TRAFFIC LIGHT NEGOCIATION AND PERCEPTION BASED DETECTION

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ABSTRACT

Now a day many people are died in accident because main reason some time's delay occur before the person reaches the hospital in ambulance. The major concept of this project is use to every second are efficiently to save a person. the traffic congestion is a main problem that cause delay to ambulance. This leads to waste of time and also sometime causes dead. To overcome this situation, we have proposed an IoT based traffic light signal control for ambulance. It is also used to send the ambulance reach the traffic signal for the prior arrangements to manage the traffic.

The proposed system is used to defeat the delay with help of internet of thinks, Node MCU, LED, buttons and buzzer. The major role of this project is controlling the traffic lights from the ambulance and make clearance for its way of path automatically without any disturbance of public. The project is use to save the time of delay in most efficient to save the life.

Keyword *IOT ,RASBERRY PI ,,AUDRINO,EMBEDED C ,NODE MCU ,RF TRANSMITTER ,GSM*

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1. HDMI Video

A better-quality picture can be obtained using the HDMI (High Definition Multimedia Interface) connector, the only port found on the bottom of the Pi (see Figure 1-3). Unlike the analogue composite connection, the HDMI port provides a high-speed digital connection for pixel-perfect pictures on both computer monitors and high-definition TV sets. Using the HDMI port, a Pi can display images at the Full HD 1920x1080 resolution of most modern HDTV sets. At this resolution, significantly more detail is available on the screen**.**

If you're hoping to use the Pi with an existing computer monitor, you may find that your display doesn't have an HDMI input. That's not a disaster: the digital signals present on the HDMI cable map to a common computer monitor standard called DVI (Digital Video Interconnect). By purchasing an HDMI-to-DVI cable, you'll be able to connect the Pi's HDMI port to a monitor with DVI-D connectivity.

1.1 Getting Started with the Raspberry Pi

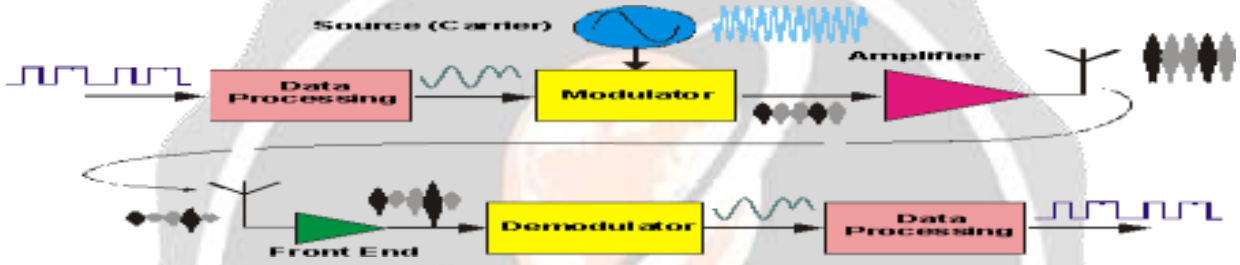
Now that you have a basic understanding of how the Pi differs from other computing devices, it's time to get started. If you've just received your Pi, take it out of its protective anti-static bag and place it on a flat, non-conductive surface before continuing with this chapter.

1.2 Connecting a Display

Before you can start using your Raspberry Pi, you're going to need to connect a display. The Pi supports three different video outputs: composite video, HDMI video and DSI video. Composite video and HDMI video are readily accessible to the end user, as described in this section, while DSI video requires some specialised hardware

2. TRANSMITTER AND RECEIVER ARCHITECTURE

Receiver: A Receiver is an electronic device that changes a radio signal from a transmitter into useful information.



2. Reactive Systems

As mentioned earlier, a typical embedded systems model responds to the environment via sensors and control the environment using actuators. This requires embedded systems to run at the speed of the environment. This characteristic of embedded system is called "reactive". Reactive computation means that the system (primarily the software component) executes in response to external events. External events can be either periodic or aperiodic. Periodic events make it easier to schedule processing to guarantee performance. Aperiodic events are harder to schedule. The maximum event arrival rate must be estimated in order to accommodate worst case situations. Most embedded systems have a significant reactive component. One of the biggest challenges for embedded system designers is performing an accurate worst-case design analysis on systems with statistical performance characteristics (e.g., cache memory on a DSP or other embedded processor).

2.2 Distributed Systems

A common characteristic of an embedded system is one that consists of communicating processes executing on several CPUs or ASICs which are connected by communication links. The reason for this is economy. Economical 4 8-bit microcontrollers may be cheaper than a 32-bit processors. Even after adding the cost of the communication links, this approach may be preferable. In this approach, multiple processors are usually required to handle multiple time-critical tasks. Devices under control of embedded systems may also be physically distributed.

3. Heterogeneous Architectures

Embedded systems often are composed of heterogeneous architectures (Fig They may contain different processors in the same system solution. They may also be mixed signal systems. The combination of I/O interfaces,

local and remote memories, and sensors and actuators makes embedded system design truly unique. Embedded systems also have tight design constraints, and heterogeneity provides better design flexibility**.**

3.1 EMBEDED SYSTEM

An embedded system usually contains an embedded processor. Many appliances that have a digital interface -- microwaves, VCRs, cars -- utilize embedded systems. Some embedded systems include an operating system. Others are very specialized resulting in the entire logic being implemented as a single program. These systems are embedded into some device for some specific purpose other than to provide general purpose computing

4. CONCLUSIONS

Our proposed system aims to maximise traffic throughput and minimise average vehicle waiting times at intersections. This scheme accelerates emergency response operations, by facilitating the transit of emergency vehicles through intersections in urban areas. The system minimises total delays, lane opening times and waiting time for both emergency and non-emergency vehicles reducing the fuel consumption and air pollution In our system, an emergency vehicle can reach the scene of an accident with minimal delay in both light and heavy traffic conditions compared to conventional and virtual traffic light systems. The proposed system also assigns the highest priorities to high-density approaches, in order to avoid long queues of vehicles at intersections**.**