# Virtual Gym Management System

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**ABSTRACT:**

*Accommodating today's demanding lifestyle people need to be healthy for tension free life and also physical fitness includes diet, exercise and sleep whichhave their own importance in each individual's life and everyone should be sensible with regard to these for a healthy life, so we develop a system "Virtual Gym Management" for a gymnasium in which customer can get all information about the gymnasium and he can access or enroll at the gym via online to access their workout or trainer and diet or consultancy at the best time and place for their schedule. System will provide video chat and text chat for user interaction with trainer or consultancy. After certain time, system will work smartly by automatically recommending user for workout and diet by enquiring his profile. Each time when user login to system he have to end by giving feedback as it will help gym management team to update his system if needed.*

*Keywords: Gym,virtual, recommendation, intelligence, analyze .*

## INTRODUCTION:

Nowadays,if any business does not exist on website then it is considered as missing out from very powerful marketing platform which is available to them and also an opportunities for customers to identify who you are and if they want to spend money. People Google before they shop, visit online reviews .Approximately 93% of online users begin experience with search engine and 72% of users did search visited a store[2]. So having a website even for small business will gain credibility.In order to run business one should have their website. If customers get things online then they can save their time. Today people are more concern about their health butthey are so busy in their schedule that they don't get time to visit gym even if they want to go. Health is very important factor because person who is fit will be capable of  havingless prone to medical condition and living life to its fullest extent[10]. System which exists that solves above problem can only do gym management and do not facilitate any smart working.

In accordance with need of website and health concern there emerged a need to  develop a website for a fitness freak people so that they can continue their workout anytime and anywhere with proper recommendation of diet and exercise from system. So here we propose a website which will be developing a "Virtual Gym Management System" that will provide  apersonalized workout atmosphere with service to enroll at gym via website. Userswho have enrolled can access their trainer and consultancy at best time and place for their schedule. After some days system will automatically recommend diet and workout for user by enquiring the condition of health. In case, if there is need of trainer or consultancy then user can do text chat or video chat with them. This system will be profitable for both owner of gym and user. The first profit which will be for both is that they will save money and time. Secondly user will achieve effective fitness through

high level of encouragement and motivation given by trainer.So this system will be health and fitness business which will give good advice that can sometimes be truly life changing.

## EXISTING SYSTEM:

An Existing system refers to the system that is being followed till now. The gym is working manually. The current system is time consuming and also it is very costly, because it involves a lot of paperwork. To manually handle the system was very difficult task. But now-a-days computerization made easy to work.

In today's world everyone find ease to get review of product by searching it on Google. In existing system of gym management client uses MS excel or paper.To maintain their records, also it is not possible to share the data from multiple system in multi user environment, there is need of duplicate work, and more chances of mistakes[3]. If record get change then excel file was required to update each and every time.

After that their exist Smart Gym Management which eliminates most of the flawsof existing system.This system was came with increased efficiency and effectiveness, capacity, maintenance and cost reduction which made system smarter[10]. It was also having some new and prominent features like webcam integration, using Twilio SMS API for number verification. But in this system more security measures are needed . It is little complex system for people to handle and operate it sufficiently.

Current gym website "Virtuagym"includes online payments and invoice to members which is very good feature. Here all users details centrally managed by Virtuagym. It provide very good software platform which is open to connections with all types of hardware but they are not hardware provider. It also provide free demo for user who is using system first time. It contains rich library of workout with thousands of animations so that user can choose from their database[1]. There is nutrition coaching where it create plan of diet for user. Even if there is any question to user about his/her diet or workout then user will get delayed response. Trainers are not always available for user for their doubts. Interaction is only through text chat.

## PROPOSED SYSTEM:

The proposed system "Virtual Gym Management System" is for those who run a gym business. A decent research on major difficulties for gym owners was done. By examiningcarefully about how to make a huge registering system without failure as well as different functions for different kind of user depending on their privilege. The Gym Management requires a system that will handle all the necessary and minute details easily and proper database security accordingly to the user. System and System resources will work in almost all the configurations.
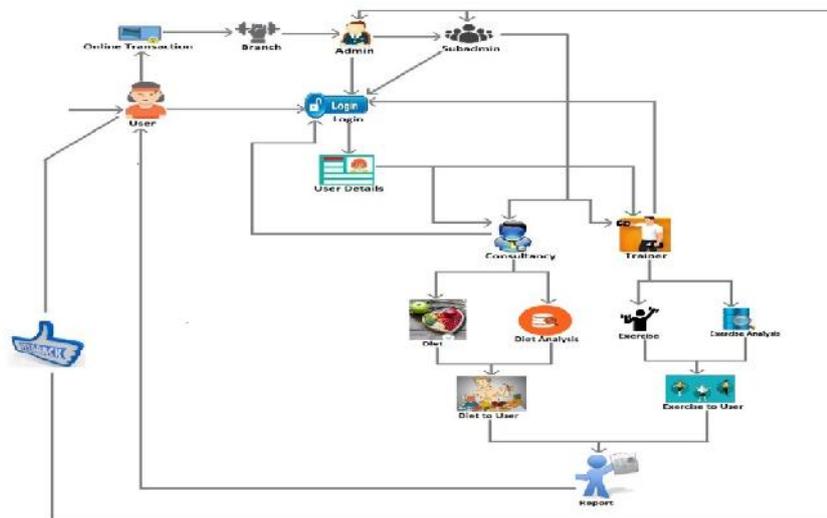


**Figure 1.Virtual Gym Management System Architecture**

I. Login/Registration:

All the new users of system (including Admin, Sub-Admin, Trainers, Consultants) will register themselves with all the necessary details . At the time of registration the respective authenticate user is provided with a username and password[10]. The Password provided by the user is encrypted before saving to the database for security reason. Also phone and email address verification is carried out at the time of registration to identify the genuine user.
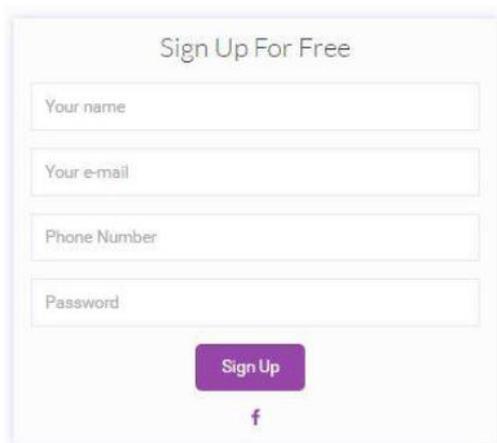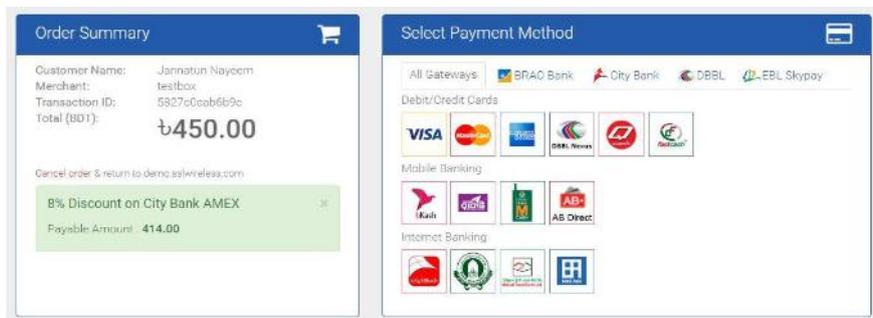


**Figure 2.Sign up for user**

II. Phone and Email Address Verification:

Aadhaar number is now mandatory for carrying many essential tasks, is can be used for verification of a person and also used for fetching some useful data of a person like Age and Address.

The UIDAI, the issuer of the 12-digit UID and the Aadhaar card, has provided many useful online tools on its portal (uidai.gov.in). One of these tools enables to verify the valid user by verifying the users phone no. and email from the UID provided by the user. This feature can be used to verify email address and mobile number that has been declared during enrolment or latest successful processed update.

III. Online Payment Gateway:

To make payment easy for customers online payment gateway will be integrated in this system. All transactions details will be securely recorded in database. Only authenticate user will have to access to this sensitive information. Payment Gateway is one of the most crucial factors of any business, as it enable safe, secure and speedy online payments. There are many such service providers to select from like PayZippy, Flipkart's very own Payment Gateway Service for Indian merchants.



**Figure 3.Online payment process**

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IV. Interaction of Customers with Trainers /Consultancy:

Customers are intended to specify their body requirements along with their present health condition also past medical history if any. By analyzing customer provided data ,Trainers suggest them proper set of exercise and routine, by following which customer can fulfill their desires. Combining exercise with a healthy diet is a more effective way to maintain healthy lifestyle[3]. Consultancy plays a significant role in boosting one's health. User provided data is also analyzed by consultant in order to predict proper diet and supplements for the needy workout and diet plans will be provided to user in the form of a suggestion reports.  properly Following  the suggested reports is mere responsibility of customers.



**Figure 4.Video call**

An online portal will be integrated in system for direct communication between Trainer or consultancy and customer. This will include video and text chat which will be providing ease of communication[11]. Most software's are available in market to enable live chat with customers to improve business efficiency. There is WebsiteAlive, designed for the all-in-one entrepreneur who juggles countless tasks throughout the day. Itcombines proactive chat, mobile and real-time email notifications along with full customization options without coding.


V. Activity Tracker:

Activity Tracker is one of the key feature of proposed system which will keep the track of users activity.  It will benefits to both users as well as trainers and consultancy for regularly tracking and thus updating the logs if & when required[5]. Users are intended to regularly generate Feedback reports about the system services.

VI. Automated Report Generation:

There will be a point when thisIntelligent system will not require the trainers and consultancy to guide the users when requested. The system only, by analyzing the previous data & the requirements , will automatically  generate the suggestion reports for users.  The technique used here is NLP (Natural Language processing).  NLP is a field of artificial intelligence that deals with the interaction between computers and Natural languages.

**K-means:**

 K-means creates *k* clusters from a set of data objects so that the members of a group are more related. It's a popular faster and more efficient cluster analysis technique for exploring a dataset. From a dataset of customers, there will be an observation in cluster analysis. It will have various information about customers called as vector, representing the customer[1]. From the given set of vectors k-means will cluster together customers that have similar attributes.

**C4.5:**

 C4.5 constructs a classifier in the form of a decision tree. In order to do this, C4.5 is given a set of data representing things that are already classified.

Database will contains a bunch of customers along with their details like Age, Height, weight, body requirement, medical history, etc. These are called attributes. With these attributes we want to predict the

required exercises and diet plans to achieve the customer specified health target. C4.5 will told the class for each customers. Using the set of attributes and customers corresponding class, C4.5 constructs a decision tree that can predict the class for new customers based on their attributes.

There are five basic module of our proposed system as described in below:

i. Admin Module:

This user is a Admin type who has full rights for accessing the whole system.The purpose of this module is to provide the user interface and view functions for the system. Admin module includes storing and retrieving the details of the data. Admin module carries out the following functions:

- Manage User & Application
- Manage Sub-Admin
- Manage Package Details
- Manage payment Details
- Manage GYM Branch
- Manage Feedback Reports

ii. Sub-Admin Module:

User of this module is a Sub-Admin, who has control over particular Gym Branch which is allocated to it by Admin. Its Functions include:

- Manage Gym Shifts.
- Manage Suggestions Reports.
- Create, Update, Delete& Manage Trainers.
- Create, Update, Delete & Manage Consultancy.

iii. Trainer/Consultancy Module:

These modules are responsible for managing all tasks of Trainers& consultancy. By reading and analyzing user requirements modules will suggest proper Exercises & Diet plans to users[6]. This module will allow trainers/consultancy to visit online and guide users accordingly with the help of text chat or video chat. Trainer& consultancy module carries out following functions:

- Analyze user's requirements.
- Exercise/Diet Analysis.
- Generate, Modify, Delete Exercise/Diet plan Suggestion reports.
- Online Training to users.
- Check Feedback reports.

iv. User Module:

Interface that grants user's access to features of this system.Functionality of user module includes:

- Applying for Membership.
- Account Update.
- Online payment Facility.
- Specify Body Requirements.
- Generate Feedback Reports.
- Enquiry to Authority.

**CONCLUSION:**

In this paper, authors have recommended web application "Virtual Gym Management System". This system will be successfully designed and developed to fulfill the necessary requirements of user, such as recommending proper diet and exercise to user by well-known consultancy & trainer respectively, video or text chat, activity tracker, online payment and field level validation will perform efficiently .Even this system includes intelligence i.e. after certain data get store, system will recommend diet and exercise to user rather than any trainer and consultancy which will be benefited for admin as well as for user. Therefore, this project will be developed to meet the aspirations indicated in the modern age.

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