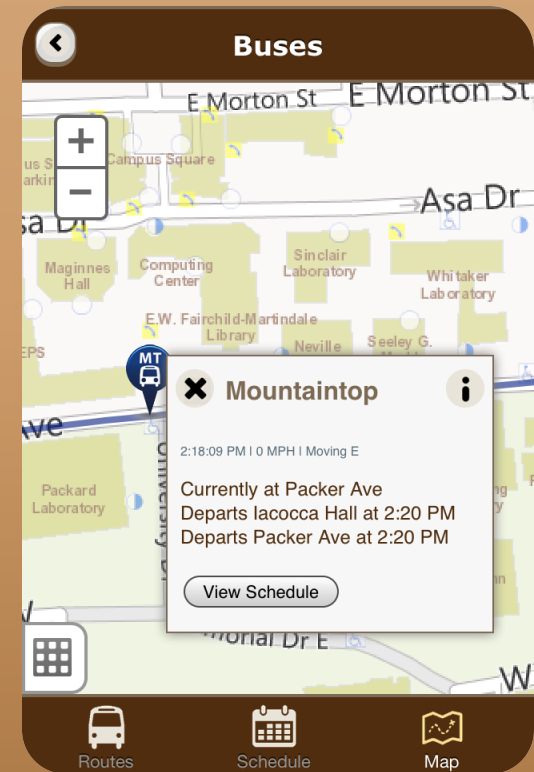
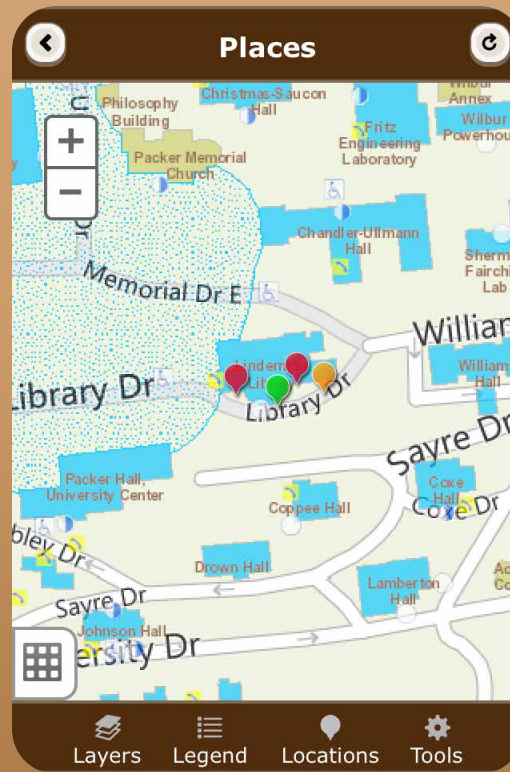
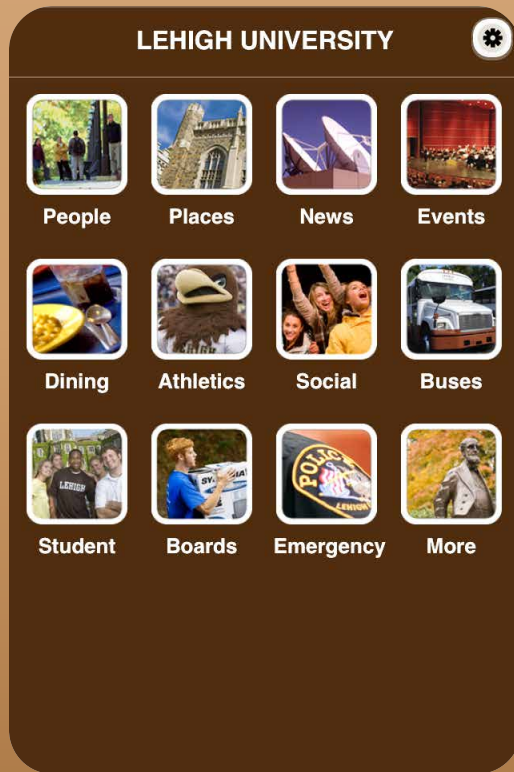


# One Map Many Apps

## *Creating Mobile Applications for Multiple Platforms*



Esri Mid-Atlantic Users Conference  
December 10, 2013  
Scott Rutzmoser  
scott.rutzmoser@lehigh.edu

# Presentation Outline

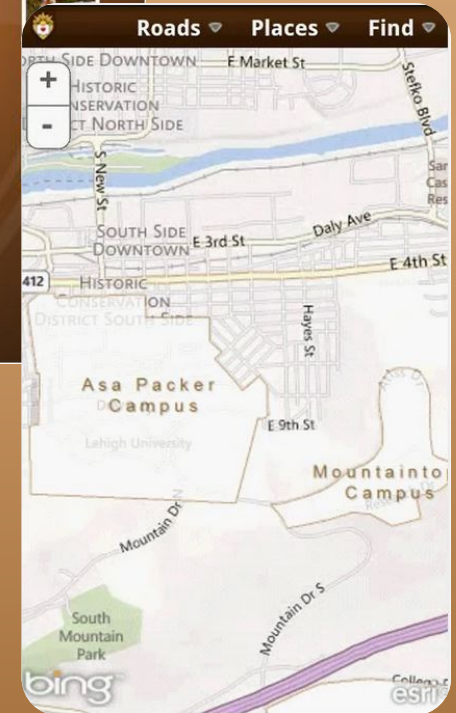
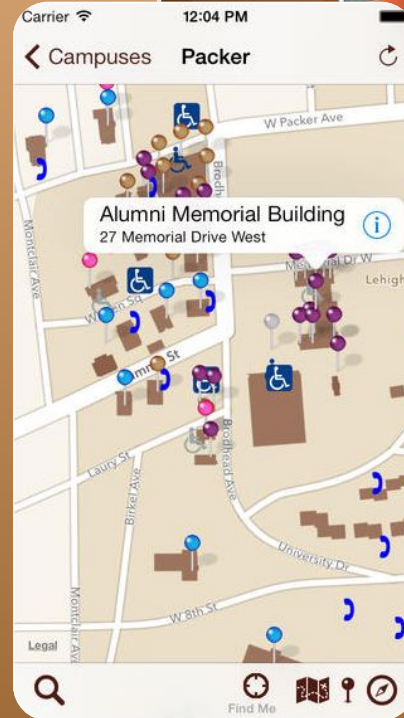
- About Lehigh University
- LehighU Live Mobile Application
- Problem and Goals
- PhoneGap
  - What is it
  - Managing the Code
- Esri JavaScript Mash-Ups
  - Places
  - Buses
  - Performance Tips
- Progress to Date
- Moving Forward

# About Lehigh University

- Founded in 1865  
Lehigh Valley, PA
- 3 Campuses - 2,358  
Acres
- 153 Buildings
- 4.3 Million sq. ft.
- 4,900 Undergraduate
- 2,100 Graduate
- 485 Faculty
- Around 2000 Staff
- Web and Mobile  
Services Team
  - 2 Years
  - 6 Members
  - Support Students,  
Faculty and Staff

# LehighU Live

- The “Official” Lehigh Mobile Application
  - Blessed By University Communications and Public Affairs (UCPA)
- 6 plus years old
  - Started with iOS
  - Expanded to Android
- 2000+ iOS Installs
- 900+ Android Installs



# Problem

- Two Radically Different Code Bases
  - Native Xcode (Objective-C)
  - RhoMobile (Ruby, html, JavaScript)
- No Support for Windows Phone
- Completely Different User Experience
- Different Release Paths
- Different Functionality
- Two sets of documentation



# Goals

- One Code Base
  - Managed and Centralized
- Expand Support for Additional Devices
  - Windows Phone 8
- Homogenous User Experience
  - Identical Functionality
  - Lehigh Branding
- Rapid Development and Enhancement

iOS



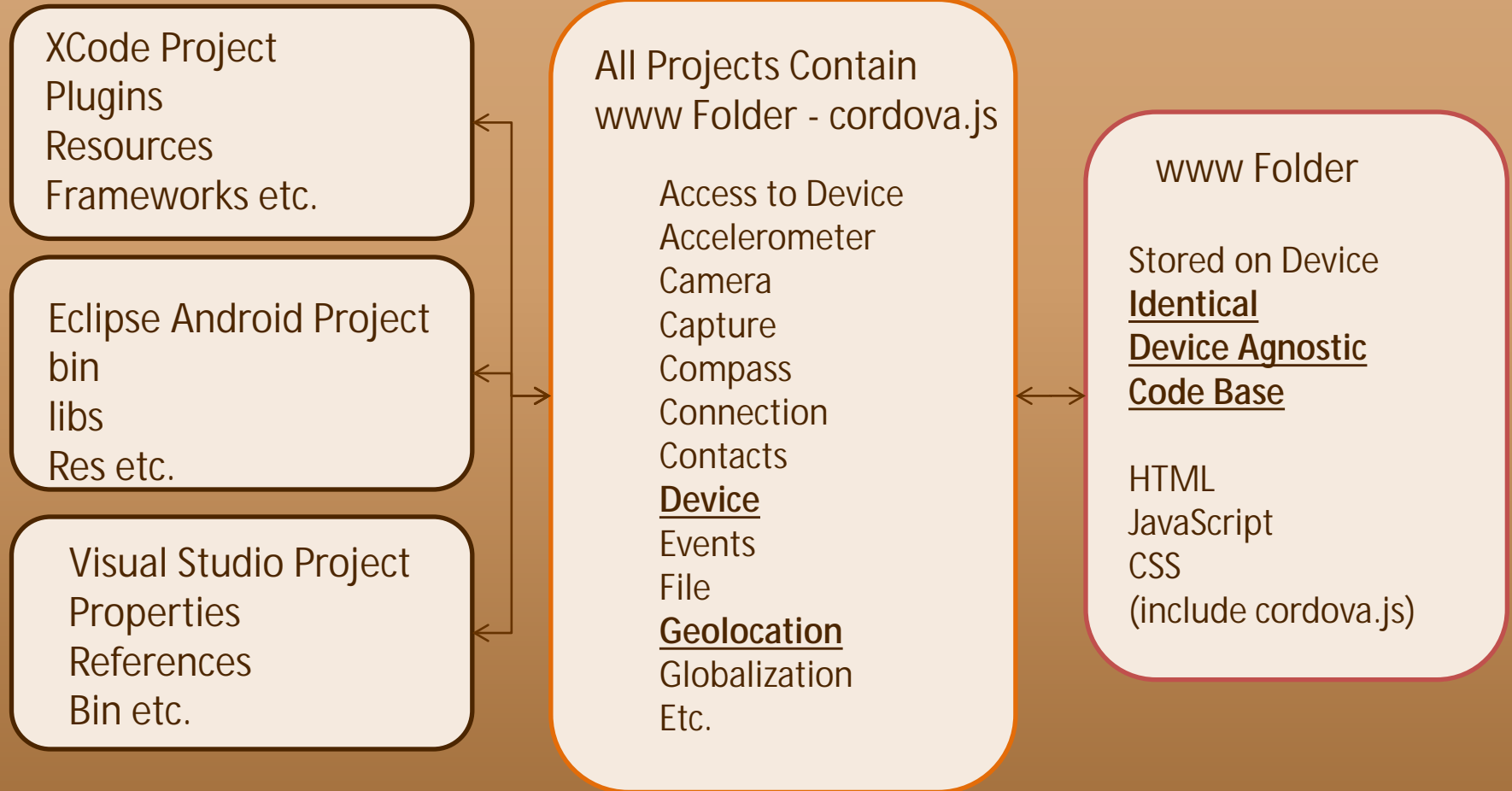
# Phone Gap

- Adobe (phonegap.com)
- Open Source Framework
  - Android
  - iOS
  - Windows Phone
  - Blackberry
  - Tizen
- Apache Cordova
- HTML5, CSS and JavaScript



# PhoneGap

## PhoneGap Provides Starter Projects





# PhoneGap

## Mange Code Base Using Git

### XCode Repository

Ignore www  
Include copy of  
cordova.js

### Android Repository

Ignore www  
Include copy of  
cordova.js

### Visual Studio Repository

Ignore www  
Include copy of  
cordova.js

Pull From Device  
Specific Repository

Create www Folder

Pull from www  
Repository

Copy cordova.js



99% of Code Development



www Repository  
Ignore cordova.js

Identical  
Device Agnostic  
Code Base

HTML  
JavaScript  
CSS  
(include cordova.js)

# Esri JavaScript

## Places Mash-ups

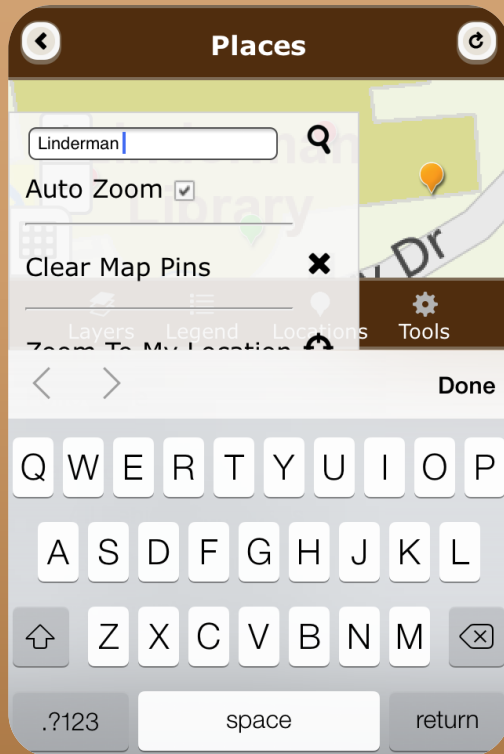
- Esri JavaScript API
- Dojo and JQuery
- Bing base map
  - Clean
  - No Buildings
  - Fast
- Campus Overlay (ArcGIS)
  - Buildings
  - Walkways
  - Wireless Availability
- XML Places
  - UCPA
  - Parse Using JavaScript
- Pass Parameters
- Computer Lab Usage

# Esri JavaScript

## Buses Mash-ups

- Esri JavaScript API
- Dojo and JQuery
- Bing base map
  - Clean
  - No Buildings
  - Fast
- Campus Overlay (ArcGIS)
  - Buildings
  - Walkways
  - Wireless Availability
- Real Time GPS of Bus Location
- Schedule and Route Info

# Esri JavaScript Performance Tips



- HTML 5 Local Storage
  - Store JSON Responses
  - Store Map State
- Pass Parameters
- Store it on the device
  - JQuery
  - CSS
  - HTML
  - Double Density Images
  - JSON Shapes if Applicable
- Esri JavaScript API v 3.6
  - init.js ( > 600 kb on the device)
  - CSS
- Device Specific Logic (tiny bit)
  - iOS Back Button
  - Handle Videos

# Project Status

- Release Candidate 2 December 10<sup>th</sup>
- Open testing for faculty, staff and students
- Release planned for January 2014



ios



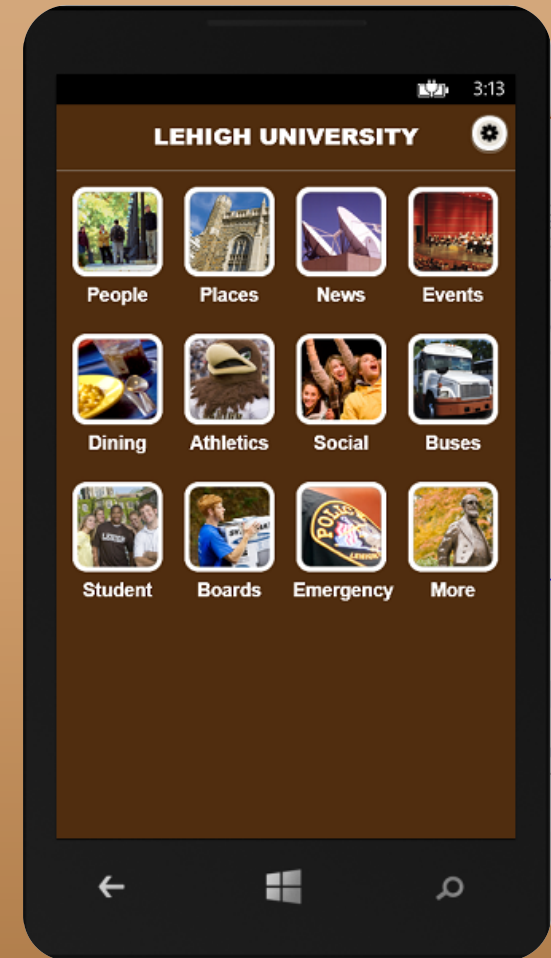
# Moving Forward

Windows Phone 8 Early Spring 2014

- IE 10/11 misbehaving
- JQuery 2.0
- Dojo 1.9

Summer 2014

- Room Locator
- Push Notifications (Campus Tour)
- Campus Passport
  - Geolocation
  - Check-in
- Walking Directions
  - Topography
  - Bus Routes Between Campuses



Windows  
Phone 8

# Thank You

## Places

<http://gisweb.cc.lehigh.edu/CampusMap/Places/>

## Buses

<http://gisweb.cc.lehigh.edu/CampusMap/buses/>

## Contact Information

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