Mobile Device use in Underserved Areas

Challenges, Considerations and Lessons Learned 3/20/2013
Agenda

- Use Case Overview
- Field Environment
- Challenges and Approaches
- Lessons Learned
Use Case Overview

- Experiences Based on Domestic and International Projects
- Data Collection in Developing/Disadvantaged Areas
- Interviewer Led, Typically Performed in Remote Villages and Towns
- Local/Cultural Considerations
  - Education/Literacy Levels
  - Language
  - Distrust
Field Environment

- Limited Infrastructure
  - Power Availability
  - Communications Infrastructure
  - Travel Difficulty

- Rough Conditions
  - Unpaved Roads
  - Dusty Environments
  - High Humidity

- Potential for Loss or Damage of Devices
Project Characteristics

- Short Startup and Fielding Period
  Allows Limited Time for:
  - Device and Tool Evaluation and Selection
  - Piloting a Solution
  - Designing Operational Procedures
  - Training
  - Data Collection
Considerations: Device Types

- MS Windows Tablets
  - HP, Samsung, Fujitsu, MS Surface
- Android Tablets and Phones
  - HTC, Samsung, Asus, Motorola
- iOS Devices
  - iPad, iPad mini, iPhone, iPod Touch
Considerations: Device Characteristics

- Size
- Ease of Use
- Battery Life
- Ruggedize
- Communication Capabilities
- Security Capabilities
- Available Quantities
Approaches: Device Configuration and Management

- Baseline Definition for Ease of Use
  - Applications Should Be Easily Accessible
Approaches: Device Configuration and Management

- Options For Conserving Device Battery Life
  - Screen Brightness
  - Sleep
  - Wireless
  - GPS
  - Bluetooth
  - Case
  - etc..
Approaches: Device Configuration and Management

- Options for Power Replenishment
  - Universal AC Adapters
  - Inverters
  - External Batteries
  - Car Adapters
  - 12V Splitters
  - Solar Chargers
Approaches: Device Configuration and Management

- Options for Device Protection & Handling
  - Ruggedize
  - Reduce Exposure to Dust & Dirt
  - Accessories for Safe Handling
Approaches: Mobile Communications

- Options and Considerations for Device Mobile Communications
  - Plan for Limited Internet Access
  - Limited Wi-Fi Availability
    - Kiosks, Some Hotels in Cities
  - MiFi Options
    - Local Carrier Network Technologies Differ
  - Mobile Smartphone Tethering Options
  - Check Carrier Charges
    - “Roaming Charges May Apply”
Approaches: Device Configuration for Data Security

- Device Password Protection
- Auto Lock
- Centralized Password Management
- Device Data Encryption
- Secure Data Transmission
- Remote Device Wipe Options - Consider MDM Solutions
Approaches: Large Scale Device Management

- Considerations For Large Scale Deployments:
  - Device Acquisition in Large Quantities
    - Procurement
    - Receipt
    - Inventory & Tracking
    - Secure Storage
  - Device Cloning
    - Automated & Manual
Approaches: Large Scale Device Management

- Considerations for Large Scale Deployments:
  - Shipping and In-Country Delivery Logistics
    » Import/Export Restrictions
    » Taxes/Customs
    » Local Regulations
  - Remote Mobile Device Management and Configuration Management
    » In-Field Application and Software Upgrades
    » OS Upgrade Management
Approaches: Large Scale Device Management

- Devices and Accessories Upon Return
  - Prepare for Redeployment
    - Clean
    - Backup -> Wipe -> Reconfigure
    - Repair
Lessons Learned

- New devices and software continually and quickly emerging
  - As an Ongoing Activity – Need to Evaluate New Software Products and Devices for Consideration

- Device and OS – Continue to Evolve

- Ability to purchase uniform fleets of devices for use over extended periods of time can be a challenge

- Mobile Device technology and broadband availability vary from country to country

- Security and Device Management can be challenging
  - Ongoing Monitoring for Potential Security Vulnerabilities
  - Consider Tools for Device Policy Management
Questions?

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