

CROSS PLATFORM MOBILE APPLICATION FOR TRAINING AND PLACEMENT USING IONIC FRAMEWORK

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ABSTRACT

This work present application designed for managing training and placement data. The objective of this project is to develop a application that can be used by placement cell of a college. The purpose is to design a application that provides functionalities to perform the activities related to placement services. It is based on complete modular architecture. This modularity of the architecture will allow us to replace or add modules in the future as a way to enhance a particular feature of particular situation. This application can be used as an application for the TPO of the college manages the student information with regards to training and placement. In the present work some of the modules are implemented by means of managing training and placement data. Whereas module responsible for adopting student information, company information require for company placement.

Keywords—*Angular js, Apache Cordova, Cross platform, Ionic framework*

INTRODUCTION

Training and placement is an important department in all technical institutes which provide campus placement for students. The management of Training and Placement department is very complicated at the same time it has involvement of staff, Training and Placement department, individual department staff, student from all departments. Its seems to be difficult to bring them all together manually. Now mobile has become vital part of everyones life and different types of mobile platforms are available like android , windows and iOS[1].

The application will helps students to provide their profiles to the Training and Placement cell of the institute, update their respective profiles and get to know about the companies coming for the on campus/off campus categories of campus interviews.

AngularJS is an open-source web application framework which is used in developing single-page applications while Apache Cordova. Helps developer build mobile applications using JavaScript, CSS and HTML instead of using platform specific application programming interface (APIs) like those in iOS, Android or Windows Phone. Ionic framework is an open-sourced software development kit that is used in order to create hybrid mobile applications. It can be developed using AngularJS and Apache Cordova. Ionic provides users with all the

components, tools and functionalities that are used in native mobile development-software development kits. Developers can design their applications using tools and sample codes provided by the ionic framework documentation and help website. The installation requires NodeJS and npm that is the default package manager for NodeJS[2].

A digital enterprise is an organization that uses technology as a competitive advantage in its internal and external operations. As Information Technology (IT) has reshaped the infrastructure and operations of enterprises, digital enterprise has taken on different meaning. Mobility which includes Mobile Application Development is an application of Digital Enterprise. Mobile application development is a term used to denote the act or process by which application software is developed for mobile devices, such as personal digital assistants, enterprise digital assistants or mobile phones. These applications can be pre-installed on phones during manufacturing platforms, or delivered as web applications using server-side or client-side processing (e.g., JavaScript) to provide an "application-like" experience within a Web browser. Application software developers also must consider a long array of screen sizes, hardware specifications, and configurations because of intense competition in mobile software and changes within each of the platforms. Mobile app development has been steadily growing, in revenues and jobs created[2].

II.INSTALLATION & DEPLOYMENT

The procedure for installation of ionic and cordova is fairly simple and straight forward. In order to perform a global installation, the following command can be input in the terminal which installs the packages needed to be used.

Global installation: `npm install -g ionic cordova`

After the basic packages have been installed, their versions can be confirmed via the following npm commands.

Version Check for ionic and cordova:

`ionic -v cordova-v`

In order to build a new application the ionic serve command can be used in the terminal after setting the appropriate directory where the project exists. In order to run the template or application the following commands can be used.

on web browser: `ionic serve`

add mobile platform: `ionic platform add [android/ios]`

run on device/emulator: `ionic [run/emulate] [android/ios]`

III.LITERATURE SURVEY

1.Aarush Gupta , Abdul Gaffar H.International Journal of innovative research in computer science and technology 2 March 2016.

Hybrid Application Development using Ionic Framework & AngularJS.

Ionic provides users with all the components, tools and functionalities that are used in native mobile development - software development kits (SDKs'). Developers can design their applications using tools and sample codes provided by the ionic framework documentation and help website. The installation requires NodeJS and npm that is the default package manager for NodeJS, irrespective of a Windows, Linux or Macintosh environment. Ionic is a much better platform to use in order to design and build applications, since native applications are platform specific, have respective development tools, are extremely time consuming and expensive as well.

Ionic on the other hand is platform independent, uses HTML, CSS and Javascript. The development process is fairly quick and developers have a direct access APIs' with Cordova. There are some frameworks such as jQuery Mobile, Sencha Touch, The-M-Project and Google Web with capabilities of developing applications for iOS and Android platform or even other platforms such as Windows Phone and Black Berry. These frameworks come with license, cost, documentation, and support.

2. Suan Sunandha Rajabhat University , Banglok , Thailand November 2016.

Hybrid framework as a cross platform tool for designing and developing a mobile application.

The number of mobile user trespassed the number of computer users since the cost of mobile phone production has been declined and the performance of mobile device hardware has been improve increasingly. Moreover, the versatility and utility of wireless communication are very essential for user in their daily lives. These trends are still moving on and there is no sign to slow down. However, mobile phone operating system has been divided into 2 major platforms. Android and iOS and a very small percentage for other operating systems. Each application has to run on its platform and it must be created discretely by a few native designing and developing tools.

AngularJS such as directives, modules, controllers and scope. Directives in angularJS are built-in and they offer functionality to our applications. AngularJS also allows to define our own directives as well. Controllers in AngularJS are used to control the data in the application and they are basic javascript objects. The ng-controller directive defines the application controller.

3. Ruben Smeets¹ , Kris Aerts² ¹ES&S, DTAI, KU Leuven Technology Campus Diepenbeek, Agoralaan gebouw 6. June 2016.

Trends in Web Based Cross Platform Technologies

Cross platform mobile application development using web technologies has traveled a long way since its inception back in 2008-2009 [1]. Frameworks such as Apache Cordova/Phonegap [2] or Appcelerator [3] enabled web developers to reuse their exiting development skills to build applications for a wide variety of mobile platforms and opened up app development to a massive community. Since then many technologies have been developed: some failed, some succeeded. In this paper we provide a comprehensive overview of cross platform tools using web development technologies and identify trends that emerged from this landscape.

The first WebView-based hybrid mobile apps were merely nothing more than a Single-Page-Application (SPA). This is a web application that requires only a single page load in a web browser. Interaction with the

application typically involves dynamic communication with the web server to update the current page view. The web portion of such a hybrid app lives inside the mobile platform's WebView, which allows it to use any HTML, CSS and JavaScript that is supported by the WebView version. However, the WebView of mobile devices was severely lagging behind desktop browsers.

IV.NEED OF WORK

Training and placement department has so many activities to be carried out. These activities are difficult to carry out manually. To simplify these activities we can use development of mobile application but there are different types of mobile platforms (android, windows, iOS) . These different mobile platforms needs different development platforms so it is difficult to maintain and its costly for development there must be hybrid approach for these like ionic framework in which single application can be developed and used by different mobile platforms.

4.1.Problem Statement

To develop cross platform application for training and placement department by using ionic framework. Utilizing ionic framework to avoid multiple platform application development, to avoid cost of maintenance and cost of development

V.SYSTEM ARCHITECTURE

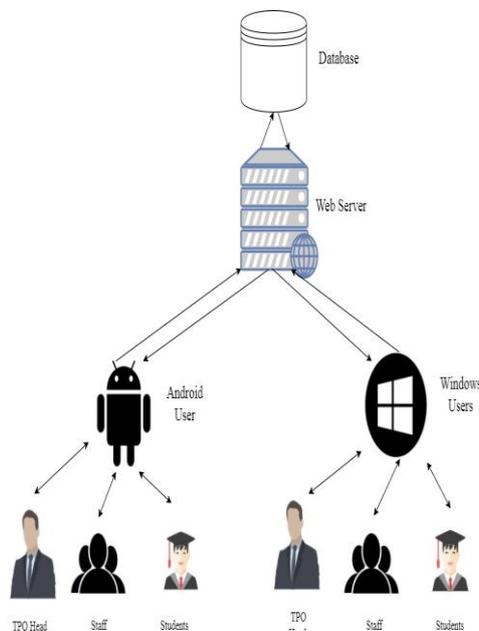


Fig1.System Architecture of cross platform mobile application

Web Server is a server machine connected to internet, which is accessible throughout internet connection. Server has installation of web application and database server. It will have all ionic framework used application installed into it. Mobile application will access the application throughout internet. Android and windows platforms both are used by TPO head, TPO staff and student alternatively.

Web application is about to develop which can control many mobile applications also in this module database configuration is done. Web development refers to building website and developing on the web. Web development requires use of scripting language both at the server end as well as client end.

As can be seen, with the help of ionic and AngularJS framework, we were able to build a fully functional application for cross platform deployment i.e Android, iOS and Windows phone. There are various distinctive features which allow us to visualize that the application view currently is for iOS or Android phone.

Thus, we come to conclusion that ionic is a new yet immensely growing technology, we come to conclusion that ionic is a new yet immensely growing technology, and is extremely simple and easy to use. Ionic requires an in-depth understanding of AngularJS framework as it acts as the backbone of the application. It lets us create single view and multi view pages applications. Thus, it is extremely important to get an in-depth understanding into AngularJS and ionic framework in order to build enterprise level applications without having to code once in Objective C or Swift for iOS platform, and another time in java for Android platform. Ionic allows one to code in javascript, HTML and css in order to produce fully functional cross platform hybrid applications for users.

VI.CURRENT STATE OF MOBILE APPLICATION AND DEVELOPMENT

6.1.Android Based on Linux kernel, Android started life as a proposed advanced operating system for digital cameras until the company realize that market was limited compared to that for mobile phones. The open Handset Alliance unveiled the Android operating system in 2007, nearly two years after Google's acquisition of Android. Advantages of using Android are: i)Android had the dominant share of the mobile market i.e 81% of all devices shipped in Q3 2013 were Android, ii) we can develop on any platform, iii) The environment is more open: call history is available to all apps: notifications between apps are possible as well as the sharing of content: apps can be installed from any source iv) We can publish to Google play

6.2.Windows Phone 8 The second generation of the Windows Phone operating system uses the same Metro interface but has an updated International Journal of Advanced Research Methodology in Engineering and Technology, ISSN 24566446 Volume 1, Issue 3, May 2017 2 architecture based on the Windows NT kernel rather than Windows CE.

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VII.FUTURE WORK

In this application, feedbacks of the students who have been attended the campus interview they can upload the suggestions and feedbacks .It can be shared everyone who have login with applications.

VIII.CONCLUSION

As can be seen, with the help of ionic and AngularJS framework ,we were able to build a fully functional application for cross platform deployment i.e. Android, iOS and Windows Phone. There are various distinctive feature which allow us to visualize that the application view currently is for iOS or Android Phone.Thus,we come to a conclusion that ionic is a new yet immensely growing technology, and is extremely simple and easy to use. Ionic requires an in-depth understanding of AngularJS framework as it acts as the backbone of the application. It lets us create single view and multi view pages applications. Thus, it is extremely important to get an in-depth understanding into AngularJS and ionic framework in order to build.

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