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Push Management Platform Based on Wechat Small Program and Cloud Development

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Abstract

On the Wechat platform, the current article push is mainly completed by the Wechat Public Account, but it is not perfect in the aspects of user information collection, user service, data storage and management. With economic development and progress of the times, people seek development in spiritual and cultural aspects. This program "One Thing One Story" uses Wechat Web Developer Tools as the medium and Wechat Small Program and Cloud Development as the platform. The purpose of push management platform is "use at any time". Small program cloud development has a relatively complete cloud background. It does not need to rebuild the server in the development cycle. Through the relevant interface, small program development can be started and time cost can be reduced. Using JavaScript, CSS style, JSON database and other technologies, we can realize user data collection, article push, push classification management, push data storage, user praise collection and other functions. This program is applied to article pushing, cultural dissemination and other aspects. Through the platform of Wechat applet, the dream of "accessible" can be realized.

Index Terms: Wechat Applet; Cloud Development; Push; Management Platform

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1. Introduction

WeChat Applet, also known as Mini Program, it simplifies the use of steps, can be opened directly without downloading the app package, and there is independent storage space between different applets; If you no longer use the applet, just close the page, do not uninstall the program does not clear the cache, convenient for users to use, but also reduce the memory footprint[1-3].

WeChat Applet is a high threshold of innovation and development. With the continuous development of WeChat development tools, it builds a new WeChat Applet development environment and platform. The innovative development of WeChat Applet has affected countless developers. Currently, more than 1.5 million independent developers have participated in or joined in the development of applets. The number of applets has grown to more than 1 million and counting. Applets can cover more than 200 different projects if they are divided by content. At the same time, applets are also fully permeated into social services. For example, it supports subway, bus and other urban services in many cities, and its social benefits continue to improve.

Four key application areas of applets: O2O Scenario-based applications (Open the camera to scan the qr code or search directly, which is out of the box,and go away immediately after use,without downloading and installing);Life service (No need to download the app package to install, which can save the traffic, no need to consider compatibility);Social networking (Applets, compared with ordinary APP, low development cost);Tool application class (WeChat Applet UI design and prescribed operation process unified, beautiful interface, reduce the difficulty of development and use)[4-7].

2. Basic architecture and functionality

2.1 Basic architecture

In the development process, a standardized software application process includes data layer, business logic layer, service layer, control layer, presentation layer, user layer and other layers[8], as shown in Fig.1.

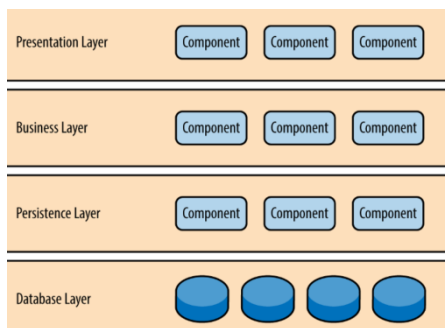

Fig.1 Application process diagram

WeChat Applet is essentially just a display layer of the system (commonly referred to as the front-end program), mainly used to display the information of the system. Usually also has the data layer, the business logic layer, the service layer, the control layer and so on common support WeChat Applet back end program[9].

2.2 Function block design

1.User module

Apply for access to user information module; User center module; Push collection management module. Through the application for access to user information module, access to the applet. Through the push list module, users can appreciate the pushed articles. When they like a certain article, they can collect it, and then enter the push collection management module for viewing. Users can view personal information through the user center module.

2.Push module

Article information storage module; Push list module; Article search module; Article classification module. The push information is stored in the database through the article information storage module, and the push list module reads the information from the database and renders it on the page. According to the title of the article through the article search module, user input field for article query. According to the classification tag of the article, the article classification module is used to display the classification.

3.Playback module

Audio playback basic control module; Content presentation visual design module. Users read songs and play songs through the basic control module of audio playback. Optimize page layout design through content presentation visual design module.

4.DataBase module

Database creation module; Database operation module; Local data cache module. The format of push information storage is established through the database creation module. Through the database operation module to push the article query, sorting and other operations; Through the local data cache module, users' reading personal information and collecting data of push information are stored.

3. The realization of each module

3.1 User information module

When the applet starts, it completes the logical loading of user authorized login through the startup page. At the same time, compared with the normal APP startup loading, the startup page loading of the applet is minimal and does not require additional definitions from the product. Because WeChat provides this page uniformly, except for the logo of the applet itself, there is no extra room to play, as shown in Fig.2.

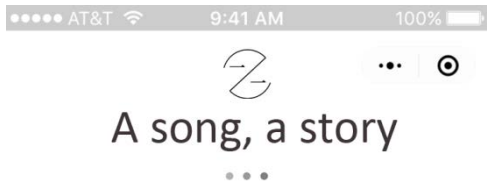

Fig.2 The home page

3.2 Push module

Displaying each push in the list shows a main image, a theme, a brief description, the push time, and the content category. Each pushed article module is placed in the scroll view, which can be displayed by sliding up and down. In the load function of "home page", the first step is to query the database, push all the article data into pushlist[] array, and the collection after query is arranged in descending order according to the upload time of the article; Second, adjust the UI design of a push panel and the relevant WXSS configuration in the WXML file. The third step is to bind pushlist[] as a variable in the panel component into wx:for. Through the for loop, each element of the array can be retrieved. When each element is retrieved, a panel component will be rendered. From this loop, you can query all the articles displayed. The default subscript variable name of the current item in the array pushlist[] is index, and the default variable name of the current rendered item in the array pushlist[] is item.

3.3 Playback module

WeChat media API has its own audio API, but the audio control WeChat no longer supports updates, the new version mostly USES the Inner Audio Context object to control audio. Calls to the object of wx. Create Inner Audio Context () method to create an audio, delivering the audio of the SRC transfer page Numbers. When the initial rendering of the listening page is completed, set the play state and end trigger, and bind the play progress update event, that is, control the progress bar and time display when playing.

In the play button event, set music to start playing, add image CSS style and rotation style, move the progress bar, and increase the time; In the event of pause button, music will pause playback, picture will pause rotation, and the progress bar and time will also pause and change. In the stop button event, music playback progress is set to 0, the progress bar returns to the default state, and the time is set to 0.

At the same time, the event will be triggered when the progress bar changes. The current playing time is the percentage of the progress bar times the whole music length. When you drag the progress bar, you remove the time binding, so you need to rebind when the progress changes. It means that when the progress bar is dragged, the value of the progress bar will be modified through time Update. No matter it is dragged forward or backward, it will be affected. Therefore, the current time of the progress bar and the song will be rebound each time.

The progress bar object on the page and the object in the play state of music should be bound in both directions. When music plays, the value of the progress bar should be changed. When the progress bar is moving left and right, the current playback time of music should be changed accordingly. Fig.3 shows the home page of the music module.

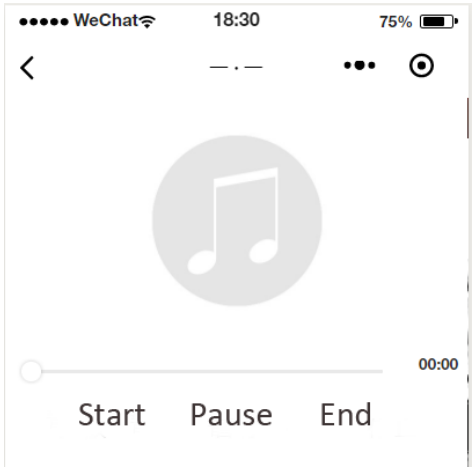

Fig.3 Music module

3.4 Data Base module

In the WeChat Web developer tool, open the cloud development control platform, enter the database, and either add records one by one, or upload all the data to the database as json file, that is to complete the creation of the database.

This procedure includes three kinds of queries: get all the data of the record, specify the filter condition query, and specify the field query of the record to be returned in the return result.

When all the records in the database are invoked, the matching records are retrieved according to the search requirements through the collection. get() method. If there is no limit in the database query statement to return the number of records, the default state is up to 20 data. If no record index is specified to start returning, which is not specified by skip, the first item of the data is searched and passed by default. In the program "home page" page rendering need to query all the article information in the database. The collection. where() method is called when a conditional query is required, but the collection. where() method requires at least one filter rule to define the filter criteria. Use database filter queries in article categories, guess what you like, article display details, and my favorites. The collection.field() method is called when the specified field needs to be returned, but the collection.field() method requires at least one filter rule to define the filter criteria.

4. Conclusion

This design is an article push management WeChat Applet, its functions mainly include user authorization login, push information, song information display, song play control, picture automatic rotation, push information classification, push collection, article thumb up collection, article search, etc. Of course, the design still has shortcomings, we hope to continue to improve through future efforts.

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