



Case Study

for **A Fitness Web & Mobile App**

How Webguru Infosystems developed a fitness web and mobile app named Athlexa offering customers quick and seamless access to a host of features such as fitness centre selection, training videos, competition module, and much more.

An Overview

The popularity of digital fitness systems (web portal + mobile app) is growing by the day as they allow customers to achieve a host of objectives such as setting fitness goals and promoting healthy behaviour, among others. One such integrated and robust fitness system called Athlexa helps fitness enthusiasts to stay fit by letting them access a host of features including checking out the fitness centres in a city or locality across the country. Comprising a front-end HTML based website and native apps (for both Android and iOS platforms,) the fitness system provides customers information about the fitness centres in their vicinity, exercise routines to follow, and participate in regular challenges, among others. Athlexa allows customers to win FitCoins, which can then be used to access services, view videos, and give likes, ratings, and recommendations. The system can help trainers to join and earn by uploading their pre-approved videos without even visiting a fitness centre listed on the system. The admin will be able to manage the fitness system and its various features through an easy-to-use web-based backend panel.



The Proposal

The client wanted to develop a comprehensive digital fitness system consisting of a mobile app and a website front-end for the customers. Further, a web-based system to be developed to manage and provide bookings for various fitness center-based services. The proposal finally agreed upon comprised the following:

I. Web Application

- › Home page
- › Fitness centre owner / Customer registration
- › Search fitness centre
- › Fitness centre profile / Details page
- › Booking form
- › Fitness centre owner and customers' account dashboard
- › Informational pages like 'Terms and Conditions' and 'How it works', among others
- › Fitness centre owner / Customer registration
 - › Search / View fitness centre

Fitness Centre Owner Account Dashboard

- › Upload / Update fitness centre profile
- › View and manage booking requests
- › View points earned from online booking

Customer Panel

- › Update profile
- › Backend panel development
- › QR code scan for attendance
- › Purchase service through CCAvenue payment gateway

II. Mobile Application

- › Home page
- › Customer registration and login
- › Search / View fitness centre
- › Fitness centre profile / Details page
- › Booking form
- › QR code scanner
- › Customers' account dashboard
- › Informational pages – About Us, Privacy Policy, and Terms and Conditions

The Workflow

- › A multi-vendor system/portal to be developed wherein each fitness centre owner would be a vendor who can register and enlist his or her centre.
- › A customer using the mobile app and website front-end can view the list of fitness centres located nearby. Additionally, the customer may specify a zip code to view the list of fitness centres.
- › A fitness centre owner may register and create an account on the website through which he or she may specify services and amenities available at the fitness centre
- › Processes like booking and others to be executed through a point-based/online transaction system. A customer can purchase a package and receive the points into his or her account
- › The fitness centre owner can create multiple packages and set pricing for them through the account dashboard
- › A customer may select a fitness centre from the list of centres shown on the system, view details, and choose a package. Thereafter, he or she needs to fill a booking form and submit a request whereupon the administrator and the corresponding fitness centre owner can view the booking form on their respective dashboards.
- › Once a customer receives the confirmation mail with the invoice as an attachment, he or she can avail of the service by physically visiting the fitness centre



- > For every fitness centre registered to the website, the system generates a QR code, which the customers use for scanning purpose
- > To avail of the service, the customer needs to scan the QR code available at the fitness centre
- > To validate scanning of the QR code, the system does the following:
 - Check if the customer has submitted the booking request for a package
 - If submitted, the points for the chosen membership package are credited to the fitness centre owner's account
 - For each subsequent day, the customer needs to scan the respective QR code to gain entry into the fitness centre while the remaining day count gets updated from the number of days in the package
- > A fitness centre owner can view the total accumulated points and do the following:
 - Make a request for reimbursement
 - Make a premium listing to further boost sales





The Process

The multi-vendor digital fitness system consists of two customer touchpoints - website and mobile app. Our design and development teams started working on creating the website and mobile app in parallel. The teams were in constant touch with the client in terms of sharing updates and receiving feedback on the process followed. Let us discuss the processes as under :

I. Website front-end

• First phase

The technology stack used in developing the website comprised Angular, NodeJS, Express Framework, and PostgreSQL. The development process was carried out in four phases. One of the prominent features of Athlexa is the generation and reading of a QR code to validate and allow customers to utilize their chosen services from a particular fitness centre. To enable the same, our team implemented the QR code generator and scanner for the fitness centre owners and customers. The QR code so generated by using a specific pack of NodeJS is utilized for marking the attendance of the customer. The QR scanner was developed by using a special pack of Angular. For example, if a customer goes to his or her chosen fitness centre with an expired service pack (again, chosen by the customer at the beginning,) the QR code at the fitness centre after reading the QR code of the customer will state that the service pack has expired.

• **Second phase**

Since Athlexa allows customers to subscribe to specific services offered by the fitness centres, the payments are needed to be accounted for by using a point-based digital wallet named Fitcoin wallet. Accordingly, customers can receive a certain number of fitcoins in their wallets when subscribing to specific services. The fitcoins so earned get debited from the wallet if the customer purchases any of the offer-based services subsequently. Thus, such fitcoins incentivize customers to subscribe to certain service packages. The accounting system developed included the computation of GST and other tax (TCS) and transferring the purchase amount to the vendor's account, among others. CCAvenue was chosen as the payment gateway for being one of the best in the business and authorized by the Indian financial institutions to accept payments in real time. With CCAvenue, internet payments are accepted and validated via credit cards and net banking facilities without any hassle.

• **Third phase**

When people stopped visiting the fitness centres due to the pandemic, the client insisted that we make the application interactive and help customers leverage the features of Athlexa in a better way. One such feature developed during this phase was adding a competition module with a number of challenges for the customers. These may comprise a 100 metres run, 5 kilometres walking, 10 kilometres cycling, 50 push-ups per day and for a week, or to reduce weight by 2 kg, among others. After completing any of the challenges, the customers can upload them in the form of videos or images. These challenges are supposed to work as a novelty factor for the customers to stay fit during the pandemic and beyond.



• Fourth phase

With the continuation of the lockdown, the client asked us to develop a feature that includes trainers into the Athlexa platform. It allows trainers to upload training videos of specific fitness routines (Yoga, Aerobics, Zumba, Pilates, etc) into the app with either free or paid mode of viewing. The other characteristics of this feature are as follows:

- ›› The upper limit of the video size for the free tier has been fixed at 50 MB considering the server space
- ›› The trainer can view the video uploaded to the system, and if the same has already been viewed by the customer, the trainer cannot edit or delete the video
- ›› The trainer may be entitled to receive a commission, which he or she may view in the 'view commission' section
- ›› The customers can 'like' the video and/or 'share' its title and description on social networking sites like Facebook, Instagram, and Whatsapp. Here, the actual video does not get shared and if other customers (on social networking sites) click on the shared link, they are redirected to the app screen's home page or Google Play store page (if the app is not already installed in that phone)
- ›› Since storing the video files in the actual hosting server and streaming them are likely to hamper the speed of the website, the videos are stored on the Vimeo hosting server

To view a video through the paid mode, the customer needs to maintain a certain amount in his or her Fitcoin wallet. And when he or she views the video a certain amount gets debited from his or her wallet. Interestingly, once a paid video is viewed by the customer the same gets stored in the 'My videos' section wherein he or she can watch it subsequently for free.

** Note:

- › The training videos can be uploaded by using the backend panel of the web application
- › The training videos can be viewed on the Athlexa mobile application only



The Athlexa mobile app has been chosen as the exclusive platform to view the training videos due to the wide acceptance of mobile apps as the primary and most convenient digital platform.

II. Mobile App

The mobile app is native in character with Java being used for Android and Swift for iOS operating systems respectively. For the backend, PostgreSQL was chosen as the open-source relational database management system for its capability to handle a large volume of data. NodeJS was chosen as the runtime environment for both front-end and back-end development as it is lightweight, efficient, and faster to execute.

Conclusion

The fitness application Athlexa has been built, rigorously tested, and made operational according to the project objectives. The app endeavours to provide a seamless service to every stakeholder (customers, gym or fitness centre owners, and administrator.) To make this digital fitness system attractive, robust, secure, and usable, we thank our client for providing constant support and guidance in every step of the way.



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