Hybrid App Development using Ionic Framework

WHO ?

- We are from KOFIX TECHNOLOGIES RESOURCES
- Focusing on professional IT training and project development
- Consist of very passionate and committed people to help you to code and achieve business success

Education:
- Self-taught coders
- Certified Ethical Hacker (V8)
- Mobile App Developer
    - Android Native Using Java
    - Ionic Hybrid App
- Web App Developer
    - Laravel PHP Framework 5.4
    - Front end Developer
- Data Science (focus on modelling, ML)
- Computer Vision using Deep learning

Working Experience:
- Data Scientist @ AirAsia Bhd
- CEO Kofix Technologies Resources
- CTO Trippal Sdn Bhd
- Internship in J Studio Kreatif as Programmer
- Web Developer for Maibasuh

Muhammad Nazmi Bin Mat Asri
Undergraduate, Bachelor Degree of ICT

COURSE DESCRIPTION

- In this course, we will focus on Ionic Framework and Cordova, which complement each other to create a strong mobile application.

  We will have 5 projects, where I will explain and demonstrate to you on:
    - Implementing local storage for long term data storage
    - Notification alert
    - Accessing contact list
    - Authentication: Sign up, sign in, logout features
    - Geolocation: Google maps and real time location app
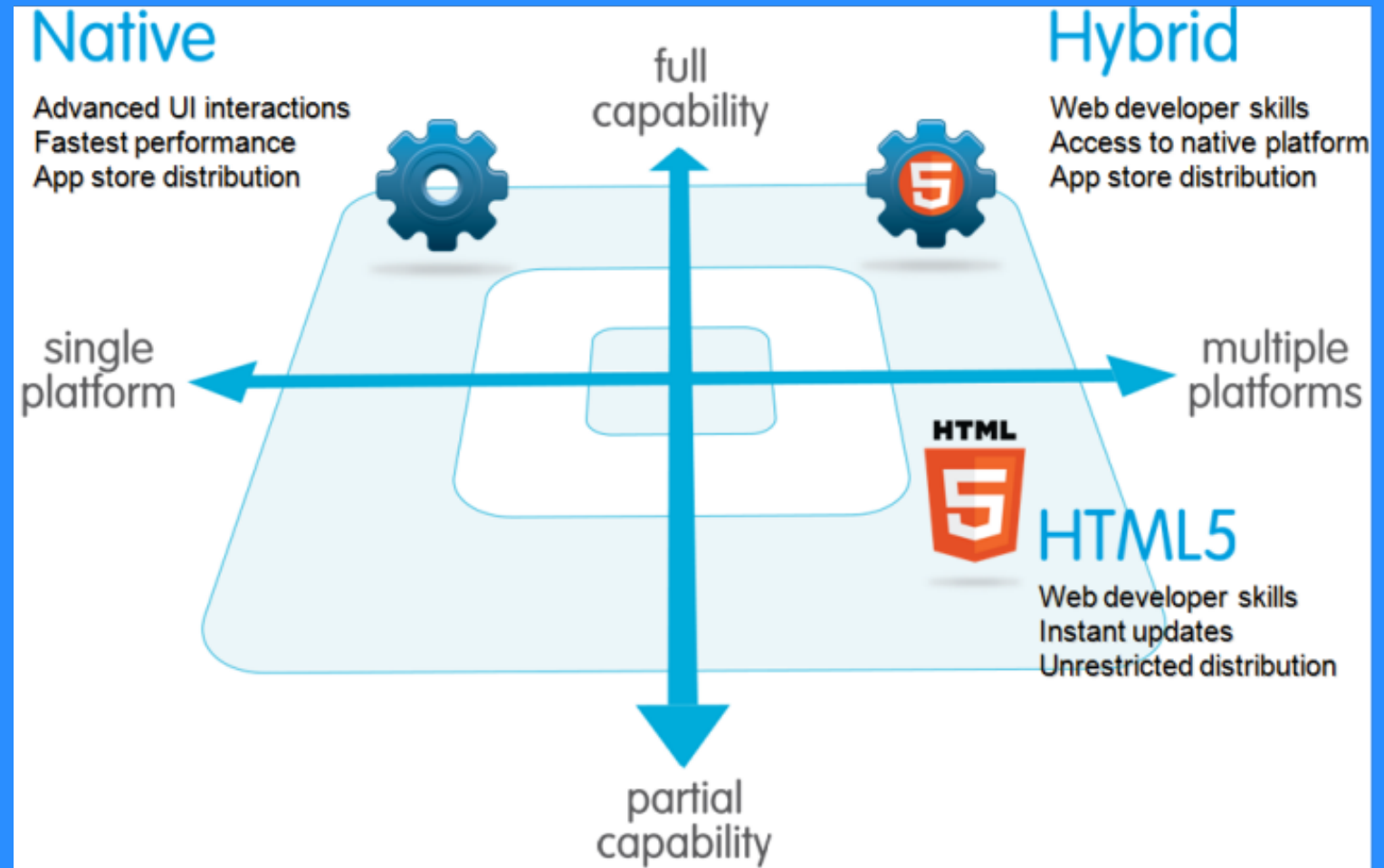
WHAT YOU SHOULD KNOW

- It's better if you know (since this no longer introductory class):
  - HTML
  - CSS
  - AngularJS
  - MVC (Model View Controller)

PROJECT OVERVIEW

1. Implementing local storage for long term data storage
2. Notification alert
3. Accessing contact list
4. Authentication: Sign up, sign in, logout features
5. Geolocation: Google maps and real time location app

TYPES OF MOBILE APP

1. Web Application
2. Native Application
3. Hybrid Application

WHAT IS IONIC?

- Front-end framework to develop hybrid mobile apps
- HTML5 + AngularJS
- Build for both iOS and Android platforms

Software needed for Ionic Framework:

1. Sublime Text 3: Modern Text Editor (Personal Recommendation)
2. NodeJS: https://nodejs.org/en/
3. Java JDK: http://www.oracle.com/technetwork/java/javase/downloads/jdk-netbeans-jsp-142931.html
4. Android SDK: https://developer.android.com/studio/index.html
   - Set ANDROID_HOME
   - Set PATH
5. Ionic Framework and Cordova: npm install –g cordova ionic

Node.js® is a JavaScript runtime built on Chrome's V8 JavaScript engine. Node.js uses an event-driven, non-blocking I/O model that makes it lightweight and efficient. Node.js' package ecosystem, npm, is the largest ecosystem of open source libraries in the world.

Download for Windows (x64)

v6.9.5 LTS
Recommended For Most Users

v7.5.0 Current
Latest Features

Other Downloads | Changelog | API Docs   Other Downloads | Changelog | API Docs

Or have a look at the LTS schedule.

JDK 8u121 with NetBeans 8.2

This distribution of the JDK includes the Java SE bundle of NetBeans IDE, which is a powerful integrated development environment for developing applications on the Java platform.   Learn more

You must accept the JDK 8u121 and NetBeans 8.2 Cobundle License Agreement to download this software.

Thank you for accepting the JDK 8u121 and NetBeans 8.2 Cobundle License Agreement; you may now download this software.

Java SE and NetBeans Cobundle (JDK 8u121 and NB 8.2)		
Product / File Description	**File Size**	**Download**
Linux x86	288.83 MB	⬇ jdk-8u121-nb-8_2-linux-i586.sh
Linux x64	284.24 MB	⬇ jdk-8u121-nb-8_2-linux-x64.sh
Mac OS X x64	338.8 MB	⬇ jdk-8u121-nb-8_2-macosx-x64.dmg
Windows x86	317.35 MB	⬇ jdk-8u121-nb-8_2-windows-i586.exe
Windows x64	326.89 MB	⬇ jdk-8u121-nb-8_2-windows-x64.exe

Android Studio

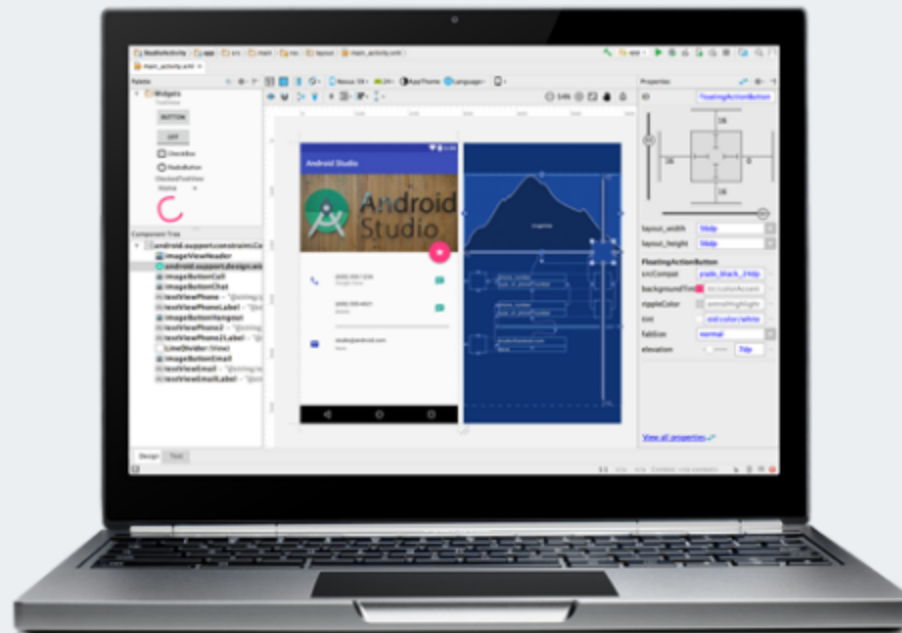## The Official IDE for Android

Android Studio provides the fastest tools for building apps on every type of Android device.

World-class code editing, debugging, performance tooling, a flexible build system, and an instant build/deploy system all allow you to focus on building unique and high quality apps.

DOWNLOAD ANDROID STUDIO
2.2.3 FOR WINDOWS *(1,674 MB)*

> Read the docs   > See the release notes

AngularJS

- Javascript framework for building dynamic web application
- Extends HTML with directives
- Ionic built with AngularJS, so at least you need to know the fundamental (we will go through after this)

Cordova / Phonegap

- Allow us to build cross platform hybrid apps
- Single code base (one code, compile to all supported platform)
- Provide native functionalities to our HTML CSS JS
- Access to phone API

Running Ionic

ionic start project-name blank

ionic serve –lab

ionic platform add android

ionic build android

ionic emulate android

*iOS only if you use Apple Mac

Starter kit

	Tabs	Menu

Blank app

🏠 ⭐ ♡

Home >

Friends >

Events >

Close >

```
$ ionic start --v2 myApp blank
```

```
$ ionic start --v2 myApp tabs
```

```
$ ionic start --v2 myApp sidemenu
```

AngularJS Fundamental

- Directives
- Data Binding
- Modules
- Controllers
- Services

Directives

- Directive – declarative HTML
- It's a custom HTML Tag

```html
<body ng-app="starter">

<ion-pane>
  <ion-header-bar class="bar-stable">
    <h1 class="title">Ionic Blank Starter</h1>
  </ion-header-bar>
  <ion-content>
  </ion-content>
</ion-pane>
</body>
```

ANGULARJS
by Google

Data Binding

- 2-way data binding, linked to each other
- Imagine the concept of variable

```
<body ng-app="myApp">

    <p>Example : {{ custom_typing }}</p>
    <input ng-model="custom_typing" />
```

ANGULARJS
by Google

Modules

- It's like a 'core' of app, and can be used to group several object
- Used to organize objects which used in the angular application

```html
<body ng-app="myApp">

    <p>Example : {{ custom_typing }}</p>
    <input ng-model="custom_typing" />
```

```javascript
// Declare the module
var app = angular.module('myApp', []);
```

Controller

- Communicate with the view/templates to display data
- Only use controller to add behavior to '$scope' object
- $scope – link view to the controller

```html
<div ng-app="myApp" ng-controller="myCtrl">

  First Name: <input type="text" ng-model="firstName"><br>
  Last Name: <input type="text" ng-model="lastName"><br>

  <br>

  Full Name: {{firstName + " " + lastName}}

</div>

<script>
var app = angular.module('myApp', []);
app.controller('myCtrl', function($scope) {
    $scope.firstName = "John";
    $scope.lastName = "Doe";
});
</script>
```

ANGULARJS
by Google

Services

- A function which is built to make it available to your application
- Example: $location, $http (built-in always start with '$')
- Lazily Instantiated, Singleton

```
app.
 controller('MyController', ['$scope', 'notify', function($scope, notify) {
  $scope.callNotify = function(msg) {
    notify(msg);
  };
}]).
factory('notify', ['$window', function(win) {
  var msgs = [];
  return function(msg) {
    msgs.push(msg);
    if (msgs.length === 3) {
      win.alert(msgs.join('\n'));
      msgs = [];
    }
  };
}]);
```

ANGULARJS
by Google

Project 1: Local Storage

https://github.com/gsklee/ngStorage

Project 2: Notification

https://github.com/katzer/cordova-plugin-local-notifications
http://ngcordova.com/docs/plugins/localNotification/

Project 3: Accessing Contact List

http://ngcordova.com/docs/plugins/contacts/

Project 4: Authentication with Firebase

https://firebase.google.com/docs/auth/
https://firebase.google.com/products/auth/

Project 5: Geolocation

https://github.com/apache/cordova-plugin-geolocation

Thank You