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[DATE]
[COMPANY NAME]
[Company address]

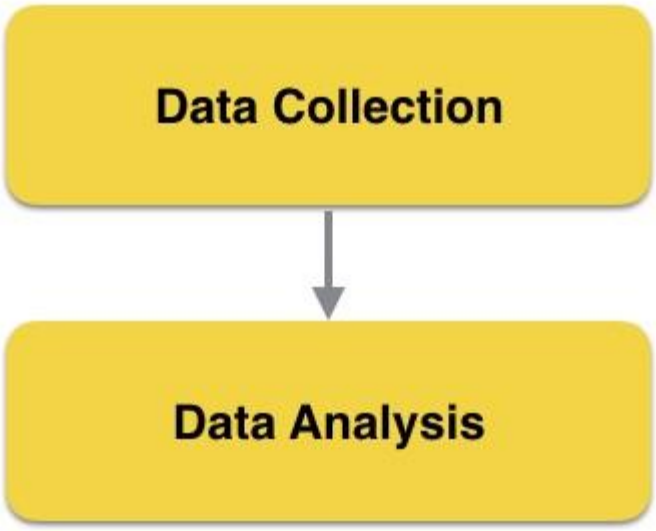
Iot based smart parking system:

Under the supervision of professor & hod department of computer science and engineering.

Smart parking system:

Phase 5:project docunmentation&submission:

Internet of Things (IoT)



Another factor driving the momentous adoption of the IoT system is the rise of the maker culture. The maker culture encourages hobbyists (and professionals alike) to create their own devices as well as tinker with existing ones to find solutions to solve their specific problems.

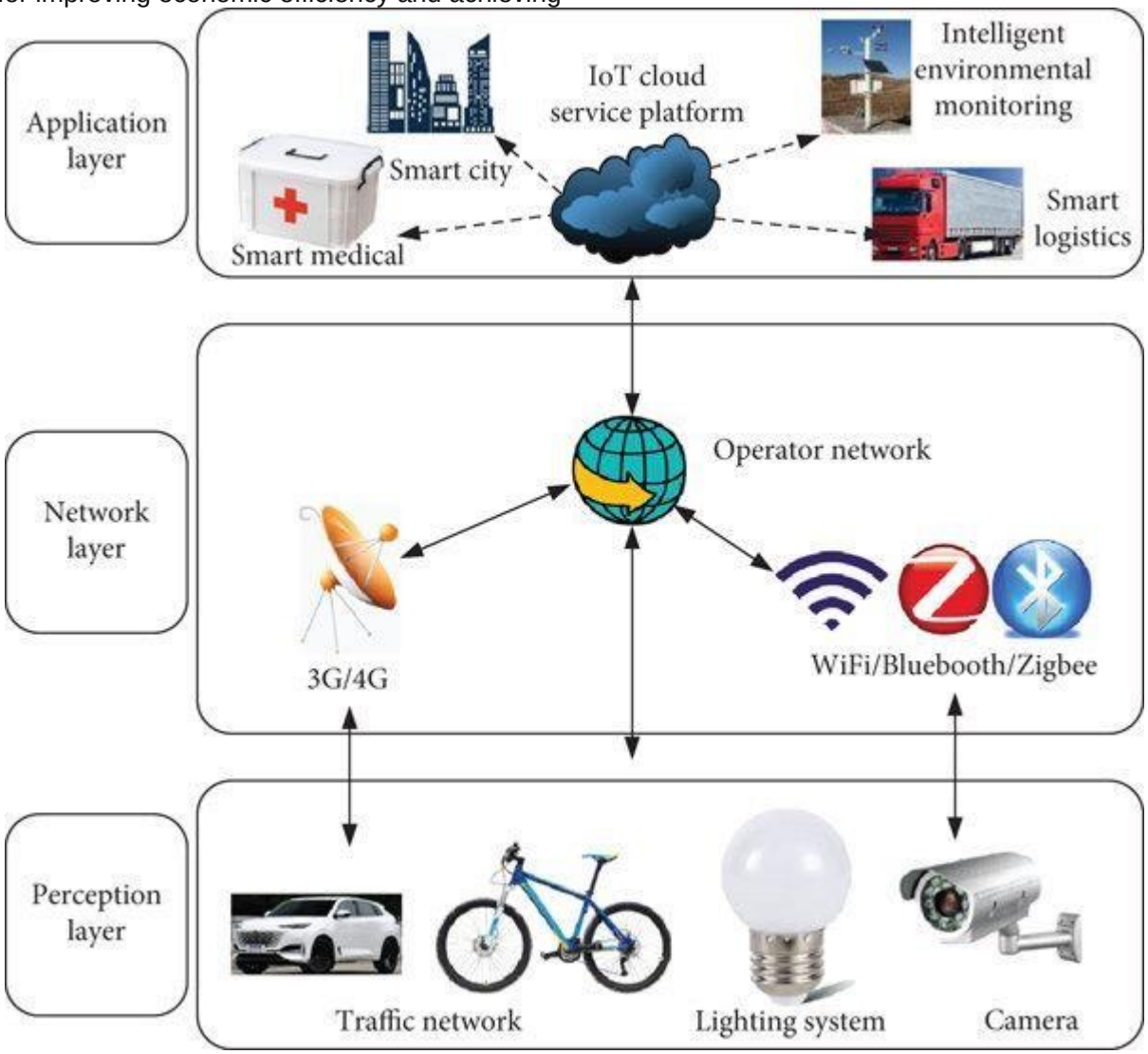
With the maker movement comes a host of DIY electronic platforms, such as Arduino and Raspberry Pi. Arduino (see **Figure 2**) is a small and inexpensive electronic board that allows you to connect to various external accessories (such as sensors) and create applications to use the data collected.

Powering the Raspberry Pi

One of the most popular OSs used for the Raspberry Pi is the Raspbian Operating system. The Raspbian OS is based on the Debian OS, optimized for the Raspberry Pi hardware. The easiest way to install the Raspbian OS for the Raspberry Pi is to download NOOBS from https://www.raspberrypi.org/help/noobs-setup/. NOOBS stands for New Out Of Box Software.

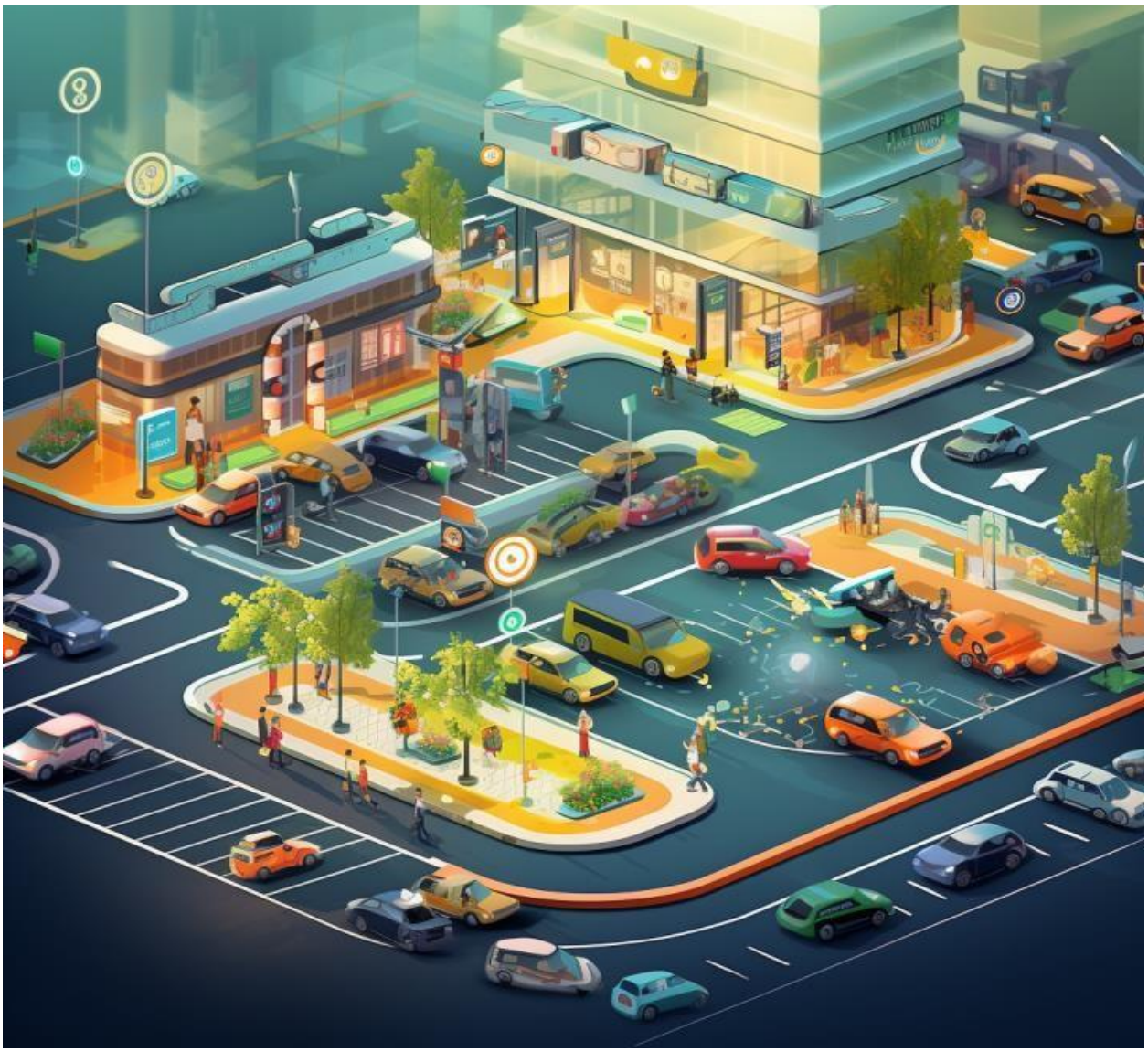
With the advent of the era of big data, Internet of things technology and wireless communication technology have been in a state of rapid development. Opportunities and challenges in all walks of life

are being subverted. Financial management, as the foundation of corporate governance, is important for improving economic efficiency and achieving



real-time parking:

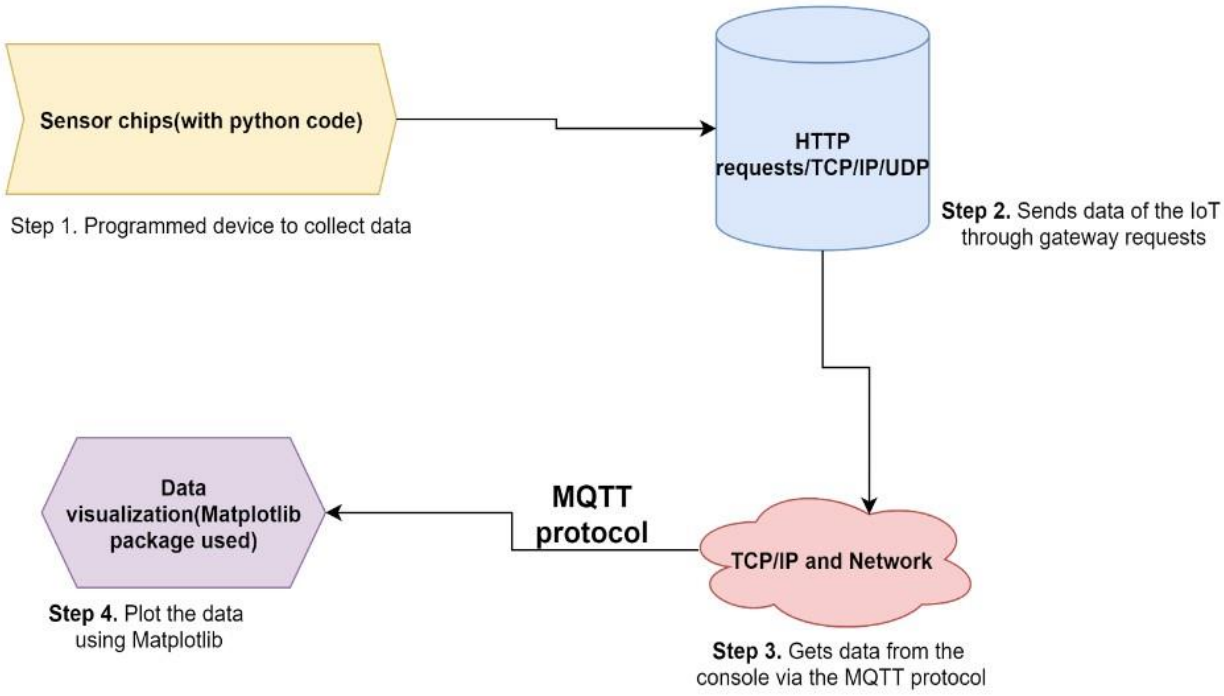
Time-Efficiency: Smart parking systems provide real-time information about parking availability, thus reducing the time spent looking for parking spaces. This can help reduce traffic congestion and improve the overall traffic flow in the car park



Finding a suitable parking space is one of the biggest challenges drivers face in cities. A study by IBM revealed that **30% of traffic jam**s are due to drivers looking for parking. Government authorities are working towards implementing smart city parking management solutions to overcome such bottlenecks in urban transportation.

1. Building a Business Case. An IoT implementation starts well before the technology is chosen. ...
2. Decide on Your Technology Foundation. ...
3. Choose a Connectivity Partner. ...

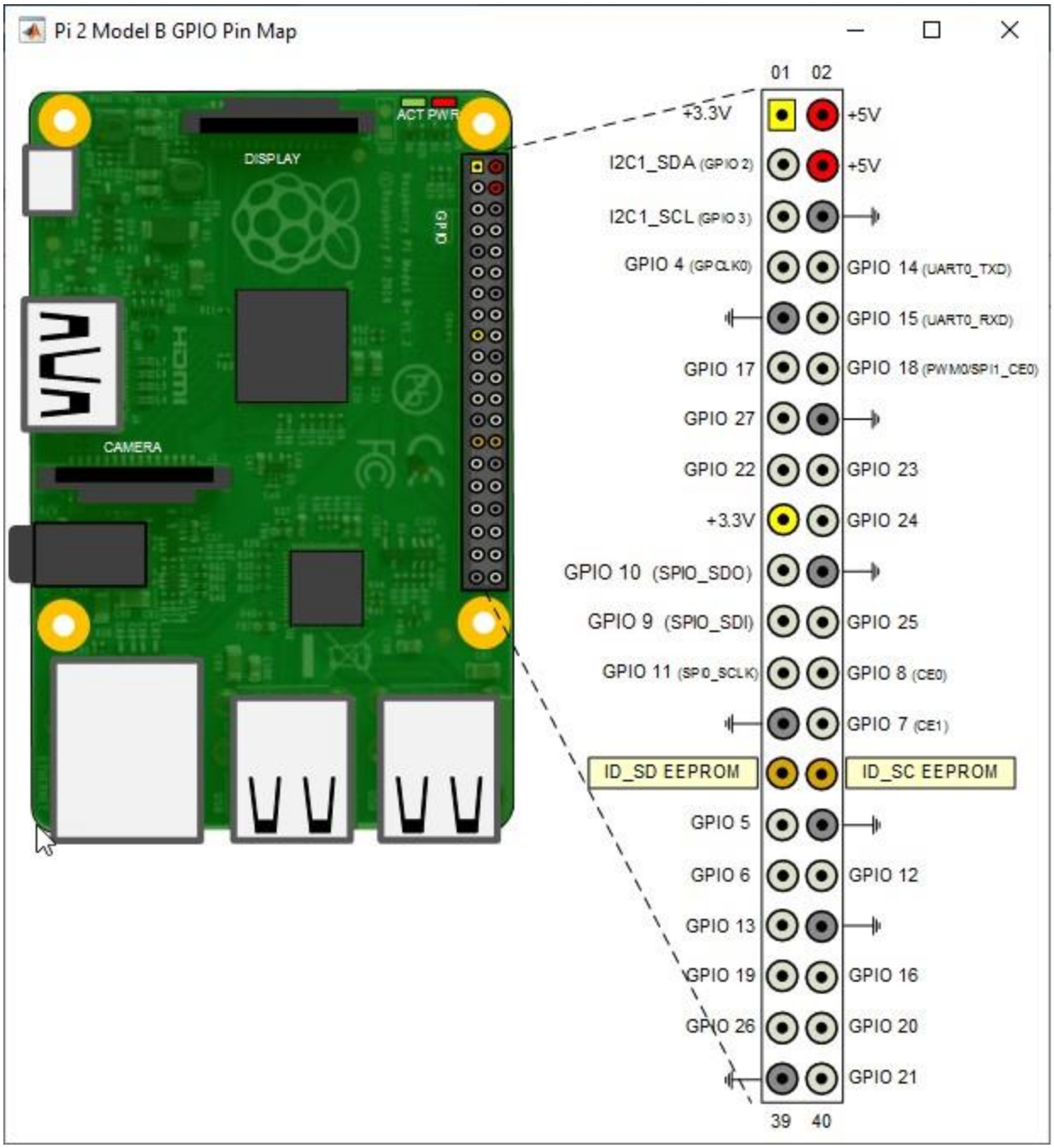
4. Pre-Deployment Testing. ...
5. Post-Deployment Analysis and Monitoring.




```
import paho.mqtt.client as mqtt
#Callback
for received data from server def
on_connect(data_iot, user, events):
  print("connected with code" + str(events))
data = mqtt.Client() Data.on_connect =
on_connect Data.on_message = on_message
data.loop_forever()
```

Each model of the Raspberry Pi has a set of General-Purpose Input/Output (GPIO) pins along the top edge of the board. These can be used for connecting and communicating with all manner of electronic components, acting as a physical interface between the Raspberry Pi and the outside world.

The Raspberry Pi is a series of credit card– sized single-board computers developed in the United Kingdom by the Raspberry Pi Foundation with the intention of promoting the teaching of basic computer science in schools and developing countries. The original Raspberry Pi and Raspberry Pi 2 are manufactured in several board configurations through licensed


Pi 2 Model B GPIO Pin Map
01 02
+3.3V
+5V
I2C1_SDA (GPIO 2)
+5V
I2C1_SCL (GPIO 3)
GPIO 4 (GPCLK0)
GPIO 14 (UART0_TXD)
GPIO 15 (UART0_RXD)
GPIO 17
GPIO 18 (PWM0/SPI1_CE0)
GPIO 27
GPIO 22
GPIO 23
+3.3V
GPIO 24
GPIO 10 (SPI0_SDO)
GPIO 9 (SPI0_SDI)
GPIO 25
GPIO 11 (SPI0_SCLK)
GPIO 8 (CE0)
GPIO 7 (CE1)
ID_SD EEPROM
ID_SC EEPROM
GPIO 5
GPIO 6
GPIO 12
GPIO 13
GPIO 19
GPIO 16
GPIO 26
GPIO 20
GPIO 21
39 40
DISPLAY
CAMERA
ACT PWR
GPIO