



# VIRTUAL RUN

## VIRTUAL RUN

An engaging IoT-based fitness application that provides amusement and a sense of accomplishment when users run on the treadmill.

## THE IDEA

The importance of fitness maintenance is growing with time. People are visiting gyms and consulting fitness experts to maintain a healthy and strong physique. However, this enthusiasm tends to evaporate with time as a result of boredom.

At Red Apple Technologies, we constantly explore advanced technology solutions to serve industries like health & fitness with dedication and quality.

Back in the 2nd half of 2021 when the Covid-19 pandemic was at its peak, a client approached us with a proposal to develop an immersive IoT-based fitness application. This app will allow fitness enthusiasts to gain amusement and a sense of accomplishment when they run on the treadmill at home. Our team discussed the requirements with clients thoroughly. Subsequently, they begin to proceed by using advanced technology resources to achieve the right results.



## OVERVIEW

This fitness application comes with a tracking sensor. Users have to first attach this sensor to the bottom edge of the treadmill. Now, to connect the sensor with smartphone or other mobile devices, users have to activate the Bluetooth (BLE) option. Then to utilize this app, users have to first register themselves by providing information that

also includes weight and height. Once creating the profile, users have the option to choose their virtual character. Then they can select the running tracks of their choice belonging to the Boston city. Similarly, they also have the option to decide the running distance in advance. Users have the option to participate in this virtual running race as

A single player with bots. The tracking sensor placed at the bottom edge of the treadmill will collect the running speed of the user & supply the data to the app on a real-time basis. The actual speed will help in determining the burnt calorie amount. This app works perfectly with Android & iOS devices to provide the right outcome.

## KEY FEATURES

- REALISTIC EXPERIENCE OF RUNNING WITH BOTS
- RUNNING CIRCUIT SELECTION



- REAL-TIME COLLECTION OF RUNNING SPEED
- AVATAR SELECTION

## UI SCREENSHOTS



## BUSINESS REQUIREMENT

### BUSINESS ESSENTIALS

This IoT-based fitness application works quite impressively. It motivates users by serving them with a gamified experience of running on a

realistic track either as a solo participant or as a team. The immersive audio-visual environment of this application naturally tempts users to run hard on the treadmill with a sense of amusement to sweat out. We have worked hard on uplifting the graphics quality

and also ensured the audio works perfectly to deliver an impression of a realistic marathon event. The client appreciated our hard work after witnessing the performance of this fitness application.



## TECHNOLOGY WE USED

When developing this application, we consulted the client to deploy the right technology to achieve the right result. The front-end portion of this app is developed by using Unity game engine. The backend portion of this app is developed using Node.JS.



## CHALLENGES

### DIFFICULTIES

The first challenge that we encountered when

Developing this application was developing the running track beyond 5 km. Integrating the long-distance running circuit at once tends to affect the app's performance. The second issue that we

experienced was collecting the running speed of users on a real-time basis quite accurately. Thirdly, we have also experienced the difficulty of plugin integration.

## SOLUTIONS

To tackle the issue of racing track integration beyond 5 km, we decided to apply the runtime process. It worked quite well by ensuring smooth integration of the long-distance running track without disturbing the user experience.

Similarly, to handle the issue of data collection, we communicated with the sensor manufacturer to ensure hassle-free collection of data quite accurately. The issue of plugin integration was solved with the collaboration of the development team quite smoothly.

## CLIENT REVIEW

"I am immensely satisfied with the service quality of Red Apple Technologies. My app is working smoothly and engaging a vast audience segment. I will indeed consider assigning new projects of mine to this organization."



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