

**A Project Report on**

**“FITNESS THAT FITS”**

**Submitted in partial fulfillment as a requirement for the award of degree of**

**BACHELOR OF COMPUTER APPLICATION**

**Submitted by**

**MITHUN KAVERIAPPA M K (MCD19046)**

**Under the guidance of**

**MADHURA GEETHA S**

**Assistant Professor**

**DEPARTMENT OF COMPUTER APPLICATION**

**SBRR MAHAJANA FIRST GRADE COLLEGE(Autonomous)**

**Jayalakshmipuram, Mysore – 12**

**College with Potential for Excellence EDUCATION TO EXCEL**

**SBRR MAHAJANA FIRST GRADE COLLEGE(Autonomous)**

**Jayalakshmipuram, Mysore – 12**

**(Affiliated to University of Mysore and accredited by NAAC with ‘A’ Grade)**

**DEPARTMENT OF COMPUTER APPLICATION**



*Certificate*

This is to certify that Mr. MITHUN KAVERIAPPA M K with Register no MCD19046 has successfully completed the project work in SBRR MAHAJANA FIRST GRADE COLLEGE prescribed by the University of Mysore for BCA course VI semester during the year 2022.

*Signature of the teacher in charge Head of the Department*

*1.*

*Examiners*

*1.*

*2.*

**Declaration**

I **MITHUN KAVERIAPPA M K** student of **VI Semester**, **Department of Computer Application**, **SBRR Mahajana First Grade College (Autonomous), MYSORE,** do hereby declare that the project entitled **“FITNESS THAT FITS”** has been carried out by us under the guidance of **Mrs. Madhura Geetha S** during the period MAY-AUGUST 2022. This project report is submitted for the award of the degree **Bachelor of computer application (BCA) by the University of Mysore.**

The results embodied in this thesis have not been submitted to any other University or Institute for award of any degree.

Date: Signature Place: Mysore (Mithun Kaveriappa M K)

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CHAPTER 01:

INTRODUCTION

### 1.1 Introduction

The Internet and its associated technologies have become an indispensable tool to search products, services or frequently access information needed in our daily lives. For example, booking a hotel, purchasing a new device or consulting the weather forecast. We are presently reported to spend an average six hours per day connected to the Internet. Amid this phenomenon, there is an increasing interest in seeking aid in the Internet to embrace healthier lifestyles, through the search and sharing of information related to fitness exercises and wellness practices, or via smartphone apps. For instance, the rate of Google searches based on keywords such as “personal trainer”, “crossfit”, has dramatically increased in the last decade. Although gyms and yoga centres are a common choice for users who desire to adopt or maintain an active lifestyle, they are not always within the reach of every person, for example owing to financial limitations, busy schedules, frequent traveling, etc. Taking health research, (October 6, 2018, Vancouver, BC, Canada © 2018 Copyright for the individual papers remains with the authors. Copying permitted for private and academic purposes. This volume is published and copyrighted by its editors) advantage of the growing demand for online resources to promote exercising, online workout videos have proliferated in recent years as an alternative means to keep users active from the comfort of home or beyond, with a number of advantages:

* It is convenient in providing 24/7 access to a wealth of fitness resources from anywhere with an Internet connection.
* It does not require commitment to work out at an externally imposed day or time.
* With a careful search and use of the resources available, they provide a wealth of workouts from a diversity of instructors.
* It is cost-effective and can be undertaken in a more individual and private space.

### 1.2 Objective

* Fitness videos Recommendation for consumer.
* Effective associated video advice.
* Video advice in the health area to aid an energetic lifestyle.
* Platform for exercise video advice, which advantages from the Youtube-8M categorized dataset and which has wealthy style of classified video labels.

### 1.3 Overview

The Internet and its related technology has grown to be an imperative device to look products, offerings or regularly get admission to statistics wished in our daily lives, e.g. reserving a hotel, shopping a brand new tool or consulting the climate forecast. We are currently mentioned to spend a median 6 hours in step with day linked to the Internet, this phenomenon, there may be a growing hobby in in search of useful resource withinside the Internet to include more healthy lifestyles, e.g. via the quest and sharing of statistics associated with health sports and well-being practices, or through telephone apps.

For instance, the rate of Google searches primarily based totally on key phrases such as “non-public trainer”, “go fit”, “hit”, “core” has dramatically elevated withinside the remaining decade. Although gyms and enjoyment facilities are a not usual place desire for customers who preference to undertake or keep an energetic lifestyle, they're now no longer constantly in the attain of each person, e.g. attributable to monetary limitations, busy schedules, common traveling, etc.

Advantage of the developing call for online assets to sell exercising, online exercise videos have proliferated in latest years as an opportunity manner to preserve customers energetic from the consolation of home.

In this undertaking “Fitness That Fits” is essentially recommending bodily exercise videos upon categorized video facts from the Youtube-8M facts set. It is the bendy model for consumer choices primarily based totally on their profile and BMI.

### 1.4 Advantages:

* Online workout videos are incredibly convenient.
* Cost effective compared to Gyms, Studios and Trainers
* Fitting your workout into your schedule.
* Expert instruction in your home.

### 1.5 Literature survey

**[1]** J. Brenden, A. Lawler, and B. Smyth. (2017) have proposed a “Health-associated fitness knowledge” (HRFK) paper, has been a vital idea for plenty fitness and bodily schooling programs. There has been confined expertise and longitudinal research on HRFK boom. This longitudinal have a look at tested HRFK boom and its character and college stage correlates in centre college years beneath 1 curriculum condition. The motive of this has a look at turned into to look at the connection among fitness-associated health knowledge (HRFK), bodily health (PF), and bodily hobby (PA) in a college-elderly person population. Participants included.

**[2]** Paul Covington, Jay Adams have proposed a “Deep Neural Network” for YouTube Recommendation paper, YouTube represents one in every of the most important scale and maximum state-of-the-art business advice structures in existence. In this paper, we describe the device at an excessive stage and attention at the dramatic overall performance upgrades added with the aid of using deep getting to know. The paper is break up in step with the traditional -level facts retrieval dichotomy: ﬁrst, we element a deep candidate era model after which describe a separate deep rating model. Also offer sensible training and insights derived from designing, iterating and keeping a huge advice device with good sized consumer dealing with impact.

**[3]** J Lee, Apostol (Paul) Natsev, Walter Reade, Rahul Sukthankar, and George Toderici have proposed “The 2nd YouTube-8M Large-Scale Video Understanding Challenge” paper. In this Understanding Kaggle Challenge and Workshop at ECCV’18, with the undertaking of classifying motion pictures from frame-stage and video-stage audio-visible features. In this year’s venture, we restrained the ﬁnal model length to 1GB or less, encouraging individuals to discover illustration getting to know or higher architecture, rather than heavy ensembles of more than one fashions. In this paper, we brieﬂy introduce the YouTube-8M dataset and venture undertaking, accompanied with the aid of using individual facts and end result analysis. We summarize proposed thoughts with the aid of using individuals, which includes architectures, temporal aggregation methods, akin to and distillation, records augmentation, and more.

**[4]** Jakim Berndsen, Aonghus Lawlor, Barry Smyth have proposed “Running with Recommendation” paper. In this paper We look at the feasibility of a collaborative commander device withinside the workout area centred mainly a turner. By the usage of a huge dataset of over 600000 runners’ end instances we discover the contrasts among informal and elite runners and hypothesise how are commander device can be used to mitigate a number of those differences. We additionally in brief speak a number of the demanding situations confronted with the aid of using such are commendation undertaking and propose how those demanding situations ought to bead dressed.

**[5]** J Davidson, Benjamin Liebald, Junning Liu proposed paper “The YouTube Video Recommendation System”, We speak the video advice device in use at YouTube, the global maximum famous on line video community. The device recommends customized units of motion pictures to customers primarily based totally on their hobby at the site. We speak a number of the particular demanding situations that the device faces and the way we deal with them. In addition, we offer information at the experimentation and assessment framework used to check and track new algorithms. We additionally gift a number of the ﬁndings from those experiments.

**[6]** Erin K. Howie, John Joosten, Courtenay J. Harris4 and Leon M, Straker proposed paper “Associations Among Assembly Sleep”, bodily hobby or display time behaviour pointers and educational overall performance in Australian college children, Current pointers propose too little sleep, too little bodily hobby, and an excessive amount of sedentary time are related to bad fitness These behaviours may additionally have an impact on instructional overall performance in college children. The number one motive of this has a look at turned into to look at the relationships among sleep, bodily hobby, or sedentary behaviours and educational overall performance in a college with a well-evolved and included generation use and wellness program.

**[7]** Xie, Ruslan Salakhutdinov, Luntian Mous and Eric P. Xing proposed “Deep Determinantal Point Process for Large-Scale Multi-Label Classification” paper. In this paper we have a look at huge-scale multi-label class on currently launched datasets: Youtube-8M and Open Images that include hundreds of thousands of records times and hundreds of classes. The exceptional trouble scale poses wonderful demanding situations for MLC. First, locating out the best label subset out of exponentially many picks incurs good sized ambiguity and uncertainty. Second, the huge records-length and class-length entail full-size computational cost. To deal with the primary venture, we inspect strategies: taking pictures label-correlations from the education records and incorporating label co-prevalence family members acquired from outside knowledge, which successfully get rid of semantically inconsistent labels and offer contextual clues to distinguish visually ambiguous labels.

**[[8]](javascript:void(0);" \o "David Elsweiler)** [David Elsweiler, Bernd Ludwig, Alan Said, Hanna Schaefer proposed “Engendering Health with Recommender Systems” paper is the](javascript:void(0);" \o "David Elsweiler)[[Proceedings of the 10th ACM Conference on Recommender Systems](javascript:void(0);" \o "David Elsweiler)](https://dl.acm.org/doi/proceedings/10.1145/2959100)[. The first workshop on engendering Health with Recommender Systems was organized in conjunction with ACM Rec sys 2016. The focus of the workshop was on bringing together researches and practitioners from diverse area of health, well-being decision, and behavioural change. Health-related issues in recommender system have been a growing research topic in recent years and this was an initial attempt at bringing together academics and practitioners to share their experience on working on related.](javascript:void(0);" \o "David Elsweiler)

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# Chapter 02:

# USER APPLICATION ENVIRONMENT

### 2.1 Php:

#### **2.1.1 Features of PHP:**

PHP is a general-purpose server element scripting language, designed for web development to deliver dynamic web pages. It is one of the first advanced server-element scripting languages to be embedded into an HTML deliver document instead of calling an outdoor report to way data. The code is interpreted via a web server with a PHP processor module which generates the following web internet web page. It moreover has evolved to embody a command-line interface capability and can be applied in standalone graphical applications. PHP can be deployed on most web servers and moreover as a standalone shell on almost every running tool and platform free of charge. A competitor to Microsoft's Active Server Pages (ASP) server-element script engine and similar languages, PHP is mounted on more than 20 million Websites and 1million Web servers. Software that uses PHP includes Joomla, WordPress, My BB, and Drupal. PHP emerge as at the start created via Rasmus Lerdorf in 1995. The critical implementation of PHP is now produced via The PHP Group and serves due to the fact the formal reference to the PHP language. PHP is loose software program software released beneath the PHP License, this is incompatible with the GNU General Public License (GPL) due to rules on using the term PHP While PHP at the start stood for "Personal Home Page", it's far now said to stand for "PHP: Hypertext Pre-processor", a recursive acronym.

#### **2.1.2 Usage:**

PHP is a general-purpose scripting language that is appropriate to server-element net development wherein PHP commonly runs on a web server. Any PHP code in a requested report is executed via the PHP runtime, generally to create dynamic net internet web page content material cloth or dynamic pictures used on websites or elsewhere. It additionally may be used for command-line scripting and client-element graphical purchaser interface (GUI) applications. PHP can be deployed on most Web servers, many running systems and platforms, and can be used with many relational database management systems (RDBMS). It is available free of charge, and the PHP Group offers the complete deliver code for clients to build, customize and increase for their non-public use. PHP acts greater frequently than now no longer as a filter, taking input from a report or float containing text and/or PHP instructions and outputting some other float of data; most typically the output can be HTML. Since PHP 4, the PHP parser compiles input to deliver byte code for processing via the Zend Engine, giving superior standard overall performance over its interpreter predecessor. Originally designed to create dynamic Web pages, PHP now focuses specially on server-element scripting, and it's far much like one of a type server-element scripting languages that provide dynamic content material cloth from a Web server to a client, at the side of Microsoft's ASP. NET, Sun Microsystem’s Java Server Pages, and module perl. PHP has moreover attracted the development of many frameworks that provide building blocks and a format form to promote rapid application development Some of these embody Cake PHP, Symfony, CodeIgniter, Framework, and Zend Framework, offering abilities much like one of the type net application frameworks.

#### **2.1.3 Functions:**

PHP has loads of base features and hundreds of extensions. These features are nicely documented at the PHP site. However, the integrated library has a huge sort of naming conventions and inconsistencies. PHP presently has no features for thread programming, even though it does help multipurpose programming on POSIX systems.

#### **2.1.4 Objects:**

Basic object-orientated programming capability has into brought in PHP 3 and progressed in PHP 4. Object managing turned into absolutely rewritten for PHP 5, increasing the characteristic set and improving performance. In preceding variations of PHP, gadgets have been treated like fee sorts. The disadvantage of this approach turned into that the complete object turned into copied whilst a variable turned into assigned or handed as a parameter to the approach. In the new approach, gadgets are referenced with the aid of using handle, and now no longer with the aid of using fee. PHP five delivered non-public and guarded member variables and methods, along with summary classes, very last classes, summary methods, and very last methods. It additionally delivered a widespread manner of asserting constructors and destructors, much like that of different object-orientated languages along with C++, and a widespread exception managing model. Furthermore, PHP five brought interfaces and allowed for more than one interfaces to be implemented. Objects enforcing Array Access may be used with array syntax and gadgets enforcing Iterator or Iterator Aggregate may be used for every language construct. There isn't any digital desk characteristic withinside the engine, so static variables are sure with a call rather than a reference at collect time.

#### **2.1.5 Data types:**

PHP shops complete numbers in a platform-structured variety, both a 64-bit or 32-bit signed integer equal to the C-language lengthy type. Unsigned integers are transformed to signed values in positive situations, this behaviour isn't the same as different programming languages. Integer variables may be assigned the use of decimal, octal, and hexadecimal notations. Floating factor numbers also are saved in a platform-particular variety. PHP has a local Boolean type, this is much like the local Boolean sorts in Java and C++. Using the Boolean type rules, non-zero values are interpreted as genuine and zero as false, as in Perl and C++. The null type represents a variable that has value. The simplest value withinside the null type is NULL. Variables of the "resource" type constitute references to sources from outside sources. These are generally created with the aid of using features from a selected extension, and may simplest be processed with the aid of using features from the identical extension, examples encompass record, image, and database sources. Arrays can incorporate factors of any type that PHP can handle, inclusive of sources, gadgets, or even different arrays. Order is preserved in lists of values and in hashes with each key and values, and the two may be intermingled. PHP additionally helps strings, which may be used with unmarried quotes, double quotes, and now doc or heredoc syntax. The Standard PHP Library (SPL) tries to clear up widespread troubles and implements green facts get entry to interfaces and classes.

### 2.2 Mysql:

MySQL is an open-deliver relational database manage tool (RDBMS). Its name is a mixture of "My", the decision of co-founder Michael Widenius daughter, and "SQL", the abbreviation for Structured Query Language. MySQL is loose and open-deliver software program software beneath the terms of the GNU General Public License, and is also available beneath some of proprietary licenses. MySQL emerge as owned and sponsored via the Swedish organisation MySQL AB, which emerge as presented via Sun Microsystems (now Oracle Corporation). In 2010, even as Oracle acquired Sun, Widenius forked the open-deliver MySQL assignment to create MariaDB. MySQL is a part of the LAMP net application software program software stack (and others), this is an acronym for Linux, Apache, MySQL, Perl/PHP/Php. MySQL is used by many database-driven net applications, along with Drupal, Joomla, php, and WordPress. MySQL is also used by many well-known internet websites, along with Facebook, Media Wiki, Twitter, and YouTube.

### 2.3 Css:

CSS is designed to permit the separation of presentation and content material cloth, along with format, colours, and fonts. This separation can decorate content material cloth accessibility, provide more flexibility and control withinside the specification of presentation characteristics, permit more than one net pages to percent formatting via specifying the relevant CSS in a separate. CSS reduce complexity and repetition withinside the structural content material cloth.

### 2.4 Xampp:

#### **2.4.1 XAMPP:**

XAMPP is an unfastened and open supply cross-platform net server answer stack package, consisting specially of the Apache HTTP Server, MySQL database, and interpreters for scripts written withinside the PHP and Perl programming languages. XAMPP's call is an acronym for:

* X (to be study as "cross", that means cross-platform)
* Apache HTTP Server
* MySQL
* PHP
* Perl

The software is launched below the phrases of the GNU General Public License and acts as an unfastened net server able to serving dynamic pages. XAMPP can be used in Microsoft Windows, Linux, Solaris, and Mac OS X, and is specially used for net improvement projects.

#### **2.4.2 Requirements and features:**

XAMPP calls for simplest one zip, tar, 7z, or exe record to be downloaded and run, and very little configuration of the numerous additives that make up the net server is required. XAMPP is frequently up to date to include the trendy releases of Apache/MySQL/PHP and Perl. It additionally comes with some of different modules inclusive of OpenSSL and php My Admin. Self-contained, more than one times of XAMPP can exist on an unmarried pc, and any given example may be copied from one pc to every other. It is obtainable in each a full, widespread model and a smaller model.

#### **2.4.3 Components:**

XAMPP 1.7.7, inclusive of

* Apache 2.2.21
* MySQL 5.5.16
* PHP 5.3.8

### 2.5 Bootstrap:

Bootstrap is unfastened and open-supply front-stop framework for growing web sites and internet applications. It incorporates HTML and CSS-primarily based totally layout templates for typography, forms, buttons, navigation and different interface components, in addition to non-compulsory JavaScript extensions. Unlike many in advance internet frameworks, it worries itself with front-stop improvement only.

### 2.6 Hyper text markup language:

The Hyper Text Markup language (HTML) is an easy markup language used to create hypertext files which might be transportable from one platform to other. HTML files are SGML files with prevalent semantics which might be suitable for representing statistics from a huge variety of applications. This specs defines HTML model 4.0 HTML 4.0 objectives to seize endorsed exercise as of early 1996 and as such for use as a refitness for HTML 3.2.

### 2.7 Datasets:

A dataset (or information set) is a group of information, generally provided in tabular form. Each column represents a specific variable. Each row corresponds to a given member of the dataset in question. It lists values for every of the variables, which include height and weight of an object. In the improvement of the predictive model the information units have been accumulated internally in secondary form. Secondary information suggests statistical substances or facts now no longer originated or received with the aid of using the investigator himself, however reap from someone’s report or posted supply which include the imperative authorities and agencies.

CHAPTER 03:

SYSTEM ANALYSIS

### 3.1 Introduction to SRS

The creation of the Software Requirements Specification (SRS) offers an outline of the complete SRS with purpose, scope, definitions, acronyms, abbreviations, references and evaluation of the SRS. The purpose of this report is to collect, analyse, and supply an intensity perception of the complete “Fitness That Fits” through defining the trouble declaration in detail. The unique necessities of Fitness that fits – consumer associated capabilities are supplied on this report.

### 3.2 Purpose

The Purpose of the Software Requirements Specification is to provide the technical, functional and non-beneficial abilities, required to growth a web application. The entire application designed to provide purchaser flexibility for finding the shortest or time saving path. In short, the purpose of this SRS document is to provide an extensive evaluation of our software product, its parameters and goals. This document describes the assignment’s target market and its purchaser interface, hardware and software program software requirements. It defines how our client, team and goal marketplace see the product and its capability.

### 3.3 Scope

The scope of this system is to presents a review on data mining techniques used for the prediction of “Fitness that fits”. It is evident from the system that data mining technique, like classification, is highly efficient in prediction of fitness.

### 3.4 Specific reuirements

#### **3.4.1 External Interface Requirements**

This phase affords an in-depth description for all inputs and outputs from the device. It additionally offers an outline of the hardware, software program and conversation interface and affords simple prototypes of the consumer interface

#### **3.4.2 Hardware Requirements**

Processor: Intel i3 3.30 GHz.

Hard Disk: 40 GB (min)

RAM: 4GB

#### **3.4.3 Software Requirements**

Operating system: Windows 7 and above.

Coding Language: Html, CSS, and Php.

Framework: xampp

### 3.5 Functional requirement

#### **3.5.1 Admin**

**Login**

Admin want to login with the aid of using getting into simple details like username and password

**View Users**

Admin can view the consumer information from database.

**Upload file**

Admin can add health dataset which consist of video URL and Label.

#### **3.5.2 User**

**Registration**

User can check in on this software with the aid of using including consumer information like Username, Phone, Email and Password.

**Login**

User can login into software using username and password.

**Upload User Profile**

User can replace profile facts with the aid of using including height, weight, Calories want to burn and exercising information.

**Watch video based on BMI**

User can watch video primarily totally based on BMI. In this software robotically calculate BMI with the aid of using consumer’s profile. Based on BMI value consumer will watch the fitness related video like weight gain, weight loss and different videos.

**Watch Category Video**

In this step consumer can watch video primarily based on class like weight gain, weight loss, muscle increase, simple exercising, health videos for pregnant women ETC.

**Similar user interest-based video recommendation**

In this class consumer can watch video primarily based on identical BMI value, i.e. consumer can view video and if consumer like that video that facts might be saved in database along with BMI. If consumer has identical BMI on that point consumer can view fitness video identical video that is favoured with the aid of using comparable consumer type.

**General Constraints**

The outcomes generated must be entered into the device and any mistakes or any value entered out of the boundary will not be understood with the aid of using the device. In any case if the database crashes, the entire facts accumulated and the outcomes generated might be of no use.

### 3.6 Non-Functional requirements

A non-functional requirement is a demand that specifies standards that may be used to decide the operation of a device, in preference to unique behaviour. They are contrasted with purposeful necessities that outline unique behaviour or functions. The plan for imposing non-purposeful necessities is special withinside the device architecture, due to the fact they're generally architecturally significant requirement.

1. Accessibility: It refers back to the layout of products, devices, services, or environments for folks who revel in disabilities. The idea of available layout and exercise of available improvement make certain both "direct access" (i.e. unassisted) and "oblique access" that means compatibility with a person's assistive technology.
2. Simplicity: The challenge is pushed with the aid of using easy consumer interface.
3. Availability: Availability of a device will also be extended with the aid of using the approach of that specialize in growing testability, diagnostics and maintainability and now no longer on reliability. Improving maintainability at some stage in the early layout section is typically simpler than reliability (testability & diagnostics). Maintainability estimates (object repair with the aid of using refitness rates) also are typically extra accurate.
4. Reliability: The device should not crash and should identify invalid input and produce suitable error message.
5. Usability: The interface should to be intuitive and without difficulty navigable and consumer friendly.
6. Integrity: The software program should not keep any cache information or should not use device sources in background.
7. Authentication: Only legal nodes can speak with others.

### 3.7 Feasibility study

The feasibility study is a study to evaluate feasibility of proposed system. It is a measure of the software product in terms of how much beneficial product development will be for the organization in a practical point of view.

#### **3.7.1 Technical Feasibility**

The mission entitled “Fitness That Fits” is technically viable due to the beneath cited features. The mission is advanced in Php. The net server is used to develop “Fitness That Fits” is neighbourhood server. The neighbourhood server very smartly coordinates among layout and coding part. It offers a Graphical User Interface to layout a utility whilst the coding is achieved in Php. At the identical time, it offers excessive stage reliability, availability and compatibility.

#### **3.7.2 Economic Feasibility**

#### In economic feasibility, charge benefit assessment is finished in which expected expenses are evaluated. Economic assessment is used for effectiveness of the proposed device. In economic feasibility the most essential is charge-benefit assessment. The device “Fitness That Fits” is feasible because it does now no longer exceed the anticipated charge.

#### **3.7.3 Operational Feasibility**

The challenge entitled “Fitness That Fits” is technically possible due to the beneath cited features. The device predicts the health and its tiers primarily based totally at the health bought information, in addition the information of the affected person is brought to the Data Base. The overall performance of the Data mining strategies are in comparison primarily based totally on their execution time and displayed it via graph.

**3.7.4 Behaviour Feasibility**

The challenge entitled “Fitness That Fits” is useful as it satisfies the goals while advanced and installed.

CHAPTER 04:

SYSTEM DESIGN

### 4.1 Introduction to design document

The Software Design is probably used to beneficial useful resource in software development with the resource of the use of imparting the facts for a manner the software program should built. Within the Software Design, specifications are narrative and graphical documentation of the software program for the undertaking includes use case models, collection diagrams and one of a type helping requirement records.

### 4.2 Scope

This design document is for a base stage device, to be able to picture as evidence of idea for using constructing a device that affords a base stage of capability to reveal feasibility for large-scale manufacturing use. The design document, the focal point positioned on era of the files and change of the files. The device will used at the side of different pre-present structures and could consist in large part of a record interplay confronted that abstracts the record interactions and managing of the record objects. This document affords the design specs of Fitness.

### 4.3 Existing system

Some recommender device purpose at helping fitness advertising and stopping diseases, through recommending bodily pastime videos primarily based totally on customers profiles and their context. Expert statistics from healthcare experts is needed to collect applicable dataset of videos, such that a couple of professionals rate the best and relevance of advocated hyperlinks for given videos, and best videos and hyperlinks displaying consensus amongst professionals are decided on for the experimental check of the device feasibility.

### 4.4 Proposed System

This contribution presenting ‘Fitness That Fits’ is a prototype platform for recommending bodily exercise videos upon labelled videos from the Youtube-8M dataset. Integrating fundamental content material-primarily based totally and collaborative filtering mechanisms, the proposed recommender model carries novel functions for the bendy modelling of consumer choices primarily based totally on their profile and BMI. Further, an iterative refitness method stimulated through neighbourhood-collaborative filtering is delivered to sell different advice lists for customers to beautify with distinctive types of health activities.

### 4.5 System architecture diagram

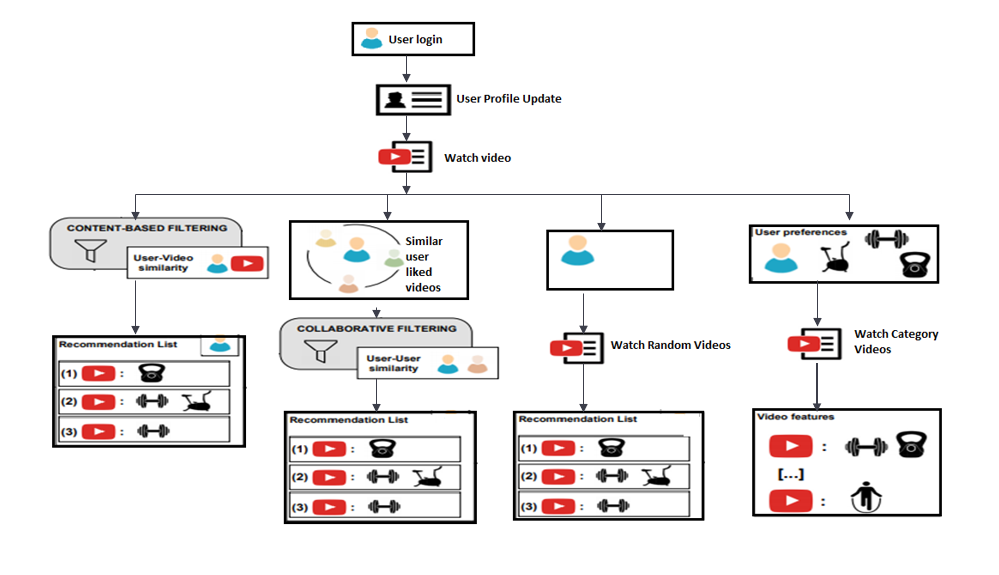


Figure 4.5.1 System Architecture

Figure 4.5.1 represents the system architecture. Here user will login to the application and updates his profile details. User can watch fitness videos after updating their profile, videos are recommended for user based on BMI which was calculated by system automatically based on their profile and user can watch videos liked by similar users. User can watch random videos and also category based on their interest.

### 4.6 Software engineering model used

**Waterfall Model**

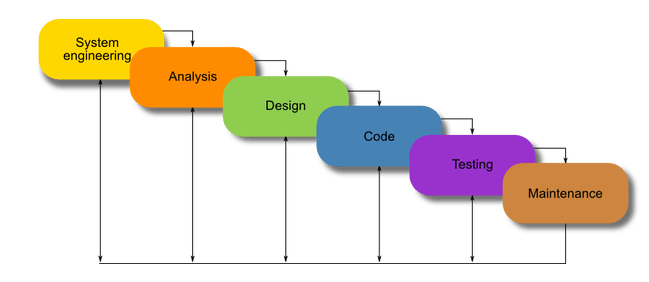
Waterfall model is the earliest SDLC technique that turned into used for software program improvement. It is likewise called a linear-sequential existence cycle model. It is quite simple to understood and use. In a waterfall model, every segment has to be finished earlier than the subsequent segment can start and there may be no overlapping in levels. Following is a diagrammatic illustration of awesome levels of waterfall model.

Figure 4.6.1 Waterfall Model

In “The Waterfall” technique, the total procedure of software program improvement is split into separate levels. In Waterfall model, usually, the results of one segment act because the enter for the subsequent segment sequentially. The sequential levels in Waterfall model are:

• Requirement Gathering and evaluation all feasible necessities of the device to be evolved are captured on this segment and documented in a demand specification record.

• System layout the requirement specifications from first segment are studied on this segment and device layout is prepared. Design allows in specifying hardware and device necessities and additionally allows in defining universal device architecture.

• Implementation With inputs from device layout, the device is first evolved in small packages known as gadgets, that are included withinside the subsequent segment. Each unit is evolved and examined for its capability that is called Unit Testing.

• Integration and testing all the gadgets evolved withinside the implementation segments are included right into a device after checking out of every unit. Post integration the whole device is examined for any faults and failures. Detailed Design of DFD When it involves conveying how statistics flows via structures (and the way that statistics is converted withinside the procedure), statistics glide diagrams (DFDs) are the technique of preference over technical descriptions for 3 main reasons.

• DFDs are less complicated to apprehend via way of means of technical and nontechnical audiences

• DFDs can offer a high-stage device assessment, whole with barriers and connections to different structures

• DFDs can offer in-depth illustration of device components DFDs assist device designers and others for the duration of preliminary evaluation ranges visualize a modern-day device or one which can be vital to satisfy new necessities. Systems analysts operation for running with DFDs, specifically after they require a clean expertise of the boundary among present structures and postulated structures. DFDs constitute the following:

* External devices sending and receiving data.
* Processes that change that data.

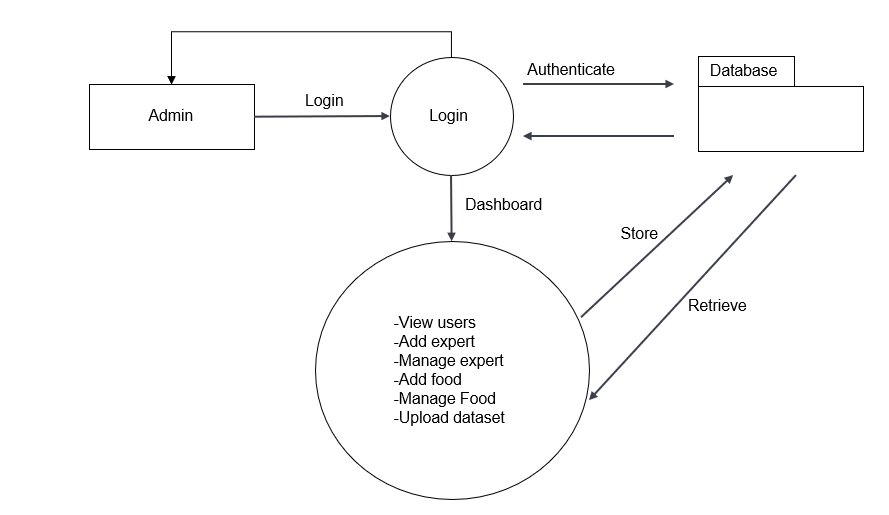


Figure 4.6.2 Admin Dataflow Diagram

Figure 4.6.2 represents dataflow diagram of admin. Here, admin will login to the application by using username and password. After login admin can view users who were registered to the application, Add experts who can rate and update video details, manage experts, add food with food details, manage food and admin can upload fitness video datasets.

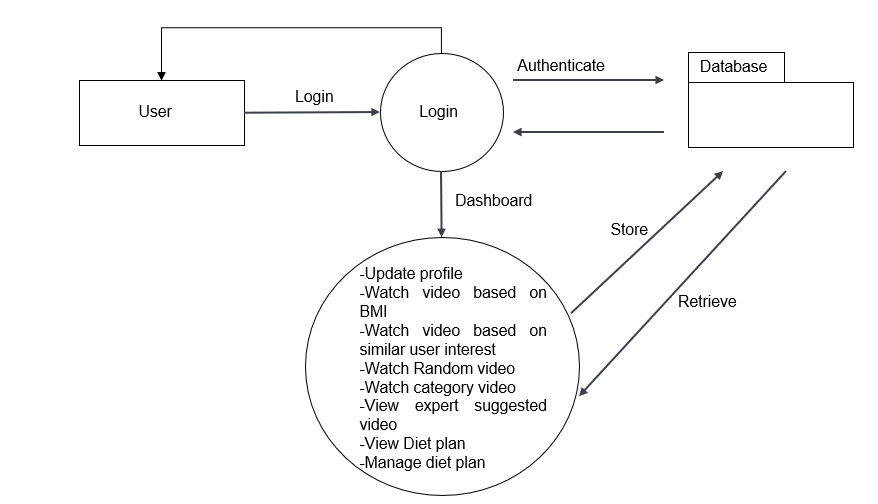


Figure 4.6.3 User Dataflow Diagram

Figure 4.6.3 represents dataflow diagram of user. User will login to application by using username and password. After login user will update his profile, based on BMI videos are recommended for user. User can also watch videos liked by similar users, and user can also watch random videos and category videos based on user interest. After suggested videos are recommended for user in expret suggestion option. User can search food and can add to his diet plan.

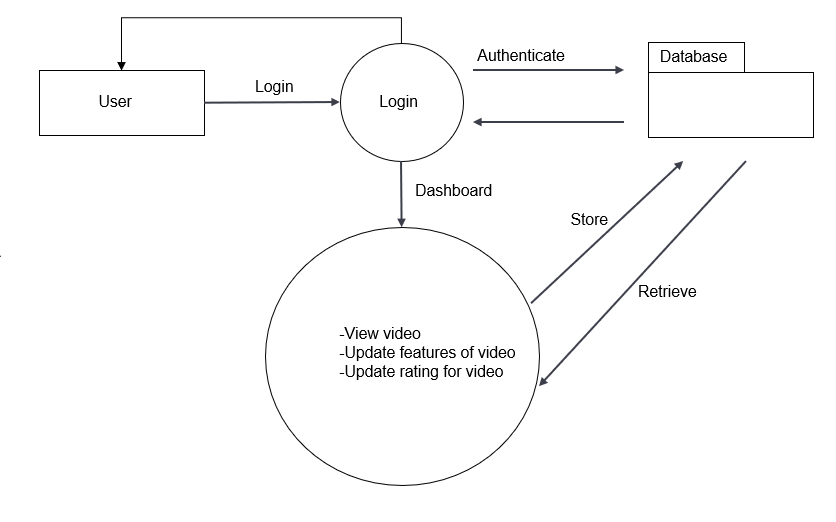


Figure 4.6.4 Expert Dataflow Diagram

Figure 4.6.4 represents dataflow diagram of expert. Expert can login to application with username and password provided by admin. After login expert can watch videos and can rate video and also can update video details based on video quality.

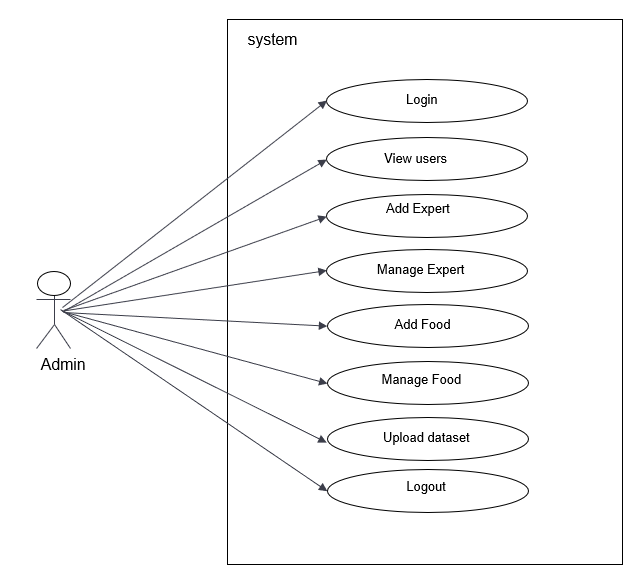
### 4.7 Use case diagram

A use case diagram withinside the Unified Modelling Language (UML) is a sort of behavioural diagram described via way of means of and made from a Use-case evaluation. Its reason is to offer a graphical assessment of the capability supplied via way of means of a device in phrases of actors, their goals (represented as use cases), and any dependencies among the ones use cases.

The most important reason of a use case diagram is to reveal what device features are executed for which actor. Roles of the actors withinside the device may be depicted. Interaction amongst actors isn't always proven at the use case diagram. If this interplay is crucial to a coherent description of the preferred behaviour, possibly the device or use case barriers could to be re-examined. Alternatively, interplay amongst actors may be a part of the assumptions used withinside the use case.

|  |  |
| --- | --- |
| **Symbol** | **Description** |
|  | System Boundary |
|  | Association |
|  | Actor |
|  | Use-Case |

**Use-Case Symbols**



` Figure 4.7.1 Admin Use Case Diagram

Figure 4.7.1 represents usecase diagram of admin. Here, admin will login to the application by using username and password. After login admin can view users who were registered to the application, Add experts who can rate and update video details, manage experts, add food with food details, manage food and admin can upload fitness video datasets.

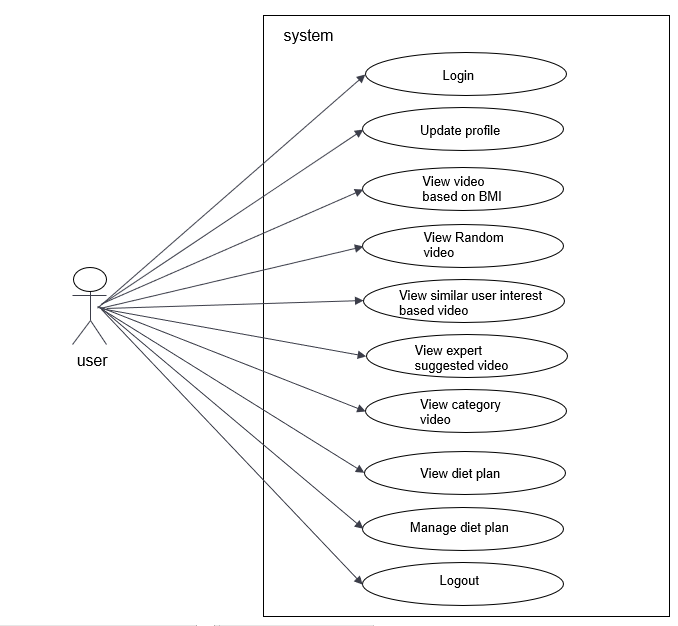


Figure 4.7.2 User Use Case Diagram

Figure 4.7.2 represents usecase diagram of user. User will login to application by using username and password. After login user will update his profile, based on BMI videos are recommended for user. User can also watch videos liked by similar users, and user can also watch random videos and category videos based on user interest. After suggested videos are recommended for user in expret suggestion option. User can search food and can add to his diet plan.

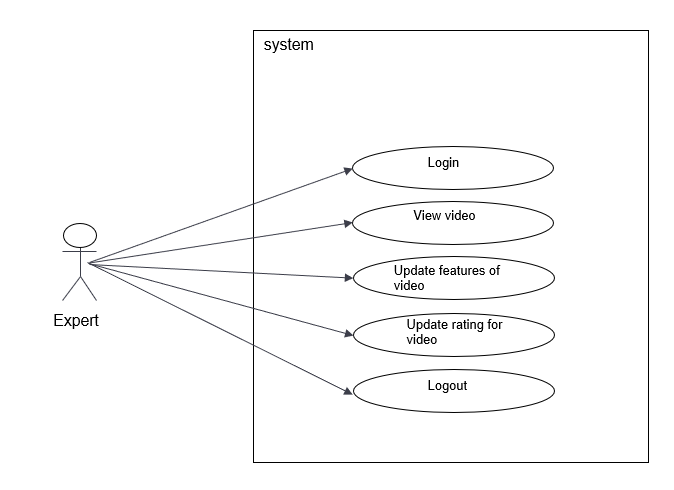


Figure 4.7.3 Expert Use Case Diagram

Figure 4.7.3 represents usecase diagram of expert. Expert can login to application with username and password provided by admin. After login expert can watch videos and can rate video and also can update video details based on video quality.

### 4.8 Activity diagram

* Activity diagram is essentially a flowchart to symbolize the glide shape one interest to some other interest. The interest may be defined as an operation of the device.
* Activity diagram for our utility proven below, whilst the interest begins off evolved the consumer to login to the utility lets in the consumer to the subsequent interest via way of means of getting into accurate username and password.

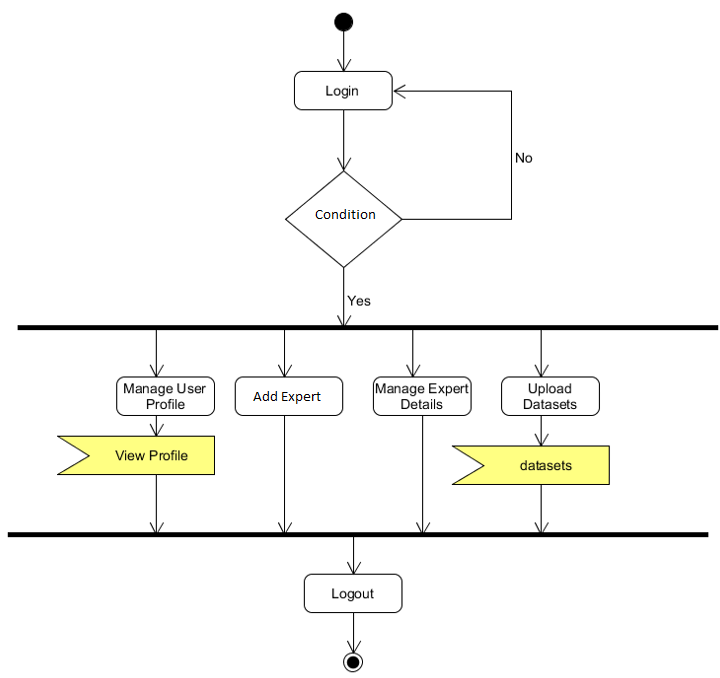


Figure 4.8.1 Admin Activity Diagram

Figure 4.8.1 represents activity diagram of admin. Here, admin will login to the application by using username and password. After login admin can view users who were registered to the application, Add experts who can rate and update video details, manage experts, add food with food details, manage food and admin can upload fitness video datasets.

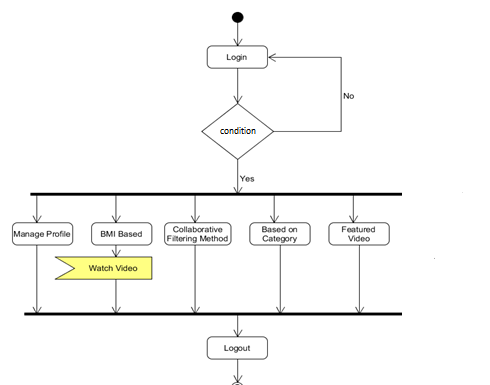


Figure 4.8.2 User Activity Diagram

Figure 4.8.2 represents activity diagram of user. User will login to application by using username and password. After login user will update his profile, based on BMI videos are recommended for user. User can also watch videos liked by similar users, and user can also watch random videos and category videos based on user interest. After suggested videos are recommended for user in expret suggestion option. User can search food and can add to his diet plan.

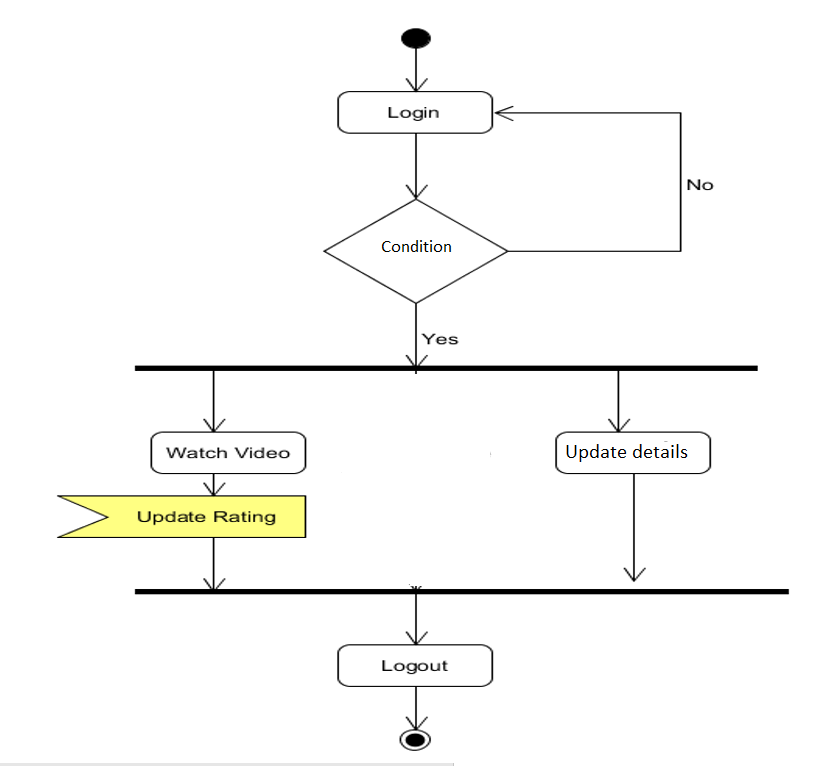


Figure 4.8.3 Expert Activity Diagram

Figure 4.8.3 represents activity diagram of expert. Expert can login to application with username and password provided by admin. After login expert can watch videos and can rate video and also can update video details based on video quality.

### 4.9 Sequence diagram

A collection diagram suggests object interactions organized in a time collection. It depicts the object and training worried withinside the situation and the collection of messages exchanged among the objects had to perform the capability of the situation. Sequence diagram are usually related to use case cognizance withinside the logical view of the device beneath improvement. Sequence diagrams are occasionally known as occasion diagrams or occasion situation.

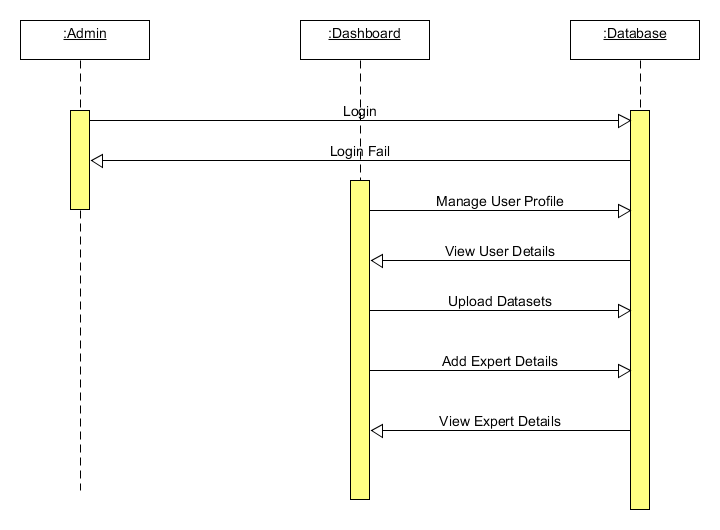


Figure 4.9.1 Admin Sequence Diagram

Figure 4.9.1 represents sequence diagram of admin. Here, admin will login to the application by using username and password. After login admin can view users who were registered to the application, Add experts who can rate and update video details, manage experts, add food with food details, manage food and admin can upload fitness video datasets.

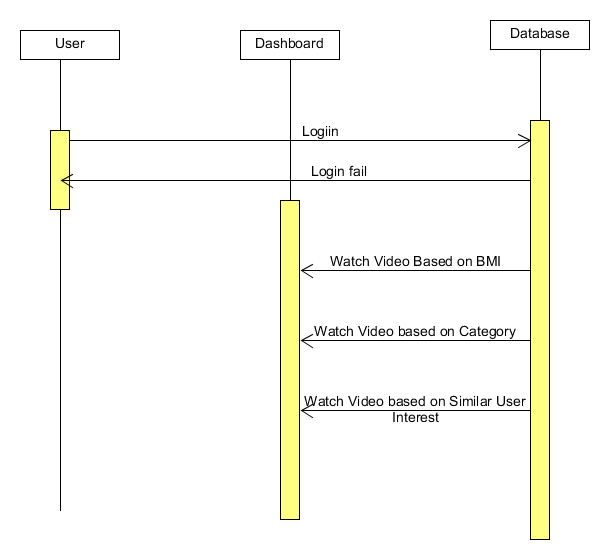


Figure 4.9.2 User Sequence Diagram

Figure 4.9.2 represents sequence diagram of user. User will login to application by using username and password. After login user will update his profile, based on BMI videos are recommended for user. User can also watch videos liked by similar users, and user can also watch random videos and category videos based on user interest. After suggested videos are recommended for user in expret suggestion option. User can search food and can add to his diet plan.

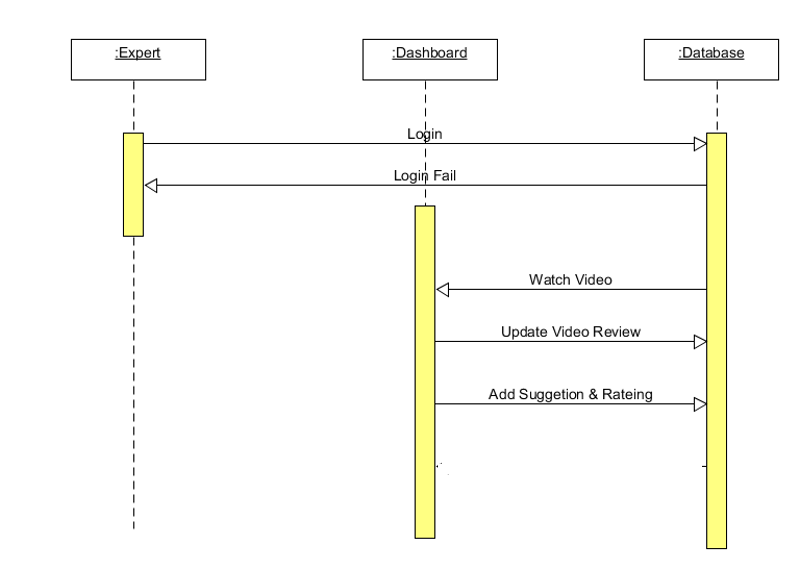


Figure 4.9.3 Expert Sequence Diagram

Figure 4.9.3 represents sequence diagram of expert. Expert can login to application with username and password provided by admin. After login expert can watch videos and can rate video and also can update video details based on video quality.

# CHAPTER 05:

# IMPLEMENTATION

### 5. 1 Introduction

The task is carried out the use of Php that is an object orientated programming language and process orientated programming language. Object orientated programming is a technique that gives a manner of modularizing software via way of means of developing partitioned reminiscence vicinity of each statistic and characteristic that may be used as a template for developing copies of such module on demand.

This task is carried out the use of Php programming language. PHP is dynamically typed and garbage-collected. It helps more than one programming paradigms, inclusive of procedural, object-orientated, and useful programming. Php is frequently defined as a "batteries included" language because of its complete fashionable library. The system learning strategies are used on this task.

### 5.2 Pseudo code and flowchart of algorithm

##### 5.2.1 Decision Tree

Input: uploading datasets

begin

1. Scan the dataset (storage servers)
2. For each attribute A, calculate the gain [number of occurrences]
3. Let A be the attribute of highest gain [highest count]
4. Create a decision node based on A – retrieval of nodes where the attribute value matches with A.
5. recur on the sub-lists and calculate the count of outcomes –termed as sub nodes. Based on the highest count we classify the new node.

end

### 5.3 Coding part

#### **5.3.1 ADMIN LOGIN**

<?php

require('db.php');

session\_start();

// If form submitted, insert values into the database.

if (isset($\_POST['username'])){

// removes backslashes

$username = stripslashes($\_REQUEST['username']);

$username = mysqli\_real\_escape\_string($con,$username);

$password = stripslashes($\_REQUEST['password']);

$password = mysqli\_real\_escape\_string($con,$password);

//Checking is user existing in the database or not

$query = "SELECT \* FROM `users` WHERE username='$username'

and password='".md5($password)."'";

$result = mysqli\_query($con,$query) or die(mysql\_error());

$rows = mysqli\_num\_rows($result);

if($rows==1){ $\_SESSION['username'] = $username;

header("Location: admindashboard.php");

}else{

echo "<div class='form'>

<h3>Username/password is incorrect.</h3>

<br/>Click here to <a href='login.php'>Login</a></div>";

}

}else{?>

**5.3.2 USER REGESTRATION**

<?php

error\_reporting(0);

require('db.php');

// If form submitted, insert values into the database.

if (isset($\_REQUEST['username'])){

// removes backslashes

$username = stripslashes($\_REQUEST['username']);

//escapes special characters in a string

$username = mysqli\_real\_escape\_string($con,$username);

$email = stripslashes($\_REQUEST['email']);

$email = mysqli\_real\_escape\_string($con,$email);

$fname = stripslashes($\_REQUEST['fname']);

$fname = mysqli\_real\_escape\_string($con,$fname);

$pno = stripslashes($\_REQUEST['pno']);

$pno = mysqli\_real\_escape\_string($con,$pno);

$address = stripslashes($\_REQUEST['address']);

$address = mysqli\_real\_escape\_string($con,$address);

$cname = stripslashes($\_REQUEST['cname']);

$cname = mysqli\_real\_escape\_string($con,$cname);

$password = stripslashes($\_REQUEST['password']);

$password = mysqli\_real\_escape\_string($con,$password);

$trn\_date = date("Y-m-d H:i:s");

$query = "INSERT into `dusers` (dusername,fullname,email,phone,address,cname,status, password, trn\_date)

VALUES ('$username','$fname','$email','$pno', '$address','$cname','NULL', '".md5($password)."', '$trn\_date')";

$result = mysqli\_query($con,$query);

$query1 = "INSERT into `userprofile` (username,height,weight,ttype,bp,cal)

VALUES ('$username','','','', '','')";

$result1 = mysqli\_query($con,$query1);

if($result&&$result1){

echo"Record inserted";?>

<script type="text/javascript">

window.alert("successfully Registred");

window.location="dlogin.php";

</script>

<?php

}

}else{

?>

#### **5.3.3 USER LOGIN**

<?php

require('db.php');

session\_start();

// If form submitted, insert values into the database.

if (isset($\_POST['username'])){

// removes backslashes

$username = stripslashes($\_REQUEST['username']);

//escapes special characters in a string

$username = mysqli\_real\_escape\_string($con,$username);

$password = stripslashes($\_REQUEST['password']);

$password = mysqli\_real\_escape\_string($con,$password)

$query = "SELECT \* FROM `dusers` WHERE dusername='$username' and password='".md5($password)."'";

$result = mysqli\_query($con,$query) or die(mysql\_error());

$rows = mysqli\_num\_rows($result);

if($rows==1){

$\_SESSION['username'] = $username;

// Redirect user to index.php

header("Location: ddashboard.php");

}else{

echo "<div class='form'>

<h3>Username/password is incorrect.</h3>

<br/>Click here to <a href='dlogin.php'>Login</a></div>";} }else{?>

# 

# CHAPTER 06:

# TESTING

### 6.1 Unit testing

Unit test of every module and the mixing of the general machine is carried out here. Unit test will make verification efforts at the smallest unit of software program layout withinside the module. This is likewise recognized as “module test”. The modules of the machine are examined separately. This test is achieved throughout the programming itself. In this test step, every model is observed to be running satisfactorily as regard to the predicted output from the module. There are a few validation exams for the fields. For example, the validation test is carried out for verifying the statistics given with the aid of using the consumer wherein each layout and validity of the statistics entered is included. It could be very clean to locate mistakes and debug the machine.

### 6.2 Integration testing

Data may be misplaced throughout an interface, one module may have a negative impact on the alternative sub feature, while combined, might not produce the preferred primary feature. Integrated test is systematic test that may be carried out with pattern statistics. There are types of integration test, they are:

* Top-down integration test.
* Bottom-up integration test.

### 6.3 System testing

System test is the degree of implementation, which geared toward making sure that the machine works appropriately and successfully earlier than the stay operation commences. Testing is the procedure of executing a software with the motive of locating mistakes. An accurate examine case is one which has an excessive possibility of locating error and undiscovered mistakes. A hit examine is one which solutions to undiscovered mistakes. System test makes a logical assumption that if all components of the machine are correct, the purpose might be a hit achieved. A collection of assessments are completed earlier than the machine is prepared for the consumer popularity test. Any engineered product may be examined in one of the following ways. Knowing the required feature that a product has been designed to form, this test may be carried out to illustrate every feature is completely operational. Knowing the inner running of a product, assessments may be carried out to make certain that “all gears mesh”, i.e. the inner operation of the product matches with the specification and all inner additives were effectively exercised.

### 6.4 Acceptance testing

Acceptance test or User Acceptance Testing (UAT) is a stage of the software program test procedure where in a machine is examined for acceptability. The reason of this test is to look at is to assess the machine’s compliance with the enterprise necessities and determine whether or not it's miles appropriate for delivery.

### 6.5 Test cases

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test Case** | **Test Purpose** | **Test condition** | **Expected outcome** | **Actual result** | **Pass or fail** |
| login page | Verify Login page | Enter username  and password | Logged in successfully | As Expected. | Pass |
| Register Page | Verify Register Page | Enter username and other details | Registered successfully | Registered successfully | Pass |
| User Info | Enter Profile Details | Add profile info | Profile details should store in database | User profile information stored in database | Pass |
| Like video | User can like video by clicking like button | Video info along with BMI value should store in database | Video info and BMI value stored in database | As  Expected. | Pass |
| Watch category video | User will view the category videos | User can view category videos | User can select video category and watch video | As  Expected. | Pass |

# CHAPTER 07: CONCLUSION AND

# FEATURE ENCHANCEMENT

### 7.1 Conclusion

This contribution presented ’Fitness that Fits’, a prototype platform for recommending bodily exercising videos upon categorized video statistics from the Youtube-8M dataset. Besides integrating fundamental content-primarily based totally and collaborative filtering mechanisms, the proposed recommender model contains novel functions for the bendy modelling of consumer options primarily based totally on their profile and their BMI. Furthermore, an iterative alternative approach stimulated with the aid of using neighbourhood-collaborative filtering is delivered to sell various advice lists for customers to beautify with distinctive types of health activities.

### 7.2 Future enhancements

* In Future, we can enhance application by adding different type of parameters.
* In Future, we can implement all cross platform.
* Mobile app for better communication.
* MARKUP: Start out with semantic and well-structured HTML for flexibility and interoperability.
* STYLING: Progressively enhance the look-and-feel of a design by adding support for browsers with greater features.
* BEHAVIOUR: Enhance the site with rich, interactive features on web browsers with JavaScript.

# Screenshots

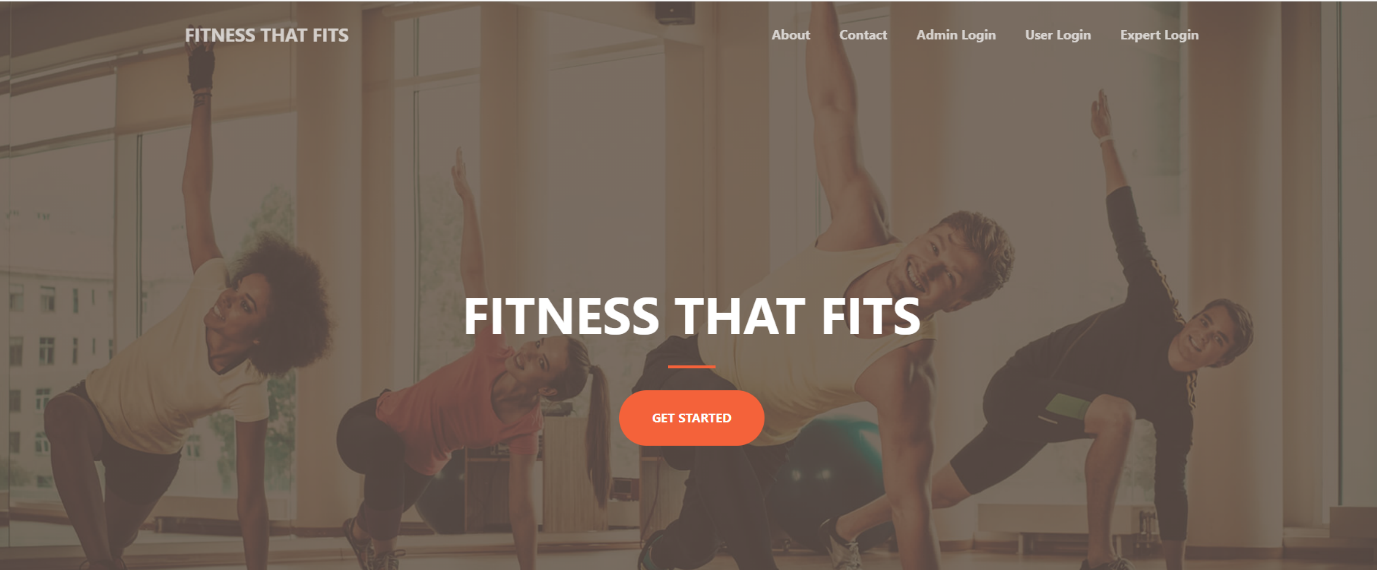


Figure 7.3.1 **Dashboard**

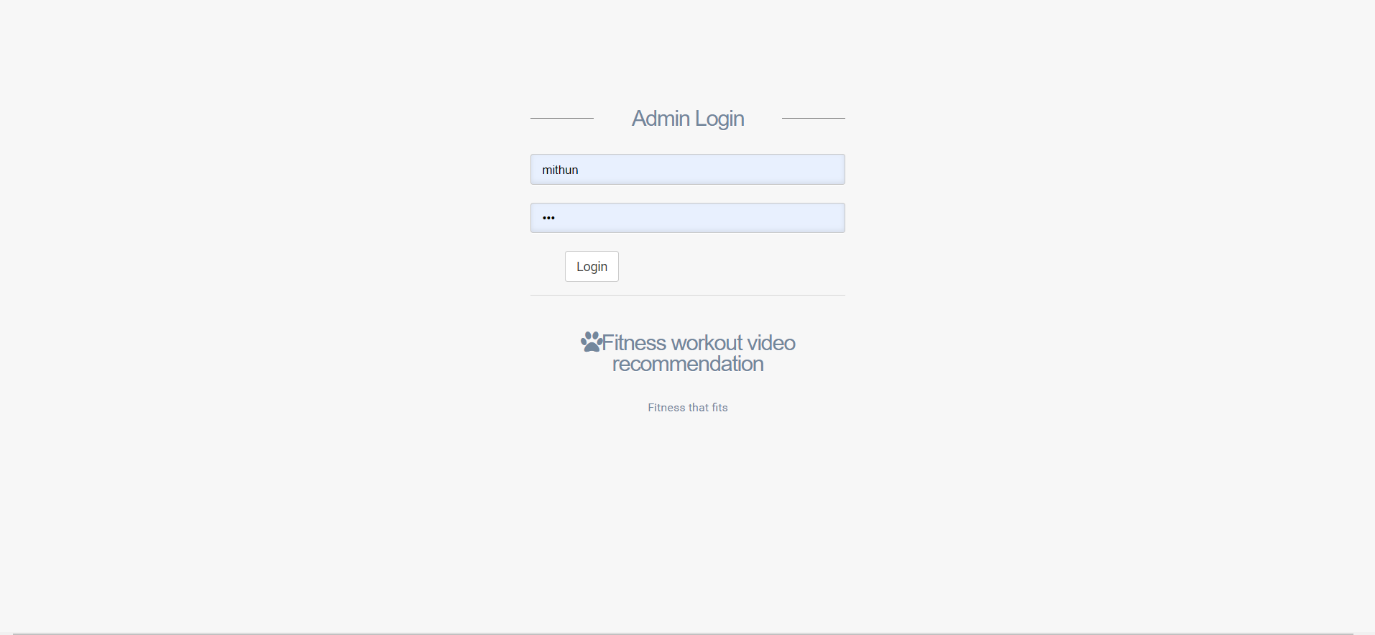


Figure 7.3.2 **Admin Login page**

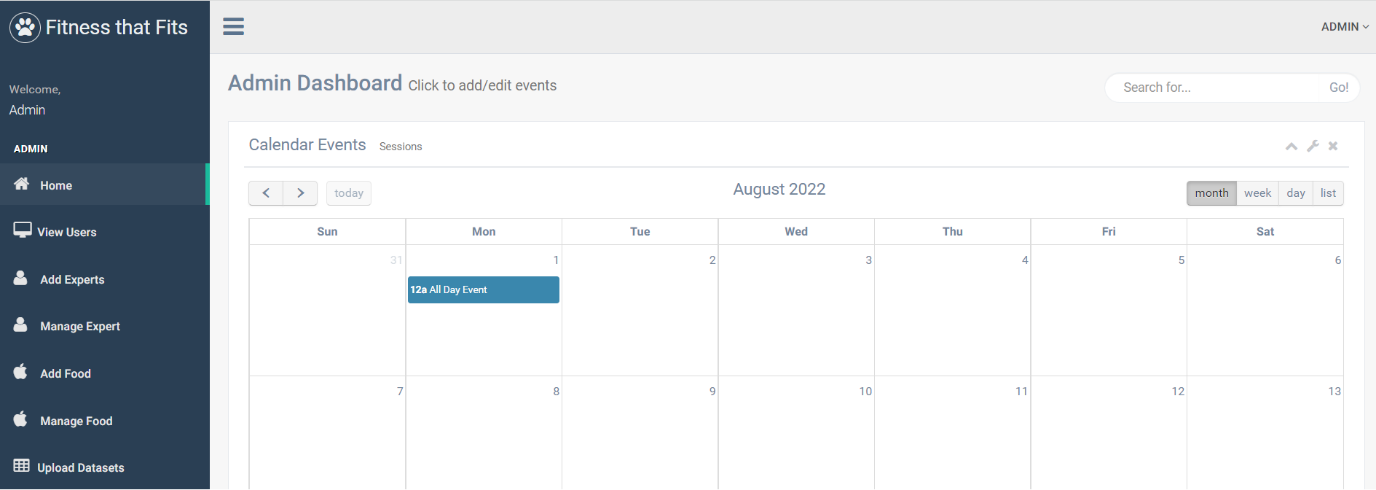


Figure 7.3.3 **Admin Dashboard**

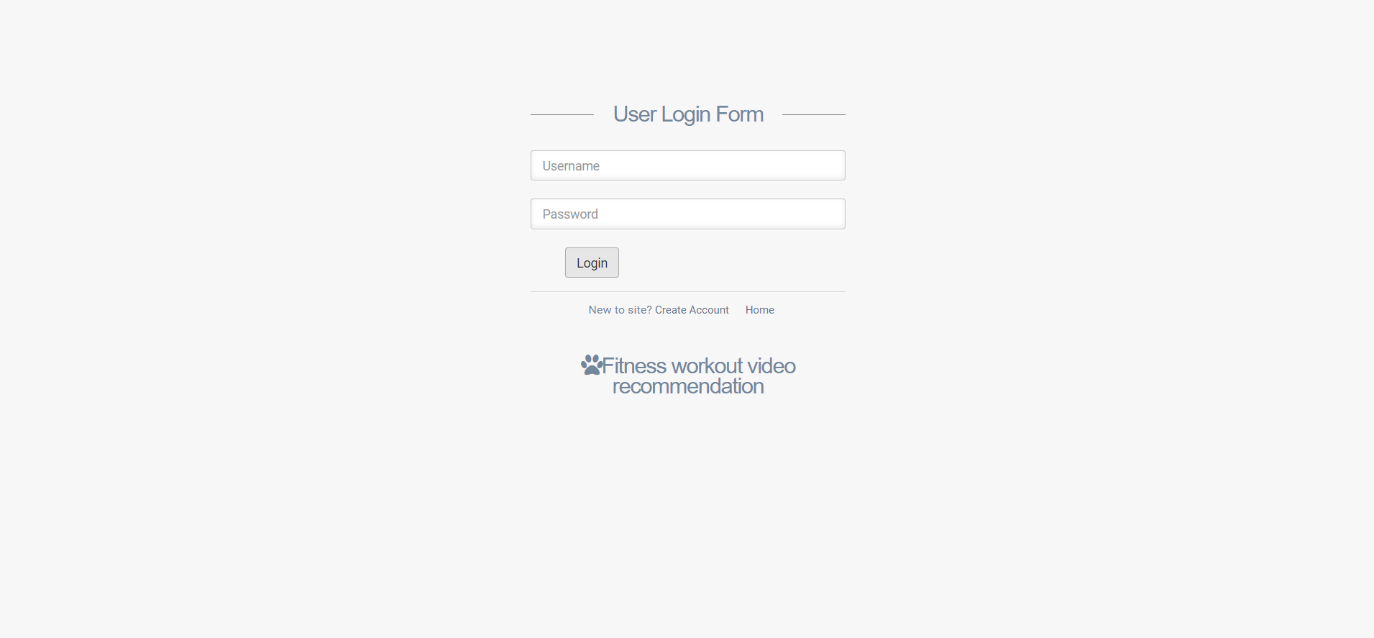


Figure 7.3.4 **User Login page**

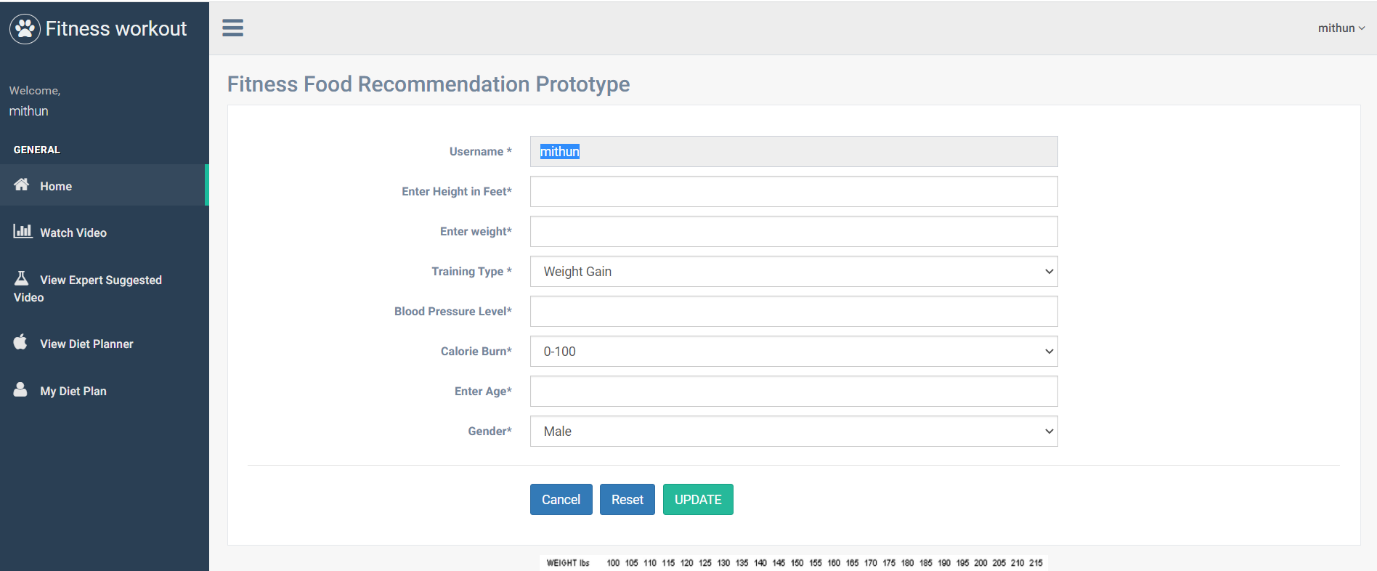


Figure 7.3.5 **User Dashboard**

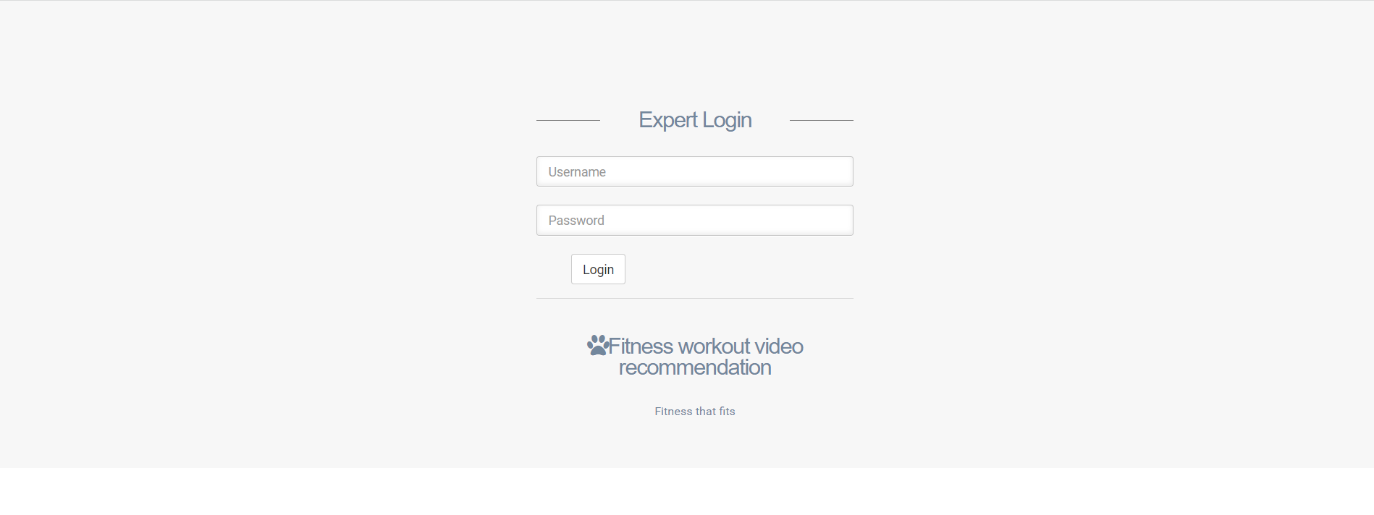


Figure 7.3.6 **Expert Login page**

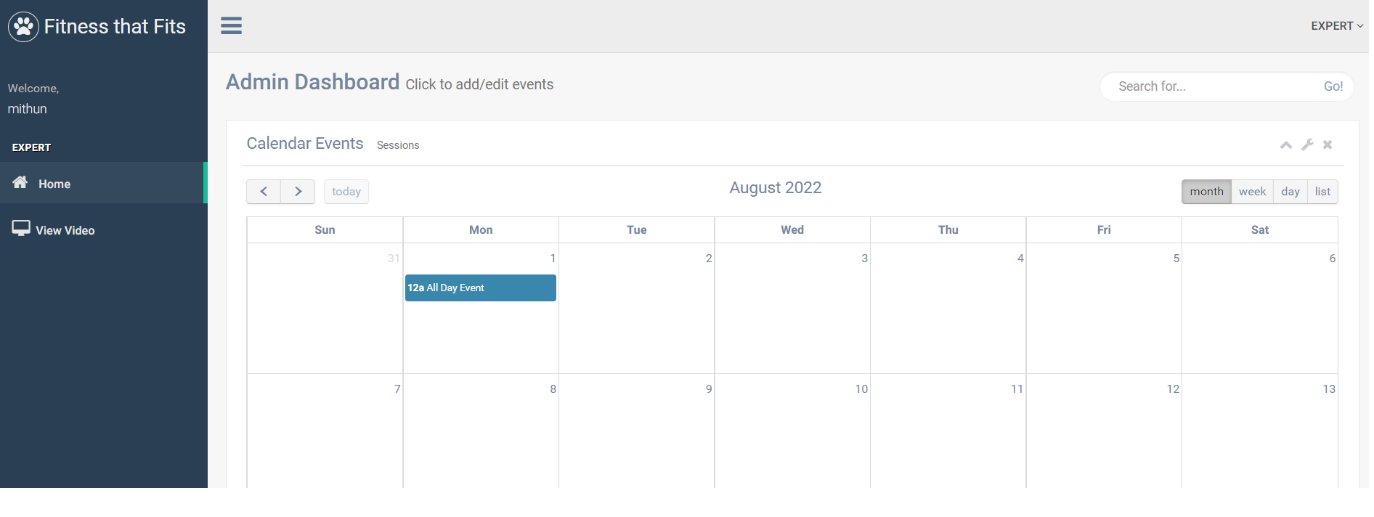


Figure 7.3.7 **Expert Dashboard**

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**[2]** S. Breana. Last access: twenty fourth June 2018. “The Fitness Sector withinside the Internet: Missed Opportunities”. Source: https://gymfactory.net (Last access: twenty fourth June 2018).

**[3]** G. M. Creon-Rios, D. M. Lopez Gutierrez, B. Díaz-Agudo, and J. A. Recio-García. 2017. “Recommendation System primarily based totally on CBR set of rules for the Promotion of Healthier Habits”. In Proceedings of ICCBR 2017 Workshops (CAW, CBRDL, POCBR), Doctoral Consortium, and Competitions co-placed with the twenty fifth International Conference on Case-Based Reasoning (ICCBR 2017), Trondheim, Norway, June 26-28, 2017. 167–176.

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**[9]** R. Harakawa, T. Ogawa, and M. Haseyama. 2017. “Extracting Hierarchical Structure of Web Video Groups Based on Sentiment-Aware Signed Network Analysis”. IEEE Access 5 (2017), 16963–16973.

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