



2015 NALIT Professional Development Seminar September 30, 2015

Tools for Mobile App Development

Kyle Forster, IT Manager
North Dakota Legislative Council

Mobile App – ND Legis Daily

- Daily legislative agenda for scheduled committee hearings, conference committees, and chamber calendars.
- Inform members:
 - When and where bills they sponsored or co-sponsored are scheduled for a committee hearing, conference committee, or are on the daily chamber calendar.
 - What bills are being heard in their committees
 - Carrier of a bill on the chamber floor
- Inform members and public of events scheduled for bills they are tracking in the Bill Tracking System.
- Provides electronic (pdf) access to bill versions related to the bill or order of business.

Mobile App – ND Legis Daily

- Functional Requirements
 - Link legislative schedule events to a particular legislative member to allow filter/view only that legislator's events
 - Example: "My Schedule" or "My Committees"
 - Provide visual indicators for legislator's bills
 - Allow bill tracking users to view schedule for their tracked bills
- Technical Requirements
 - Support iOS and Android
 - Build a single application for pushing to managed devices via Citrix XenMobile and distributing publicly via the Apple App Store and Google Play.
 - User interface is functional across many mobile devices
 - Push notifications
 - Local device notifications (message area)

Mobile App – ND Legis Daily

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ND Legislative Daily a minute ago

Assembly Schedule < Monday, April 20 >

8:00 am CT

House Calendar
7th Order - Select and Divided Committee Reports

- HB 1249** Floor Action: Concurred | A | Message: SEN RCD & AM | Committee: Energy and Natural Resources | Recommendation: Conference Committee | Carrier: Hofstad
- HB 1321** Floor Action: Concurred | A | Message: SEN RCD & AM | Committee: Judiciary | Recommendation: Conference Committee | Carrier: Koppelman, K.
- SB 2150** Floor Action: Concurred | A | Message: SEN ACD HSE AM | Committee: Judiciary | Recommendation: Conference Committee | Carrier: Koppelman, K.
- SB 2284** Floor Action: Concurred | A | Message: HSE RCD & AM | Committee: Appropriations | Recommendation: Conference Committee | Carrier: Skarphol
- SCR 4010** Floor Action: Not Concurred | A | Message: HSE RCD & AM | Committee: Government and Veterans Affairs | Recommendation: Conference Committee | Carrier: Kasper
- HB 1016** Floor Action: Concurred | A | Message: HSE ACD SEN AM | Committee: Appropriations | Recommendation: Conference Committee | Carrier: Dosch
- HB 1024** Floor Action: Concurred | A | Message: SEN RCD & AM | Committee: Appropriations | Recommendation: Conference Committee | Carrier: Nelson, J.
- HB 1001** A | E | Message: SEN RC & AM - EMER | Committee: Appropriations | Recommendation: Conference Committee | Carrier: Vigesaa
- HB 1008** A | Message: HSE ACD SEN AM | Committee: Appropriations | Recommendation: Conference Committee | Carrier: Thoreson

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ND Legislative Daily 2 minutes ago

My Schedule < Monday, April 20 >

9:30 am CT

Conference Committees

- Bt HB 1046** House: Anderson, Dick | Anderson, Bert | Mooney, Gail
Senate: Dever, Dick | Larsen, Oley | Axness, Tyler
House Human Services | Fort Union
- M Bt SB 2048** House: Silbernagel, Peter F. | Weisz, Robin | Muscha, Naomi
Senate: Lee, Judy | Anderson, Howard C., Jr. | Warner, John M.
Senate Human Services | Red River

10:00 am CT

Conference Committees

- Bt SB 2205** House: Hofstad, Curt | Becker, Rich S. | Oversen, Kylie
Senate: Dever, Dick | Lee, Judy | Axness, Tyler
Senate Human Services | Red River

10:30 am CT

Conference Committees

- M SB 2139** House: Weisz, Robin | Schatz, Mike | Nelson, Marvin E.
Senate: Campbell, Tom | Rust, David S. | Sinner, George
Senate Transportation | Lewis and Clark

11:00 am CT

Conference Committees

- M Bt HB 1359** House: Hofstad, Curt | Weisz, Robin | Oversen, Kylie
Senate: Dever, Dick | Larsen, Oley | Warner, John M.
House Human Services | Fort Union

Mobile Application Choices

- Native Applications
 - Requires the utilization of platform specific technologies
 - Unique codebase for each platform
- Hybrid Applications
 - Utilize web technologies (HTML/CSS/JavaScript)
 - Single codebase can support multiple platforms

Hybrid App and Responsive Design

- HTML pages dynamical adapt to the device screen size
- Pros
 - Improves user experience across a range of devices
 - Single website or application to create and maintain
- Cons
 - Adds design complexity and testing requirements
 - May limit design options

Toolsets and Implementation

- Ionic Development Framework
 - Open source hybrid mobile toolset
 - Built-on
 - Apache Cordova (PhoneGap)
 - AngularJS
 - User Interface
 - HTML5/CSS3/JavaScript + Native Plugins
 - Completely managed within the web application

Ionic Framework

- Build stack around multiple tools as a one package
- Simple command line interface for compiling to desired mobile devices
- App does not use native UI controls for a the mobile devices being targeted
- App user interface is a HTML/CSS/JavaScript displayed via a browser deployed within the mobile app

Apache Cordova

- Allows developer to build mobile apps without any native device controls or native code
- Provides the developer an abstract interface to device functionality via java script
 - Example: Set local device notifications
- Allows developer to code a single application and deploy it to multiple device platforms with minimal or no changes
- Includes plug-ins for device functionality for:
 - Splash screen
 - In app browser deployed with the mobile app
 - Data push
 - Console (debugging)

Angular JS

- JavaScript framework
- REST data interface
 - Returns JSON
- Data binding of JSON data to user interface controls for a single page HTML 5 app
- Local device notifications (message area) is the same code for Android and iOS
- Device registration for push data notifications is different for Android vs. iOS
 - App's Push ID

Provisioning

- Different build and provisioning steps depending on desired target device
- Pushing app to managed iPads via MDM
- Android testing done via manual installs on various devices
- Bundle ID uniquely identifies the app
 - Keep the same to allow update of installed application
- Apple App Store
 - Code/App is reviewed manually by Apple staff
 - Up to 2 weeks
- Google Play
 - Automation checks for bad code
 - Available very soon after submittal