

# Smart Parking

Team 10

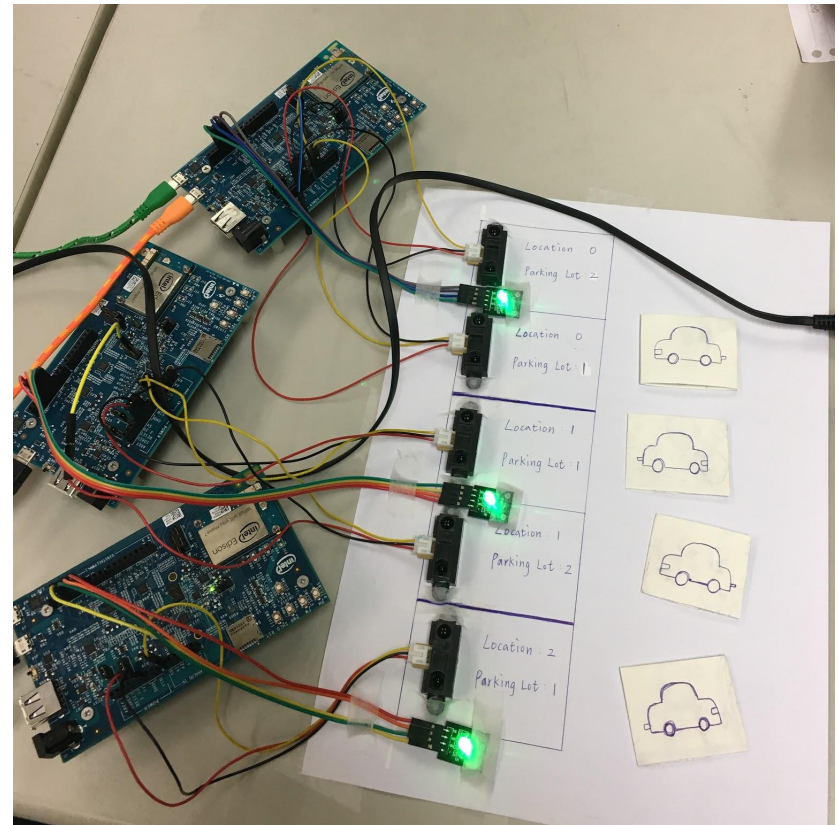
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# Motivation

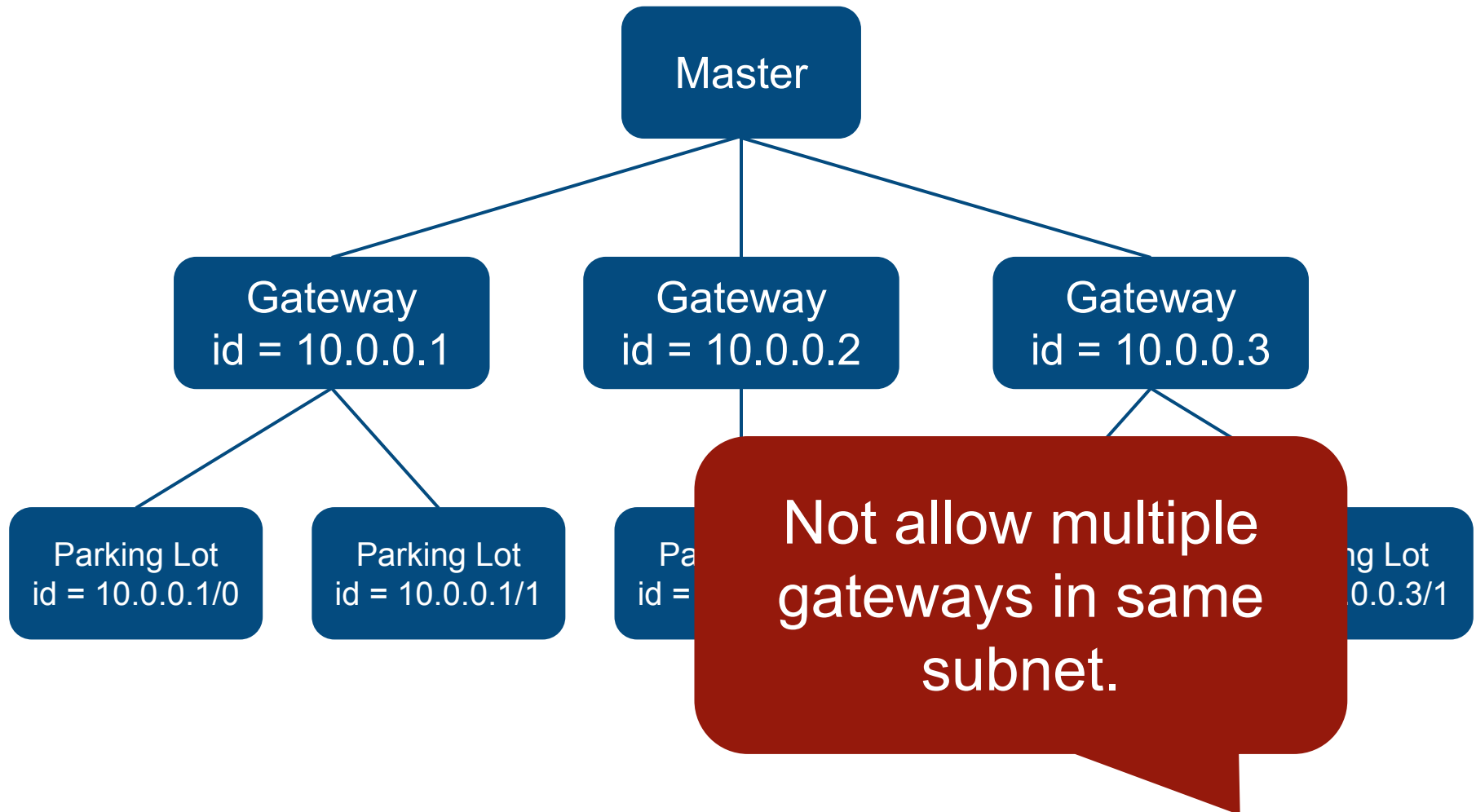
- Make charging easier.
- Try to make gateway take more responsibility.
  - assign id, location, etc.

# Device

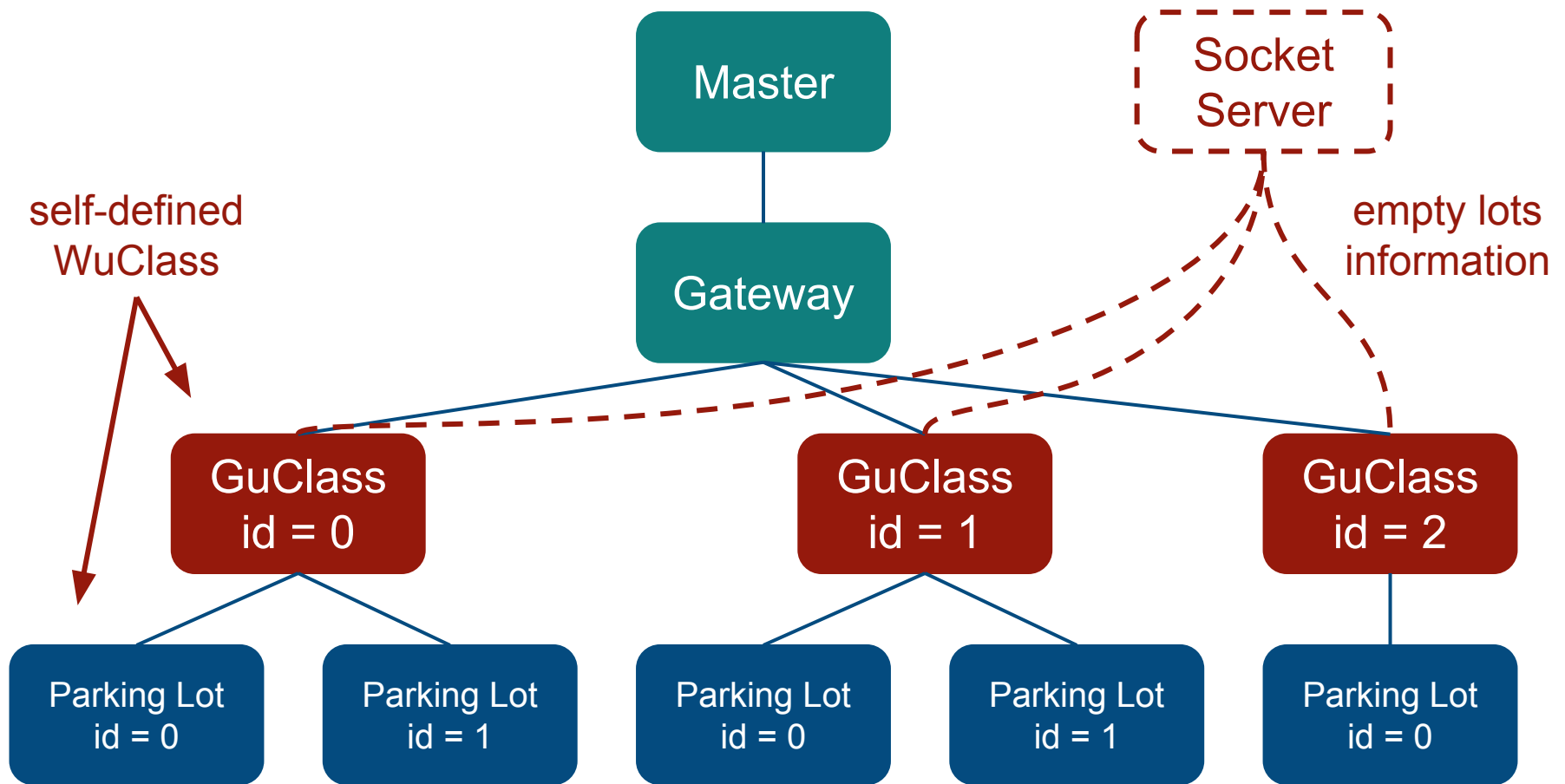
- Edison
- sharp 0a41sk infrared distance sensor
- LED light



# Original Structure



# Solution





Nodes Editor

Location Editor

Landmark Editor

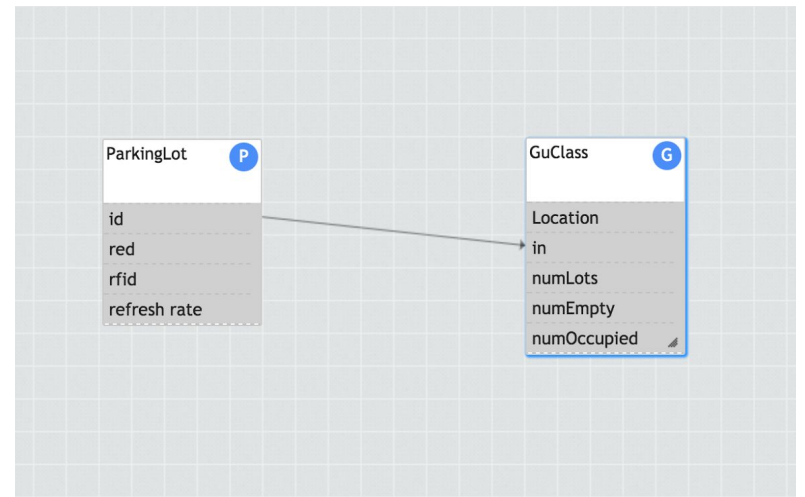
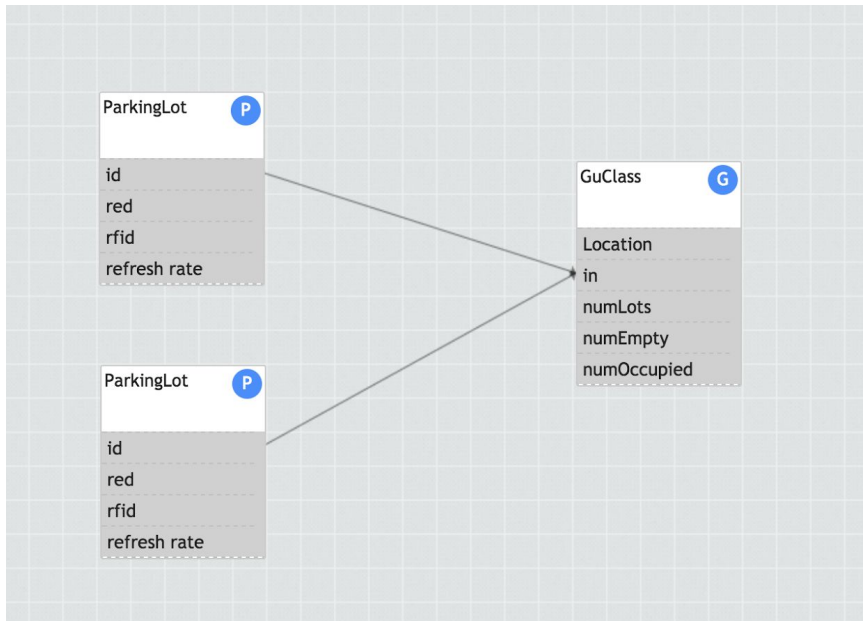
Gateway 10.5.2.237(168100589) tcp\_addr=('10.211.55.2', 9002) STOP  
found node: 8 (ID is 10.5.0.8 or 168099848)

Discover Nodes

Add Node

Remove Node

#	Location			WuClass	WuObject	
168099841	<input type="text" value="/WuKong/0/0"/>	Find Location	Set Location	0	1	<button>Details</button>
168099842	<input type="text" value="/WuKong/0/1"/>	Find Location	Set Location	0	1	<button>Details</button>
168099843	<input type="text" value="/WuKong/0/2"/>	Find Location	Set Location	0	1	<button>Details</button>
168099844	<input type="text" value="/WuKong/2/0"/>	Find Location	Set Location	0	1	<button>Details</button>
168099845	<input type="text" value="/WuKong/2/1"/>	Find Location	Set Location	0	1	<button>Details</button>
168099846	<input type="text" value="/WuKong/1/0"/>	Find Location	Set Location	0	1	<button>Details</button>
168099847	<input type="text" value="/WuKong/1/1"/>	Find Location	Set Location	0	1	<button>Details</button>
168099848	<input type="text" value="/WuKong/1/2"/>	Find Location	Set Location	0	1	<button>Details</button>



# Problems - RFID

- Hard to be implemented in Edison
  - No Library, we have to write it by ourselves.
  - Implementation should follow the flow and states that mentioned in the spec.
  - Hard.
- Future work
  - It will be easy to auto-charge when we scaling up.
    - (if we solve this problem)

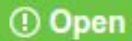


# Problems - when scaling up

- We can't have more than 1 gateways in same subnet.
  - Wukong will cause error
  - Gateway may be critical when scaling up.
- In our senario, we want to use gateway's ip as location
  - but not trivial.
  - need document
- Remember to clear all the \*.pyc \*.json files every time!
- Mapping
- Wukong's location feature doesn't work well.

# Problems - when scaling up

#124



**wycc** opened this issue on 12 Jan 2014 · 1 comment



**wycc** commented on 12 Jan 2014

Collaborator



When we change the location, it does not save to the nodes.xml until we perform the rediscovery.



 **senatorjo** was assigned on 12 Jan 2014



**wycc** commented on 12 Jan 2014

Collaborator



Steps,

- (1) Go to Node Editor/Node Location
- (2) Change the location
- (3) Click the Set Location
- (4) Reload the page. The change is gone ----> This is incorrect.
- (5) Click the rediscovery
- (6) The change appear now.

# Auto Deploy

## Add

```
#add.py
import requests

r = requests.post("http://10.5.0.89:5000/testtrtt/include")
```

## Discover

```
#discover.py
import requests

r = requests.post("http://10.5.0.89:5000/nodes/refresh/1")
```

# Auto Deploy

## Set Location

```
#edit.py
import requests
import sys
import string
fd = open("log" , "r+", 0)
nodeid = fd.read()
#print nodeid.split(" ")[3]
loc = sys.argv[1]

r = requests.put("http://10.5.0.89:5000/nodes/"+str(nodeid),data={"location":loc
})
```

# Auto Deploy

## Map

```
#map.py
import requests,sys
id = sys.argv[1]
r = requests.post('http://10.5.0.89:5000/applications/' + id + '/deploy/map')
print r.text
```

## Deploy

```
#deploy.py
import requests
import time,sys
id = sys.argv[1]
r = requests.post('http://10.5.0.89:5000/applications/' + id + '/deploy')
while "Application has been deployed!" not in r.text:
    r = requests.post('http://10.5.0.89:5000/applications/' + id + '/poll')
    print r.text
    time.sleep(2)
```

# Auto Deploy

## Auto Deploy Script

```
python add.py  
sleep 2  
python $1 $2 $3:$4 > $4 &  
sleep 2  
python dicover.py  
sleep 2  
python edit_loc.py  
sleep 2  
python map.py  
sleep 2  
python deploy.py
```

# Demo Video

<https://drive.google.com/file/d/0BxJwOkpe2OlZQm9FZ012MTFIWXc/view?usp=sharing>