GNANAMANI COLLEGE OF TECHNOLOGY(Pachal,Namakkal.)

DEPARTMENT OF BIO MEDICAL

ENGINEERING

(Third Year)

**Title**: **Smart parking**

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SMART PARKING

**PROBLEM :**

Difficulty in Accurate parking Space Detection-One common challenge in smart parkingSystems is accurately detecting whether a parking space is occupied or vacind in accutare detection can lead to confusion and insufficiency

**KEYWORDS:**

1)Internet of things

2)Smart city

3) Messaging protocols

4)Standerdization

5)Introperability

6)Protuct life cycle management

**INTRODUCTION:**

**\* .** An IOT based parking system is a vechile parking management system to is the search for the vacant parking spot in a parking lot through a smart phone.

\*. The system utilizes various sensors and microcontrollers with internet capability for decting parked vechiles and to uptate the data in real time on internet .

**DESIGN OF SMART PARKING:**

**\*.** As Mentioned above the proposed smart parking lot circuit will be equipped

With several sensors

\*. Inexpensive microcontrollers and wifi module using which a car/any vechile won car check if there is a vacant space in a parking lot using his /her phone or tabelet or even on computer.

**DATA FUSION:**

Compain data from multiple sensor to increase accuracy for example,you can use both infrared and ultra sonicsensors in tandem by cross referencing their

Data can reduce false readings .

**MACHINE LEARNING:**

**\***.Implement machine learning algorithms to analog sensor data

\*.Machine learning can help in fine tuning occupancy detection by accounting for various factors like sesor noise lighting conditions and environmentalChanges.

**REAL TIME UPDATES:**

\*. Connect the sensor data to a central system or a mobile app that provides

Realtime updates to users

\*.Indicating available parking space this ensures that drivers are directed to the nearest vacant spot

**MAINTENANCE AND CALIBRATION:**

\*.Regularly maintain and calibration the sensors to ensure their accuracy over time . this includes checking for sensor malfunctions or obstructions

\*.By addressing the accuracy of parking space detection through IOT Sensors

And data processing.you can improve the efficiency and user experience of your

SMART PARKING PROJECT.

**SOFTWARE :**

Software used for arduino based smart parking system project is arduino IDE

**ARDUINO IDE:**

This is the primary software for programming Arduino boards you can downloade it from the official arduino web site.