Introduction:

          In the recent, the concept of smart city has gained appreciation. One of the important considerations of being a smart city is the smart parking facility. Finding a particular space to park our vehicle becomes an annoying issue. Besides, number of vehicles in like manner rapidly grows once every day. Finding a parking slot to park their vehicle has ended up being a disappointing issue to the drivers all the time. It has proved the way for traffic congestion which has turned out to be an alarming problem on a global scale. We proposed an idea to realize Smart Parking Structure in perspective of reservation using Internet of  Things  (IoT).

           IoT plays a vital role in the creation of smart cities. The most important factors for the emergence of smart cities are cozy parking  facilities and efficient transportation and management .Due to the advancement in the sensor technology and low cost features of the embedded systems, we can say that applications can be created using Internet of Things.

SMART PARKING SYSTEM AND it’s IMPORTANCE;

SMART PARKING SYSTEM obtain information about available parking spaces in a particular geographical area .this process is real time to place vehicle at available position. It involves real time data collection using low cost sensor and mobile phone enabled automated payment systems that  allows people to reserve parking in advance

The importance of smart parking’s

• Accurately sense and product vehicle occupancy in real time

• Guides drivers to available parking slot

• Optimize parking space usage

• Helps the free flow of traffic in cities

• Smart parking plays an important role in creating better urban environment by reducing th emission of CO2 and other polllutants

WORKING:

• The proposed system will have ultrasonic sensor,arduino UNO,ESP8266-01 wifi module,cloud server,user-end application on smartphone.

• The ultrasonic sensor is used to determine the availability of the vehicle at the parking spot.It sends the data in the form of 0 or 1(0-engaged,1-available) to the arduino processor .

• The arduino UNO module is interfaced with wifi shield.It is connected to the cloud server through an internet connection to transfer the data from the car parks.

• Data on the cloud server is synchronized every 20 seconds for every parking slot at a sensor distance of 50 centimeters.At the user end application a software system runs on android operating  system.The user has to install this application on their smartphone and use it to reserve parking spaces.