementing 4th module (The whole exercise tab, Exercises with GUI, Diet tab)
5	Saniya Dutta	4th week of August	Implementing 5th module (Membership tab, Payment Portal, Validations in membership tab)
6	Anusha Gondhalekar	1St week of September	Implementing 6th module (Dashboard)

Chapter 8:

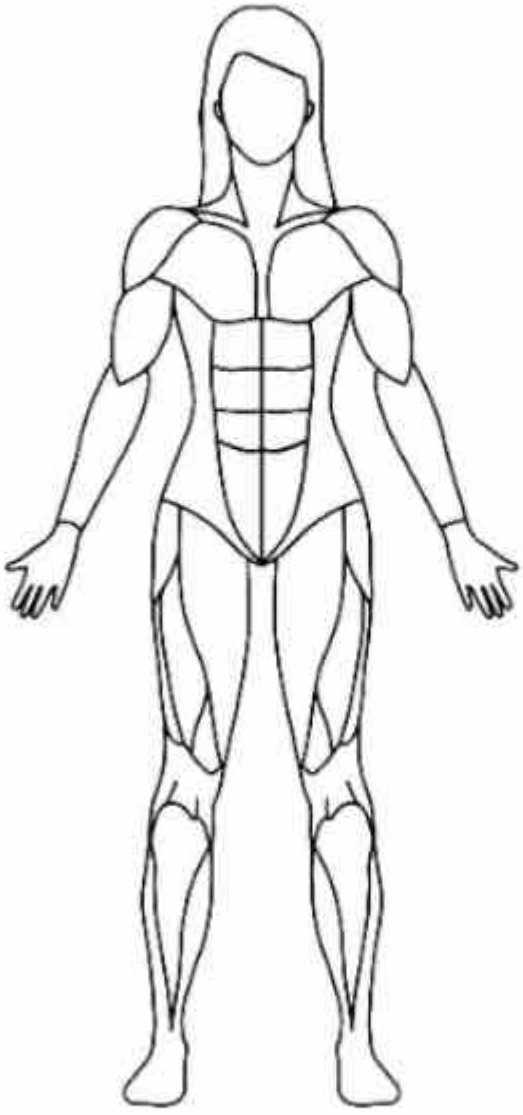
Implementation:

Home page:

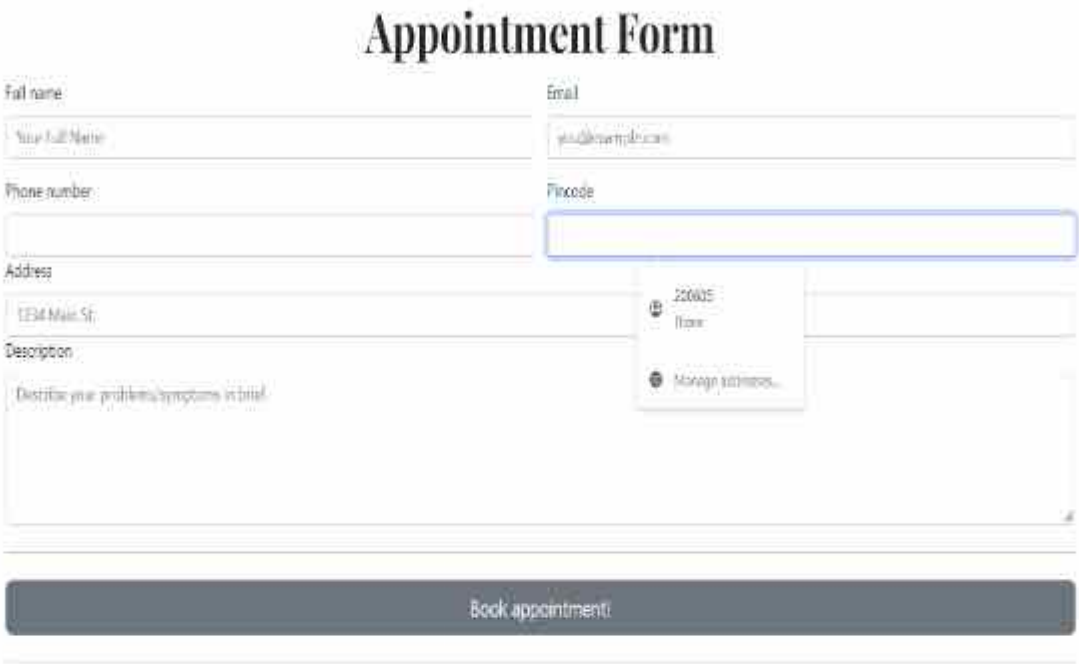
Body Picker:

Wanna train Legs?

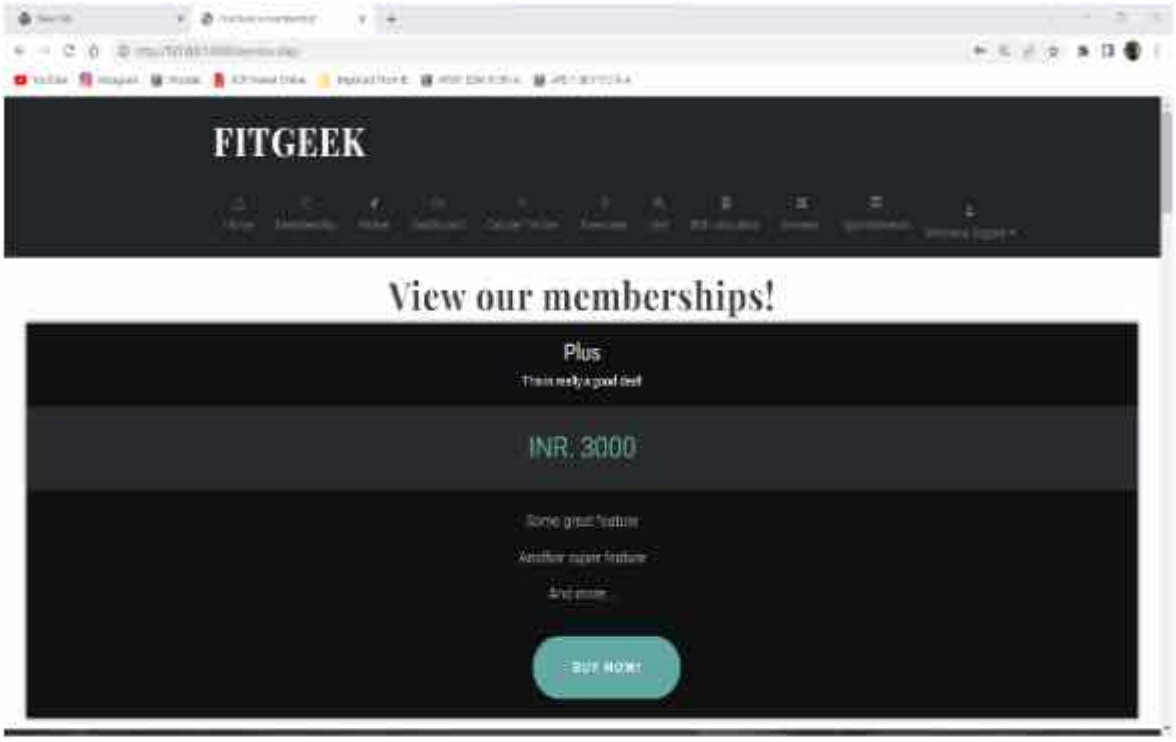
Tip: Click the body part you want to train from the figure below!



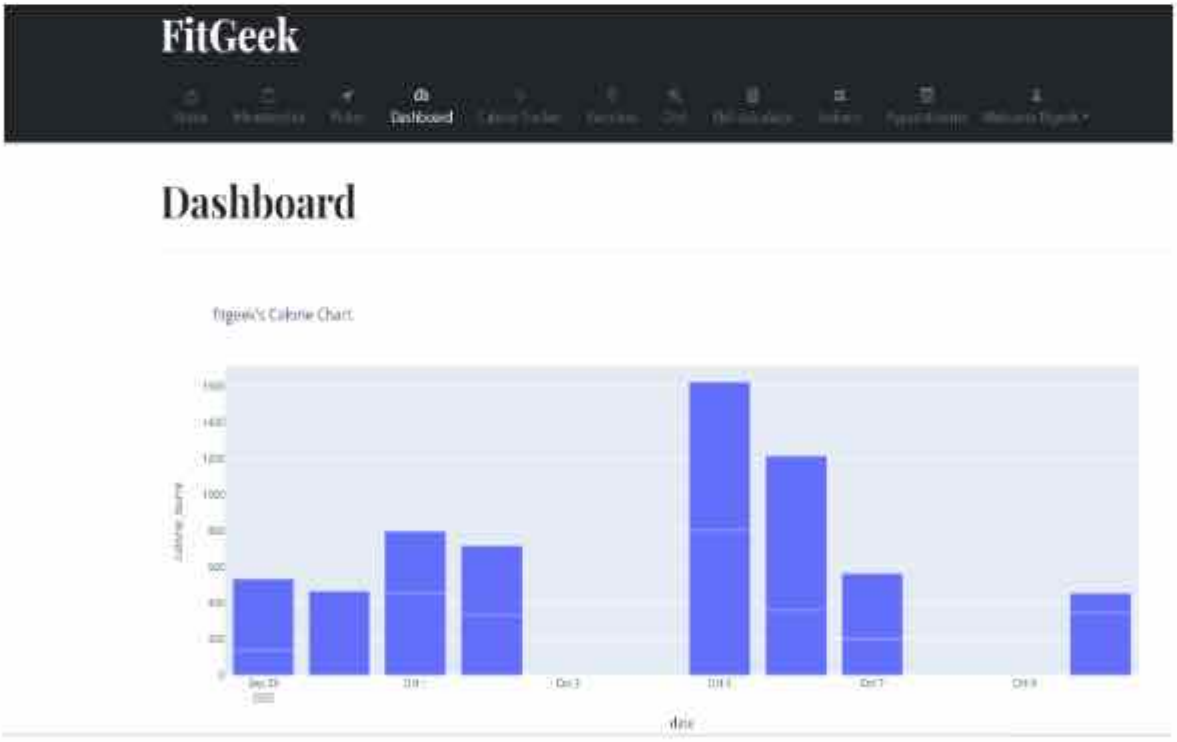
Appointment Form:



Membership Portal:



Dashboard:



Chapter 9

Result and Discussion

1. All the premium features can be accessed only after the user logs in with his credentials.

2. Input validations should be applied for registration and appointment form.

3. There should animations for exercises rather than hyperlinks of YouTube videos.

4. Implementation of calorie tracking on daily basis.

Chapter 10: Conclusion

With the help of "FitGeek", we can provide users with a user-friendly and interactive website which will help enhance their health and exercise routines. The website can be accessed anytime and from anywhere which will be of great convenience to the user. Booking of appointments can be done easily online through the website. With the help of Body Mass Index (BMI) calculation and its range, the user will be recommended with suggested exercises. Thus, the website will benefit the user in a healthy way.

Chapter 11

References

1. https://www.researchgate.net/publication/321301538_The_Use_of_Mobile_Applications_to_Collect_Data_in_Sport_Health_and_Exercise_Science_A_Narrative_Review

2. https://ieeexplore.ieee.org/abstract/document/7676200

3. https://ieeexplore.ieee.org/document/8260796

4. https://ieeexplore.ieee.org/document/1273148