AN ENHANCED DEVELOPMENT ENVIRONMENT
IN MOBILE COMPUTING

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ABSTRACT

A hybrid application is the application which combines both native and web applications. Development of hybrid applications requires the combination of HTML,CSS & Javascript.There are different frameworks which are used to develop hybrid applications. They are PhoneGap,Intel XDK etc where the look and feel of the applications will be not much effective.Ionic framework has been proposed recently which does a quite a bit more than CSS do.It is a open source framework used for developing mobile applications.It has built-in plugins which are required for effective look and feel of the application.

I. INTRODUCTION

A mobile applications is a software application designed to run on mobile devices such a smart phones and tablet computers.Native mobile apps often compatible to desktop applications that run on desktop computers and with web applications which run on mobile web browsers rather than directly on the mobile device[2].Hybrid application is the one which combines both Native and Web applications.Native application is the one that is installed directly onto the smart phone and can work in most of the cases without internet based on the nature of the application.A web application works via web browser on the smart phone but requires either a cell signal or wi-fi to perform its functionality.There are different frameworks which develop only native application and only web application.Some of the frameworks are Xamarin, PhoneGap etc.Ionic is the framework which can develop both native and web applications.

Ionic is open source framework[1][2] used for developing mobile applications. It provides plugins and services for building mobile UI with native look and feel. It requires native wrapper to be able to run on mobile devices. It is an HTML5 mobile app development framework targeted at building hybrid mobile apps.It is used to build progressive web and native mobile apps for every major app store, with one codebase. It works and looks beautiful wherever it runs.It is front-end UI framework that handles all the look and feel and UI interactions where our app needs in order to be compelling.It uses "Bootstrap for Native," and support a broad range of common native mobile components, slick animations, and beautiful design.

Ionic framework uses Angular JS,CSS components, Javascript components, Cordova plugins and Ionic CLI,Ionic View for the development of hybrid applications. The main application of using this framework is we can package our applications for IOS, Andriod, Windows Phone and Firefox Os which can save us a lot of working time.It provides useful pre-generated app setup with simple layouts.The applications are built in very clean and modular way which is easy to maintain and easy to update.

II. FEATURES

a) Angular Js

Ionic framework uses Angular JS for developing power apps.It uses Angular JS MVC architecture for building rich page applications optimized for mobile devices.

b) CSS

Ionic framework uses CSS component to offer almost all elements what mobile applications requires. Components default styling can be easily overridden to accommodate our own design.

c) Javascript

Ionic framework uses Javascript component to cover all the mobile elements that can't be done only with HTML & CSS.

d) Cordova Plugins

Apache Cordova plugins offer API needed for using native device functions with JavaScript code.

e) Ionic CLI

This is NodeJS utility powered with commands for starting, building, running and emulating Ionic applications.

f) Ionic View:

Very useful platform for uploading, sharing and testing your application on native devices.

III. COMPONENTS

Ionic apps are made of high-level building blocks called components. Components allow you to quickly construct an interface for your application. Ionic comes with a number of components, including modals, popups, and cards. Although components are primarily HTML and CSS, some components also include JavaScript functionality.Ionic uses different components to start the application using ionic framework.

a. Node Js

This is the base platform to create Mobile Apps using Ionic. Before installing Node JS we need to install npm.

b. Android SDK

If we are working on Windows Platform and developing your apps for Android platform then we need to install Android SDK in our machine.

c. XCode

If we are working on MAC platform and if we want to develop the application in ioS platform then we need to install XCode in our machine.

d. Cordova & Ionic:

These are the main tools required to develop the applications using Ionic framework.

IV. WRITING IONIC APPLICATIONS

1) First install Node.js and then install the latest Cordova and Ionic command lines in our terminals.

npm install -g cordova ionic

2) Create an Ionic App using one of our ready made app templates or a blank one or start fresh.

ionic start --v2 myApp tabs

3) For running ionic app

cd myApp

ionic serve

V. CONCLUSION

Hybrid application is the application which uses the combination of HTML, CSS & JavaScript for development. There are many frameworks which are used for developing hybrid applications they are Xamarin, Phone Gap with little look and feel because of lack of plugins and dependencies. Ionic framework sounds good in developing both native and web applications. It consists of native plugins and templates for developing an applications. With the help of this framework we can develop both desktop and web application. It is easy to maintain and scalable. It will integrate native device plugins like Bluetooth, Maps, Health kit and more. It consists of Ionicons with over 900 custom designed font/SVG icons. It is easy to customize. Ionic framework with its efficient features and native plugins proves that it is an best framework to develop hybrid application.

REFERENCES

[1] http://www.ionicpoint.com/

[2] http://www.ionicframework.com/

[3] http://www.sourceforge.net/

[4] http://www.ionic.io/