Marketing Requirements Document (MRD) “Digital VR Treadmill”

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Overview

Digital VR Treadmill (working title) is an integrated hardware and software solution that users can choose their favorite locations and experience the scenery as they run/walk through the VR device that is integrated with the treadmill.

This product contains two parts, one is a treadmill and the other is a VR device. In addition to the body, running belt and control panel of the traditional treadmill, the treadmill part also adds grey-black plastic plates and handles on both sides to ensure the safety. The VR device is connected to the control panel of the treadmill, and users can select their favorite scenes, such as beaches, forests, deserts, etc., and sports modes through VR glasses and handles.

Features of the product will include:

- VR technology: allow users to select and experience the scenery of different locations through VR handles and glasses while exercising.
- Delicate physical design: attract users from the physical appearance and motivate the them to use it often; Add unique protective measures designed to ensure the safety of users during exercise.

(*prototype, more elements will be added*)

Revenue or Cost Focus

The treadmill market is competitive and intense, and most companies try to gain more market share by lowering the cost and decreasing their revenues. This market has been overdeveloped and saturated, and we decide to make an innovation on that. Our developed treadmill is integrated with VR technology which brings more fun and engagement for the customers when they do the workout exercise at home. We aim to generate an innovative solution for the customers to meet their needs better. Under this kind of scenario, the new product will likely be successful and easily produce profits for the company.

Desire to Innovate

Treadmills and VR glasses & handles are not newly invented products. However, using a treadmill indoors cannot satisfy people who want to exercise outdoors and enjoy natural views. Integrating VR technologies into existing treadmills can provide users with an immersive running experience.

The intentions of the design and development of digital VR treadmill:

- It can be an attractive product under this covid-19 pandemic. Especially for people who face travel restrictions and are not able to exercise in a favorable environment.
- It can encourage people to exercise daily through an immersive exercise experience.

The digital VR treadmill serves a unique function, enabling the users to exercise in an interactive VR environment, where the users can:

- Select different exercise modes, including Jogging, fat loss mode, cardiopulmonary function mode, mountain climbing mode, etc, and adjust speed and slope. Also, users can immerse into a natural environment, such as a track road in the forest or near the beach, while exercising.
- The entire VR set serves as a digital user interface that the users can use to participate in designed complementary exercising activities. Specifically, the VR handles incorporate sensing devices that can detect pressure and the users' motion, and it is connected to the VR glasses.

Length of Time Horizon

Targeting a beta test over the summer, the stakeholders of the Digital VR Treadmill have established the summer of 2021 as the target for launch.

The set-back schedule for the design, development, manufacturing and delivery of the Digital Treadmill is as follows:

- Design Process: February through the end of April 2021
- Prototype development and manufacturing: May 2021
- Delivery of the first working set of products: June 2021

Design Schedule Detail

Activity	Timeframe
Design Research	February 2021

User & Domain Analysis (U&DA) Complete	February 28, 2021
Development of Requirements and Context Scenarios	March 2021 (first half)
Development of Framework and Design Language	March 2021 (second half)
Form & Behavior Specification (F&BS)	March 28, 2021
Detailed Design Development	April 2021
Delivery of final design and presentation	Late April 2021

Understanding of the Problem

The application of VR equipment might be our greatest concern. Some users may experience motion sickness and feel dizzy as they put on VR glasses while running on a treadmill. The uncomfortableness of wearing VR glasses may lead to further safety issues that the users may fall off from the band carrier. Therefore, we need to arrange rounds of safety tests, in order to eliminate risk factors and upgrade programming based on test results and feedback.

Also, since the VR equipment is wireless, we need to ensure the stable connection between VR equipment and the digital screen.

Willingness to Invest

Market research suggests that people do have the demands for the developed technology of treadmills, and those people are likely to afford this kind of high-end technology. Since it is basically designed for people who would like to work out at home and have more fun exercising, this equipment will mainly target individuals. The investors understand the need for the equipment is for the combination of exercise and entertainment, the expense should be spared in terms of design.

Risk Factors

In terms of product design, safety is a potentially unstable factor. This digital VR treadmill provides users with an immersive exercise experience through the combination of VR equipment and a traditional treadmill, which also means that users can't see where they are in reality after wearing a VR glasses, so there may be dangerous situations such as falling down and missing steps.

Also, if the overall design is skewed toward traditional treadmills, the demand for this digital VR treadmill may be greatly reduced after people can do outdoor activities.