The Chinese University of Hong Kong, Shenzhen

CSC4001: Software Engineering

Application Programming Interface (API) Document

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1 Introduction

API is the acronym for Application Programming Interface, which is a software intermediary that allows two applications to talk to each other. When user uses an application on the mobile phone, the application connects to the Internet and sends data to a server. The server then retrieves that data, interprets it, performs the necessary actions and sends it back to the phone. The application then interprets that data and presents users with the information in a readable way.

2 Application Programming Interface (API)

2.1 Overview

```
// 云函数入口文件
const cloud = require('wx-server-sdk')
cloud.init()
// 云函数入口函数
exports.main = async (event) => {
  const wxContext = cloud.getWXContext();
  // 取参
  const {
    id, money, categoryId, noteDate, description, flow,
  } = event;
  cloud.updateConfig({
    env: wxContext.ENV === 'local' ? 'release-wifo3' : wxContext.ENV,
  })
```

Figure 1: The code of API in Bookkeeping Module

```
onLoad: function () {
        var id = Math.floor(Math.random()*499) + 1;
        var word = list.wordList[id];
        this.setData({
          content:word.content,
          pron: word.pron,
          definition: word.definition,
          audio: word.audio,
          show:false
        });
},
```

Figure 2: The code of API in Vocabulary Module

```
wx.request({
  url: nliUrl,
  data: {
    appkey: appkey, api: api, timestamp: timestamp,
    sign: sign, rq: rq, cusid: cusid,
  },
  header: { 'content-type': 'application/x-www-form-urlencoded' },
  method: 'POST',
  success: function (res) {
    var resData = res.data;
    console.log("[Console log]:NLIRequest() success...");
    var nli = JSON.stringify(resData);
    // 回调函数，解析数据
    typeof arg.success == "function" && arg.success(nli);
  },
```

Figure 3: The code of API in Chatbot Module

2.2 API of Chatbot Module

Chatbot			
Method	Type	Required	Description
send	void	false	Send message
receive	string	false	Receive message
stateAccess	string	false	Access the state
getModel	string	false	Show model data
setModel	void	false	Set model

2.3 API of Bookkeeping Module

Bookkeeping			
Method	Type	Required	Description
getTime	string	false	Show time
getMoney	double	false	Show money data
getNotes	string	false	Show notes data
setTime	void	false	Set time
setMoney	void	false	Set money data
setNotes	void	false	Set notes data

2.4 API of Vocabulary Module

Vocabulary			
Method	Type	Required	Description
showStrangeWord	string	false	Show new word
showOldWord	string	false	Show old word
changeDifficulty	void	false	Set difficulty
confirmLearning	void	false	Set learning outcome

2.5 API of Weather Module

Weather			
Method	Type	Required	Description
getWeather	string	false	Show weather data
getTemperature	double	false	Show temperature data
getWind	double	false	Show wind data
setWeather	void	false	Set weather data
setTemperature	void	false	Set temperature data
setWind	void	false	Set wind data
update	void	false	Update information

2.6 API of Daily Recommendation Module

Daily Recommendation			
Method	Type	Required	Description
showClothesRCD	string	false	Show recommendation1
showOutdoorRCD	string	false	Show recommendation2
showLearningRCD	string	false	Show recommendation3
showFoodRCD	string	false	Show recommendation4
showMoneyRCD	string	false	Show recommendation5
updateAll	void	false	Update information

3 Conclusion

In conclusion, good API design can reduce the interdependence of each part of the system, improve the cohesion of components, reduce the coupling degree between components, so as to improve the maintainability and extensibility of the system. Through the help of API, agencies can update work flows to make them quicker and more productive.