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Swift2Android 利用源對源編譯器實現Swift 語言開發安卓軟件

Pak Cheung Ho

Hong Kong Institute of Vocational Education (Sha Tin), Vocational Training Council

Ying Wai, Jeffrey Ho

Hong Kong Institute of Vocational Education (Sha Tin), Vocational Training Council

Shing Cheung Ngan

Hong Kong Institute of Vocational Education (Sha Tin), Vocational Training Council

Kin Long Poon

Hong Kong Institute of Vocational Education (Sha Tin), Vocational Training Council

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Swift2Android



GOLD PRIZE AWARD

At present, there are two main mobile platforms in the world, iOS and Android. These platforms have multitudinous resistances, so that no code can compile data from the two platforms simultaneously. Therefore, to satisfy their various clients, programmers have to set codes twice for the two distinct platforms. The programmers often have to decide which platform to develop first, and researching the best option often requires a great deal of time or human resources. The main languages for building on the iOS platform are Swift and ObjectiveC, but the main language for building on the Android platform is Java. Java and Swift (or ObjectiveC) have different coding formats, and thus developing code for the two platforms is generally considered to be highly inconvenient.

This project aims to develop a compiler that can input a piece of code to change computer programmes into machine languages. This compiler can input the Swift language to compile into Android Studio, and then run in that environment. The Swift2Android can convert basic Swift code to Java in terms of basic class structure, variable declaration, or if-else options. After this operation, Swift2Android can compile the generated source code to the Android code.

Innovator:

HO Pak Cheung
HO Ying Wai Jeffrey
NGAN Shing Cheung
POON Kin Long

Higher Diploma in Mobile Applications Development
Hong Kong Institute of Vocational Education (Sha Tin)

利用源對源編譯器實現 Swift 語言 開發安卓軟件



金獎

目前全球普遍使用的流動平台主要分為 iOS 和安卓兩種，兩個平台之間互不兼容，以至無人能利用同一套編碼同時支援兩個平台。為了滿足不同的客戶，編程人員必須撰寫兩套截然不同的編碼，而且更要決定優先開發哪套編碼。在研究並決如何取捨的過程中，往往耗費了大量的時間和人力資源。iOS 平台的主要編程語言是 Swift 和 ObjectiveC，而安卓平台的主要語言卻是 Java。Java 與 Swift（或是 ObjectiveC）的編碼格式各自不同，因此業內人士普遍認為，為兩個平台各自開發編碼極度不便。

本項目旨在開發一套編譯器，輸入編碼後便可把電腦程式轉化為機械語言。這套編譯器可以輸入 Swift 語言，然後編譯到「安卓開發室」並在該環境下運行。Swift2Android 能在基本類結構、變量聲明和 if-else 條件判斷方面，把基本的 Swift 編碼轉化成 Java。經此操作，Swift2Android 便能把現成的原始編碼編譯為安卓編碼。

研發學生：

何百祥
何英瑋
顏丞章
潘建朗

智能手機軟件開發高級文憑
香港專業教育學院（沙田）

