API documentation:

Language Used: Python
Framework Used : Django
DD used : SQLite

Functionality of product is limited to

- Adding info about single screen cinema
- Retrieving vacant seats in cinema
- Booking seats if available
- Providing the best choice of seats given number of people and any one of the preferred seat

Detailed discussion

POST/GET request from CLI or any other medium

Working examples: (in Python)

Adding info

```
import json
import requests

info = { "name":"inox", "seatInfo": { "A": { "numberOfSeats": 10, "aisleSeats": [0, 5 ,6, 9] }, "B": { "numberOfSeats": 15, "aisleSeats": [0, 5 ,6, 9] }, "D": { "numberOfSeats": 20, "aisleSeats": [0, 5 , 6, 9] } } }

url = 'http://127.0.0.1:9090/screens/'

infoJSON = json.dumps(info)

requests.post( url, data = { 'data':infoJSON })

info = { "name":"PVR", "seatInfo": { "A": { "numberOfSeats": 10, "aisleSeats": [0, 5 ,6, 9] }, "B": { "numberOfSeats": 15, "aisleSeats": [0, 5 ,6, 9] }, "C": { "numberOfSeats": 20, "aisleSeats": [0, 5 , 6, 9] } } }

infoJSON = json.dumps(info)

requests.post( url, data = { 'data':infoJSON })
```

Retrieving vacant seats

```
import json
import requests

url = ‘http://127.0.0.1:9090/screens/PVR/seats?status=unreserved’

infoJSON = json.dumps(info)

response = requests.get( url )

print(response.text)
```

Output : {"A": [0, 1, 2, 3, 4, 5, 6, 7, 8, 9], "B": [0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14], "C": [0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19]}

Booking Tickets
 # On successful booking 200 status is encountered other wise 400 status

```
import json
import requests

info = { "seats": { "B": [1, 2], "C": [ 6, 7] } }
url = 'http://127.0.0.1:9090/screens/PVR/reserve/'

infoJSON = json.dumps(info)

res = requests.post( url, data = { 'seats':infoJSON })

print(res)
# output <Response [200]>

res = requests.post( url, data = { 'seats':infoJSON })

print(res)
# output <Response [400]>
```

Optimal Choice of seats

```
import json
import requests

url = 'http://127.0.0.1:9090/screens/PVR/seats?numSeats=2&choice=A4'

res = requests.get( url)
print(res.text)
#output [{"availableSeats": {"A": [3, 4]}}, {"availableSeats": {"A": [4, 5]}}]

url = 'http://127.0.0.1:9090/screens/PVR/seats?numSeats=5&choice=A7'

res = requests.get(url)
print(res.text)
#output []
```