OpenCar Market Analysis Report

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Introduction

Mobile devices have big impact on our daily lives such as navigations, smart phones and of course today's cars. A decade ago people used to use maps to find their path, televisions to watch movies but now time has changed and technology take their's places. With the advanced technology automotive industry have started to contain more featured devices. Most of the produced medium and high level cars are equipped within trip computer. Trip computers have some characteristic such as Calling and accepting phone calls as a hands-free device, Mirroring screen of the mobile device for some applications like mobile navigation system and multimedia properties. These computers have some economic burden for customers. Their prices are between 500 and 2000 dollars.

Overview of Market

Multimedia devices market consists of automobile producers and individual users. This market spread worldwide and every newly produced cars has at least one of this market's products. In addition to produced cars, people who want to improve their cars constitute big portion of the market.

Target Market

Multimedia device can be installed by either producers as default or people who want to have featured experience in their cars. Both producers and individual users are our target. Thanks to our product open source feature, also developers can be use our project as a base of their development process.

Similar Products Overview

- **Android Auto**

Android Auto is Google's solution for bringing the power of smartphone to vehicle infotainment. Basically users using their phone to broadcast a new user interface onto their car's touchscreen.[1] It has several functions:

- GPS mapping/navigation
- Multimedia control
- Telephony
- SMS composition and playback
- Web search

- **CarPlay**

CarPlay is a standard developed by Apple Inc. to allow devices running the iOS operating system to function with built-in display units of automobile dashboards. It provides to acces user's IOS devices.[2] It' functions are:

•Siri: Eyes Free mode– for eyes-free and hands-free operation

•Satellite navigation

•Telephony instruction and control

•Music control (via Apple's iOS "Music" application, or third-party)

• iMessage control and response

- **OpenXC**

OpenXC is an open source, data-focused API for cars. By installing a small hardware module, the vehicle data becomes accessible to Android or other desktop applications using the OpenXC library.[3] By using OpenXC developers can read data from the vehicle in real-time like the steering wheel angle, GPS position, and vehicle speed.

- **MirrorLink**

MirrorLink turns the promise of the connected car into reality. Simply connect any MirrorLink-enabled smartphone to any MirrorLink-enabled vehicle, and take advantage of easier and more responsible access to navigation, music and phone apps while you drive.[4] The apps run on the smartphone, but you see them on the dashboard display and hear the audio via the car's speakers.

- **Windows Embedded Automotive**

Windows Embedded Automotive is an operating systemsubfamily of Windows Embedded based on Windows CE or use on computer systems in automobiles.[5]

Projection of the Business

In the market there is no device that offers all this features in one product. Our project will make difference while providing most of the basics of automobiles features and multimedia applications for users daily needs in one device. Also we will provide our project as open source to the world as a basis of feature projects.

Technical and Economic Details

Our auto monitoring screen will be open source. To establish a working system we have to use open source SDKs and hardware. As hardware we use CAN(controller area network) bus to read data from car's infotainment system. CAN bus modules can be plug in to Raspberry Pi boards. Prices of CAN bus modules are about 100 TL. Prices are varied in its features. We need Raspberry Pi board as well. Price of Raspberry Pi is about 120 TL. These modules and boards are available on the Internet. In addition to them we will use a touchscreen which is 7” sized for interaction between system and user.

There are advantages of using Raspberry Pi. It is compatible with most of the devices, energy saver, mobile(small size), developed using high level and low level languages, available to be installed an OS.

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