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From:

Subject:

Date:

Kevin Jonakin

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Project Report Introduction

06/08/2020

This report describes the methods and results of the Omni-Tech 1000 wireless heart-rate monitor study and presents the project member’s recommendation to improve the project.

**Description**

The Omni-Tech 1000 belt is worn around the chest of a cyclist, which transmits a wireless heart rate signal to a computer/receiver on the handlebars using Dedicated Short-Range Communication. Our team consists of three Omni-Tech engineers: John Horsney, Tim Maloney, and Amanda Brownstein.

In April, Horsney was approached by the Sales and Marketing leads of Omni-Tech regarding a technical problem with the Omni-Tech 1000. The wireless signal between the chest belt and the receiver goes out during use, with the resulting effect that inaccurate data for the user is presented. The sales team believes this is a persistent problem with this specific model.

Out of 1620 monitors sold at $140 each, Omni-Tech have had to refund or replace 980 units, which is a loss of $13,720. This also damages Omni-Tech’s credibility and reputation for quality. After four days spent examining and testing the model, it was determined correcting the device’s issue would not be feasible.

We decided to consider alternative wireless technologies and establish a set of criteria for a new wireless system, the ETW-2000. Two key criteria were the new wireless systems fitting into the existing housing and maintaining our current cost. Our research included online resources, interviews, field research, and product testing. The conclusion of our test was reached on April 24, 2014 and determined using Bluetooth 4.0 is Omni-Tech’s optimal option for correcting the problem with the Omni-Tech 1000.

During field-testing using Bluetooth no wireless failures were observed. In addition, Bluetooth is $2 less than our current Wi-Fi system and will allow multiple devices to be connected, which would permit a team leader to receive someone’s data on an additional device.

**Conclusion**

Replacing the Omni-Tech 1000 with the newer ETW-2000 will correct the product’s failures, provide additional features, reduce costs, and restore Omni-Tech’s reputation for quality and high performance.