

# **Mobile Application Development and Integration With SharePoint**

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# About Me

- 6 Time SharePoint Server MVP
- SharePoint MCM – BCS Author and Instructor
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# Agenda

- Mobile application patterns
- Cross device compatibility
- Accessing SharePoint data
- Authentication and authorization

# Responsive Designs

- Dynamically adapt to the size of the device screen
- HTML5 / CSS3
  - Media queries

```
/* Viewing area less than 600 pixels */  
@media screen and (max-width: 600px) {  
  .class {  
    width: auto;  
    margin: 20px;  
    float: none;  
  }  
}
```

```
/* iPhone */  
@media screen and (max-device-width: 480px) {  
  .class {  
    width: auto;  
    margin: 20px;  
    float: none;  
  }  
}
```

```
/* Viewing area greater than 600 pixels */  
@media screen and (min-width: 600px) {  
  .class {  
    width: auto;  
    margin: 20px;  
    float: none;  
  }  
}
```

```
/* iPhone 4 */  
@media screen and (-webkit-min-device-pixel-ratio: 2) {  
  .class {  
    width: auto;  
    margin: 20px;  
    float: none;  
  }  
}
```

# Demo

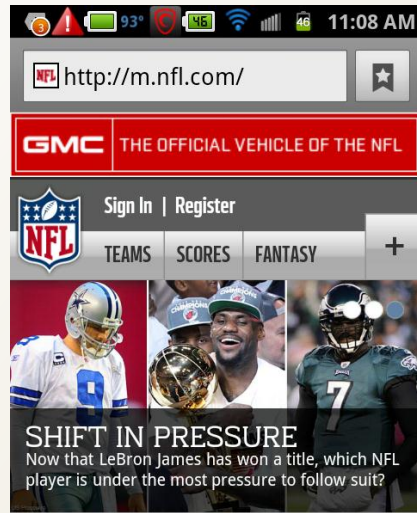
- See how a responsive design works when applied to a SharePoint publishing site.
  - <http://www.canviz.com/sites/responsive>

# Mobile enabled web sites

– Web sites specifically designed for mobile devices

Samsung Galaxy S II

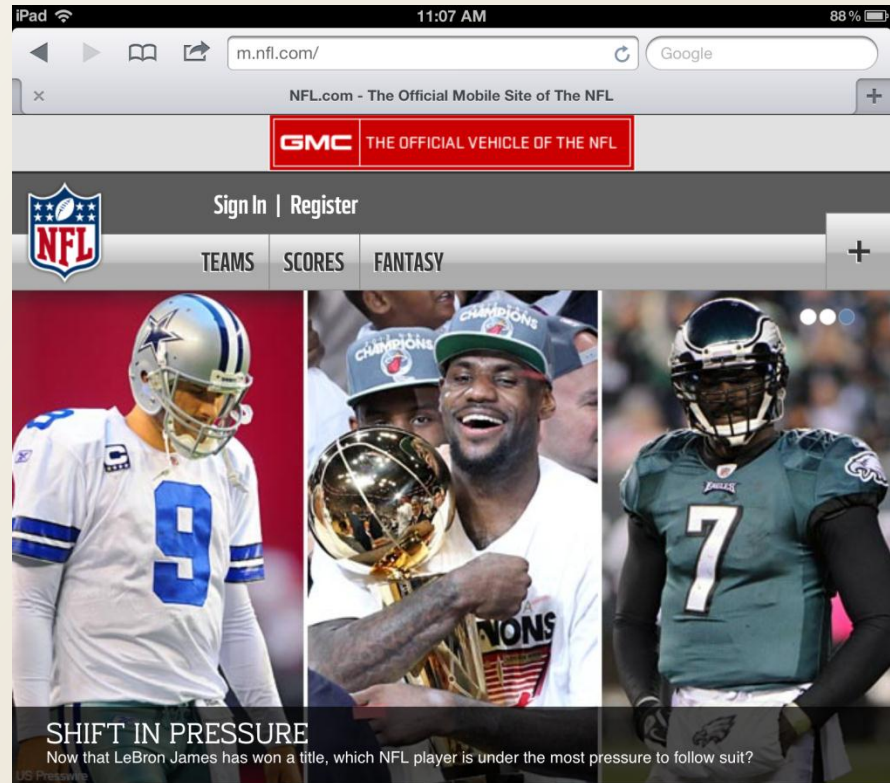
The new iPad



### LATEST NEWS

#### Report: Browns not interested in trading for Packers WR Jones

After bringing on Brandon Weeden and Trent Richardson, the Browns have made it clear



### LATEST NEWS

# Native mobile applications

- Try to tie style to device platform
  - Defined design / usability guidelines



# Native mobile applications

- Known / limited target devices
  - Corporate scenarios
- Pros
  - Easier to style to specific devices
  - Native code debugging
    - Need functionality / API access which a cross device compatible approach does not facilitate
      - Games are a good example
- Cons
  - Cost
    - Initial development
    - Maintenance
  - Deep expertise required



# Demo

- See native WP7 applications querying SharePoint list data with web services, REST APIs, and syndication feeds.

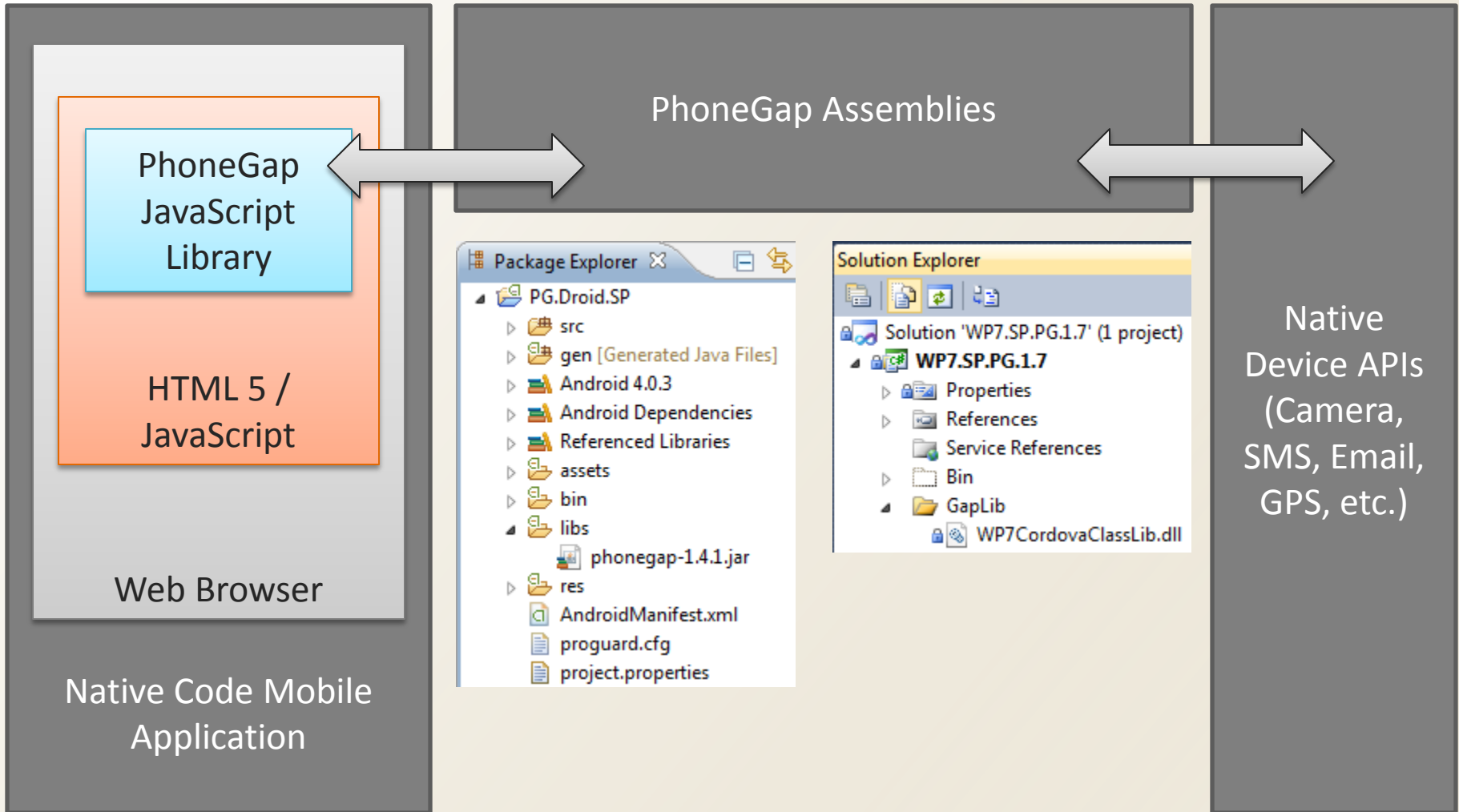
# Cross device compatible mobile applications

- Multiple target devices
- Pros
  - Cost
    - Initial development
    - Maintenance
  - Deep expertise in native device code not required
  - Automated build services
- Cons
  - More difficult to debug
  - May not support all functionality / API access which the application requires
    - Again, games are a good example

# Cross device compatible mobile applications

- Application style not tied to device platform (typically)
  - This can be accomplished with custom code
  - Hardware differences drive UI design
- HTML5 / JQuery / CSS3
  - Supporting frameworks
    - JQuery Mobile
    - Knockout JS (MVVM)
    - Etc.
- Wrapper
  - PhoneGap / Sencha Touch / more...

# Wrappers (PhoneGap Example)



# Demo

- See cross device compatible applications...
  - Querying SharePoint list data with ASMX web services and REST APIs.
  - Searching for data in SharePoint with the SharePoint Search Service.
  - Displaying charts and graphs from Excel Services via the Excel Services REST APIs.

# AuthN and AuthZ

- Options
  - FBA
    - Secure your communication channel!
    - Authentication.asmx
  - UAG
    - Allows you to use NTLM credentials
    - Pass credentials in headers
    - UAG authenticates you against Active Directory
    - UAG returns a cookie to your application
  - Redirection
    - Use SharePoint's login form
    - After authentication, redirecting back to your mobile app can be tricky!

# Demo

- See how to authenticate to SharePoint from a mobile app with...
  - FBA
  - Redirection

# Resources

- Whitepaper – Building Windows Phone 7 applications with SharePoint 2010 Products and Unified Access
  - <http://technet.microsoft.com/en-us/library/hh180841.aspx>
- SharePoint 2010 and Windows Phone 7 Training Course
  - <http://msdn.microsoft.com/en-us/SharePointAndWindowsPhone7TrainingCourse>
- Creating Cross-Device Compatible Mobile Applications that Integrate with SharePoint
  - <http://www.sharepointpromag.com/content1/topic/sharepoint-crossdevice-compatible-mobile-applications-142911/catpath/collaboration>



# Thank You

Thanks for attending the session today, I hope you learned some things you can use in your projects!

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