

Cost effective smart helmet implementation

[Law](#), [Crime](#)



Cost effective smart helmet implementation using Raspberry Pi. B. EAs with rapid enhancement in technology, world's technology has become more efficient and new gadgets are being introduced that make our daily life more convenient and interesting. The same idea has been adopted in this project and the main objective is about developing a proto-type cost effective wireless connection between a smart phone and microcontroller like Banana Pi via Bluetooth or Wi-Fi and its implementation over a simple helmet, converting it into the smart helmet. Through smart helmet one can be able to connect to his phone and enables some useful and important features of the phone such as voice/video calling, navigation system, GPRs, music playlist and other similar functions. Moreover, it may include speed-o-meter and camera to capture useful pictures. The advantage is that it will advance the whole riding conditions to the entire next new level as at no other time, subtracting the constraints of riding and lessening the odds of specific distractions or diversions.. The need of this particular design is to ensure that people in general can avail the opportunity of having a smart helmet that will allow a rider some urgent tasks like calling or navigation as well as entertainment stuff. It may also notifies you about traffic jams in particular, recent mishaps in your city and surrounding, updates about under construction areas or roads and other related features all in one while riding. It's simply a very interesting and useful project for common man and police department. New features and updates can make it more revolutionary.

The project covers a number of processes, mainly; a-

Programming

Programming for the smart phone application to access its features and for microcontroller to control the data flow for accurate results and proper functioning of the smart device. a-

Controlling and Connectivity: Studying the controlling and connection parameters to make the device perform desired tasks we tend to achieve through this project. a-

Designing and Assembling: Designing the body of helmet and doing weight calculations. Assembling the components in such way to construct a practical one.

b) PROBLEM STATEMENT: Since this project requires remote access to smart phone from microcontroller which is a prominent project itself as its applications will be vast including area of ethical hacking, controlling, spying, mass communication or tracking mainly. Our theme is to put up this facility and implement it over a simple helmet which can be treated as a smart one. It can resolve many of the issues for common bike riders or wherever helmet may use. Through this technology we can enhance the entire riding experience to the whole new next level as never before, eliminating the limitations of riding and reducing the chances of certain diversions or distractions. For traffic police department it may proof as a savior for the police riders in their dealings. A mounted wireless camera is connected to the controller that can also be used accordingly. So using this compact all in one device, common man can experience a ride like a boss.

c) OBJECTIVES: The task or objectives which we are planning to achieve through this project, work which is required to be completed for achieving them and deliverables which we will be giving in the end as a prototype are specified below;

Objective 1: Understanding the connectivity between the smart phone and micro-controller.

Objective 2: Understanding the weight calculations and assembling of the micro controller along with particular gadgets.

Objective 3: Gathering the components required for the construction.

Objective 4: Developing a Virtual Private network (VPN) on smart phone on which microcontroller is meant to be connected.

Objective 5: Programming for the working of device, includes· Smart phone programming for developing smart phone application that provides a platform which built co-ordination between smart phone and microcontroller.· Microcontroller programming that will control the system and the particular gadgets.

Objective 6: Installation of particular gadgets to the microcontroller.

Assembling the components to achieve the body of the desire proto-type.

Objective 7: Finally, the device would be ready for a test ride.