LATE.G.N.SAPKAL COLLEGE OF ENGINEERING

Department Of Computer Engineering

A Presentation

on

IOT Based Robot

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IOT BASED ROBOT

UNDER THE GUIDANCE OF

PROF : DR.N.R.WANKHEDE

SUBMITTED BY

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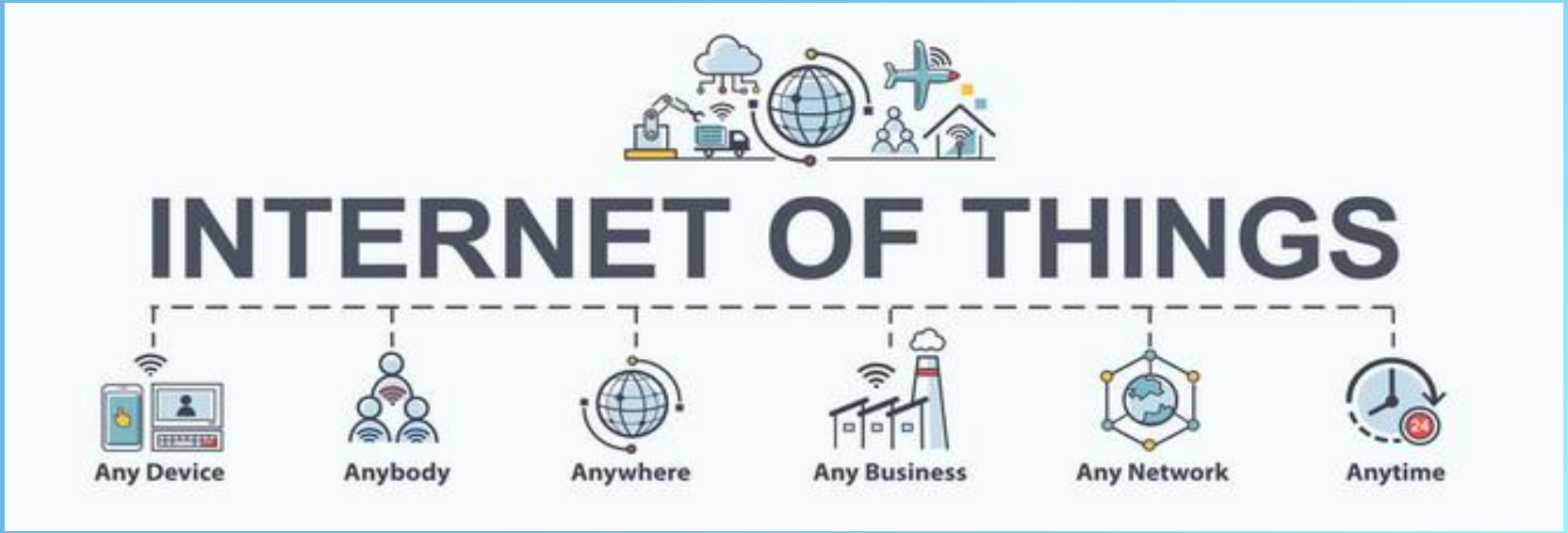
IOT WAS COINED BY KEVEN ASHTON IN 1999

Kevin Ashton is an innovator and consumer sensor expert who coined the phrase “the Internet of Things” to describe the network connecting objects in the physical world to the Internet.



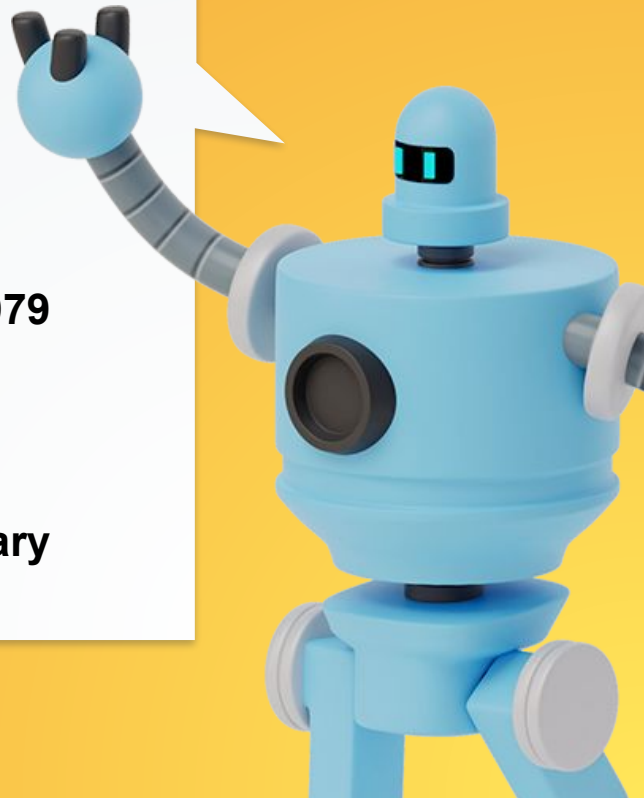
So what exactly is a robot? **Several definitions exist, Including the following:**

"A reprogrammable, multifunctional manipulator designed to move material, parts, tools, or specialized devices through various programmed motions for the performance of a variety of task."

Robot Institute of America, 1979

"An automatic device that performs functions normally ascribed to humans or a machine in the form of a human."

Webster's Dictionary



ABSTRACT

.The Purpose Of This Project Is To Control Robot With An Interface Board Of The Raspberry Pi, Sensors And Software To Full Fill Real Time Requirement.

• Controlling DC Motors, Different Sensors, Camera Interfacing With Raspberry Pi Using Gpio Pins.

• Live Streaming, Command The Robot Easily, Sends Data Of Different Sensors Which Works Automatically Or Control From Anywhere At Any Time.

• Design Of The Website And Control Page Of Robot Is Done Using Java Tools And Html. This System Works On IOT Concept.

• This Will Enable Raspberry Pi To Be Used For More Robotic Applications And Cut Down The Cost For Building An IOT Robot.

PROBLEM STATEMENT

the framework for making a robot for surveillance purpose is proposed. It overcomes the problem of limited range surveillance by using the concept of IOT. We can control the robot with the help of laptop/desktop manually. Automatic monitoring can also be done. Our proposed robot is small in size thus maneuvering into area where human access is impossible. Wireless technology is one of the most integral technologies in the electronics field. This technology is used to serve our project as a supreme part of surveillance act. This provides highly efficient and a cost effective robot that replaces human work and reduces human labor and performing monitoring works in a well effective manner.

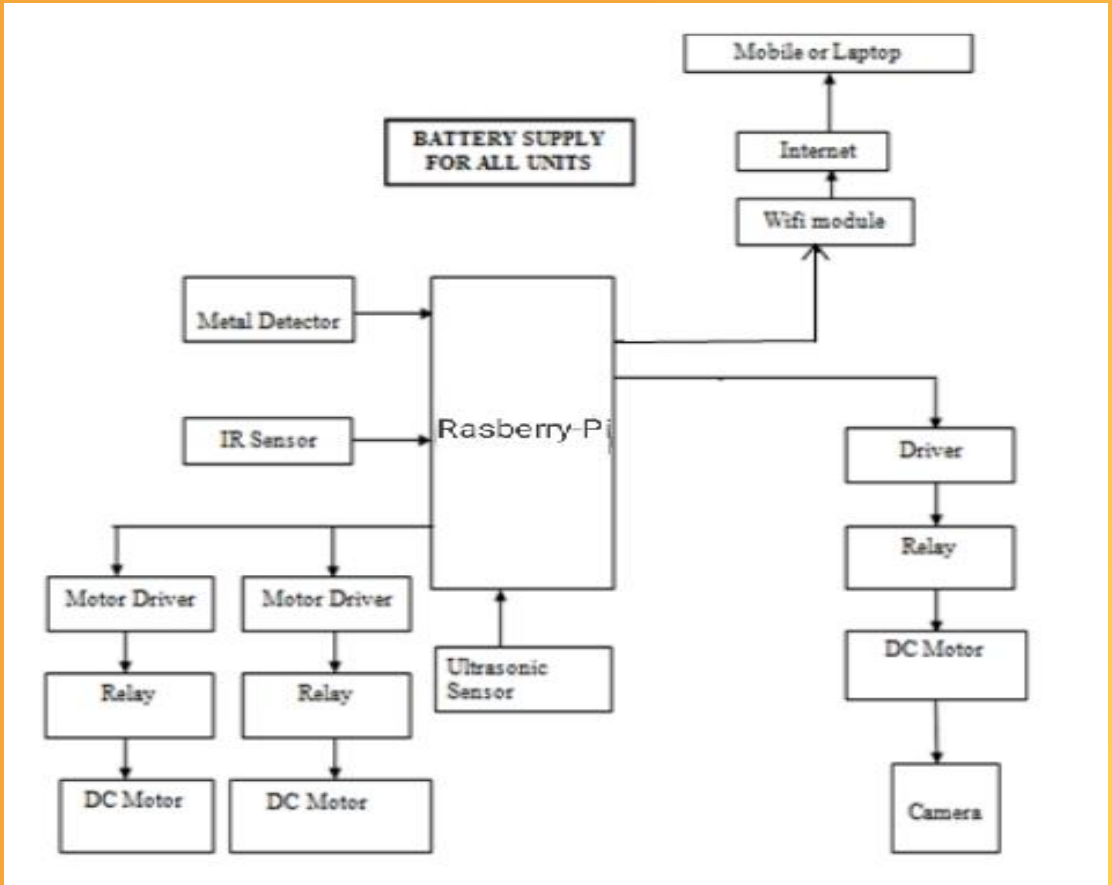
RASBERRY-PI

- Raspberry Pi Is A Credit-card Sized Computer.
- The Research And Development Of Raspberry Pi Controlled IOT Based Robot.
- IOT Is Internet Of Thing Where All The Physical Devices Connects With Digital Systems, Such As Refrigerator, TV, Ac, Washing Machine, Music System Which Can Works Automatically Or Control From Anywhere.
- Researched Says 50 Billions Devices Will Connect By 2023.
- It Is Connected With The Internet And Robot Can Be Controlled As Per Given Command.

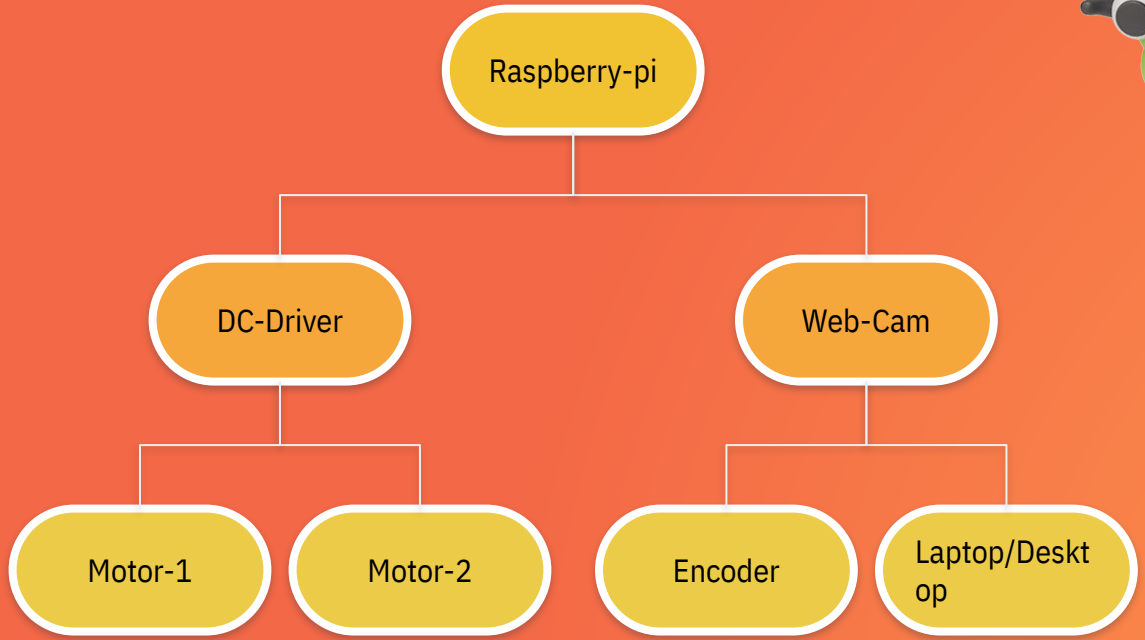
PROPOSED SYSTEM

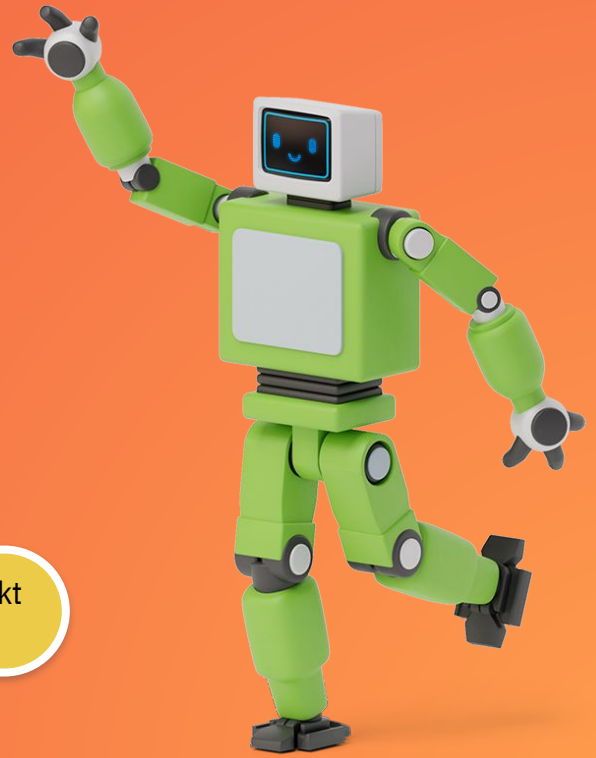
In this project we make a remote control robot which has a view via an attached camera. This model is controlled from a laptop or mobile in a remote location. User can view the things according to the camera installed in the robot. The robot utilizes a pan tilt motor that moves camera around so that the user can see everything going on from where the robot is. It connects with the Wi-Fi and then we can control the robot from mobile or computer. We are building a remote controlled wireless surveillance monitoring framework utilizing Raspberry Pi mounted on a robotic vehicle. This could be a helpful and reasonable secure and spy instrument, which have numerous configurable alternatives. In this IOT venture we are mostly utilizing Raspberry Pi, USB web camera and two DC engine with Robot case, to construct this Mechanical vehicle.

BLOCK DIAGRAM



CONNECTIVITY - DIAGRAM





ALGORITHM/PROGRAMMING USED

- Python 3.
- GPIO Libraries.
- A* Algorithm
- Live streaming through web cam.

IMPLEMENTATION DETAILS

To develop an IOT technology based robot, which can be controlled by a mobile devices/ computer over the Internet / Wi-Fi from anywhere at any time.

*Gather system requirements.

*Evaluate and study the platform required for the system.

*Evaluate and study suitable development language, technologies and tools Evaluate Methods of.

*Interface Program Raspberry Pi Interface board for dc motors.

*Program Website & Control Page.

*Evaluate and test the system.

*Maintain system.

THANK YOU.