

Parking Management System

User Roles & Their Functionalities

Role	Functionalities
● Basic User	<ul style="list-style-type: none">✓ Login✓ View Available Parking Spots✓ Charging Request (Create, Update, Read, Delete)
● Premium User	<ul style="list-style-type: none">✓ Login✓ View Available Parking Spots✓ Reserve Parking Spot in Advance✓ Charging Request (Create, Update, Read, Delete)
● Superuser (Admin)	<ul style="list-style-type: none">✓ Full Control Over System✓ Manage Users & Parking Spots✓ View & Modify Charging Requests✓ Monitor System Logs & MQTT Communication

Charging Request Workflow

For Basic & Premium Users

- 1 **User Requests Charging** (Success)
- 2 **MWBot** (Backend Service) Fetches Request & Starts Charging
- 3 **MWBot Publishes MQTT Message:**

json

CopyEdit

```
{
  "botID": 1,
  "spotID": spot.id,
  "action": "dispatch"
}
```

4 MQTT Subscriber Updates Request Status:

- Pending → Completed
-

Premium User Special Flow

- Can Reserve a Spot in Advance
 - If Reserved → Use Reserved Spot for Charging
 - If Not Reserved → Request Charging Directly
-

Superuser (Admin) Capabilities

- Full System Control 🔥
- Manages Users, Parking Spots, & Charging Requests 🔧
- Can View and Modify Charging Requests 📝
- Monitors MQTT Communication & Logs 📡