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FOR

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FOR THE INVENTION

SMART BIKE HELMET: INTERACTING WITH THE INTERNET OF
THINGS

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SMART BIKE HELMET: INTERACTING WITH THE INTERNET OF THINGS

INTRODUCTION:

In 2009, Taiwan introduced the bicycle rental program, You-Bike, as a public transport subsystem to meet the demand for the first- and last-mile connection to MRT services. Therefore, bike helmets offer growth potential on a vast scale. The present invention relates to a helmet apparatus comprising a built-in applications and internet access. Three separate Taiwan patents have been issued (M477176, M477177, and M477795) and expected to provide coverage through 2014 – 2024.



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FEATURE:

The concept of this smart bicycle helmet is to provide bikers with more advanced built-in applications and connectivity than a basic feature helmet, including:

- (1) HD embedded camera;
- (2) wireless communication module;
- (3) security system;
- (4) GPS navigation system; and
- (5) Bluetooth headset, as shown in the figure 1.

An ultra wide view and rear-facing embedded camera can record all surrounding events and transmit the video data in real time to a cloud-based server network.

Embedded camera



Security system

Security system automatically checks whether the biker is wearing the helmet and detects the bicyclist's speed while riding at any given time.



Equipped with an internet connection device, the biker is able not only to connect instantly with smart parking systems to find nearest U-Bike station, but also to make sure there are enough bikes to rent, or enough space to park.

Wireless communication module

This provides bikers with a built-in GPS navigation system and combined with Google's intelligent personal assistant.

GPS navigation system



Bluetooth headset

A user can call handsfree on your mobile phone, listen to stereo music, and have intercom conversations with other riders.



Figure 1. Technology specs of the smart bike helmet.

PRODUCT-MARKET ANALYSIS:

Taiwan is one of the most innovative leaders in the bicycle Industry. The Ansoff's product-market growth matrix of the smart bike helmets, depicted in the figure 2, discusses the opportunities of offering existing and new products within existing and/or new markets in detail.



Figure 2. Technology specs of the smart bike helmet.

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Patent:(M477176, M477177, M477795)

SMART BIKE HELMET: INTERACTING WITH THE INTERNET OF THINGS

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世界各國為鼓勵民眾使用自行車作為短程運輸，約有160個國家已經建置自行車系統，因此自行車安全帽潛在商機可期。本發明為一智慧安全帽，其內建應用程式與網際網路，如圖一所示，智慧安全帽內建前、後視網路攝影機，可記錄行車畫面並上傳到雲端主機。此外，這款智慧安全帽可以透過無線藍芽耳機進行GPS語音導航，讓騎士容易尋找到最近的微笑單車租賃站位置，並提供租賃站是否可以提供借還單車資訊。本創作已取得三項中華民國專利證書，M477176、M477177、M477795，取得十年專利優先權。

In order to encourage citizens to use bikes as short-distance transit vehicles, approximately 160 bike-share systems have been installed throughout the world in the end of 2010, and therefore bike helmets offer growth potential on a vast scale. The present invention relates to a helmet apparatus comprising a built-in applications and internet access. As shown in the figure 1, this smart bike helmet has an ultra wide view and rear-facing embedded camera can record all surrounding events and transmit the video data in real time to a cloud-based server network. In addition, the smart helmet is able to provide the bike with the voice instructions of GPS navigations by Bluetooth handsets wirelessly to connect instantly with smart parking systems to find nearest You-Bike station and make sure there are enough bikes to rent, or enough space to park. Our smart bike helmet has already been issued three separate Taiwan patents M477176, M477177, and M477795 and has a term of 10 years.