

TRAIN BOOM

Data Structure Spring 2017

footoredo

ACM Class
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Implementation

- ▶ Structure
- ▶ Object

Structure

- ▶ User
- ▶ Station
- ▶ Route

Object

- ▶ Unique object id (SHA1 => random 8-bit string)
- ▶ Object <=> user/station/route name (using map --)
- ▶ Object <=> JSON

JSON

- ▶ Back end
 - ▶ A wrapper based on rapidjson
 - ▶ **High** memory cost !!??
- ▶ Front end
 - ▶ `QJsonDocument/QJsonObject/...`

User

- ▶ SHA1 encrypted password
 - ▶ `sha1sum(:password|:salt)`
- ▶ Multiple (useless) attributes

Example

```
{  
  "data": {  
    "avatar": "avatar.png",  
    "gender": 2,  
    "isRoot": true,  
    "password": "f62cc5360378f333d28ff20a34f38c967e2507",  
    "salt": "A598ECA9",  
    "username": "gzotpa"  
  },  
  "id": "9Wnd0mAQ",  
  "type": "user"  
}
```

Station

- ▶ 邻接表结构（每天路线一样）

Example

```
{  
  "data": {  
    "name": "吊州"  
  },  
  "id": "Kd1wRuyY",  
  "type": "station"  
}
```


Route

- ▶ 31 * tickets information
- ▶ 1 * stations information

Feature

- ▶ Payment QR code
- ▶ Exciting BGM
- ▶ Fun lottery

Github Repository

- ▶ Back end: footoredo/TrainBoom
- ▶ Front end: zidaneandmessi/TrainBoom_FrontEnd