What does Mobility and Mobile GIS mean to the Business?

Mobility and Mobile GIS

August 22nd, 2013

GeoGathering 2013

GIS for Gathering and Production Lines

About Me

- DCP Midstream – GIS Architect
- GIS Professional for 15 years
- Multiple industry experience
  - Oil & Gas about 3 years
  - Environmental Consulting about 13 years
  - Transportation approximately 5 years

Objectives

- Develop an understanding of the role that mobility will serve in enterprise and organizational culture
- Identify components of mobility and mobile GIS
- Identify deployment factors, obstacles, and opportunities
- Identify oncoming challenges
- Assist with developing integration and deployment strategies

Objectives

- Why? - Laptops, tablets, smart phones are outselling desktops, now…..
  - Mobile devices have gained 75% of the market share of consumer computing over the past 8 years over desktops. (Anthony, 2012)

Mobile GIS's Role

- Availability of "real-time" data
  - Physical attributes of pipes
  - Volumes and pressures
  - Loss and unaccountable
  - Right of way
- Integration with other business functions
  - Equipment inventories
  - Scheduling and workorders

Mobile GIS's Role

- Pushing and receiving more data to all levels of the organization
- What is important to your business?
  - Stakeholders' needs
  - Operational efficiency
  - Safety

Components of Mobile GIS

- Infrastructure
  - Hardware, networking, data storage, and telecom
  - Database transactions and synchronization
  - Cloud Services
  - Architectural/system design
  - Database Design
- Enterprise
  - Integration points with other business systems
  - Organizational scope – Departmental vs. Enterprise

Components of Mobile GIS

- Security
  - Tunneling (VPN, ISA, DMZs)
  - Trusted certificates and certification
  - Sensitive and proprietary data
  - Loss prevention
- Cultural
  - Education
  - Training

Challenges

- Infrastructure
  - Working with existing infrastructure
  - Legacy systems
  - Equipment compatibility
  - Remote connections and reception
  - Coverage

Challenges

- Enterprise
  - Data compatibility with other systems
  - Standard OS or support all
    - One size does not fit all
    - Delivery and frameworks must be standardized or accommodated - Android, HTML5, iOS, Silverlight
  - Disconnected vs. Connected Editing/Data Collection
    - Synchronization
    - Failed data transfer
    - Caching

Challenges

- Security
  - BYOD adds complexity
    - Personal devices – Are they secure?
    - Encryption
    - Compatibility with legacy systems
  - Attack prevention
    - Wireless attacks
    - Hacker access and system limitation
  - Firewall access
    - ISA, Reverse Proxy, and DMZs

Challenges

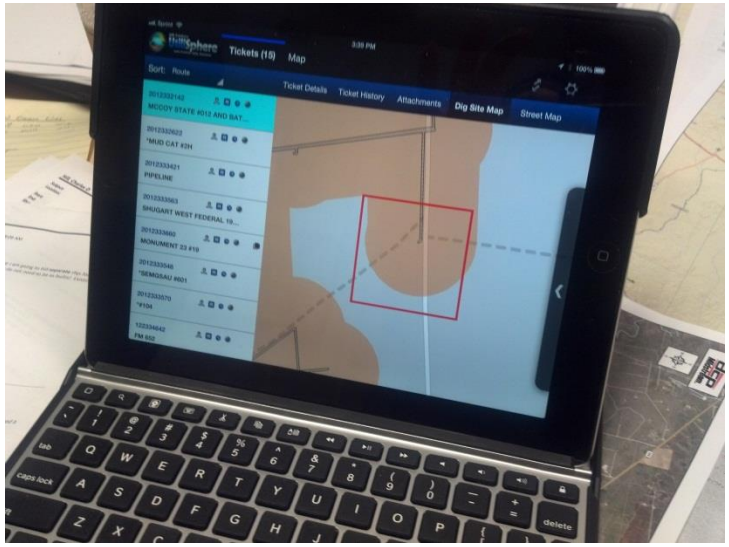
- Cultural
  - Adoption/Buy-in
    - Disruptive change
    - Generational familiarity with technology
    - “Why change if it has worked fine in the past?”
  - Safety vs. “Big Brother”
  - Right training for the culture

Examples of Implementations

- XMap
  - ~1500 users in August 2013
  - Main field data tool
- Safety Tracking of Field Personnel
  - ~70% of fleet active in August 2013
  - Real-time alerts with inactivity monitoring
  - Driving skill improvement

Examples of Implementations

- Emergency Preparedness – Severe Weather Tracking
- OneCall/Locating Services
  - Improved efficiency with iPads
  - More accurate dispatching
- Web-based data access
  - Departmental portals
  - Expanding into iPads, Tablets



Approaches and Lessons Learned

- Evolutionary vs. revolutionary implementation – Gradual introduction of new innovations or “shock and recover”
- Develop a Mobile Framework that fits your organization
  - Technology constantly changing
  - Business needs constantly change
- Identify the type of integrations needed to add value to the organization

Approaches and Lessons Learned

- Identify and attack low hanging fruit = early wins
- Interject Mobile GIS in more “new” projects – Stretch the technology when possible
- Critique business workflows and processes for efficiencies
- Use the best technology for the problem
  - KISS

Approaches and Lessons Learned

- Adherence and enforcement of adopted standardized data models
  - Promotes consistency
  - Streamlines integrations
- SOPs that define data requirements, minimum precision
  - Refinement of methodologies
  - Enforces data quality

Summary

- What is best for the organization?
- Develop a mobile framework with flexibility
- Consider enterprise mobility programs for hardware and integration needs
- Each organization is different, there is not magic formula

Questions?

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