Max Speed Indicator

Team Members:

- **Jalal**
- **Abdul-Aziz**
- **Hassan**

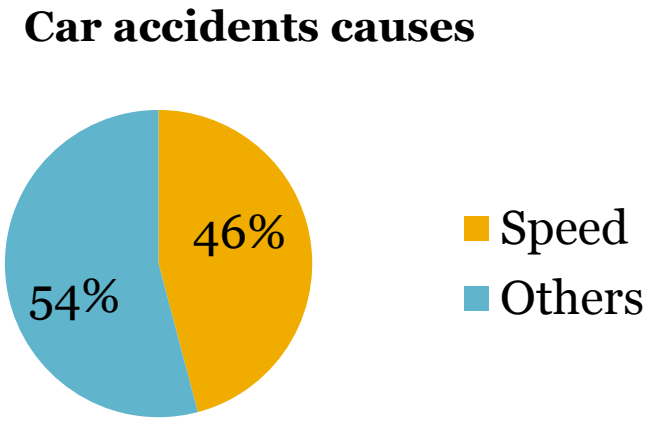
Advisor: Dr. Kamal

Outline

- Introduction
- Requirements & Specifications
- System Design
  - Architecture
  - Component Design
- Conclusion

Introduction

The problem?



Saher (2014):

6.8 Billions

2300 / year

Requirements

- Functional
- Obtaining street max speed
- Notification for exceeding speed limit
- Must work everywhere

- Non Functional
- Quick response
- Low power consumption
- Reasonable cost

Specification

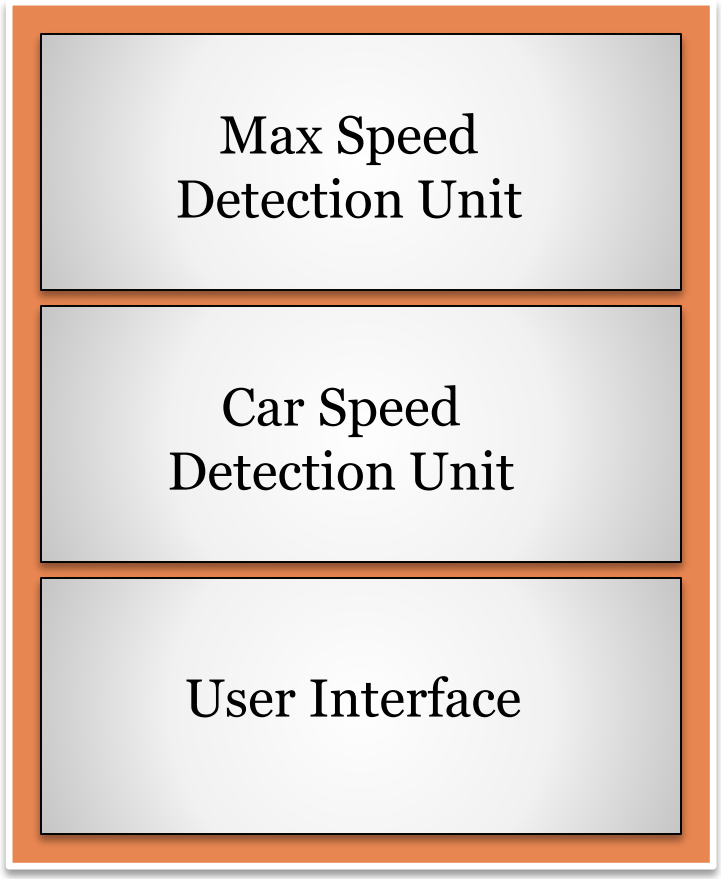
- Response time less than **10** seconds
- The cost should not exceed **799** SR
- Obvious alert
- Power must be less than **8** watt

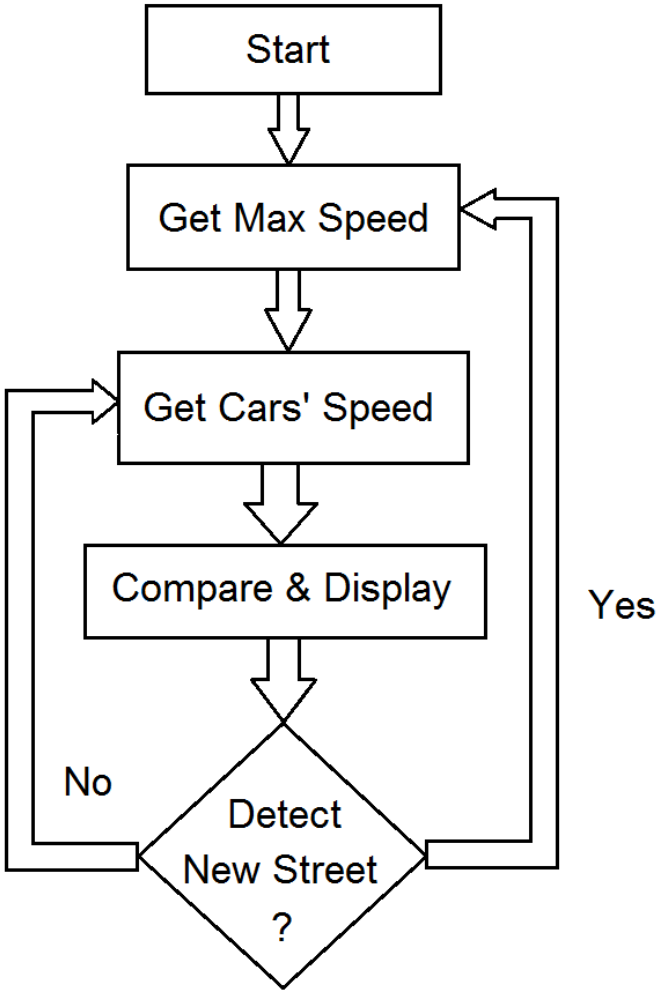
Existing solution

System Design

Solution Concept

System Components





Max Speed Detection Unit

- RFID (2)
- Computer Vision (3)
- Data Base (1)

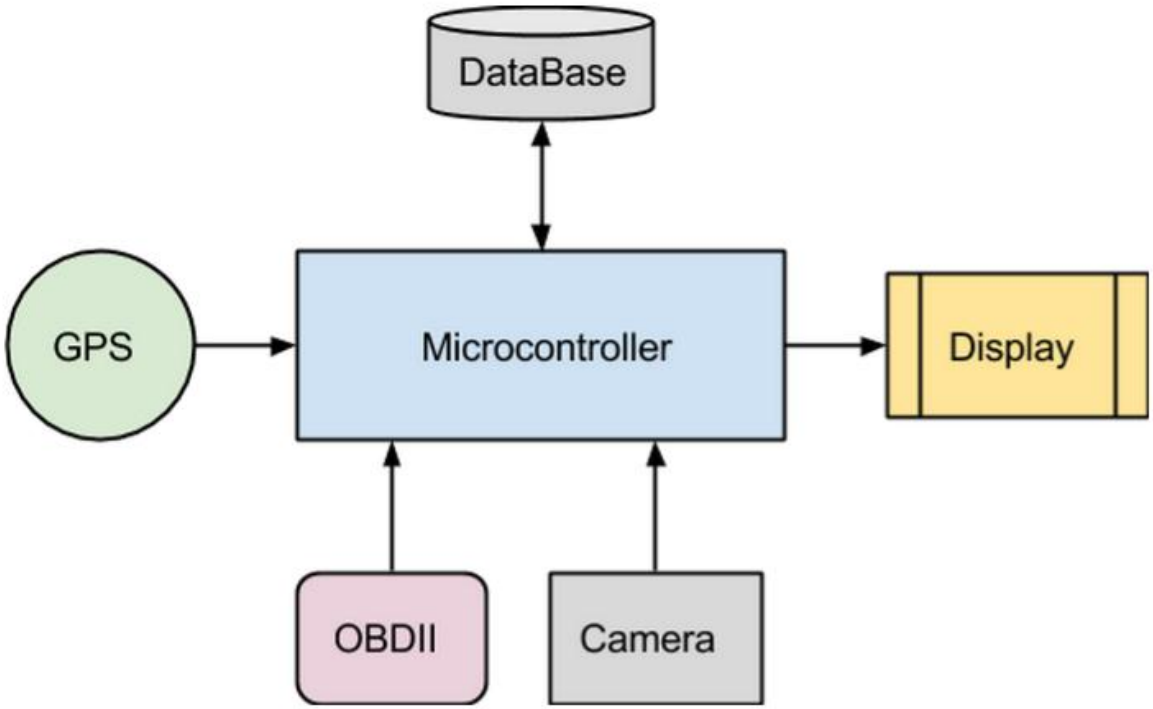
Car Speed Detection Unit

- OBDII
- GPS

User Interface

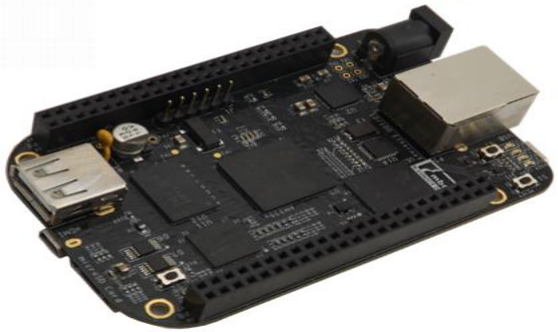
- LCD/LED
- Sound

Architecture



Component Design :

- Microcontroller



Component Design :

- Microcontroller

	Pi 2 B	BBB	Edison
CPU	Cortex A7	Cortex A8	Atom + Quark
Cores	4	1	2 + 1
Clock	900MHz	1000MHz	500MHz
GPU	Videocore IV	PowerVR SGX530	None
Memory	1GB	512MB	1GB
USB Ports	4	2	1*
Flash	None	2GB	4GB
Storage	microSD	microSD	microSD*
Network	10/100	10/100	None
GPIO	40-pin	2x46-pin	70-pin Hirose
Wifi	No	No	Yes
Bluetooth	No	No	Yes
RRP	$35	$49	$85*

Component Design :

- GPS
- Camera: Raspberry Pi NoIR Camera
  (Board - Infrared-sensitive)
- Wi-Fi Vs GSM receiver
- Detection Algorithm

Conclusion:

Next step:

- Components..
- Sub-systems

Thank You

Questions…