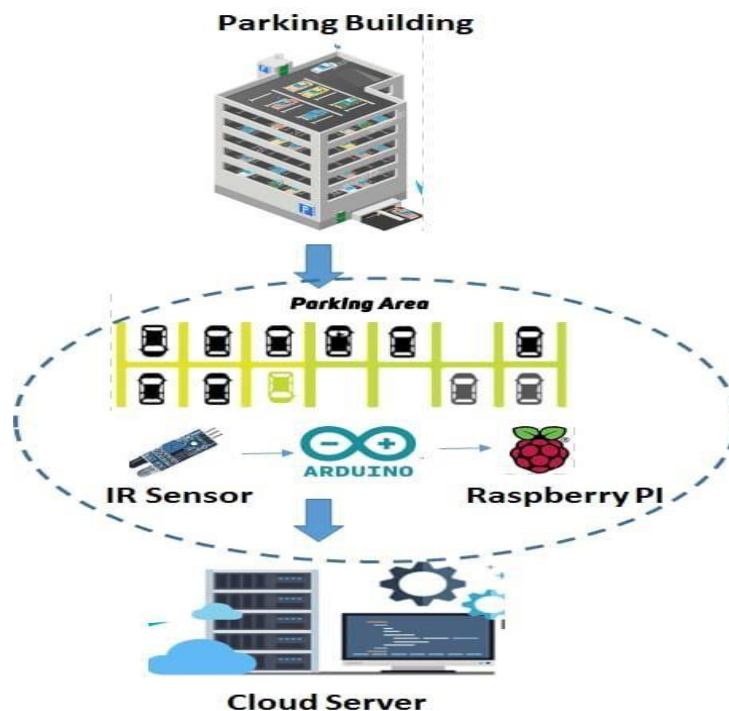


5104-ARUNAI ENGINEERING COLLEGE

SMART PARKING MANAGEMENT SYSTEM [GROUP 6]

Block diagram:



Explanation for block diagram:

Cloud service:

- It also provides the buffer for image data processing. Cloud smart parking system: The server-side smart parking system collects the parking transaction data for operational analysis and auditing. ○ It provides the cloud service/API for the client-side agent to use. In addition, it acts as a portal for administrators.
- The user who requests for the parking area is given response whether a lot is free or not. The same data is updated with the parking attendant who can check with the client.
- The data is stored in the cloud storage which helps in easy retrieval, updating and modification of the data.

- The cloud provides data storage and computing resources for the car parking service. It stores the 'big data' of available car parking lots, car parking area, car's location, user's location and profiles, etc.

IR sensor:

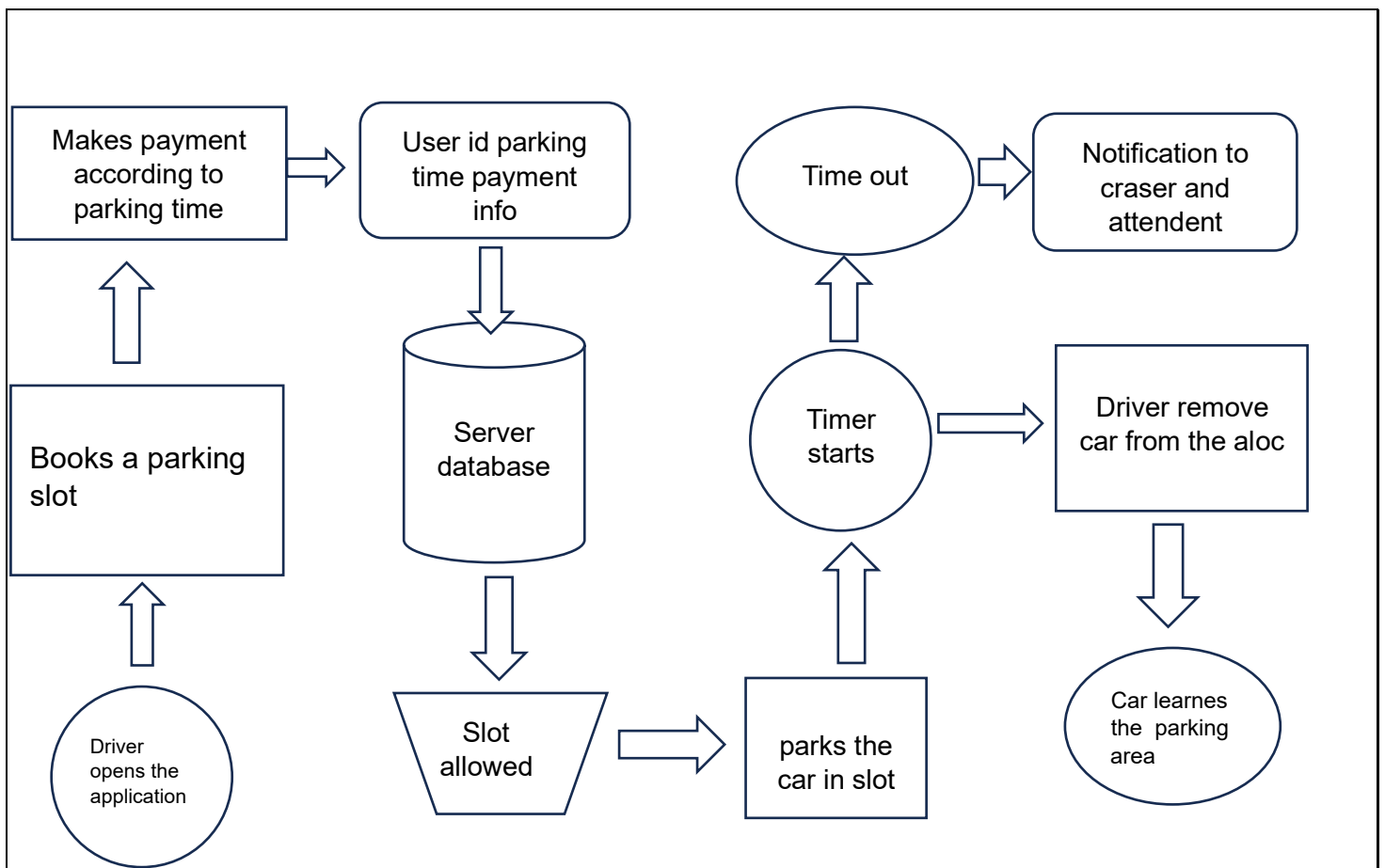
- IR defined as Infrared sensor is also a part of the WSNs technology and it is commonly used in developing a smart parking system.
- IR sensor is used to detect obstacles by emitting radiation. It is also known as the generalpurpose proximity sensor. IR sensor can sense or measure the heat and the motion of an object.
- The IR sensor will detect the obstacle with in 100cm, if there is any obstacle it will sense and give information to the tone detector which will enable the LM555 timer to generate a PWM for the buzzer.
- In a defined angle range, the sensor elements detect the heat radiation (infrared radiation) that changes over time and space due to the movement of people.

Raspberry PI:

- It first detects the vehicle parked in slots and shows the status of each slot through the webserver. Visitors can know the status of the parking slot through the webpage, after that they have to show their RF ID to the reader to get authenticated and note down the time of that specific vehicle.
- The Nwave parking management software and smart sensors power your wireless car parking monitoring system providing all of the necessary tools to operate with minimal effort and no programming skills required.

Flow chart:

1.control flow system



Explanation about flow chart:

Open application:

When an user opens the application with the better UI/UX with the front end using the bootstrap for application development in frontend.

When an user pickup the parking slot using this application.

Books parking slot:

If the user books the place it will occupy and changed into the yellow color for better understanding the place.

Payment:

The parking charges in online transaction either also use offline transaction in the entrence.

Highly secure payments and detect the fake online transaction.

User id:

An user pays the amount for parking they receive the unique id for only one time.

Databases:

An user information can have stored in the database (mysql) the databases are connected through the php for backend.

Slot allotted:

The slot is only for the particular user others can not access this place. if any one access they send the alert message to the user when how occupied that place.

Timer:

Start : If the car parks on that slot the sensor can automatically starts the timer.

End : if timer ends send alert to the user.

If car moves from that place that place can update into the parking users. And turn into green color. They can also increase the user time and give some offers for beginners.