Field Data Collection with Mobile Apps

Chad Schafer, Info Tech, Inc.
Scott Hootman, ODOT - Division of Construction
Computer history

- **1936:** First computer was built in Germany
  - Only could remember numbers
- **1976:** Apple 1, first mainstream PC
  - $700, 1mhz and 4 kb memory
- **Today:** Average 2.5ghz and 4 gb memory
  - 1 million+ times faster and more storage
2015
Mobile today

- American adults:
  - 64% have a smart phone
  - 90% have a cell phone
  - 32% have an e-reader
  - 42% have a tablet

- 29% of cell owners describe their cell phone as “something they can’t imagine living without.”

(Source: Pew research center, 2014 data)
Communication is key
The new buzzword: e-Construction

- Efficiency through technology and collaboration
- Per FHWA...
- Everyday Counts 3
- Electronically capturing construction data
- Electronic submission of construction documentation
- Increased use of mobile devices
- Increased automation of document review and approval
- Use of electronic signatures by all parties
- Secure doc and workflow management accessible to all stakeholders on any device
What can mobile do for you and your agency?

- BYOD - smartphones and tablets
- Building on what your staff already has in their pockets
- Little/no hardware costs
- No training on hardware, nothing new to carry
Mobile accessible sites vs. mobile apps

- What’s the difference?
- Which is better?
- Answer: both have value
Task-focused apps vs. enterprise systems

- When is a series of apps better than an enterprise system?
  - Deployment - days vs. months
  - Training - none vs. extensive
  - Hardware - none vs. costly servers and work stations
  - End-user impact - minor vs. major
Apps need KISS - Keep it simple (stupid)!

- Nothing complex
- No training
- No new hardware
- Point-and-click
- Offline/online seamless to user
Field data collection - a ‘pain point’

- Common issues:
  - Paper-heavy process
  - Log books
  - Lost paper
  - Typing in data/Transcription errors/Poor handwriting/Redundancy
  - Delays between the field/field office/central office
- Keep inspectors in the field
How can mobile resolve these issues?

- Using the devices inspectors already have/are familiar with
- Simple, intuitive
- Online or offline - apps that ‘wait’ for connectivity
- No importing, or exporting
Data flow example
Considerations for implementing mobile device use at your agency

- BYOD vs. agency issued
- Personal use
- Blocking/banning sites
- Security
- Repair/replacement
- Upgrades/updates
Questions? Please stop by booth # 244
Ohio Department of Transportation

Mobile Technology

Scott Hootman - Division of Construction Management
ODOT - Mobile Technology

- ODOT is in the infancy of mobile technology
  - Recently implementing an electronic signature policy
  - Allowing external contractors and consultants to use ODOT Construction Management systems (SiteManager®) for approving change orders and project administration
  - Understanding and accepting mobile = electronic
  - Deploying multiple types of mobile tools
Electronic Signatures

- The policy 28-019 P) was signed by the Director on April 17, 2015
- We are able have electronic and digital signature acceptance
- Currently researching and analyzing different systems to capture and maintain signature information
- This will allow us to implement project contract change order approvals directly in the SiteManager software - the ODOT Construction administration system
Newly created Virtual Desktop for External Access

- April 2015 - ODOT built a Virtual Desktop system to allow access to external users:
  - Contractors
  - Consultants
  - Local Public Agencies
  - FHWA
- January 2016 All Contract Change Orders will be approved in SiteManager system
Document Sharing & Retention

- ODOT Construction staff have been retaining project documentation on Construction SharePoint sites.
- These sites are available to external users.
- Change Order approval process will utilize these project sites to share any change order back up documentation with Prime Contractors.
EDC 3 - Every Day Counts Initiative 3 - eConstruction

- ODOT is a participant in the FHWA - Every Day Counts Initiative of eConstruction
  - Reduction of paperwork
  - Evaluated current systems
  - Deploy mobile devices
Mobile Acceptance

- BYOD
- Gaining efficiencies in providing on-site inspection while performing data entry
- New apps are being researched and developed to assist in construction inspection
- Starting to commit resources and funding to allow mobile inspection
Mobile Inspector

- Mobile Inspector™ app - Pilot completed August 31, 2015
- Mobile Inspector app - Full implementation began September 1, 2015
- Active members 80+
Access information

- TO OBTAIN SITEMANAGER® ACCESS - send an email to
  - SiteManager.External@dot.ohio.gov

- TO OBTAIN SHAREPOINT ACCESS - log onto
  - myodot.dot.state.oh.us
  - Select a personal account and follow the instructions
Q&A