Zhang Hengrui

UNIVERSITY STUDENTS INFORMATION SUPPORT SOFTWARE MODULE BASED ON HARMONYOS

This article introduce the University students information support software module based on HarmonyOS.

INTRODUCTION

HarmonyOS[1] is an operating system developed by Chinese technology company Huawei. It was first announced in 2019 and released in 2021. With the rapid growth of HarmonyOS users, HarmonyOS is expected to become an alternative to Android. This paper describes a university application for students based on HarmonyOS.

I. SYSTEM ANALYSIS

A great university student application should not only be able to check class timetables, but also need students to be able to check and manage their personal information, check their grades at any time, and also have a communication platform where they can ask questions and seek help from others at any time.

The application is designed to facilitate students' access to information, including class schedules, grades, classes, etc., and to promote interaction and mutual help among students.

II. DEVELOP APPLICATION BASED ON HARMONYOS

HarmonyOS OS contains the full OpenHarmony source code. With the release of HarmonyOS API8, HarmonyOS no longer supports Java development. Compared with the traditional Java and XML model for Android development, HarmonyOS uses a set of declarative UI development framework ArkUI[2] for building distributed application interfaces. it uses ArkTS as the development language, which is based on TypeScript It uses ArkTS as the development language, which matches the ArkUI framework on the basis of TypeScript and extends the declarative UI, state management and other corresponding capabilities, allowing developers to develop cross-ended applications in a more concise and natural way.

Compared to other application development, ArkUI has the following advantages: 1. reduced compilation steps to ensure maximum UI performance. 2. the use of DSL(domain-specific language) code, saving more than 90% of the code than Java. 3. the use of extended TS syntax, strongly typed, compared to JS to reduce possible runtime errors, more secure. 4. real-time preview, the development process is no longer dependent on the simulator. 5. the use of the Preview modifier, no need to run, you can debug all the states of a component's UI alone.

III. DATA SETS

The API can be provided by the university, or a web crawler[3] can be used to get more information about the university's website. You can get the required content by analyzing the HTML objects specific to the web page or by getting the corresponding Json data directly, and present the data from the web page to the mobile application in another way.

For example, you can get the detailed data of the class timetable through the API interface of the university, and get the university news on the university's website through the web crawler.

SUMMARY

The above article introduces a software module for a university student information support system developed using HarmonyOS. With the popularity of HarmonyOS, more and more users will use HarmonyOS devices, and developing HarmonyOS applications will allow the application to be better adapted to the HarmonyOS system and provide a better experience for users. At the same time, HarmonyOS has powerful distributed capabilities, and in the future it can also add more practical and interesting features to the application based on this.

References

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3. Spetka, Scott. (2010). The TkWWW Robot: Beyond Browsing.

Zhang Hengrui, undergraduate's student of the Faculty of Information Technology and Control of BSUIR,15058556211@163.com

Khajynava Natallia Uladimirauna, Senior Lecturer of Information Technologies in Automated Systems Department, Faculty of Information Technology and Control of BSUIR, khajynova@bsuir.by