

Mobile Applications Development



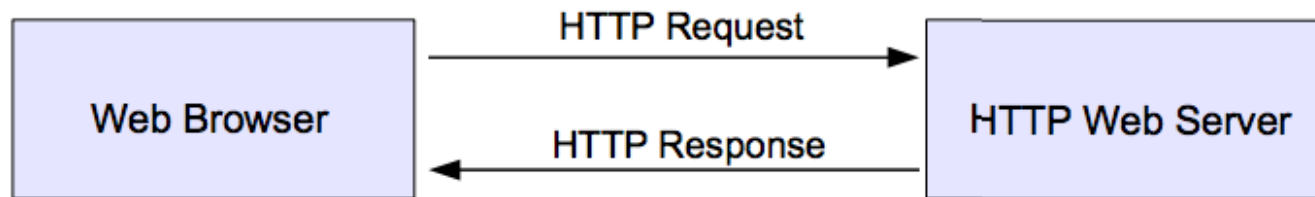
www.LifeMichael.com

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2. Rapid Applications Development
3. The Hybrid Application Advantages
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6. Future Mobile Operating Systems
7. Summary, Questions & Answers

Web Applications

- HTML, CSS, JavaScript, Ajax, HTML5, jQuery, jQuery Mobile, Mootools, AngularJS, Sencha Touch, Google Charts API etc...



Native Applications

- Java



- Objective C



- C#, F# and VB.NET



- C++



Hybrid Applications

- The hybrid mobile application is a relatively small native application that includes a small component that functions as a web browser.



application

webkit

www.webkit.org

Web Browser

Hybrid Applications

- The code written in Java Script running within the native application web browser component can invoke functions that belong to the native part.



TRIGGER.IO

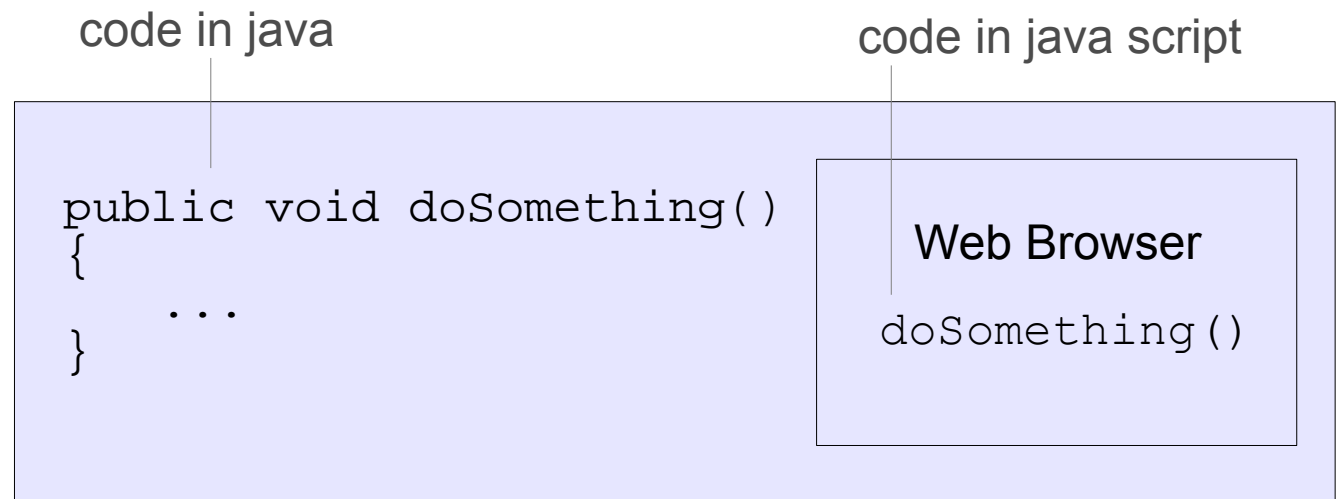


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RAD Tools

- We can either have a direct control over the code running on the android platform or take the easy way.

Basic4Android (www.basic4ppc.com)

RAD Studio XE2 (www.embarcadero.com)

Tiggzi (www.tiggzi.com)

Dragon RAD (www.dragonrad.com)

RAD Tools

Appcelerator (www.appcelerator.com)

Adobe Flash (www.adobe.com)

MoSync (www.mosync.com)

Unity 3D (www.unity3d.com) *

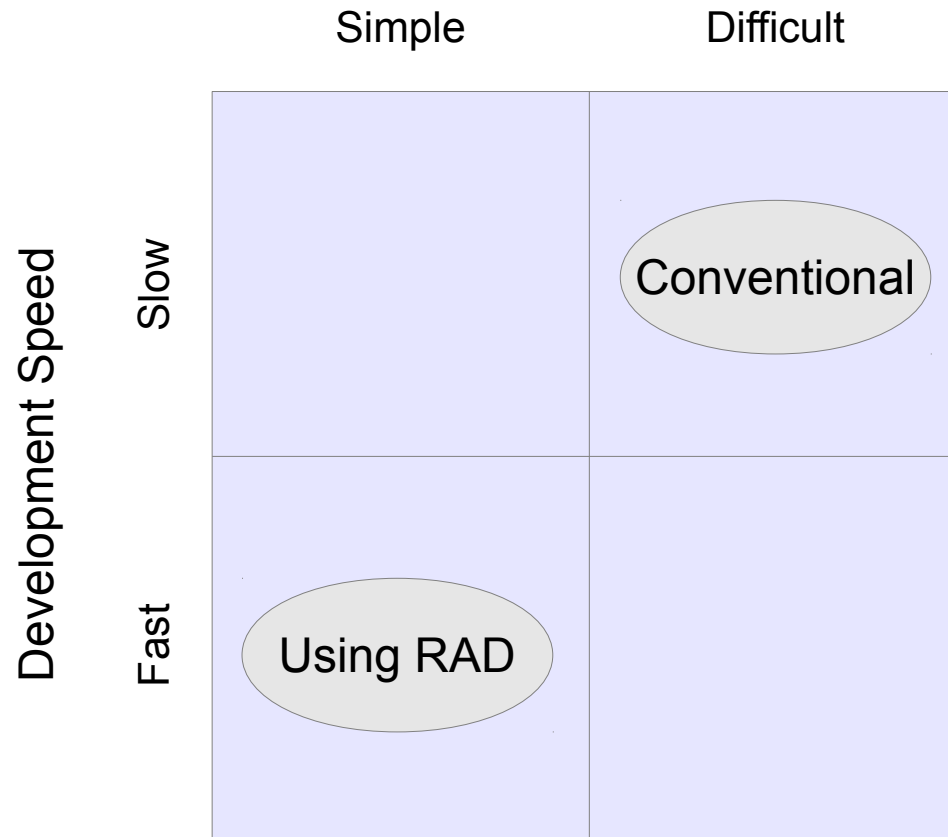
Stencyl (www.stencyl.com)

Corona (www.coronalabs.com)

Shiva 3D (www.stonetrip.com) *

RAD Tools

Learning Curve



RAD Tools

Development Capabilities

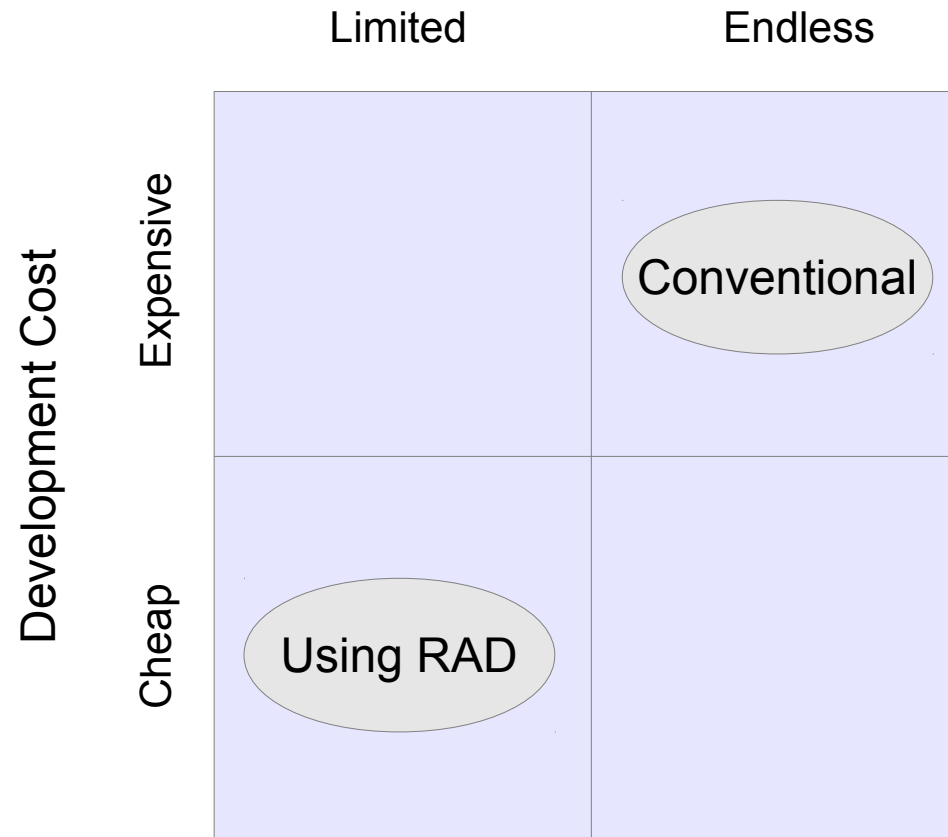


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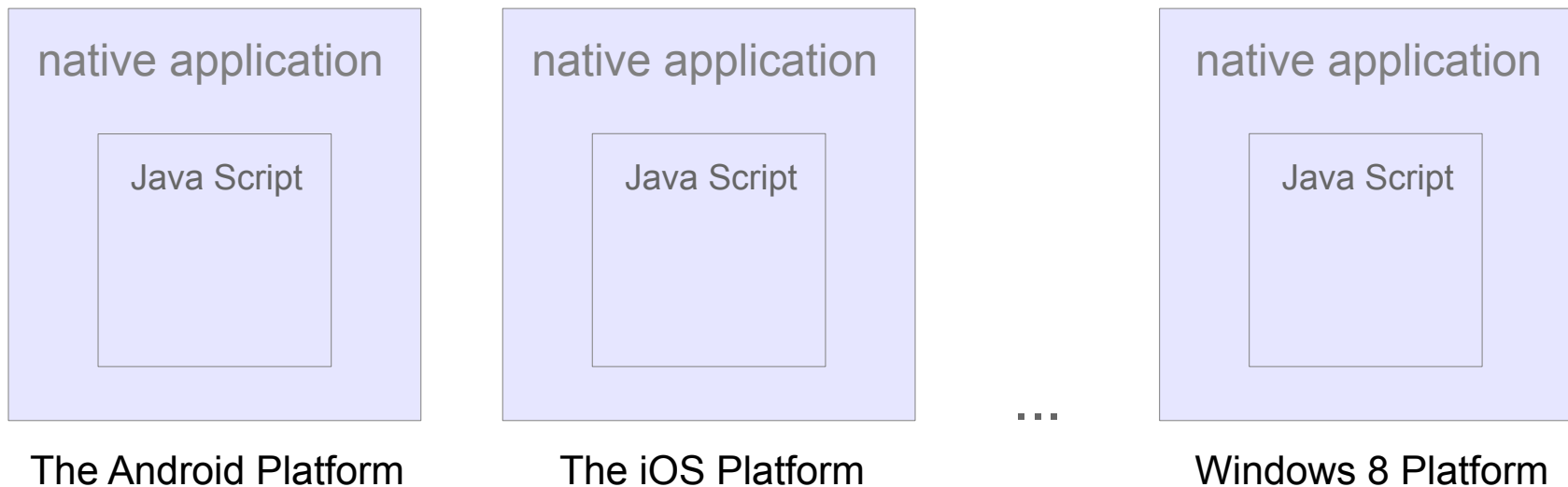
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Hybrid Applications Advantages

- In most cases the question isn't whether to go with the hybrid option. In most cases the question is which parts should be developed using web technologies and which parts should be native.

Hybrid Applications Advantages

- One code written in Java Script is been used on all platforms



Hybrid Applications Advantages

- The user interface developed using JavaScript libraries is rich and easy to develop!



www.jquerymobile.com



www.sencha.com



www.kendoui.com

Simple UI Development



codiqa

www.codiqa.com

Hybrid Applications Advantages

- The mature web technologies might be a solution for the fragmentation problem!

CSS Media Queries

Java Script Libraries

HTML5

Hybrid Applications Advantages

```
@media screen and (max-width: 960px)
{
    body
    {
        background-color: rgba(255, 0, 0, 0.34);
        ...
    }
    ...
}
@media screen and (max-width: 768px)
{
    body
    {
        background-color: rgba(255, 165, 0, 0.19);
        ...
    }
    ...
}
```

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The Application Native Parts

- Every interaction with the mobile telephone platform must be written in native code, either directly or indirectly using Java Script libraries as PhoneGap.



The Application Native Parts

- Some of the user interface components better be developed in a native way (e.g. on the android platform: menu, dialog, notification messages, action bar, optimized user interface using fragments...).

The Application Native Parts

- We better develop the code executed in the background in a native way.

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Native Application Cases

- When deploying the application on relatively lower end devices we might want to avoid the hybrid option for performance reasons.

Native Application Cases

- When developing an application that doesn't include parts we could develop using web technologies (e.g. on android: application that includes live wallpaper only, application that includes an app widget only, application running on the background...).

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Future Operating Systems

- Operating systems that allow simple applications development in HTML5 and provide easy access to the mobile telephone platform using simple code written in Java Script.



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Summary, Questions & Answers

Two courses you might find interesting!

PHP Cross Platform Mobile Applications

Android Java Applications Development

Thanks for your time!

Haim.