



Native & React Native

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Native App & React Native

1

1. Native & React Native 개념

2

2. Native & React Native 구조



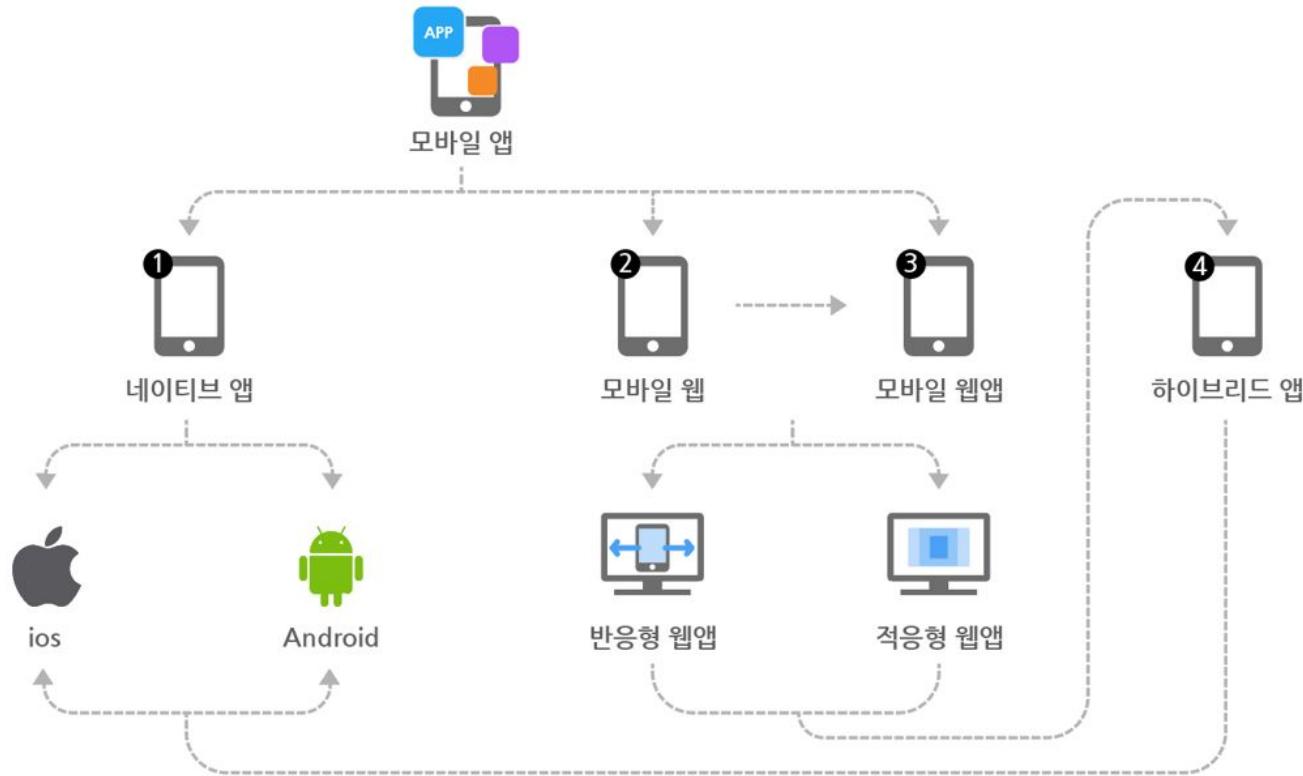


PART 01

Native & React Native



사용자들이 어플리케이션을 사용하기 위해
스마트폰에 설치해야 하는 어플리케이션을 말합니다.



Native

사용자들이 어플리케이션을 사용하기 위해
스마트폰에 설치해야 하는 어플리케이션을 말합니다.

네이티브 앱

- 모바일 기기에 최적화된 앱
- 안드로이드 SDK를 이용해 Java, kotlin으로 개발
- iOS SDK를 이용해 Object c, Swift로 개발

모바일 웹 (반응형 웹앱)

- PC 웹을 모바일 환경 사이즈로 변경한 웹
- 페이지를 호출할 때마다 정보를 다운로드 하는 방식
- 접속장애가 발생할 수 있어서 불안정

모바일 웹앱 (적용형 웹앱)

- 모바일에 최적화 되어 네이티브 앱화된 웹앱
- 모바일 웹에 사용되는 언어를 사용하지만 풀브라우징 방식이 아닌 모델을 사용하여 전환
- 모바일 웹보다 빠른 실행 속도를 유지

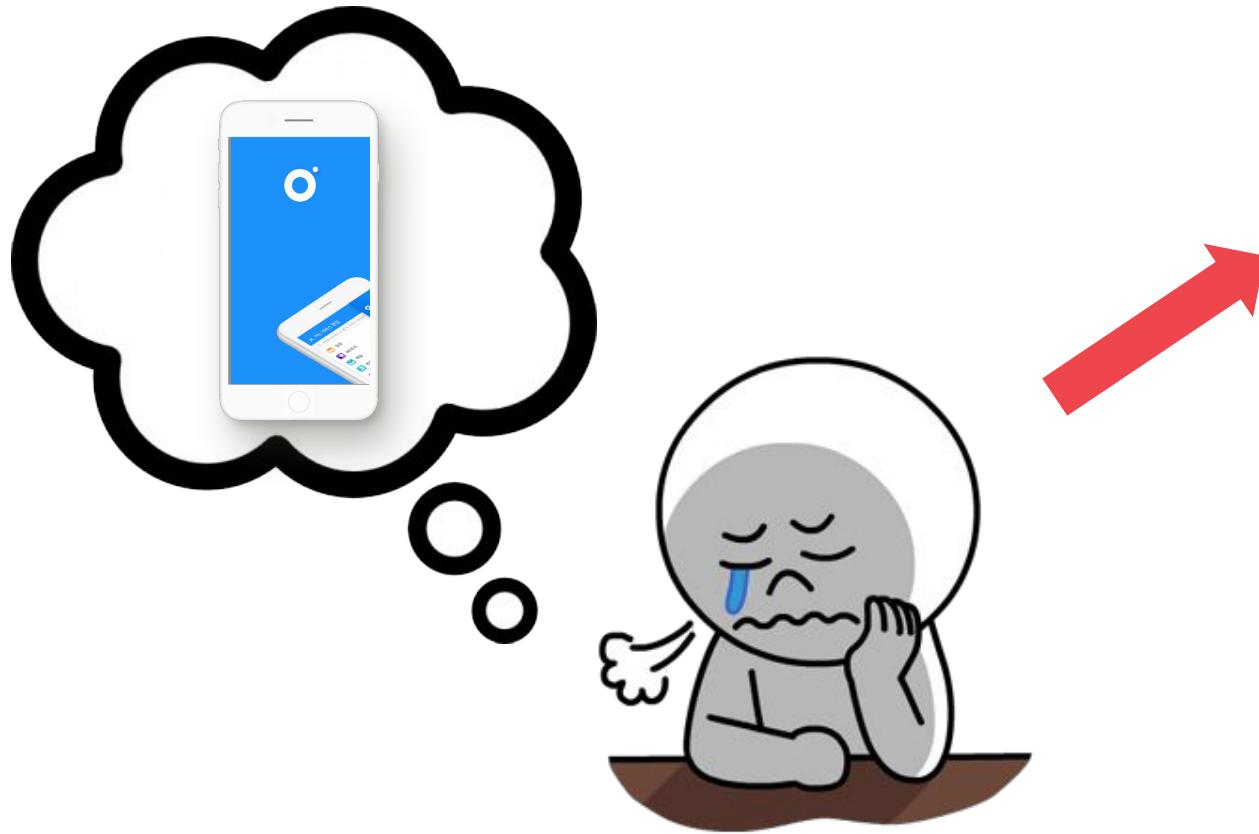
하이브리드 앱

- 모바일 웹 + 웹앱의 단점을 보완한 앱
- 웹과 네이티브 앱을 섞은 방식
- 브라우저 실행, 로딩 지연 등의 어려움을 극복

WEHAGO



WEHAGO



1. Android , ios 호환 x
2. 업로드 문제
3. 개발 시간 비용 UP

React Native

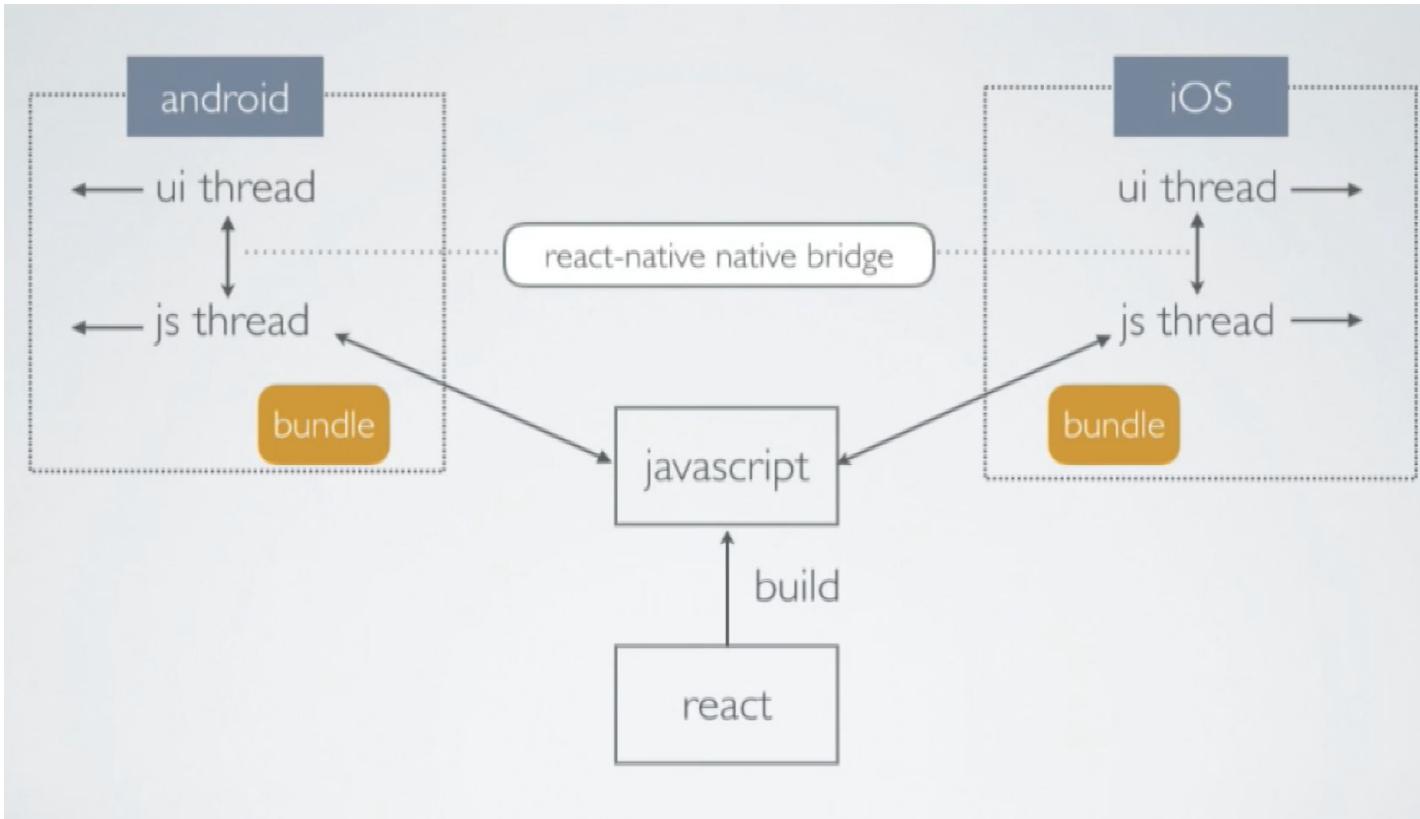


Android , ios언어 구분 X

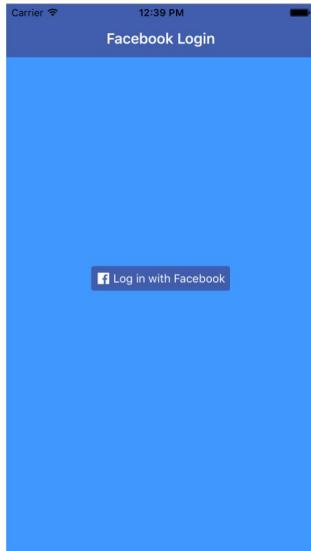


빌드 X -> 자동 업데이트

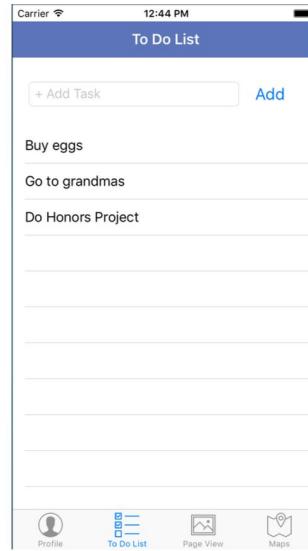
React Native



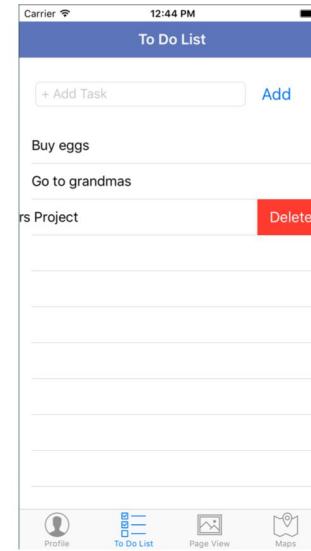
Performance



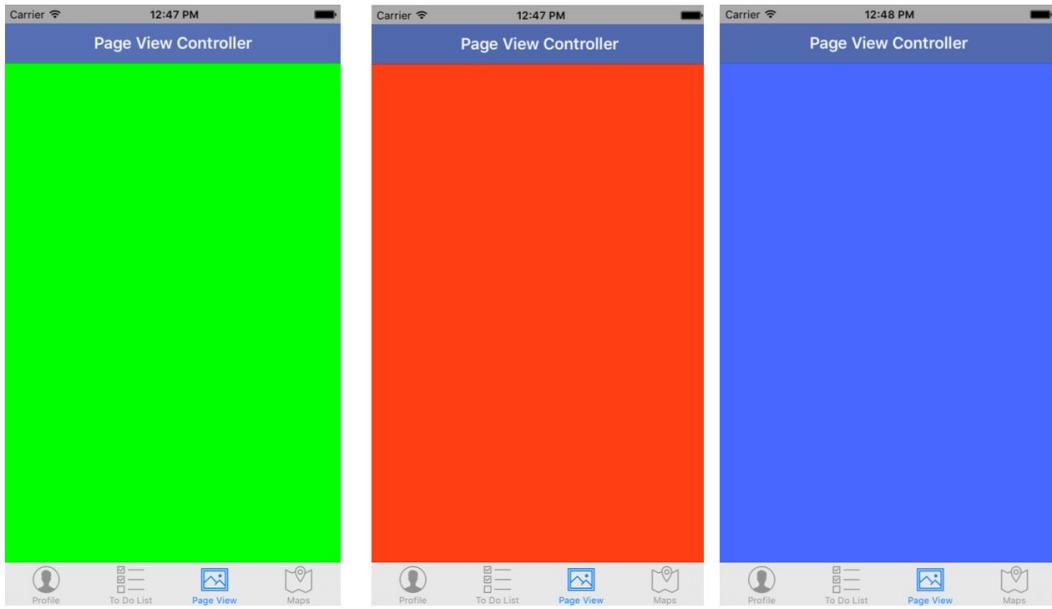
Profile



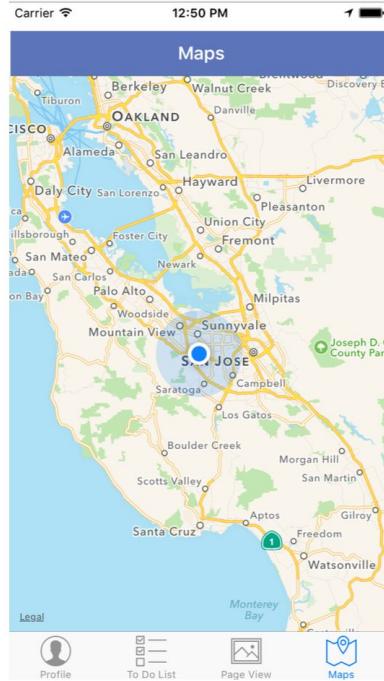
Todo List



Performance

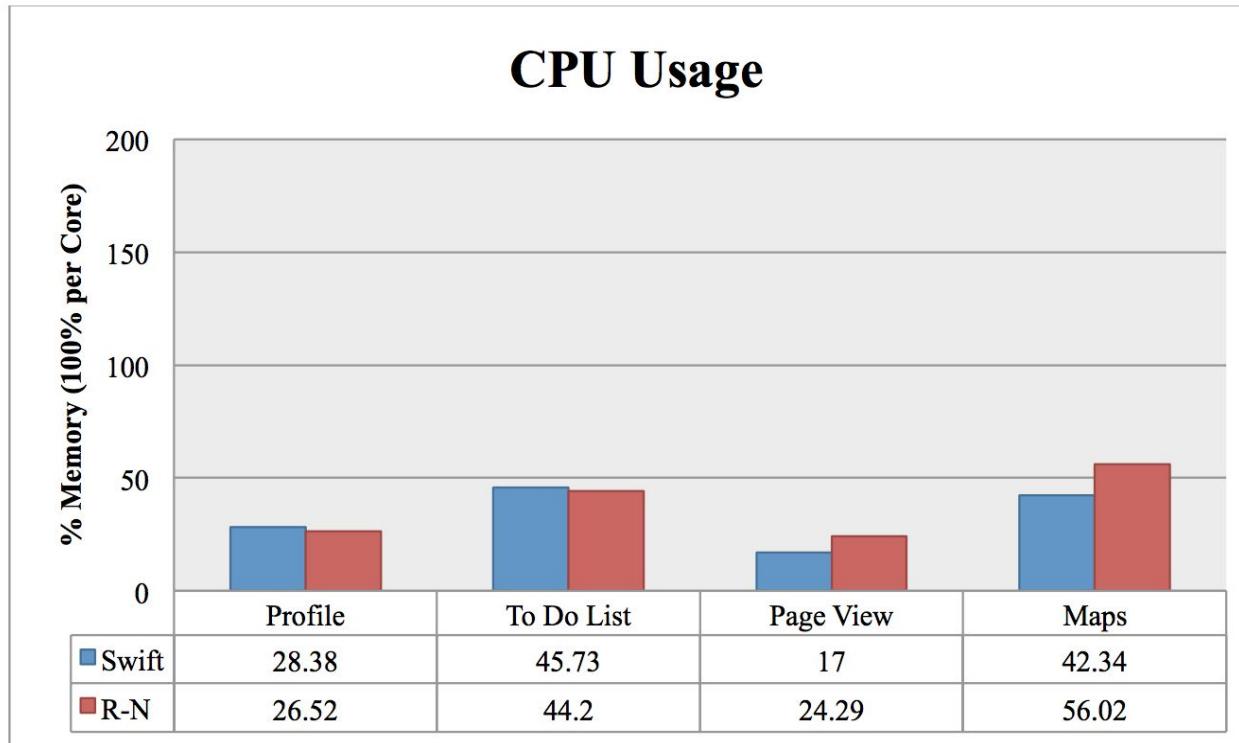


Page View

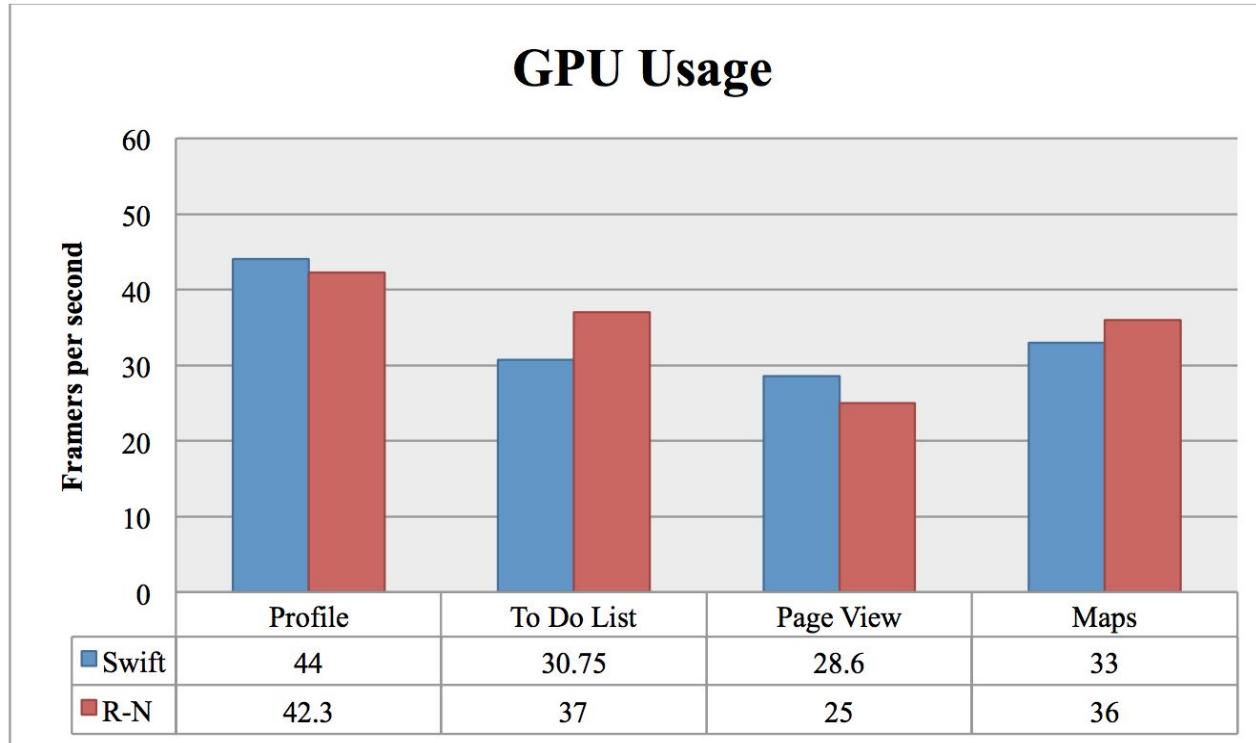


Map

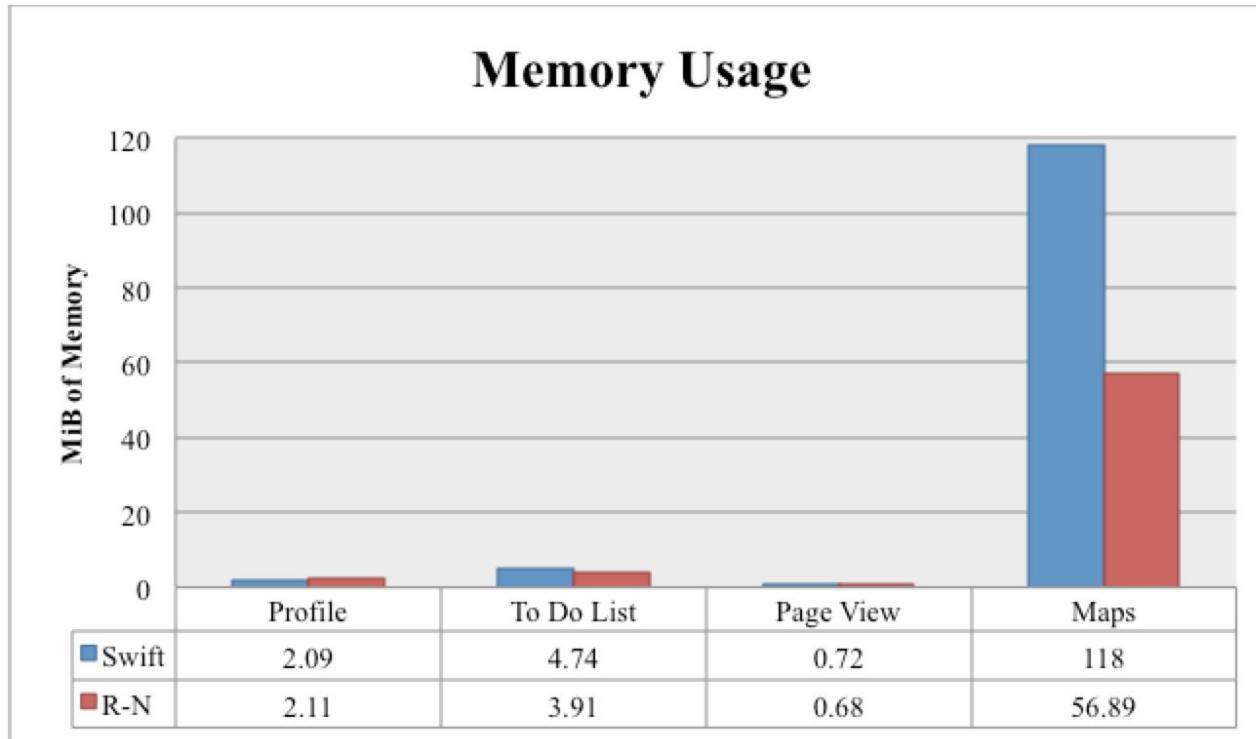
Performance



Performance



Performance

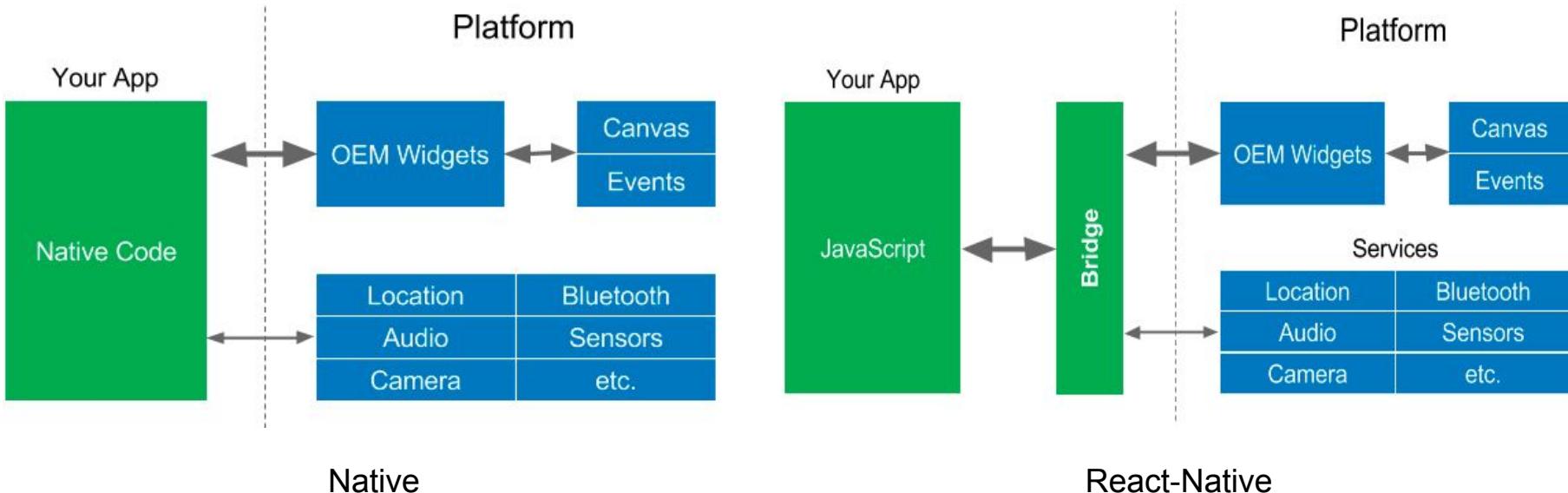




Performance

- 결론적으로 Swift는 CPU 부분에서 전반적으로 효율이 좋음
- React-Native는 Swift보다 효과적으로 GPU를 사용하며, Swift 보다 메모리를 훨씬 더 효과적으로 사용
- 하지만, 구조상 OEM Widgets에 접근하기 위해서 브릿지를 거쳐야 하기 때문에 OEM Widgets에 최대한 적게 접근 할 수 있도록 프로그래밍하는 것이 필요

OEM Widgets





PART 02

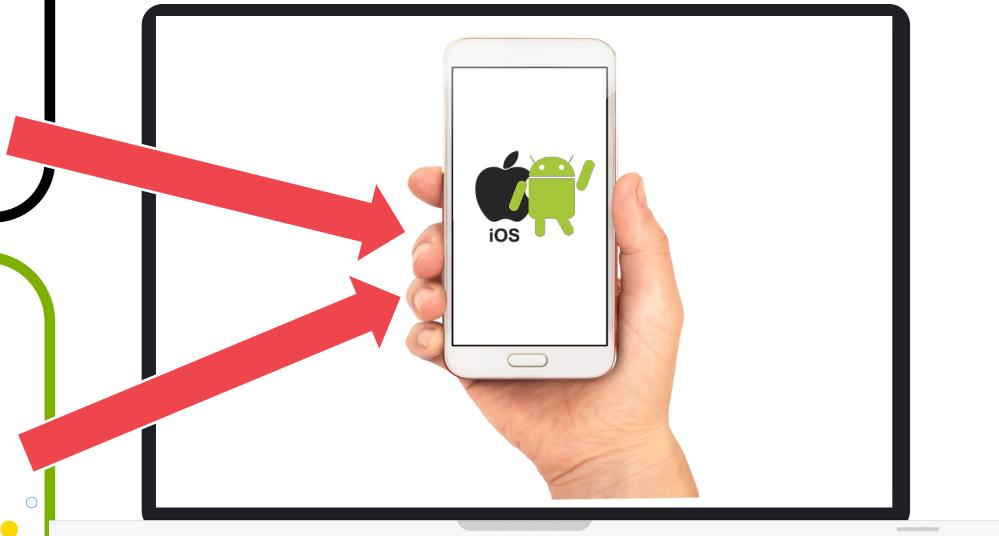
N & RN Structure

N Structure

- 1 Objective-c
- 2 Swift



- 3 Java
- 4 Kotlin



Object-C vs Swift

```
#import <Foundation/Foundation.h>

int main(int argc, const char * argv[]) {
    // local scope: available anywhere inside main
    int numberOfProblems = 99;

    @autoreleasepool {
        for ( int i = 1 ; i < 1000 ; i++ ) {
            // lots of code
            // some variable creation
            int foo = 55; // local scope: only available inside this for loop
            foo++;
            // some more interesting code
            // If I use "int", I'm creating a NEW local variable
            int numberOFProblems = 0;
            numberOFProblems++;
            NSLog(@"Number of problems: %i", numberOFProblems);
        }

        // what's the value of foo?
        // NSLog(@"%@", foo);
    }
}
```



```
// TableView Delegates and Datasources
func tableView(tableView: UITableView!, numberOfRowsInSection section: Int) -> Int {
    //NSArray
    println("number of rows= \(gotCharactersArray as NSArray).count")
    return (gotCharactersArray as NSArray).count
}

func tableView(tableView: UITableView!, cellForRowAtIndexPath indexPath: NSIndexPath!) -> UITableViewCell{
    let aCell=tableView.dequeueReusableCellWithIdentifier("GOTCharacterTableViewCell", forIndexPath: indexPath) as GOTCharacterTableViewCell
    aCell.tag=indexPath.row;

    var aCharacter: NSDictionary = (gotCharactersArray?[indexPath.row] as NSDictionary)
    var gotCharacter : GOTCharacter = GOTCharacter(name: aCharacter["name"] as String, description: aCharacter["description"] as String, picPath: aCharacter["image"] as? String)
    aCell.setCharacter(gotCharacter)

    return aCell
}

override func prepareForSegue(segue: UIStoryboardSegue!, sender: AnyObject!) {
    println("ViewController \(segue.identifier) YES YES YES description=\(segue.description) identifier=\(segue.identifier) sender:\(sender)")
    let cell = sender as? GOTCharacterTableViewCell
    let index = cell!.tag

    let detailViewController: DetailViewController = segue.destinationViewController as DetailViewController;

    var aCharacter: NSDictionary = (gotCharactersArray?[index] as NSDictionary)
    let name : AnyObject! = aCharacter["name"];
    let description : AnyObject! = aCharacter["description"]
    let picPath : AnyObject! = aCharacter["image"]

    println("\(name)")
    println("\(description)")
    println("\(picPath)")

    var gotCharacter : AnyObject! = GOTCharacter(name: name as String, description: description as String, picPath: picPath as? String)
    detailViewController.setCharacter(gotCharacter)
}
```

Objective-C

Swift



C vs Object-C

C언어

```
MyClass *obj = null  
Int *ptr = null
```



Objective-C

```
MyClass *obj = nil  
Int *ptr = null
```

String -> X



NSString = @"dd"

Object-C vs Swift

Swift

object-c와는 조금 다르게 swift만에 문법이 존재하는
언어

Objective-C

```
int number =0  
NSString =@"hello"
```

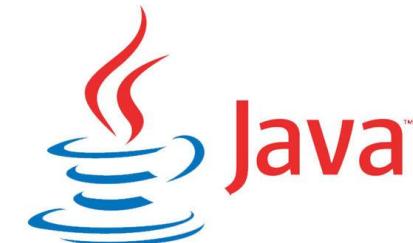


짧고 간결

Swift

```
let number = 0  
let str ="hello"
```

N Language



JAVA vs Kotlin

```
1 package com.myapplication;
2
3 public class JavaClass {
4     private String name;
5     private int age;
6
7     public JavaClass(){
8
9     }
10    public JavaClass(String name, int age){
11        this.name = name;
12        this.age = age;
13    }
14    public String getName(){
15        return name;
16    }
17    public void setName(String name){
18        this.name = name;
19    }
20    public int getAge(){
21        return age;
22    }
23    public void setAge(int age){
24        this.age = age;
25    }
26    public String toString(){
27        return ("name" + name + "\n" + "age" + age);
28    }
29 }
```

Java class



```
package com.myapplication
```

// kotlin 클래스입니다.

```
data class KotlinClass(var name : String? = null, var age: Int? = null)
```

Kotlin class

```
//default 생성자
var javaClass = JavaClass();
var kotlinClass = KotlinClass();
```

```
//매개변수를 필요로 하는 생성자
var javaClass1 = JavaClass( name: "노원상", age: 26);
var kotlinClass = KotlinClass( name: "노원상", age: 27);
```

Main class

```
//setter 표현
javaClass.setAge(12); 여기서 코틀린은 변수를 사용하는데 var, val 키워드를 사용하는데
kotlinClass.age=12; var name : String; (읽기/쓰기가 가능한 일반 변수)
val name : String = "노원상" (읽기만 가능한 final 변수)
```

```
//getter
println( priority: 1, tag: "자바 get메소드", javaClass.getAge().toString());
println( priority: 1, tag: "코틀린 get메소드", kotlinClass.age!!.toString());
```

```
//toString
println( priority: 2, tag: "자바 toString", javaClass.toString());
println( priority: 2, tag: "코틀린 toString", kotlinClass.toString());
```



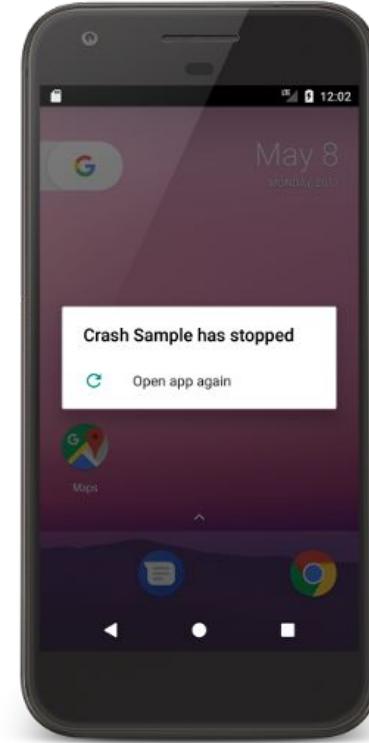
JAVA vs Kotlin

```
string temp = null;  
int size = -1;  
if (temp != null) {  
    size = temp.length();  
}  
  
// 또는 TextUtils.isEmpty()를 활용  
if (!TextUtils.isEmpty(temp)) {  
    size = temp.length();  
}
```

Java에서 null처리



NULL 처리미숙



JAVA vs Kotlin

```
// null을 포함 할 수 있는 temp var 변수이며, null로 초기화 합니다.  
var temp: String? = null  
  
// 다음과 같이 사이즈를 체크하게 됩니다.  
val size = temp?.length
```



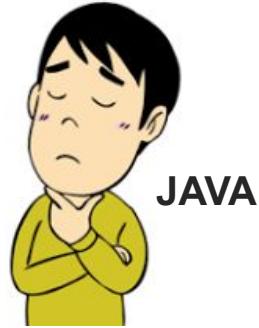
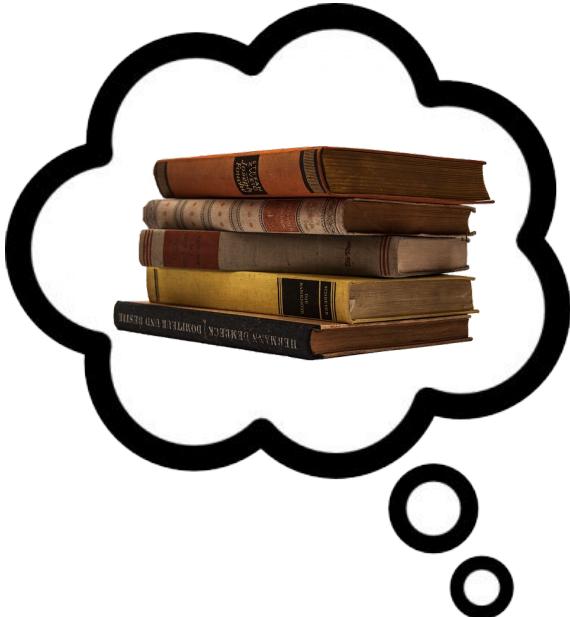
Null 이면 TRUE 를 반환
Size 값은 null로 처리
Null 이 아니면 False를 반환
Size 값은 length값으로 처리.

Kotlin에서의 null값 처리



타입 자동유추 가능.

JAVA vs Kotlin



JAVA





프로젝트 시작

Welcome to Xcode

Version 8.3.3 (8E3004b)



Create with a playground

Try new ideas quickly and easily.

Create a new Xcode project

Create an app for iPhone, iPad, Mac, Apple Watch or Apple TV.



Check out an existing project

Start working on something from an SCM repository.



0907

~/Dropbox/코딩/학습/Swift/Code/Playground



0906

~/Dropbox/코딩/학습/Swift/Code/Playground



0907

~/Dropbox/코딩/학습/Swift/Code/Project



0907

~/Dropbox/코딩/학습/Swift/코드



6

~/Dropbox/코딩/학습/Swift/코드



MyPlayground

~/Dropbox/코딩/학습/Swift/코드



ImageProcessor

~/Desktop

Open another project...

Choose a template for your new project:

iOS

watchOS tvOS macOS Cross-platform

Filter

Application



Single View
Application



Game



Master-Detail
Application



Page-Based
Application



Tabbed
Application



Sticker Pack
Application



iMessage
Application

Framework & Library



Cocoa Touch
Framework



Cocoa Touch
Static Library



Metal Library



템플릿 설정창 제공

Cancel

Previous

Next

Choose options for your new project:

Product Name:



Organization Name:

Organization Identifier

Swift

Objective-C

C++

Bundle Identifier

Language ✓ C

프로젝트 이름

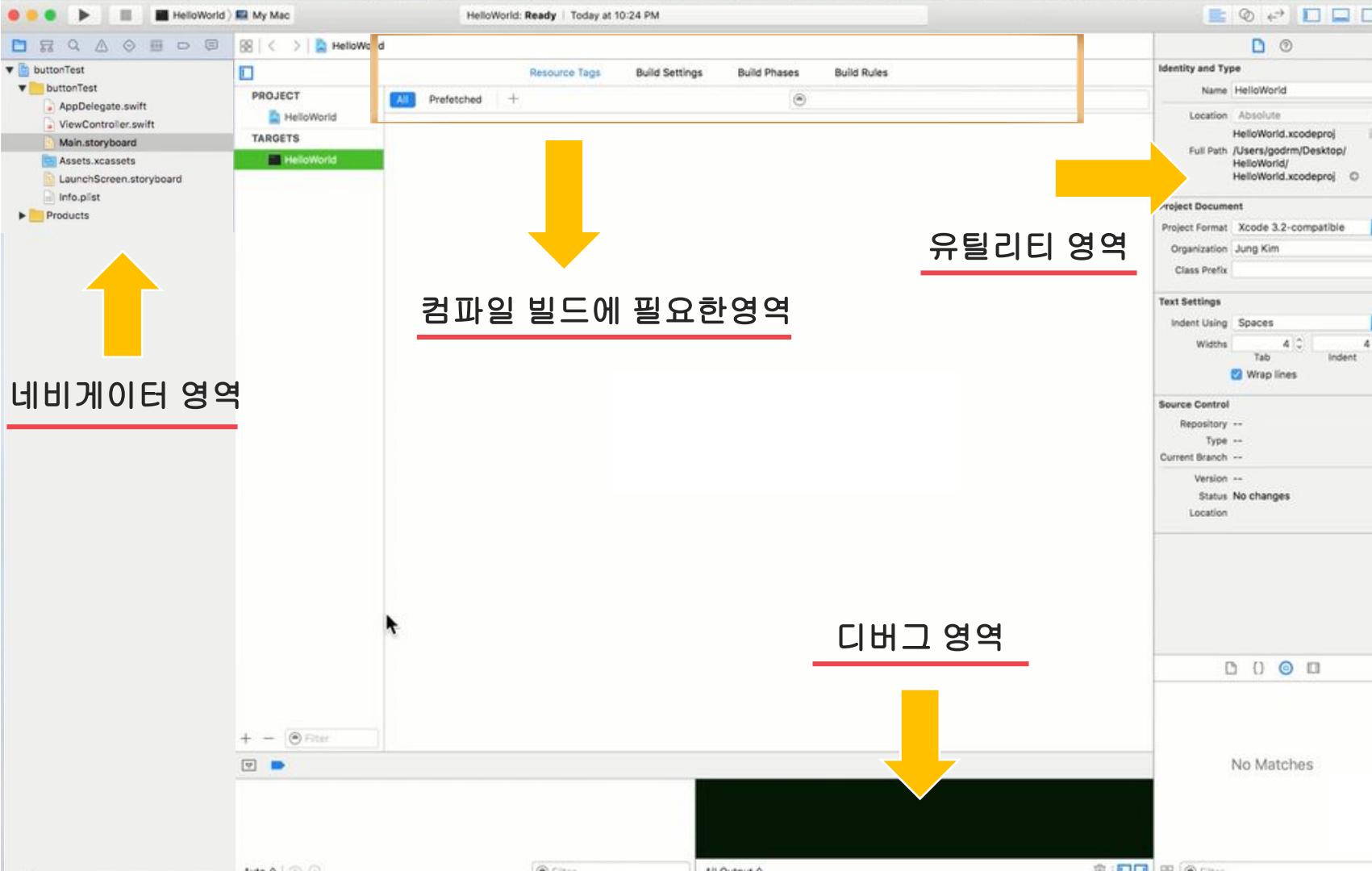


언어 선택

Cancel

Previous

Next



The screenshot shows the Xcode interface with the following details:

- Project Navigator:** Shows the project structure with files like AppDelegate.swift, ViewController.swift, Main.storyboard, Assets.xcassets, LaunchScreen.storyboard, and Info.plist.
- Document Outline:** Shows "View Controller Scene".
- Preview View:** Displays a blank iPhone SE simulator screen.
- Search Bar:** At the top right, it says "buttonTest: Ready | Today at 오전 8:04".
- Bottom Bar:** Includes buttons for Filter, View as: iPhone 6s (wC hR), zoom controls (76%), and other interface elements.

A large red arrow points downwards from the project structure towards the explanatory text below.

AppDelegate.swift : 코드가 작성되어 있는 파일(라이브러리)

ViewController : 화면 디자인에 대한 기능적인 부분을 처리(Swift)

Main.storyboard: 화면 디자인을 처리

LaunchScreen: 앱을 처음 시작할 때 나오는 LaunchScreen

Button - Intercepts touch events and sends an action message to a target object when it's tapped.

Segmented Control - Displays multiple segments, each of which functions as a discrete button.

Text Field - Displays editable text and sends an action message to a target object when Return is tapped.

Slider - Displays a continuous range of values and allows the selection of a single value.

UI 제공

The screenshot shows the Xcode interface with two main panes. On the left is the Project Navigator, showing the project structure with files like AppDelegate.swift, ViewController.swift, Main.storyboard, Assets.xcassets, LaunchS...storyboard, and Info.plist. The storyboard file Main.storyboard is selected. On the right is the Editor pane, showing the ViewController.swift code for the View Controller scene.

Main.storyboard:

- View Controller Scene
- View Controller
- Top Layout Guide
- Bottom Layout G...
- View
- L 가나다라마
- Button
- First Responder
- Exit
- Storyboard Entry Poi...

ViewController.swift:

```
// ViewController.swift  
// buttonTest  
//  
//  
//  
//  
//  
//  
//  
import UIKit  
  
class ViewController: UIViewController {  
    Insert Outlet or Outlet Collection  
  
    @IBOutlet weak var myLabel: UILabel!  
  
    @IBAction func buttonOnClick() {  
        myLabel.text = "안녕하세요!"  
    }  
  
    override func viewDidLoad() {  
        super.viewDidLoad()  
        // Do any additional setup after loading the  
        // view, typically from a nib.  
    }  
  
    override func didReceiveMemoryWarning() {  
        super.didReceiveMemoryWarning()  
        // Dispose of any resources that can be  
        // recreated.  
    }  
}
```

Text Overlay:

끌어다 쓰기 가능



Android Studio

Version 3.2.1

Start a new Android Studio project

Open an existing Android Studio project

Check out project from Version Control ▾

Profile or debug APK

Import project (Gradle, Eclipse ADT, etc.)

Import an Android code sample



프로젝트 시작

Choose your project

템플릿 설정창 제공

Phone and Tablet

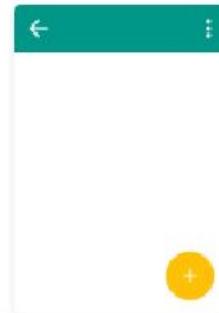
Wear OS

TV

Android Auto

Android Things

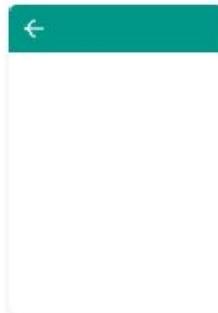
Add No Activity



Basic Activity



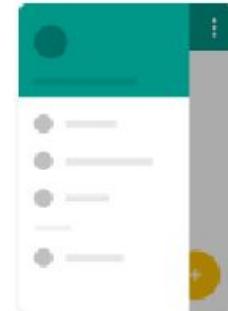
Fullscreen Activity



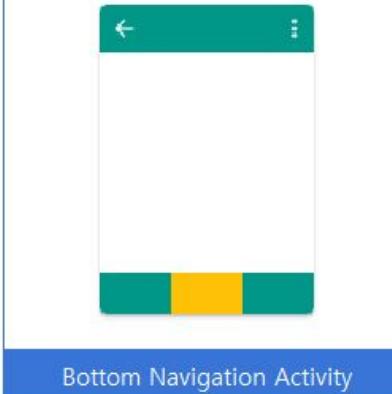
Empty Activity



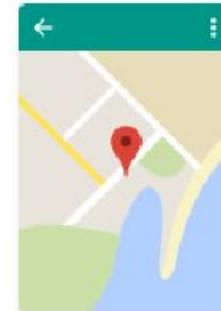
Master/Detail Flow



Navigation Drawer Activity

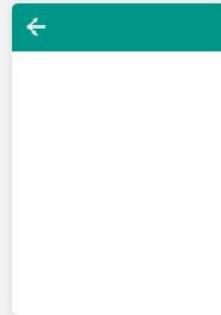


Bottom Navigation Activity



Google Maps Activity

Configure your project



Name
My Application

Package name
com.myapplication

Save location
C:\Hallym\5174\5174\MyApplication41

Language
Java

Minimum API level
API 23: Android 6.0 (Marshmallow)

Your app will run on approximately **62.6%** of devices.
[Help me choose](#)

This project will support instant apps

Use androidx.* artifacts

Creates a new empty activity

Previous Next Cancel Finish

프로젝트 이름

언어 선택

MyApplication41 app src main java com myapplication MainActivity

Android Project Resource Manager Favorites Structure Layout Captures

Gradle Scripts

Gradle Scripts

Sync

Build Variants

Build: Sync

My Application: synced successfully at 2019-10-04 오후 9:27

- Starting Gradle Daemon
- Run build C:\Hallym\5174\5174\MyApplication41
 - Load build
 - Configure build
 - Calculate task graph
 - Run tasks

Event Log

TODO Terminal Build Logcat

내비게이터 영역

네비게이터 영역

코드 구현 영역

빌드, 디버그 영역

연결된 디바이스 정보

시스템 자동화 도구

1 m 22 s 754 ms
12 s 690 ms
53 s 637 ms
7 s 185 ms
29 s 304 ms
457 ms
1 s 56 ms

Device File Explorer

MyApplication41 [C:\Hallym\5174\5174\MyApplication41] - ...#app#src#main#res#layout#activity_main.xml [app] - Android Studio

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

MyApplication41 app src main res layout activity_main.xml

Android Project Resource Manager Structure Favorites Build Variants Layout Captures

Palette Attributes

Common Ab TextView
Text Button
Buttons ImageView
Widgets RecyclerView
<fragment>
Layouts ScrollView
Containers Switch

No component selected.
Select a component in the Component Tree or on the Design Surface.

Component Tree

ConstraintLayout
Ab TextView - "Hello World!"

UI 제공

Design Text

Build: Sync successfully at 2019-10-04 오후 9:27

My Application: sync successfully at 2019-10-04 오후 9:27
Starting Gradle Daemon
Run build C:\Hallym\5174\5174\MyApplication41
Load build
Configure build
Calculate tasks graph
Run tasks

1 m 22 s 754 ms
12 s 690 ms
53 s 637 ms
7 s 185 ms
29 s 304 ms
457 ms
16 s 356 ms

Device File Explorer

manifets: 앱을 실행하기 위해 필요한 정보를 정의
java: 액티비티 동작을 코드로 구현
generated.java : java 폴더 저장위치
res: 액티비티 디자인 요소

Event Log

activity_main.xml BuildConfig.java MainActivity.java

```
5     android:layout_width="match_parent"
6     android:layout_height="match_parent"
7     tools:context=".MainActivity">
8
9     <LinearLayout
10        android:layout_width="match_parent"
11        android:layout_height="match_parent">
12         <TextView
13             android:layout_width="wrap_content"
14             android:layout_height="wrap_content"
15             android:text="Hello World!"
16             app:layout_constraintBottom_toBottomOf="parent"
17             app:layout_constraintLeft_toLeftOf="parent"
18             app:layout_constraintRight_toRightOf="parent"
19             app:layout_constraintTop_toTopOf="parent" />
20
21         <Button
22             android:id="@+id/novonsang"
23             android:layout_width="150dp"
24             android:layout_height="150dp"
25             android:text="안녕하세요"
26         />
27
28     </LinearLayout>
29
```

Preview

Palette

Pixel Q AppTheme 17% 8dp

아이디를 따로 생성

자바 코드 변수에 대입

Design Text



MyApplication41 app src main res layout activity_main.xml

Android Project Resource Manager Z-Structure Favorites Build Variants Layout Captures

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

app manifests AndroidManifest.xml java com.myapplication MainActivity com.myapplication (androidTest) com.myapplication (test) generatedJava com.myapplication BuildConfig com.myapplication.test res drawable layout activity_main.xml mipmap values Gradle Scripts

Palette Common Text Buttons Widgets Layouts Containers Google Legacy

activity_main.xml BuildConfig.java MainActivity.java

Attributes id <unnamed> Declared Attributes Layout

Component Tree ConstraintLayout LinearLayout(horizontal)

Design Text

Build: Sync

My Application: synced successfully at 2019-10-04 오후 9:27

Starting Gradle Daemon

Run build C:\Hallym\5174\5174\MyApplication41

Load build

Configure build

Calculate task graph

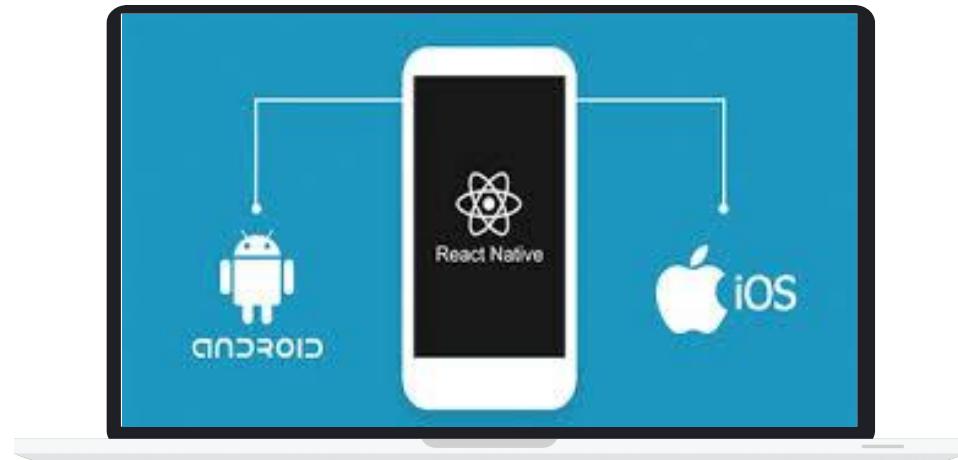
1 m 22 s 754 ms
12 s 690 ms
53 s 637 ms
7 s 185 ms
29 s 304 ms
457 ms

The screenshot shows the Android Studio interface for a project named "MyApplication41". The left sidebar displays the project structure, including the app module with its manifest, Java files (MainActivity, androidTest, test), generated Java code, and resources like drawables and layouts. The "layout" folder contains "activity_main.xml". The main workspace shows the XML editor for "activity_main.xml", which defines a ConstraintLayout containing a single blue rectangular view. The palette on the left lists various UI components like Button, ImageButton, CheckBox, RadioGroup, RadioButton, ToggleButton, Switch, and FloatingActionButton. The bottom status bar indicates the build was successful at 2019-10-04 9:27, and the bottom right shows the current time as 11:22 on 2019-10-04.



RN Structure

JAVA 스크립트 기반



RN 2Way dev

Expo CLI

- 배포가 편하다
- Mac이 없이도 iOS 개발이 가능하다.
- Android studio / Xcode 없이도 개발 가능하다
- 빠르고 간단하게 프로젝트 설치가 가능하다

React Native CLI

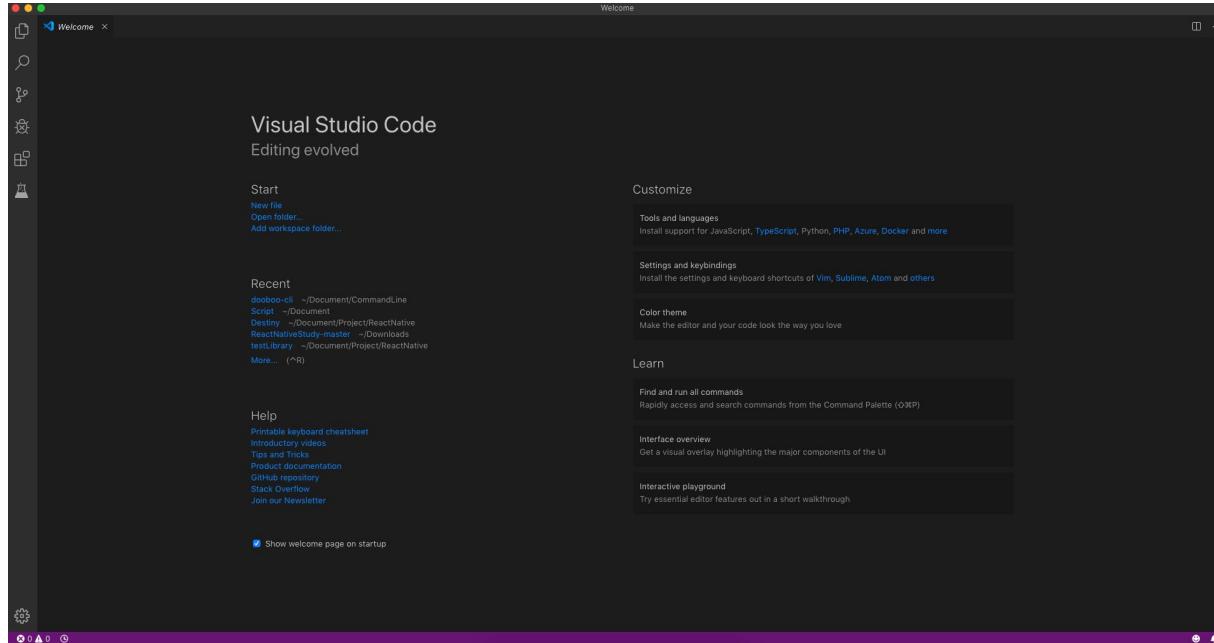
- 네이티브 언어로 작성된 모듈을 사용 할 수 있다.

- 네이티브 언어로 작성된 모듈을 사용 할 수 없다.
- expo 클라이언트에서 잘되지만 디바이스에서 안될 수도 있다.

- 설정에 시간이 걸린다.
- Mac이 없이 개발 할 수 없다.(iOS)



RN 개발환경



VS CODE



RN 개발환경 세팅

npm 설치

The screenshot shows the official Node.js website. At the top, there's a navigation bar with links: HOME, ABOUT, DOWNLOADS, DOCS, GET INVOLVED, SECURITY, NEWS, and FOUNDATION. The FOUNDATION link is highlighted with a green box. Below the navigation, a large heading says "Node.js® is a JavaScript runtime built on Chrome's V8 JavaScript engine." Underneath, there are two prominent green buttons: "10.16.3 LTS" (Recommended For Most Users) and "12.11.1 Current" (Latest Features). A large red arrow points from the "10.16.3 LTS" button towards the terminal window on the right.

A screenshot of a macOS terminal window titled "nowonsang — bas". The command "npm -v" was run, resulting in the output "6.11.3". The terminal window has a dark theme with light-colored text.

react-native-cli 설치

```
npm install -g react-native-cli
```

RN 개발환경 세팅

JVM SDK 연결

```
export ANDROID_HOME=~/Library/Android/sdk  
export PATH=${PATH}: ${ANDROID_HOME}/tools  
export PATH=${PATH}: ${ANDROID_HOME}/platform-tools
```

Project 생성 및 실행

```
react-native init AwesomeProject  
cd AwesomeProject  
react-native run-android
```

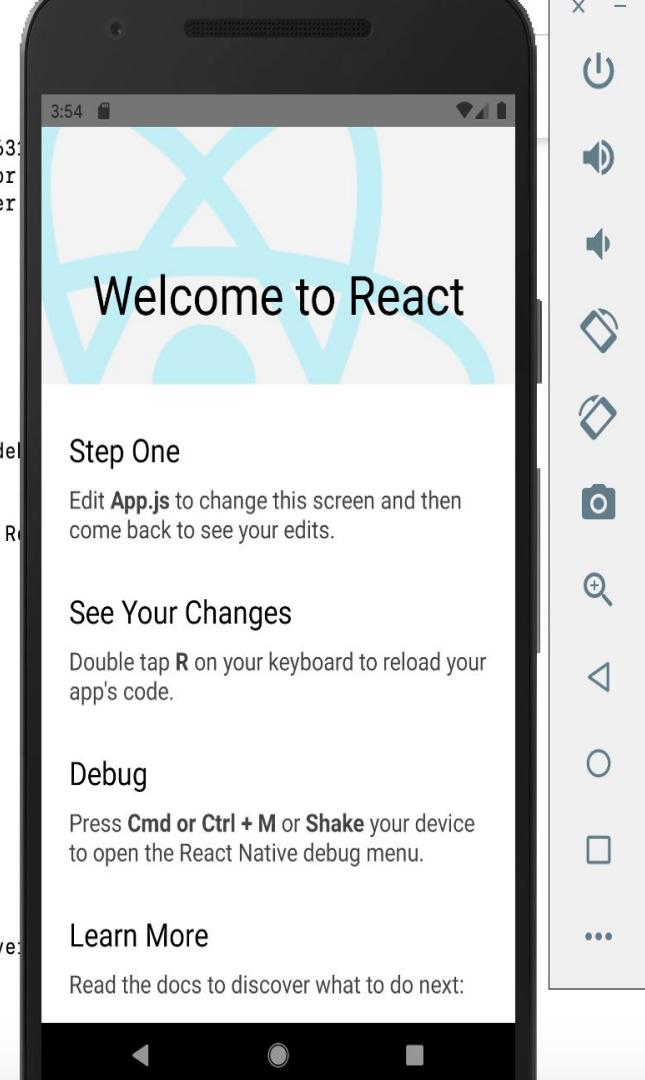


```
nowonsacBookPro:AwesomeProject nowonsang$ react-native run-android
info Running jetifier to migrate libraries to AndroidX. You can disable it using "--no-jetifier" flag.
Jetifier found 863 file(s) to forward-jetify. Using 4 workers...
info JS server already running.
info Installing the app...
/Users/nowonsang/.gradle/caches/modules-2/files-2.1/com.squareup.okhttp3/okhttp/3.12.1/dc6d02e4e68514eff563:2ac69efe/okhttp-3.12.1.jar: D8: Type `org.conscrypt.Conscrypt` was not found, it is required for default or rface methods desugaring of `java.security.Provider okhttp3.internal.platform.ConscryptPlatform.getProvider

> Task :app:installDebug
03:42:21 V/ddms: execute: running am get-config
03:42:21 V/ddms: execute 'am get-config' on 'emulator-5554' : EOF hit. Read: -1
03:42:21 V/ddms: execute: returning
Installing APK 'app-debug.apk' on 'Nexus_5X_API_29_x86(AVD) - 10' for app:debug
03:42:21 D/app-debug.apk: Uploading app-debug.apk onto device 'emulator-5554'
03:42:21 D/Device: Uploading file onto device 'emulator-5554'
03:42:21 D/ddms: Reading file permission of /Users/nowonsang/AwesomeProject/android/app/build/outputs/apk/de g.apk as: rw-r--r--
03:42:22 V/ddms: execute: running pm install -r -t "/data/local/tmp/app-debug.apk"
03:42:25 V/ddms: execute 'pm install -r -t "/data/local/tmp/app-debug.apk"' on 'emulator-5554' : EOF hit. R
03:42:25 V/ddms: execute: returning
03:42:25 V/ddms: execute: running rm "/data/local/tmp/app-debug.apk"
03:42:25 V/ddms: execute 'rm "/data/local/tmp/app-debug.apk"' on 'emulator-5554' : EOF hit. Read: -1
03:42:25 V/ddms: execute: returning
Installed on 1 device.

Deprecated Gradle features were used in this build, making it incompatible with Gradle 6.0.
Use '--warning-mode all' to show the individual deprecation warnings.
See https://docs.gradle.org/5.5/userguide/command\_line\_interface.html#sec:command\_line\_warnings

BUILD SUCCESSFUL in 1m 27s
27 actionable tasks: 27 executed
info Connecting to the development server...
adb: error: cannot bind listener: Operation not permitted
warn Failed to connect to development server using "adb reverse": Command failed: adb -s emulator-5554 reverse tcp:8081
info Starting the app on "emulator-5554"...
Starting: Intent { cmp=com.awesomeworkflow/.MainActivity }
nowonsacBookPro:AwesomeProject nowonsang$
```



Version 1.38 is now available! Read about the new features and fixes from August.

Download Visual Studio Code

Free and built on open source. Integrated Git, debugging and extensions.



 Windows

Windows 7, 8, 10



 .deb

Debian, Ubuntu

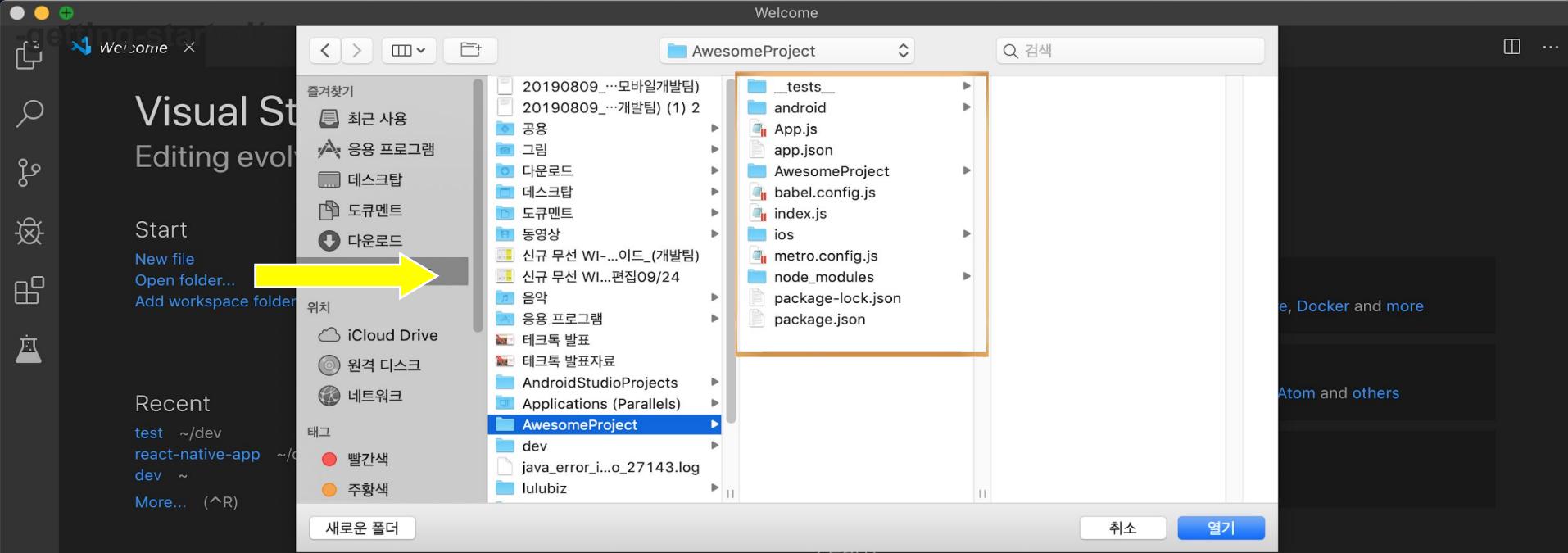


 Mac

macOS 10.10+

VS code 다운





Help

[Printable keyboard cheatsheet](#)
[Introductory videos](#)
[Tips and Tricks](#)
[Product documentation](#)
[GitHub repository](#)
[Stack Overflow](#)
[Join our Newsletter](#)

Show welcome page on startup

Find and run all commands

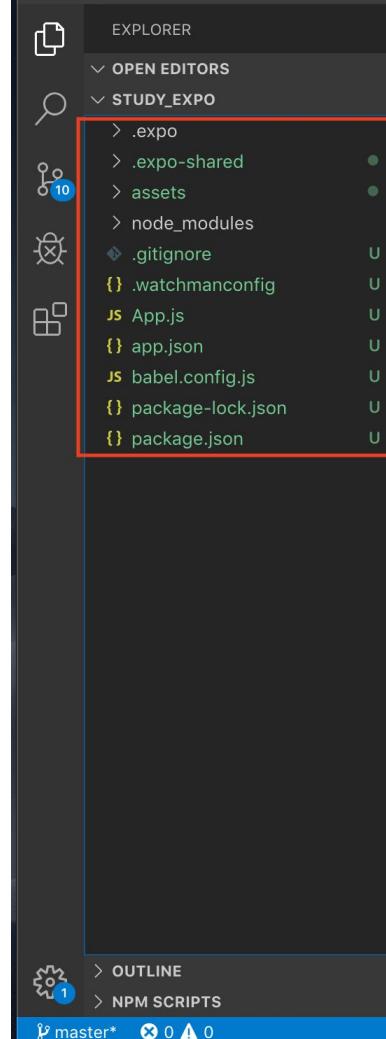
Rapidly access and search commands from the Command Palette (⌃⌘P)

Interface overview

Get a visual overlay highlighting the major components of the UI

Interactive playground

Try essential editor features out in a short walkthrough



JAVA 스크립트 기반



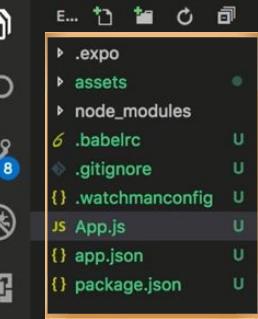
Show All Commands ⌘ ⌘ P

Go to File ⌘ P

Find in Files ⌘ ⌘ F

Start Debugging F5

Toggle Terminal Unbound



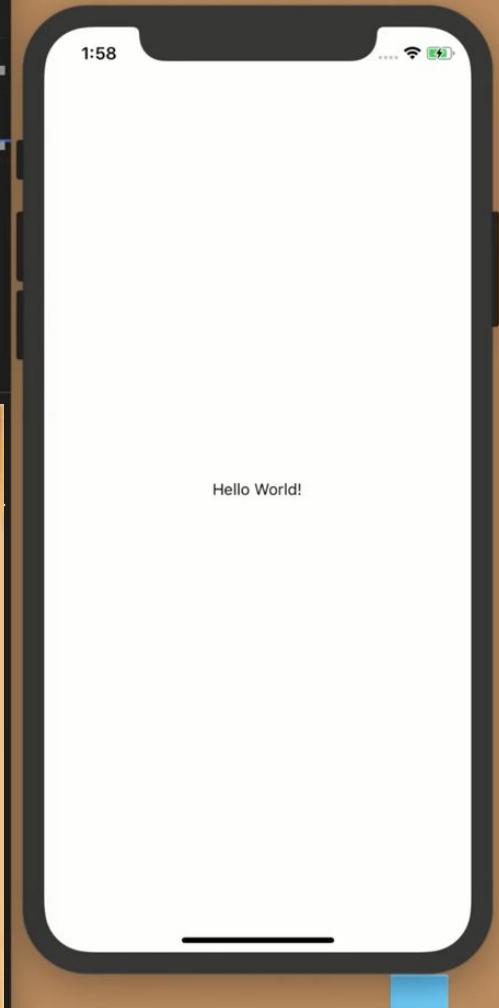
```
1 import React from 'react';
2 import { StyleSheet, Text, View } from 'react-native';
3
4 export default class App extends React.Component {
5   render() {
6     return (
7       <View style={styles.container}>
8         <Text>Hello World!</Text>
9       </View>
10    );
11  }
12 }
13
14 const styles = StyleSheet.create({
15   container: {
16     flex: 1,
17     backgroundColor: '#fff',
18   },
19 });
20 
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL 1: zsh

```
app-navigation-tutorial react-native run-android
```



Hello World!



요약

- * 1. react native를 설치하기 위해 node.js를 설치합니다.(npm 설치)
- *2. npm install -g react-native-cli 명령을 통해 react-native를 설치합니다.
- *3. react-native init ProjectName 꼴로 프로젝트를 생성할 수 있습니다.
- *4. 가상 디바이스를 실행하기 위해서는 Android Studio와 Xcode 설치가 선행되어야 합니다.
- *5. react-native run-ios 명령으로 프로젝트를 실행할 수 있습니다.(안드로이드는 미리 가상 디바이스를 실행해야 합니다.)





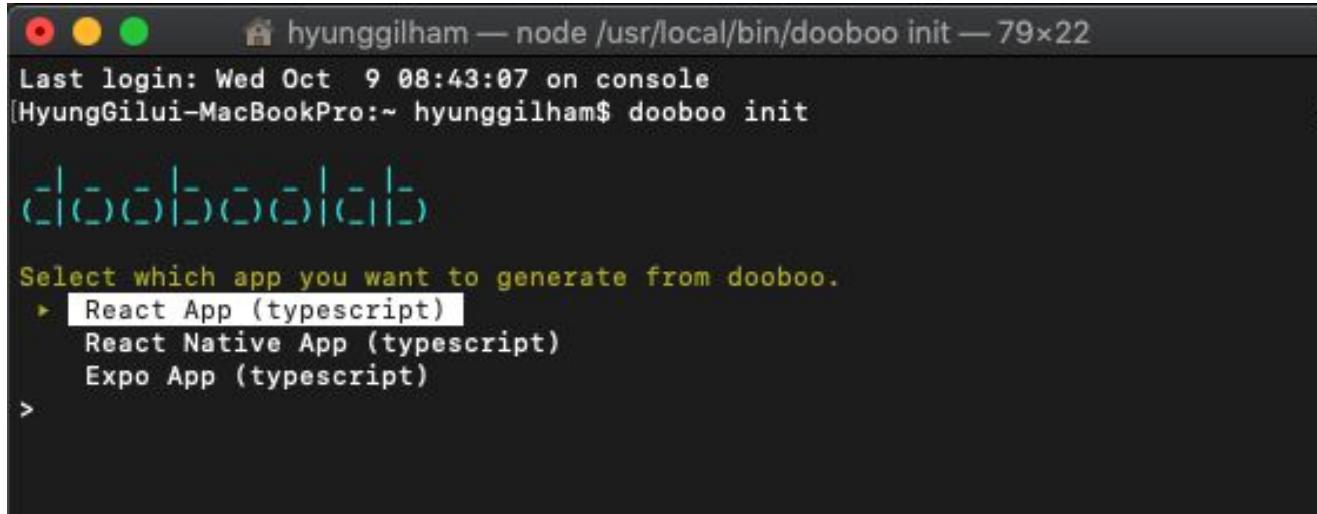
**THANK
YOU**



참고 문헌

- <https://railsware.com/blog/react-native-vs-native-app-development-ios-and-android-in-one-go/>
- <https://medium.com/the-react-native-log/comparing-the-performance-between-native-ios-swift-and-react-native-7b5490d363e2>
- https://medium.com/@dan_kim/%EB%B2%88%EC%97%AD-flutter%EB%8A%94-%EC%99%9C-%ED%98%81%EB%AA%85%EC%A0%81%EC%9D%B8%EA%B0%80-967c1dfcc5a9

RN 개발환경



```
hyunggilham — node /usr/local/bin/dooboo init — 79x22
Last login: Wed Oct  9 08:43:07 on console
[HyungGilui-MacBookPro:~ hyunggilham$ dooboo init

Select which app you want to generate from dooboo.
▶ React App (typescript)
  React Native App (typescript)
  Expo App (typescript)
>
```

- React-Native Seoul - DooBooLabs 의 CLI Tools
- CLI로 간편하게, 프로젝트 셋팅
- Open source 이므로 커스텀해서 사용
- npm 으로 간단하게 설치 (npm install -g dooboo-cli)



RN 개발환경

React-native-code-push

- **script, resource** 의 수정은 별도의 마켓 업로드 없이 업데이트 할 수 있다.
- 네이티브에서 변화 한것은 빌드를 마켓에 업로드 해야 한다.
- 저장공간은 **github, microsoft azura** 중에서 사용하면된다.

