

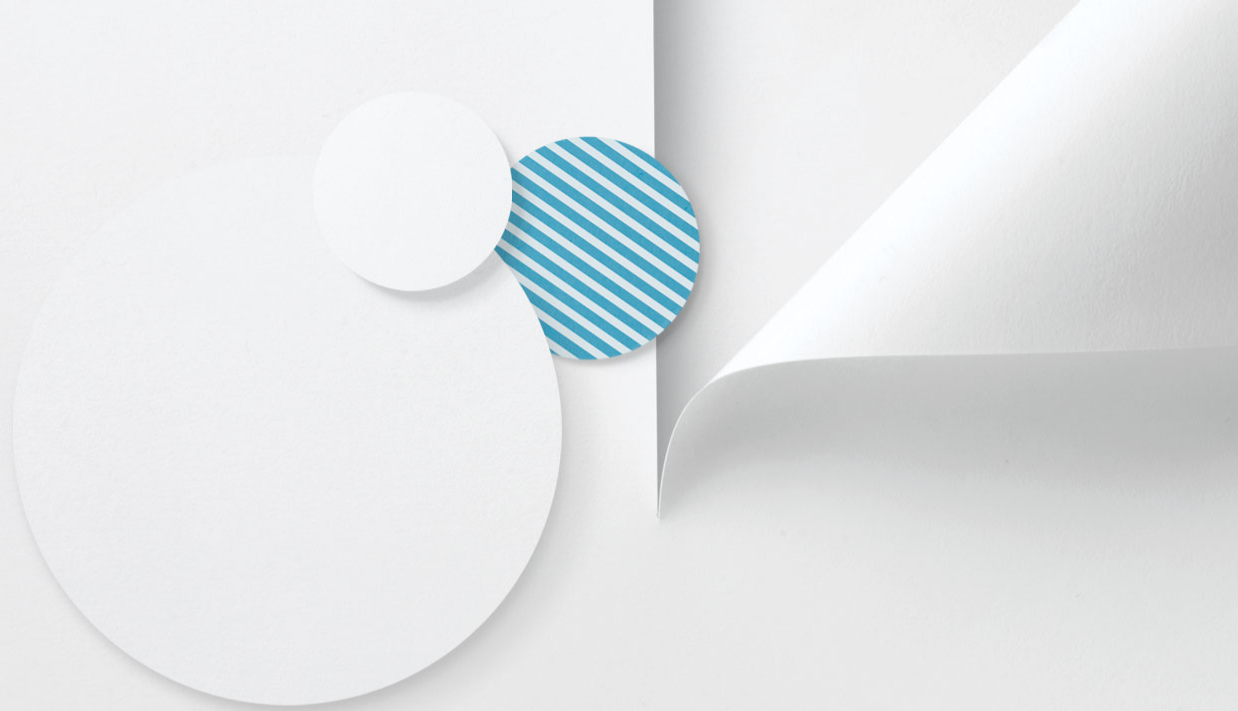
Porting Existing PhoneGap Apps to Tizen OS

- Development Story

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ProKarma

TIZENTM
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2013
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About ProKarma...

Who am I?

- **Anil Kumar Yanamandra**
- **Mobile Architect & Head – CoE for Mobility**
- **@ProKarma**
 - Mobile Application Development: B2C, B2B
 - Native (iOS, Android, BlackBerry), Hybrid, Mobile Web apps/sites
 - Custom MDM solutions
 - Mobile Dev Governance: Coding standards, Best practices
 - Mobile Consulting: Native or Hybrid or Web? Requirements driven architecture
 - R & D

Agenda

- **What is PhoneGap?**
- **Our porting experiment**
- **Changes and issues**
- **Demo**
- **Lessons learnt**

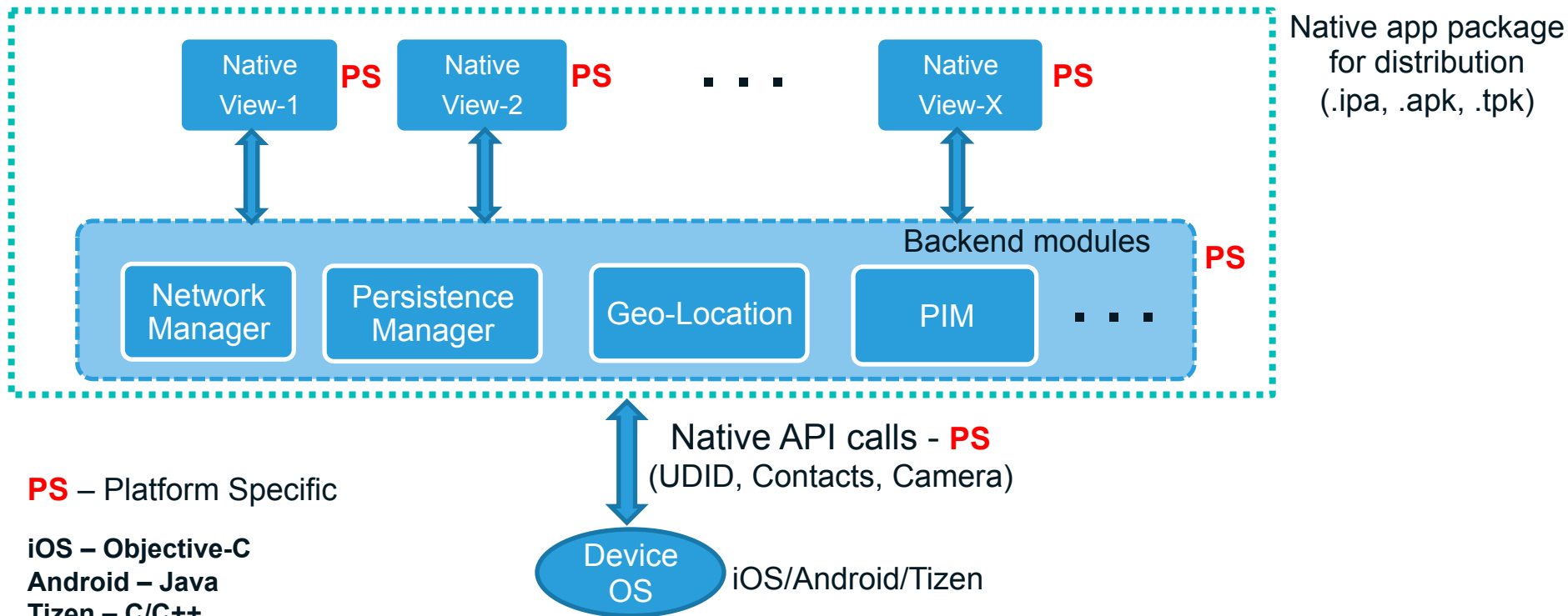


What is PhoneGap BTW?

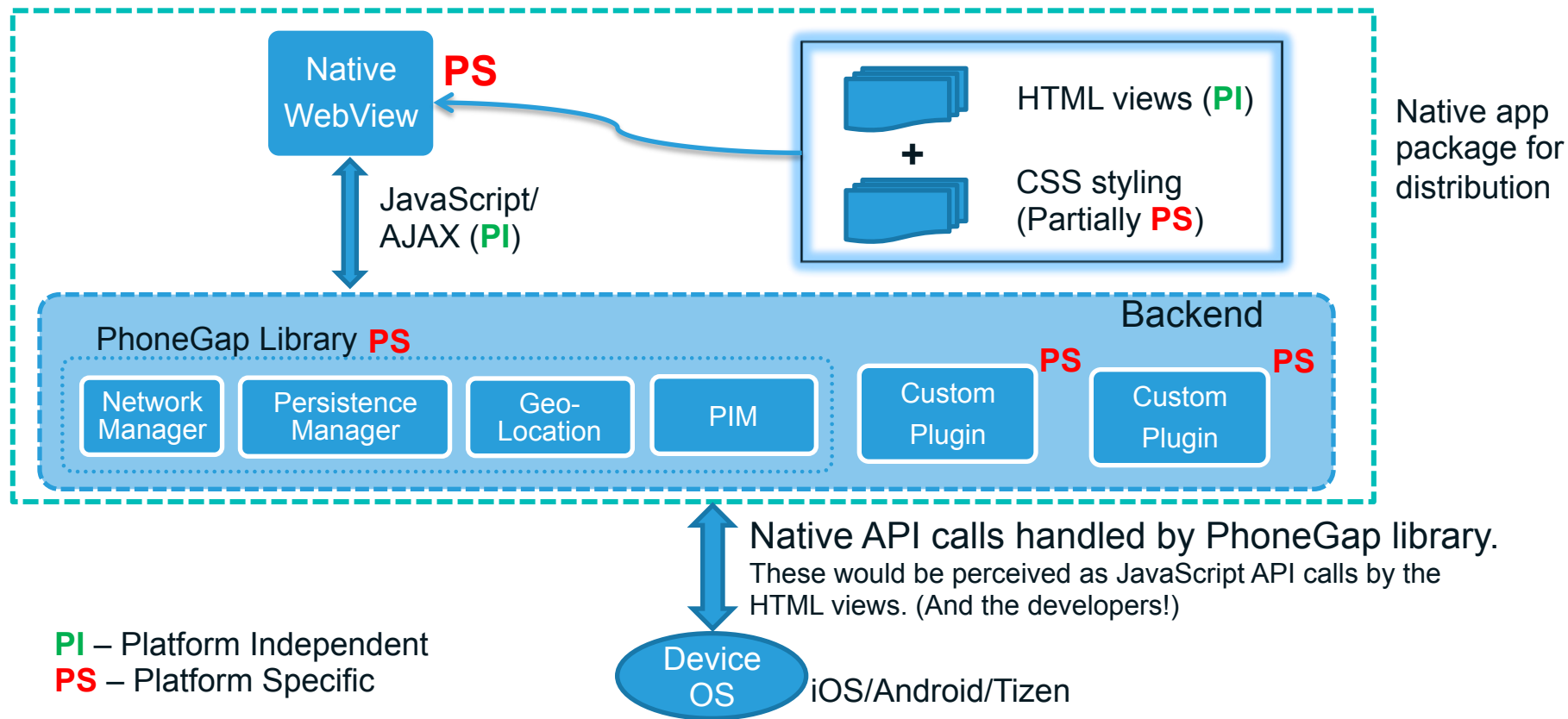
PhoneGap

- **Open-source**
- **Cross-platform**
- **Web standards based**
- **Mobile App Development Framework**
- **Access native features via Web APIs**
- **Pure backend framework: Works with any web UI framework**
- **Extensible: Add custom features**

Typical Mobile App Architecture – Native



Typical Mobile App Architecture – PhoneGap



Interesting. But why bother when I have Tizen Web API?

- Code Reuse!
- Single codebase across platforms

Platform	Native	PhoneGap
Android	<pre>TelephonyManager mTelephonyMgr = (TelephonyManager) context.getSystemService(Context.TELEPHONY_SERVICE); String deviceId = mTelephonyMgr.getDeviceId();</pre>	<pre>var deviceId = device.uuid;</pre>
iOS	<pre>NSString deviceId = [[UIDevice currentDevice] uniqueIdentifier];</pre>	<pre>var deviceId = device.uuid;</pre>
Tizen	<pre>String deviceId; SystemInfo::GetValue(http://tizen.org/system/duid, deviceId);</pre>	<pre>var deviceId = device.uuid;</pre>



Our porting experiment

Automobile shipment app

- **Use-case:** Ship vehicles from the comfort of your mobile device
- **Features:**
 - ✓ Role based User Registration
 - ✓ Scan VIN barcode to auto input Year, Make, Model
 - ✓ Get Quote
 - ✓ Save Quote
 - ✓ Place an Order
 - ✓ Pay by Credit Card
 - ✓ Track Orders
 - ✓ Map shipment locations
 - ✓ Review orders

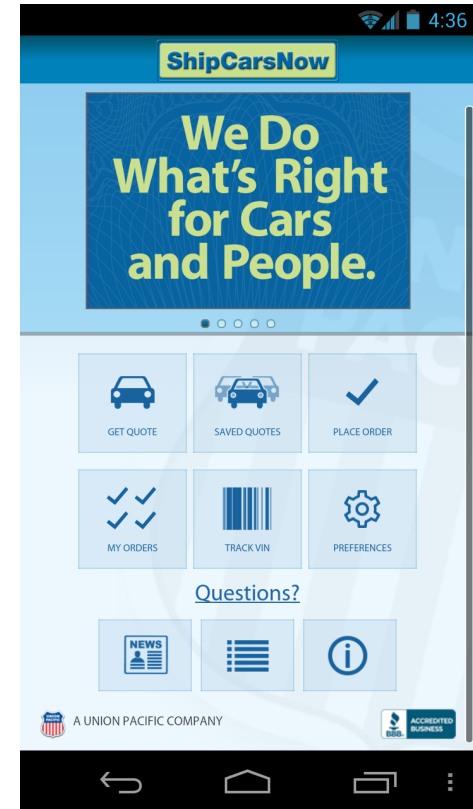
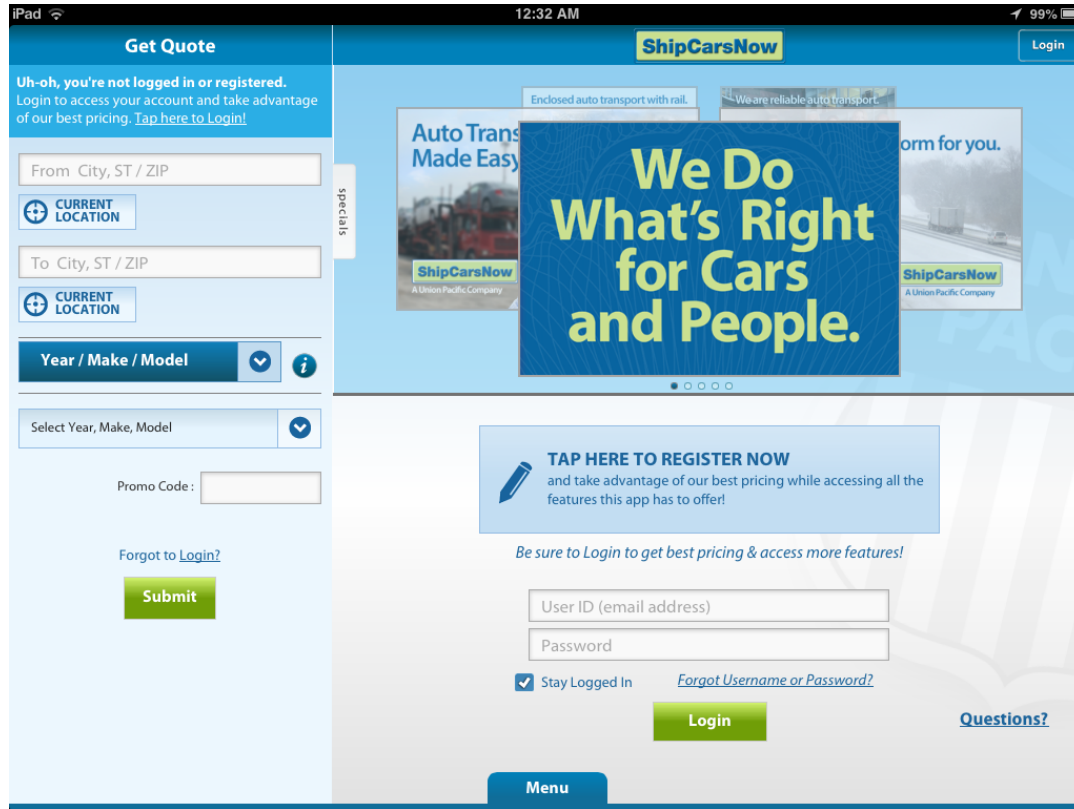
Tech Details

- **Platform support:**
 - ✓ iOS: iPad and iPhone
 - ✓ Android: Tablet and Smartphone
 - ✓ BlackBerry 10
- **Tech Stack:**
 - Native shell
 - PhoneGap
 - HTML5 stack: HTML/CSS3/JavaScript
 - AJAX
 - Only “Native” feature: VIN scanner

JavaScript libraries used



Screencaps: Tablet and Smartphone apps



Porting to Tizen OS: Changes

- **Extract web codebase from the Android/iOS PhoneGap project**
- **Import to new Tizen project**
- **Define config.xml settings**
- **Whitelist all URLs the app would use**
- **Remove the JS hooks to “native” VIN barcode scan plugin**
- **No more!**

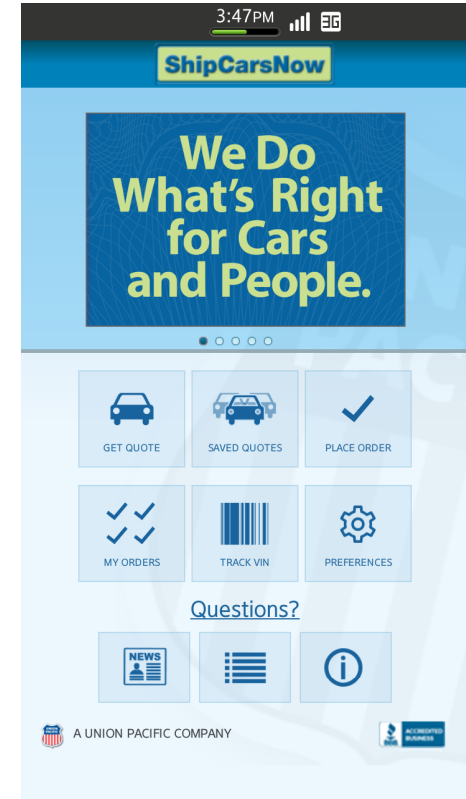
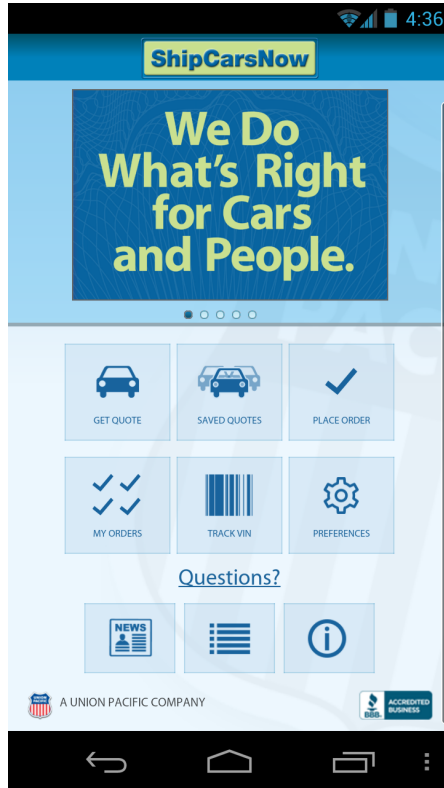
Debug

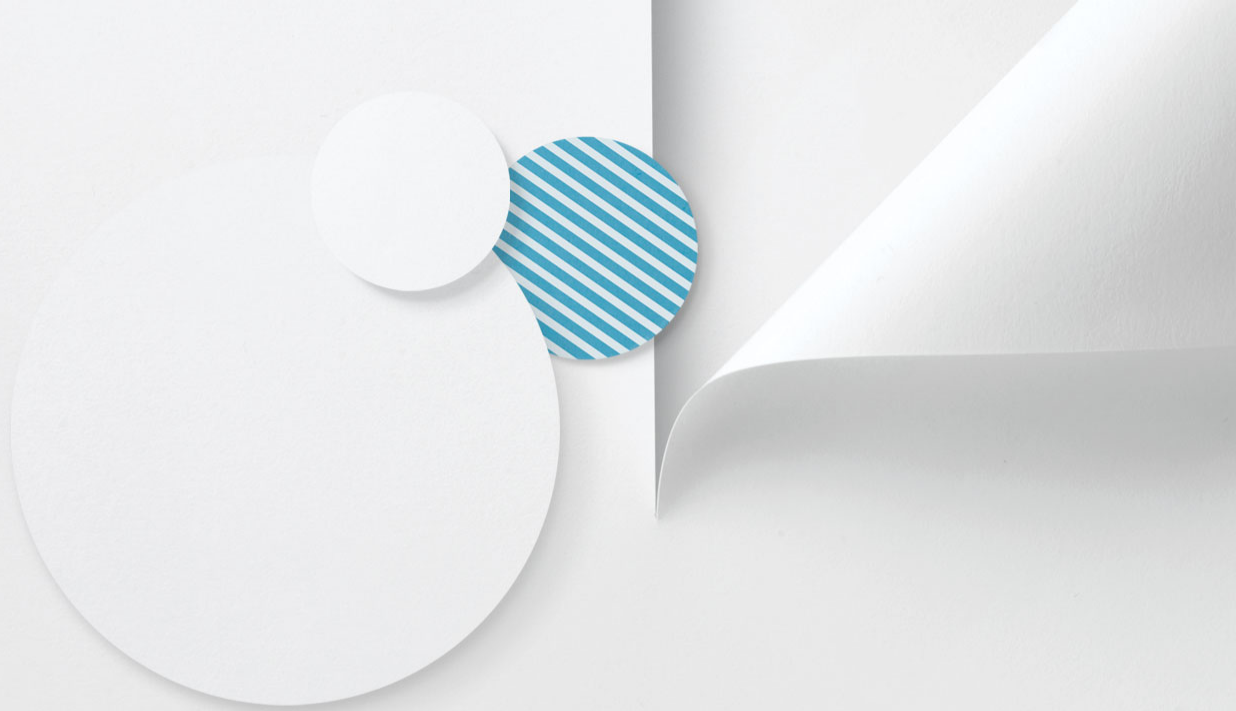
- **What worked?**
 - Almost everything!
 - Responsive UI: media-queries, all the JavaScript libraries
- **What needed “fixes”?**
 - “font-face” CSS code that loads custom font using OTF files did not work
 - “Pull-to-Refresh” feature in iScroll plugin
- **Issues: Tizen dev device RD-210**
 - Performance
 - Load times
 - Refresh rates



Demo Time!

Final result





Lessons learnt

Summary: Why was this porting successful?

- **Stick to standard web technologies: Avoid Third party frameworks with custom JavaScript translation layers.**
 - Keep up with the latest supported Libs!
- **Employ Responsive Web Design principles:**
 - Build for varying screen sizes
 - Build for varying device capabilities
- **Tizen's outstanding HTML5 compliance makes porting HTML5 based apps easier and economical**



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