Real Time Traffic Assistance

RaspberryPi

According to the World Health Organization, road traffic injuries caused an estimated 1.24 million deaths worldwide in the year 2010. That is one person is killed every 25 seconds.

LIFE HAS PRIORITY!

Safety is the first priority when venturing on the roads. Sadly, there are more and more car accidents happening in the world. Even if the cars are getting safer and safer, there is still a lot of damage made because some drivers could not see the traffic signs properly.

But now, you can enhance your safety on the road by adding Real Time Traffic Assistance to your car!

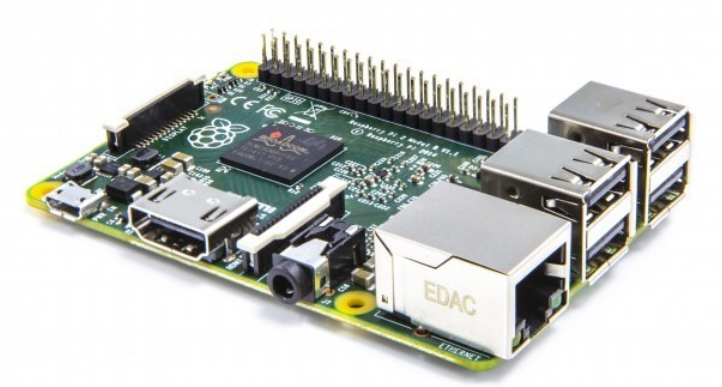
This system was made so that anyone with a car, that doesn't have such a feature, can have it implemented with lower purchasing price.

There are lots of luxury cars who have similar factory implemented systems that can assist the driver in traffic.

But there is a big number of cars that are over 8 years old which lack the option of having such a system. Usually, these cars are driven by older people and/or by teenagers with few experience in driving

The new Raspberry Pi2 B helps us reach maximum performance in image analysis and response time as this micro-computer has:

- Quad-Core @ 900Mhz
- 1GB SDRAM @450 Mhz
- Micro SD card (ours has 16 GB)
- 4x USB Ports

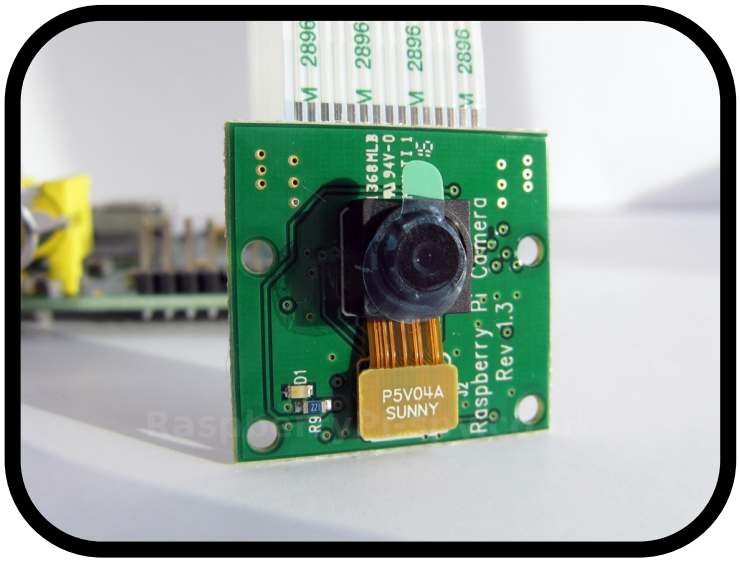


Is it efficient?

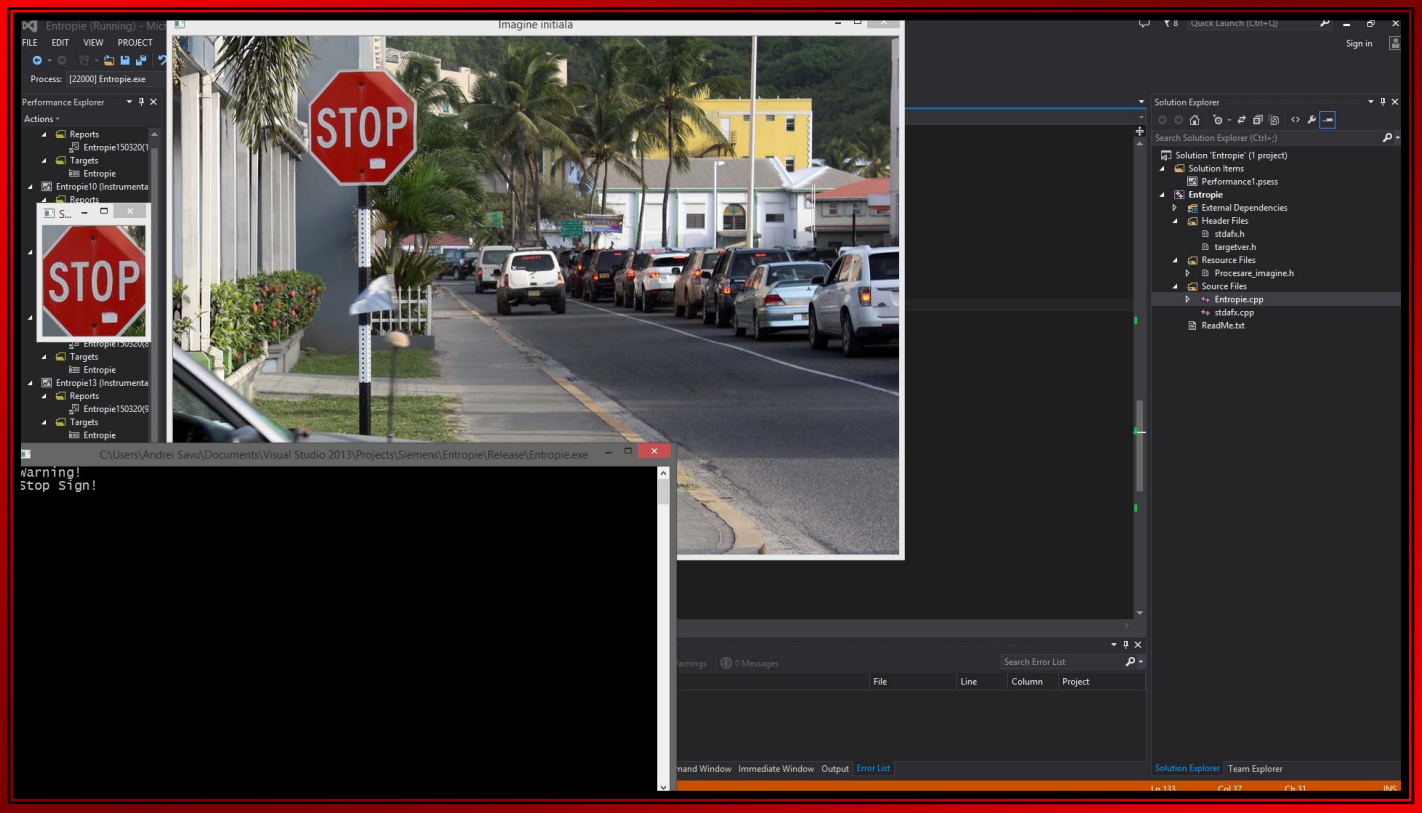
- You can use RTTA on any car, you need only to have a place where to put RTTA on your car's dashboard.
- If you may not see a traffic sign, RTTA will see it for you!
- The cost of such device can vary from 100$ to 150$
- It's best for cheap cars that doesn't have a device like this incorporated.

How does RTTA work?

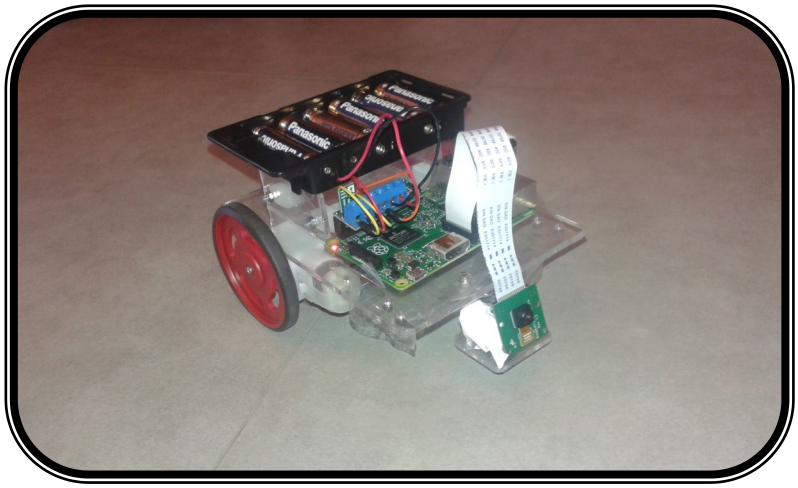
RTTA has the latest „Raspberry PI 2” version witch allows our software to do fast analysis on the images taken through the „Raspberry Pi Camera Board”, then it will announce us about the traffic signs that are in front of us.

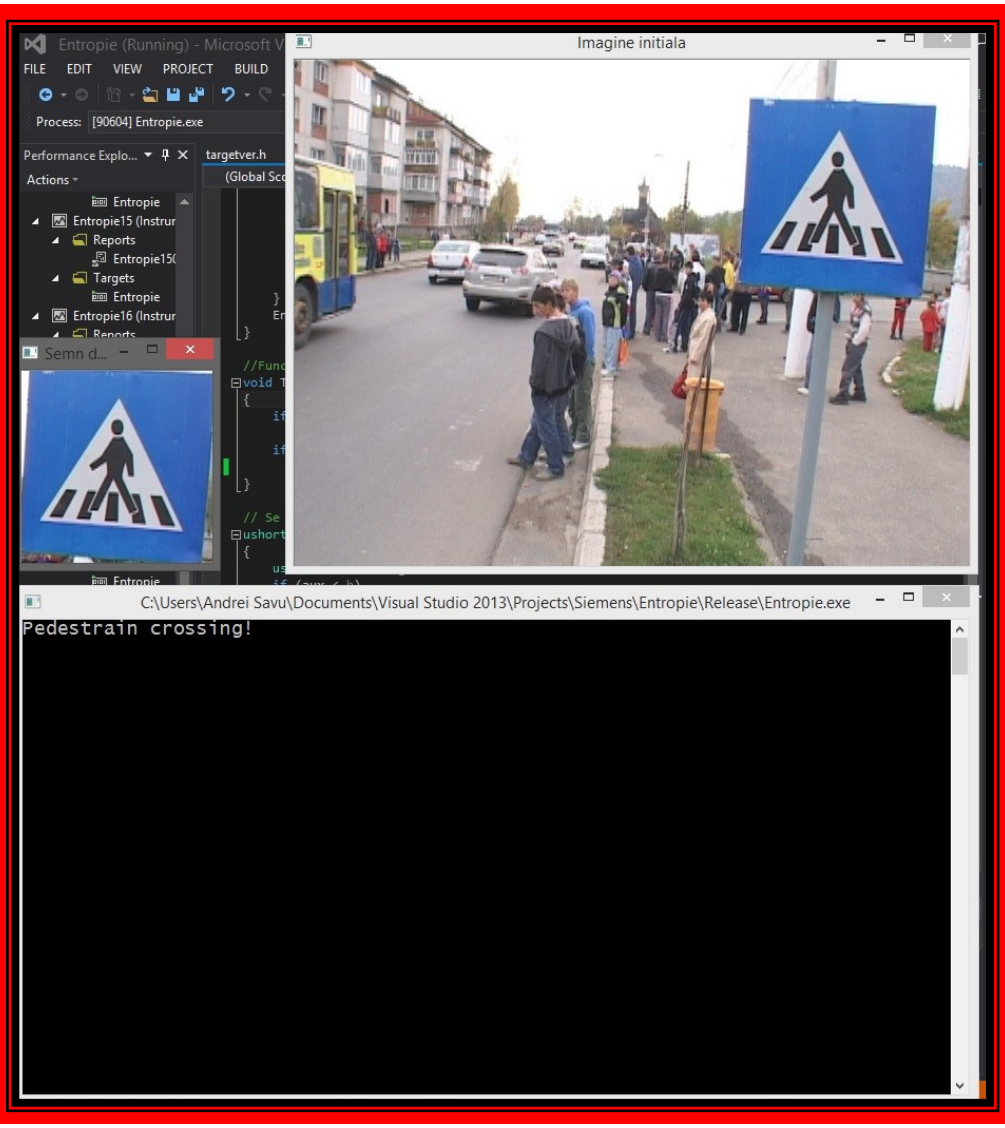


Then, after the Raspberrry PI has done the image analysis, it will send a message on a device, for example on a tablet. The driver will be warned about what traffic signs it sees giving a corresponding message and sound warning.


Imagine initiala
STOP
C:\Users\Andrei Savu\Documents\Visual Studio 2013\Projects\Siemens\Entropie\Release\Entropie.exe
Warning!
Stop Sign!
Solution Explorer
Entropie.cpp
stdafx.cpp
ReadMe.txt

On the left we have screenshots made from Visual Studio. You can see how the program runs and detects the traffic signs, isolating the image and sending a message feedback to the screen.
Down here is the prototype car we will control to test the RTTA.




Entropie (Running) - Microsoft V
FILE EDIT VIEW PROJECT BUILD
Process: [90604] Entropie.exe
Performance Explo...
Actions
Entropie
Entropie15 (Instrur
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Entropie16 (Instrur
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C:\Users\Andrei Savu\Documents\Visual Studio 2013\Projects\Siemens\Entropie\Release\Entropie.exe
Pedestrain crossing!

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DRIVE SAFE!

With Real Time Traffic Assistance