上海交通大學
SHANGHAI JIAO TONG UNIVERSITY

Indoor Localization System

By: Li Yiyang

Sections

- Introduction
- Back-end
- Fore-end
- Algorithm
- Future
- Q&A

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Introduction

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Back-end

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Back-end

The Flask HelloWorld

```
from flask import Flask
app = Flask(__name__)

@app.route("/")
def hello():
    return "Hello World!"

if __name__ == "__main__":
    app.run()
```

- decorator
- route

Back-end

e.g.

```python
@testserver.route('/login/', methods=['GET', 'POST'])
def login():
    """  Login function
         --------------

         - post user's name, passwd, rss, id_num, timestamp to server
         - stat=1 represents admin while stat=0 means worker
         - if authorized, return position data and record the personal infoma
    """
    if request.method == "POST":
        usern = request.form.get('userid')
        passw = base64.encodestring(request.form.get('passwd'))
        db = MySQLdb.connect(host='localhost', user='root', passwd='', db='')
        cursor = db.cursor()

        # verify user info
        sql = "select passwd from users where userid=%s"
        exist = cursor.execute(sql, usern)
        tmp_pw = cursor.fetchall()[0][0]
        if exist == 1:
            if passw[:-1] == tmp_pw:
                flag = True
                tag = None
            else:
                flag = False
                tag = 'Wrong Password'
        else:
            flag = False
            tag = 'Wrong Username'

        cursor.close()
        db.close()
        return result_json(flag, tag)

    # return the login html template
    if request.method == "GET":
        return render_template('login.html')
```

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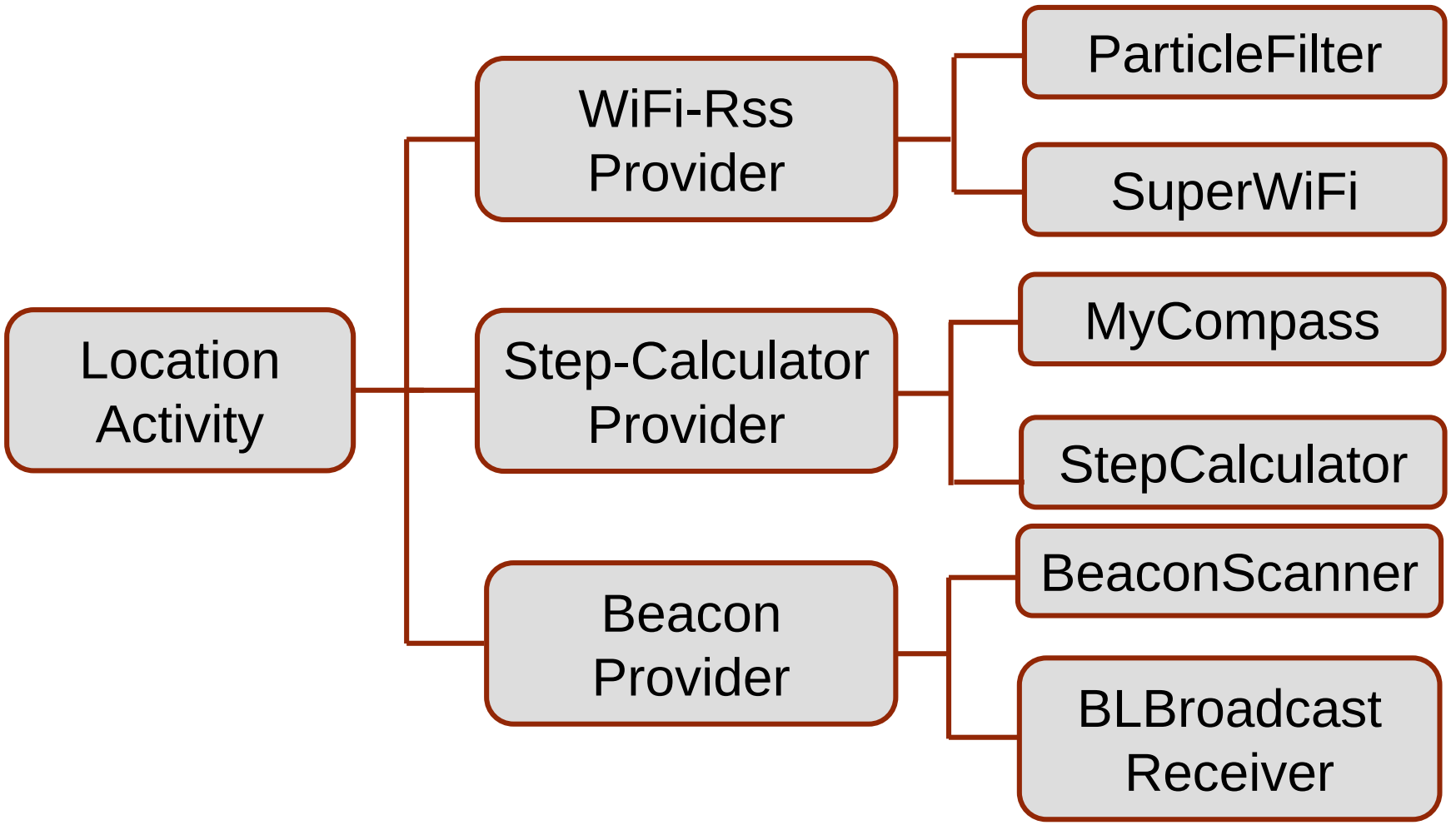
Fore-end

Fore-end


Location Activity
WiFi-Rss Provider
Step-Calculator Provider
Beacon Provider
ParticleFilter
SuperWiFi
MyCompass
StepCalculator
BeaconScanner
BLBroadcast Receiver

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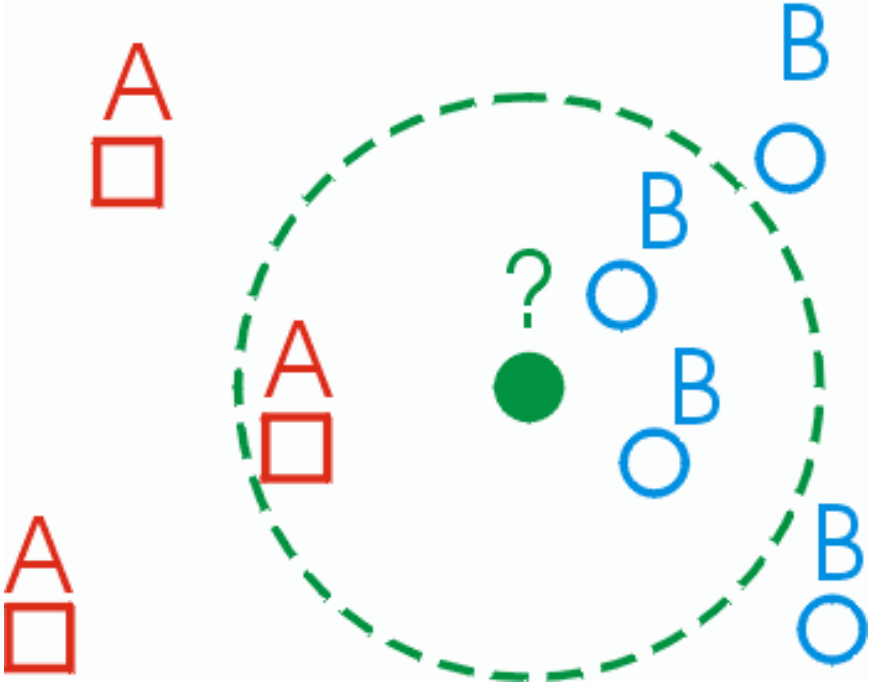
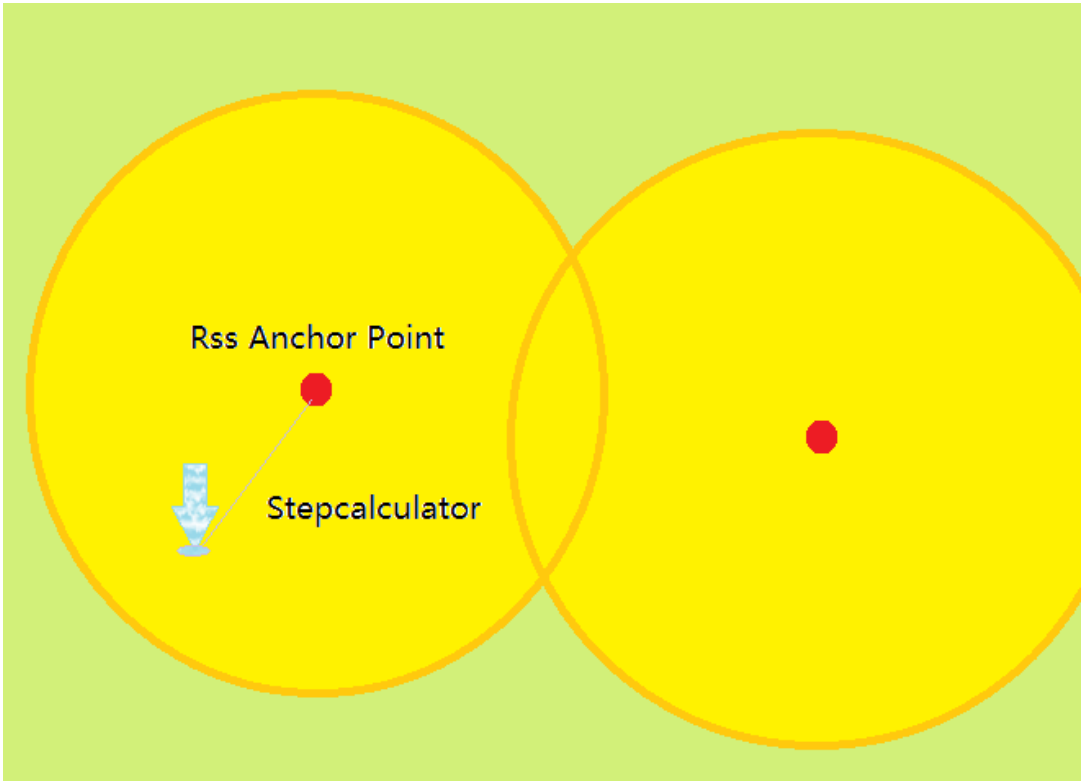
Algorithm

Rss/K-NN(K-nearest neighbors)



Algorithm

Online-location



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Future

- More accurate Rss location
- Better way to collaborate

Q & A

谢　谢！