Developing Responsive Mobile Web Systems Using an Open Source Framework

Christopher Siege, Debra Fleischmann

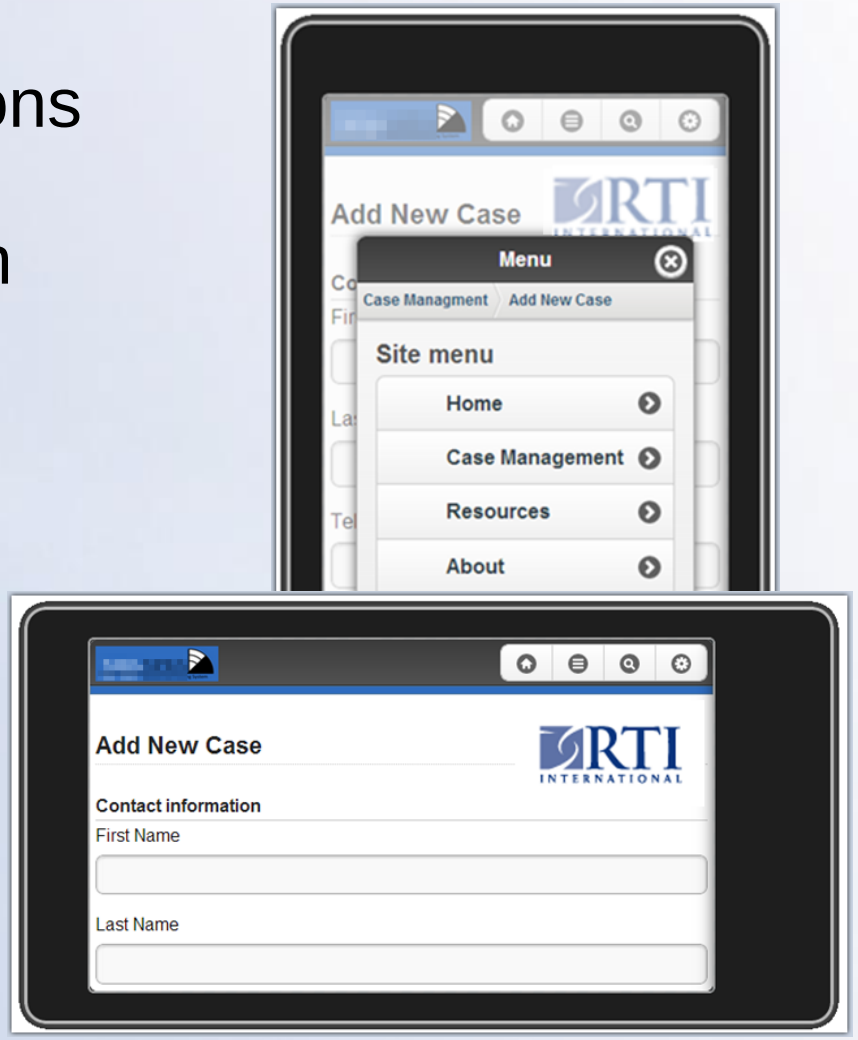
FedCASIC

Washington, DC

March 20, 2014

Outline

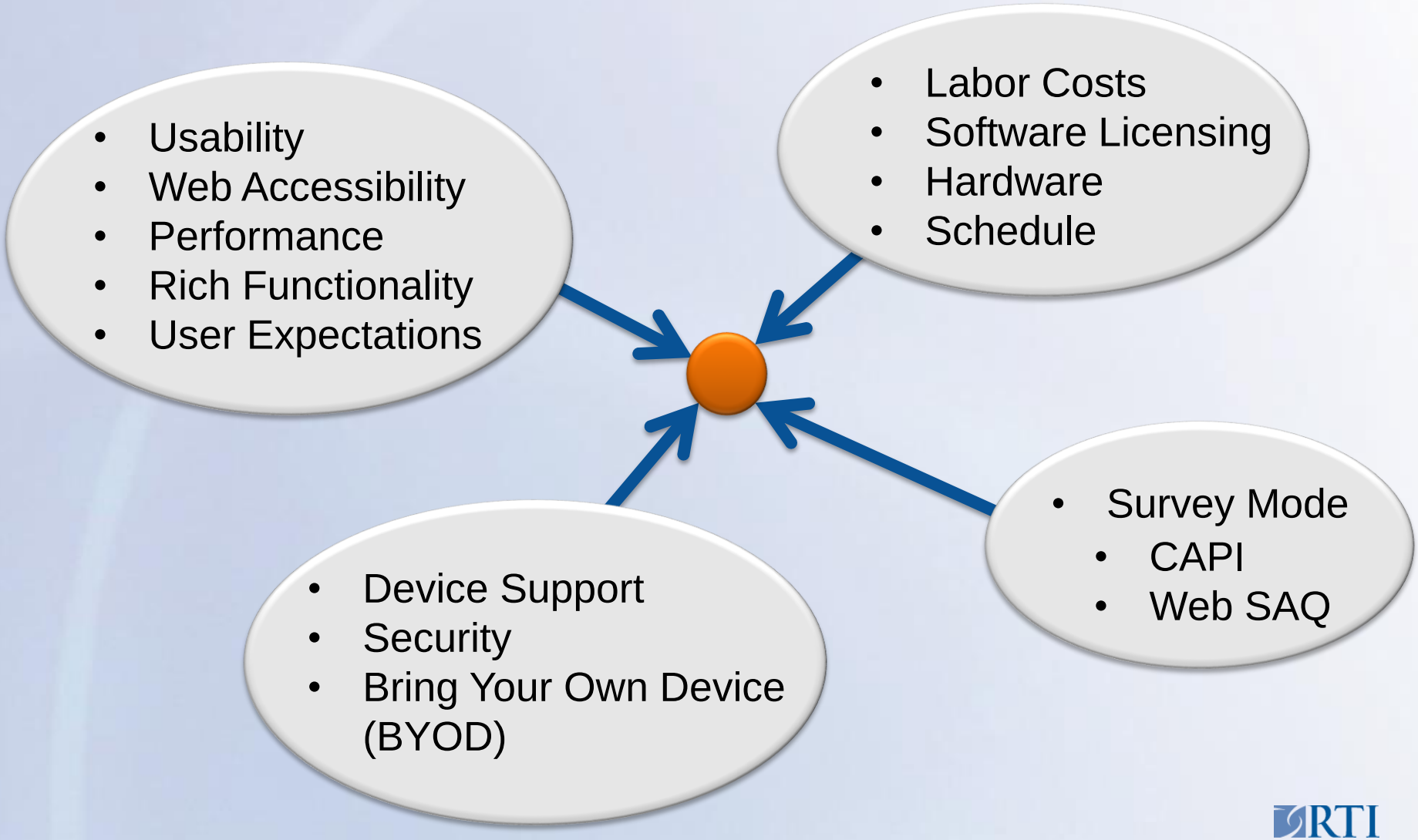
- Mobile Data Collection Options
- Driving Factors for Approach
- Project Requirements
- Open Source Framework
- Case Study
- Challenges



Mobile Data Collection Options

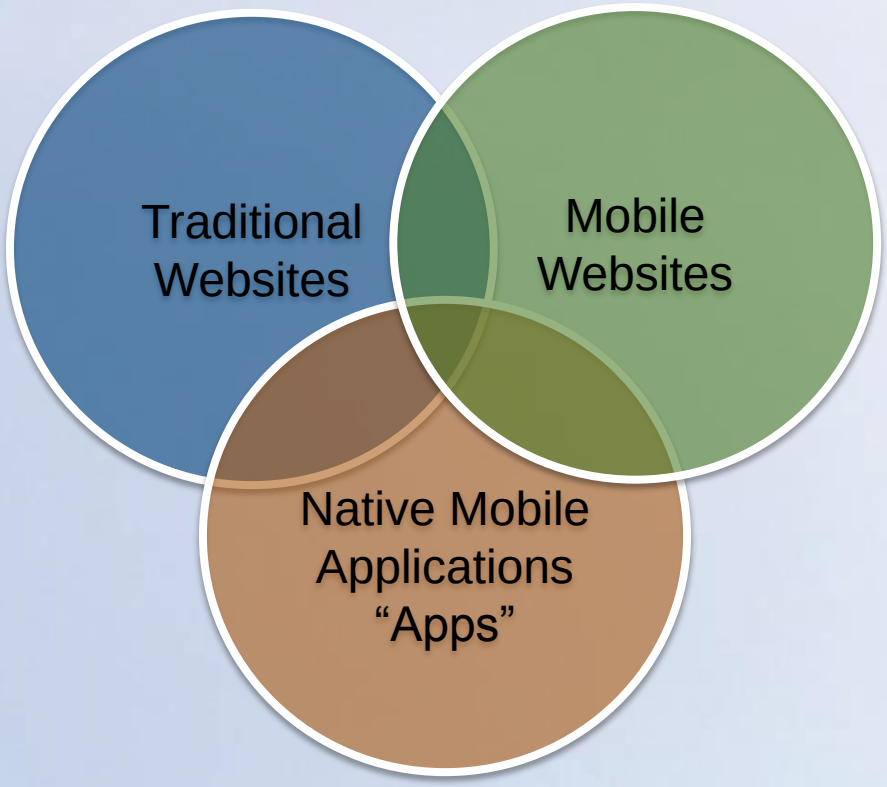
- Traditional Websites
  - Viewable on mobile devices but often times difficult to navigate menus, perform tasks and view content
- Native Mobile Applications – “Apps”
  - Written specifically for device platform (Android, iOS, Windows Phone) and is installed on the local device
- Mobile Websites
  - Optimized for mobile devices by incorporating responsive web designs that visually adapts to the device size

Driving Factors for Approach



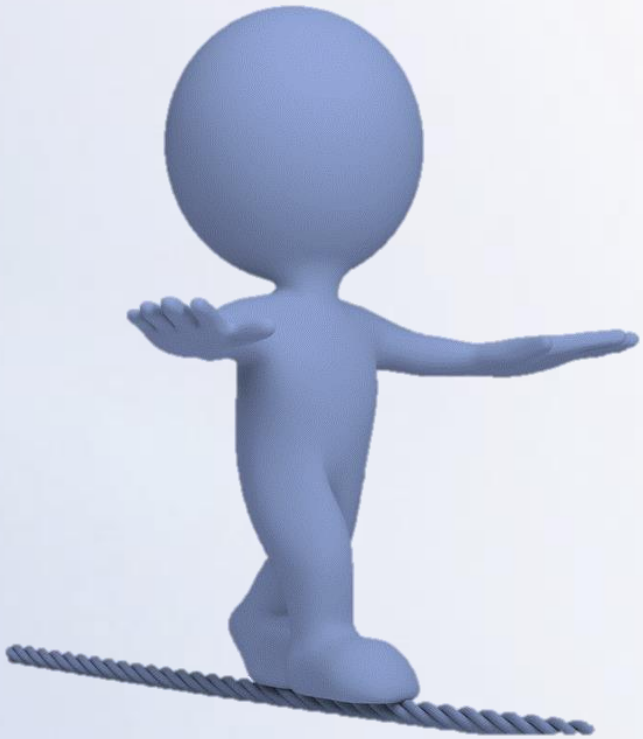
Driving Factors for Approach

- Each option addresses some factors with some overlap
- No single best option for all scenarios
- Solution must match project and user needs



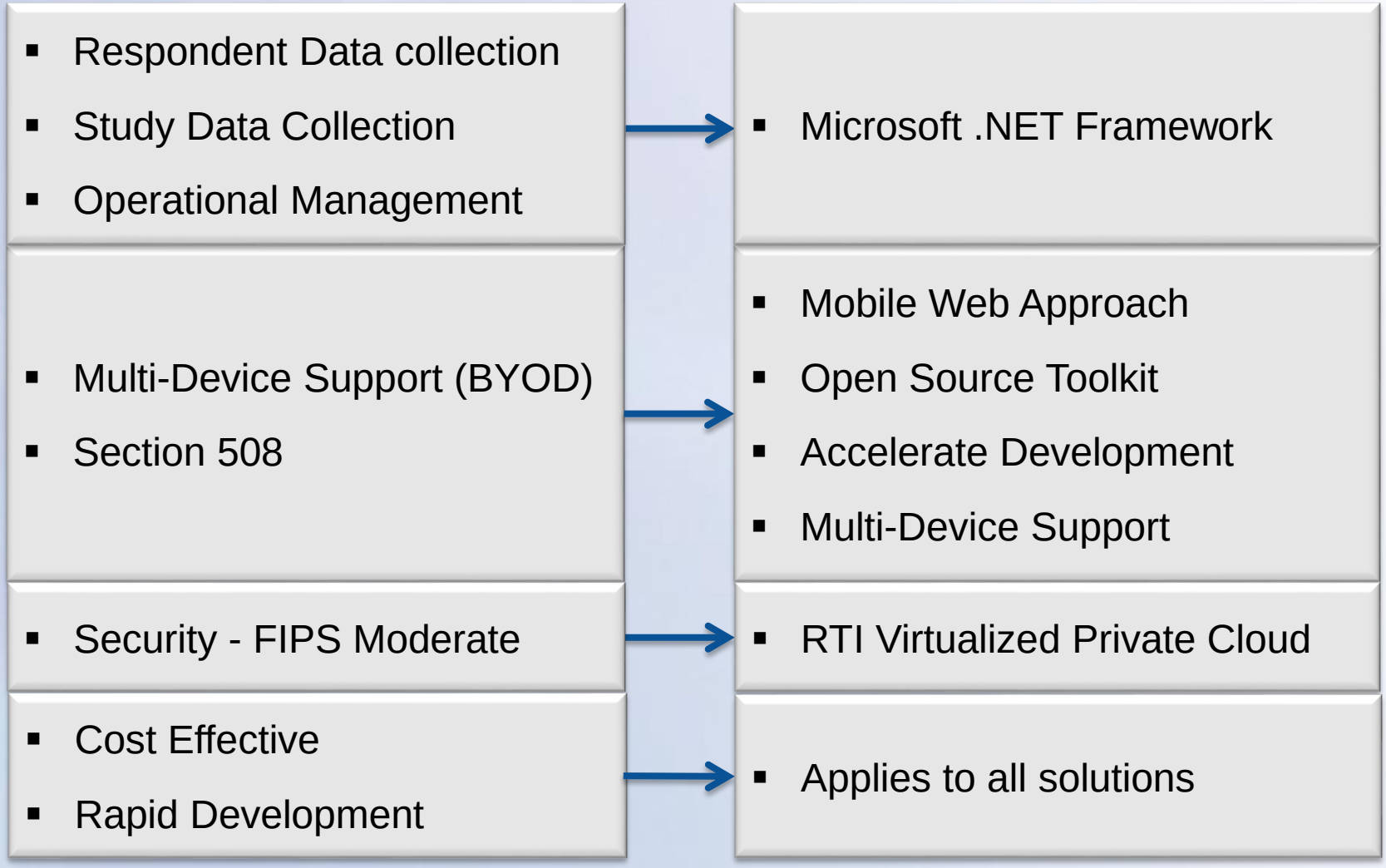
Case Study Project Requirements

- Cost Effective
- Rapid Development
- Respondent Data Collection
- Study Data Collection
- Operational Management
- Multi-Device Support (BYOD)
- Section 508
- FIPS Moderate Security

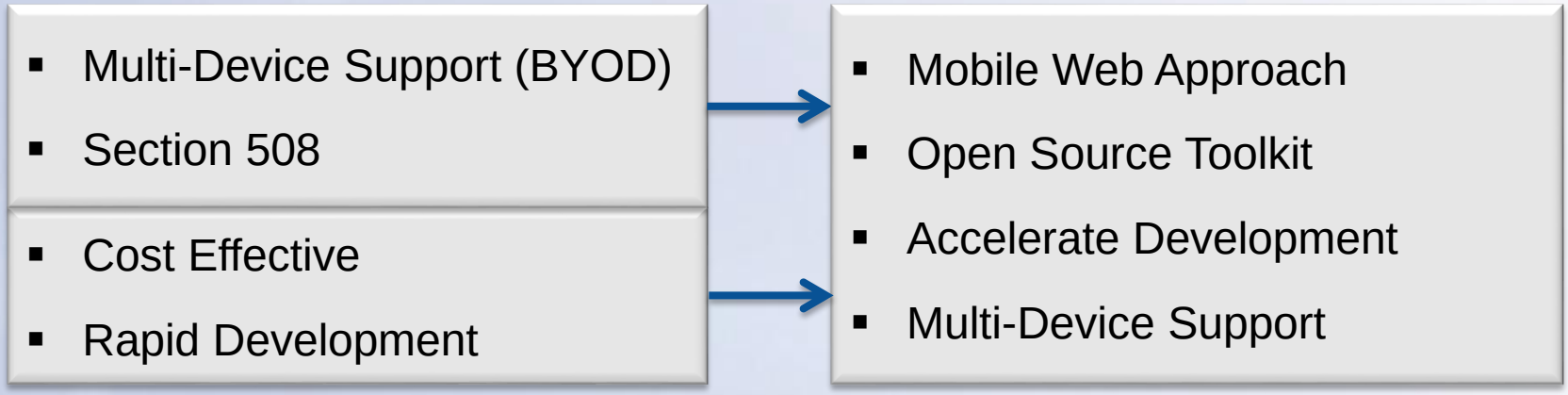


Project Requirements

Chosen Solution



Mobile Web Solution Selection



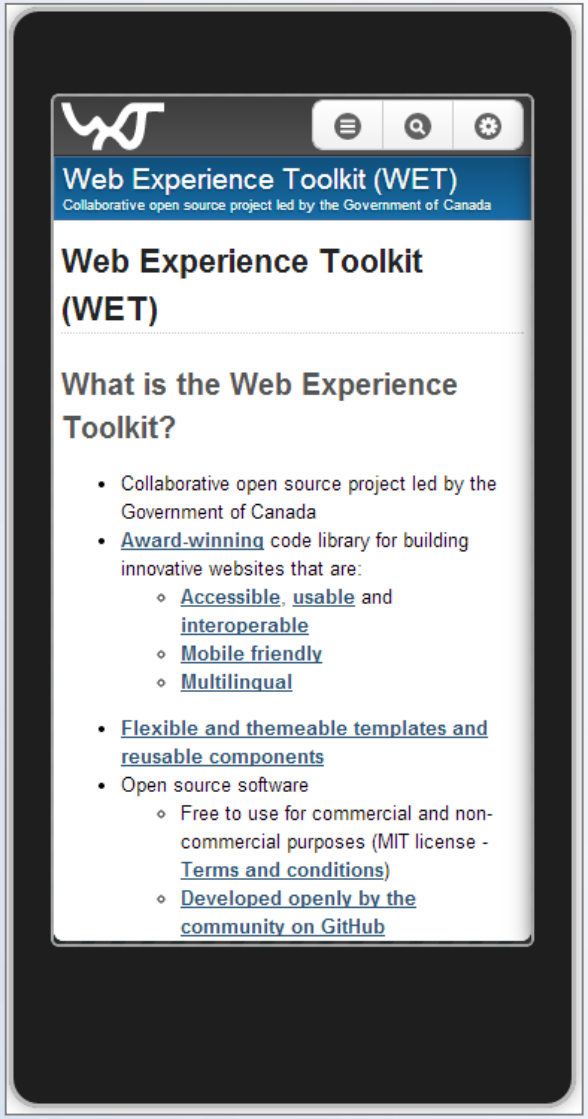
- Open source and commercial options assessed
- Responsive Web Design options increasing
- Selection of Web Experience Toolkit solution

Web Experience Toolkit

- Led by Government of Canada
- Open source

- First-Class Mobile Device Support
- Community Development / Support

- Featured:
  - http://government.github.com/
  - http://howto.gov



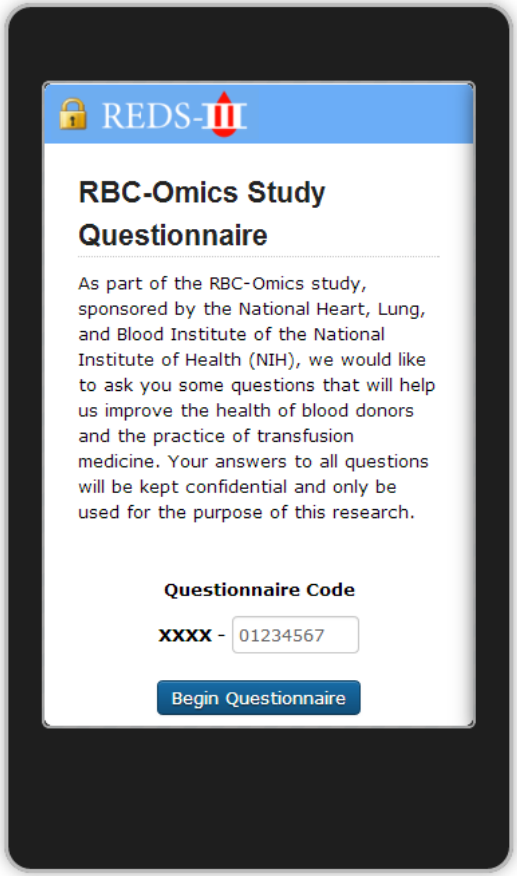
Web Experience Toolkit

- Built using latest web technologies
  - HTML5
  - CSS3
  - JavaScript
- Reusable
  - Themes
  - Plug-ins

- Web Accessibility
  - Conforms to WCAG 2.0 level AA
  - Leverages WAI-ARIA to further enhance web accessibility
  - Addresses many Section 508 provisions

Case Study: REDS-III

- Recipient Epidemiology and Donor Evaluation Study-III
  - National Heart, Lung, and Blood Institute (NHLBI)
  - National Institutes of Health (NIH)
- Data Coordinating Center
  - RTI International
- Numerous Data Collection Efforts
  - Electronic Medical Record Extraction
  - Clinical Study Management
  - Enrolled Subject Data Collection
    - Computer Assisted Personal Interviewing
    - Web-based Self Administered Questionnaires



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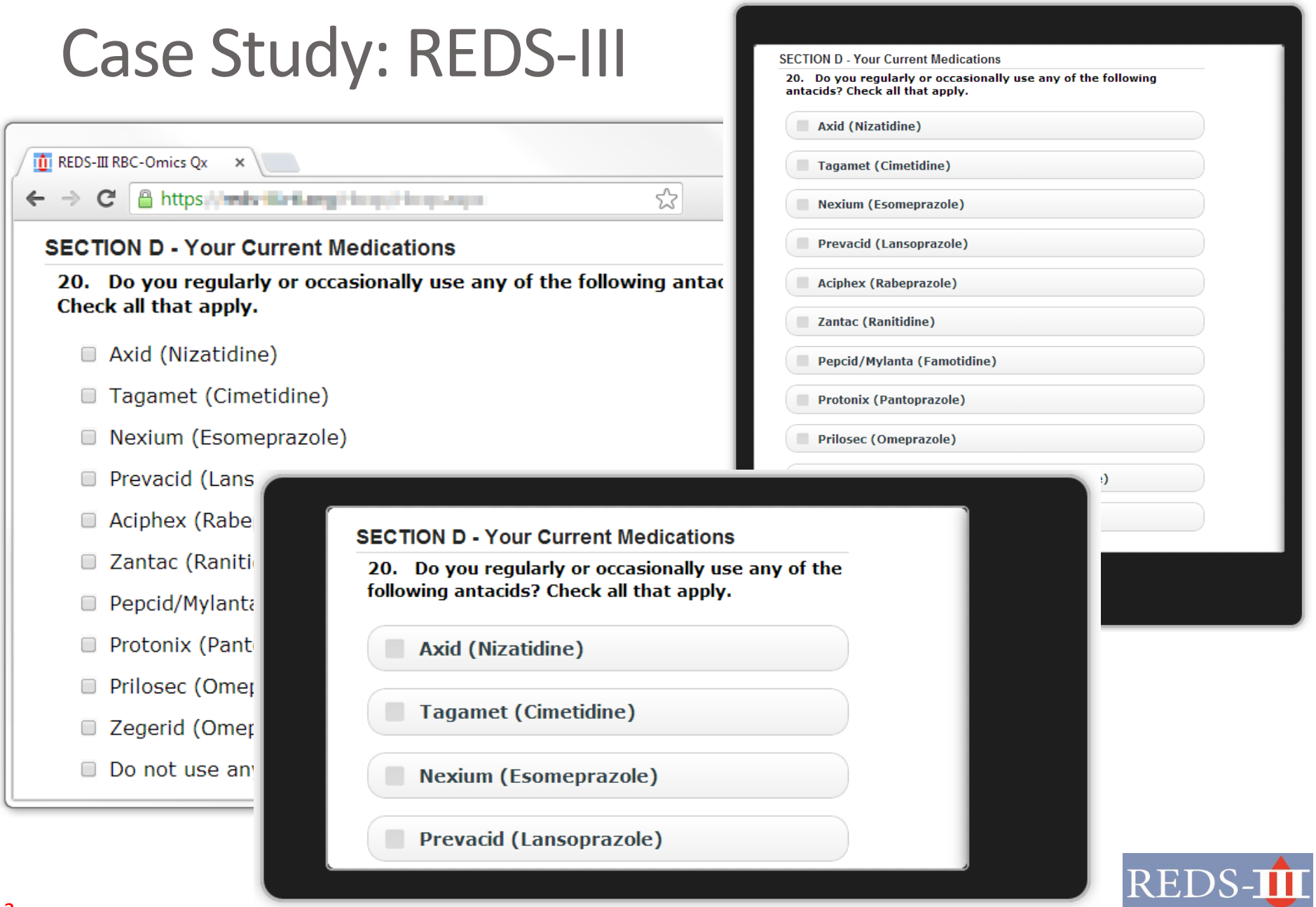

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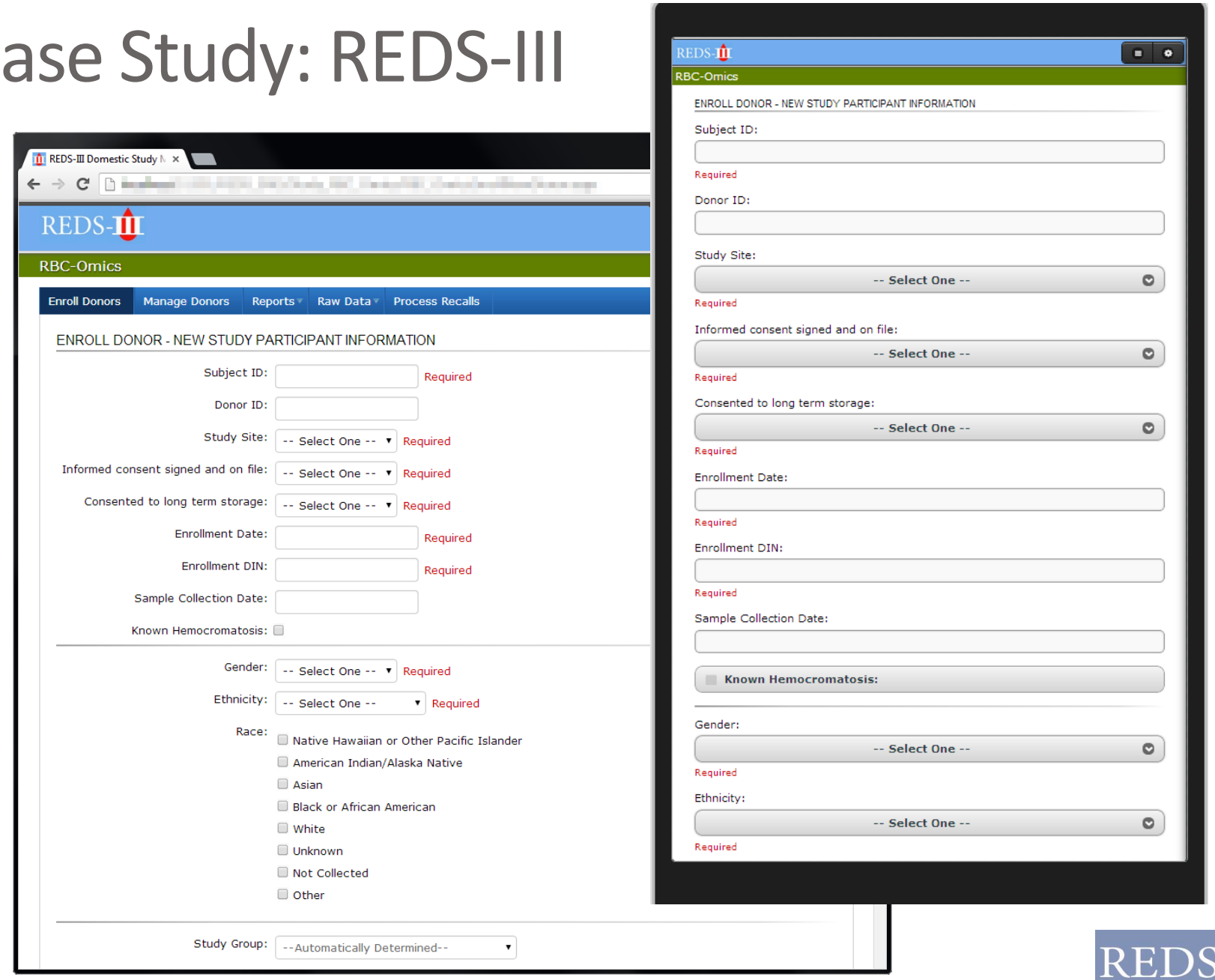

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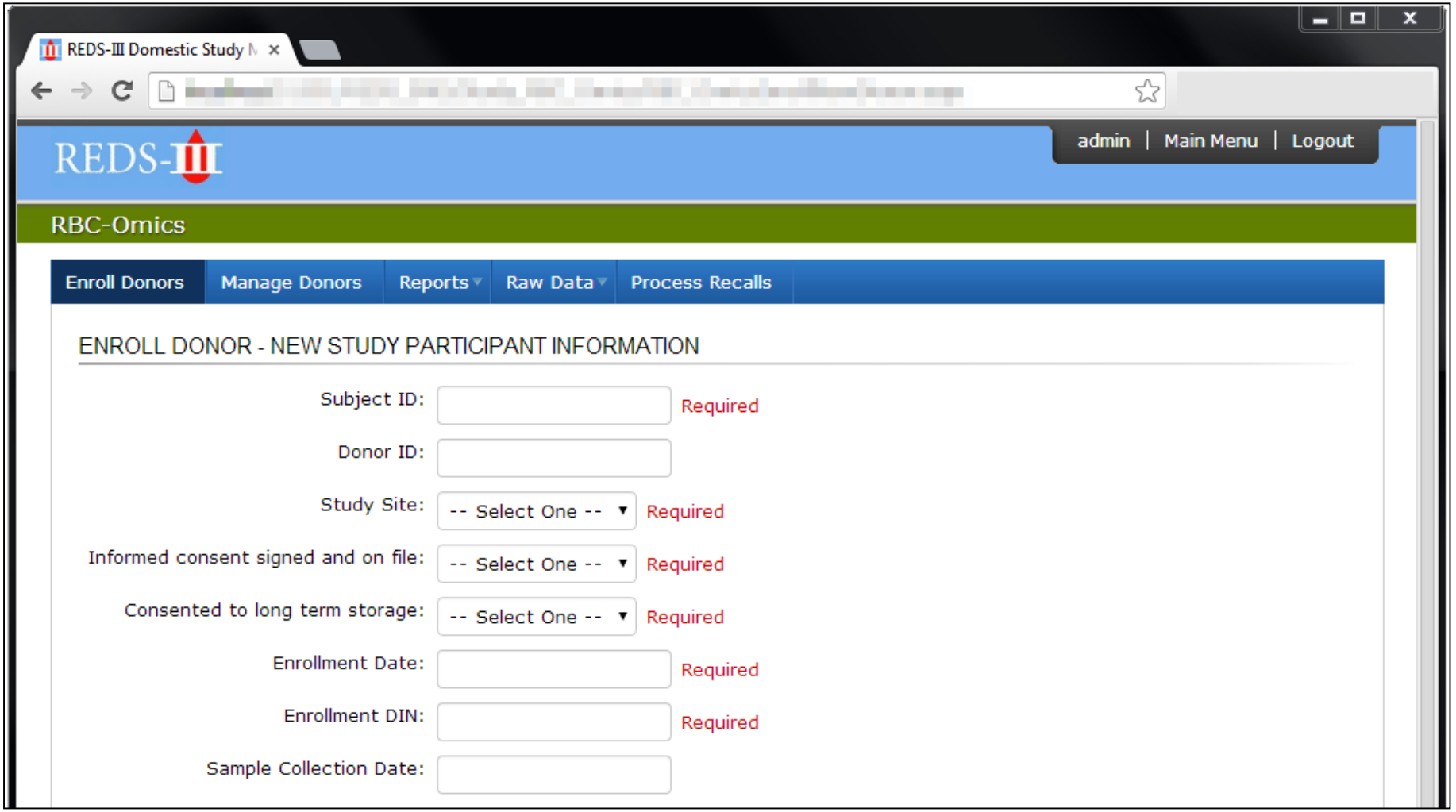

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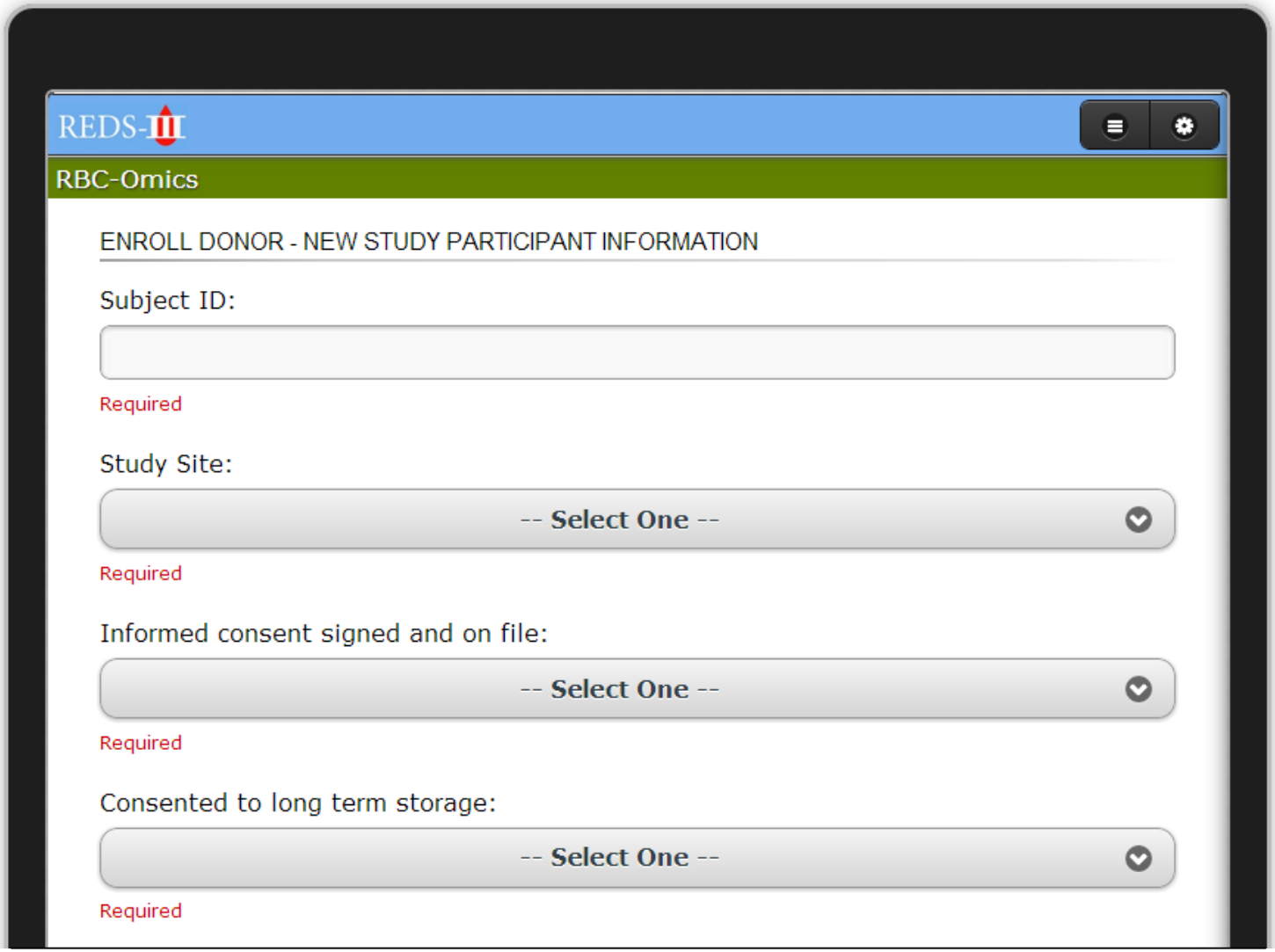

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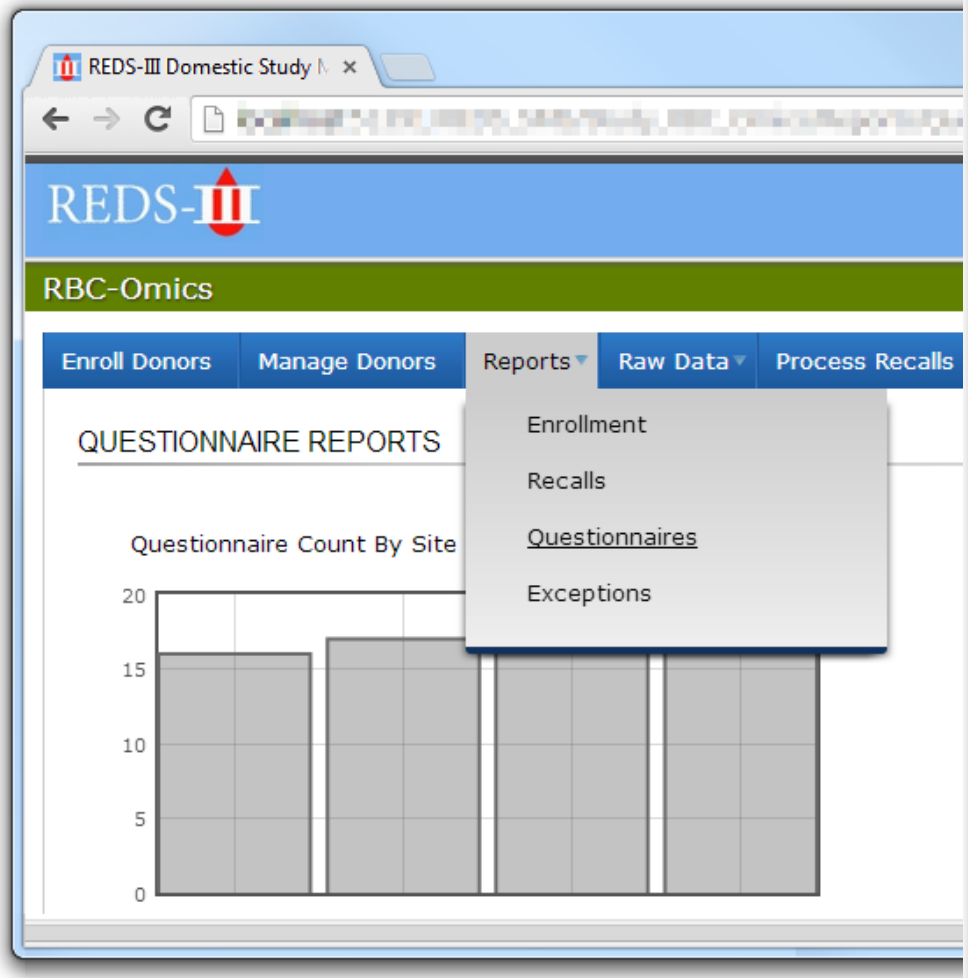

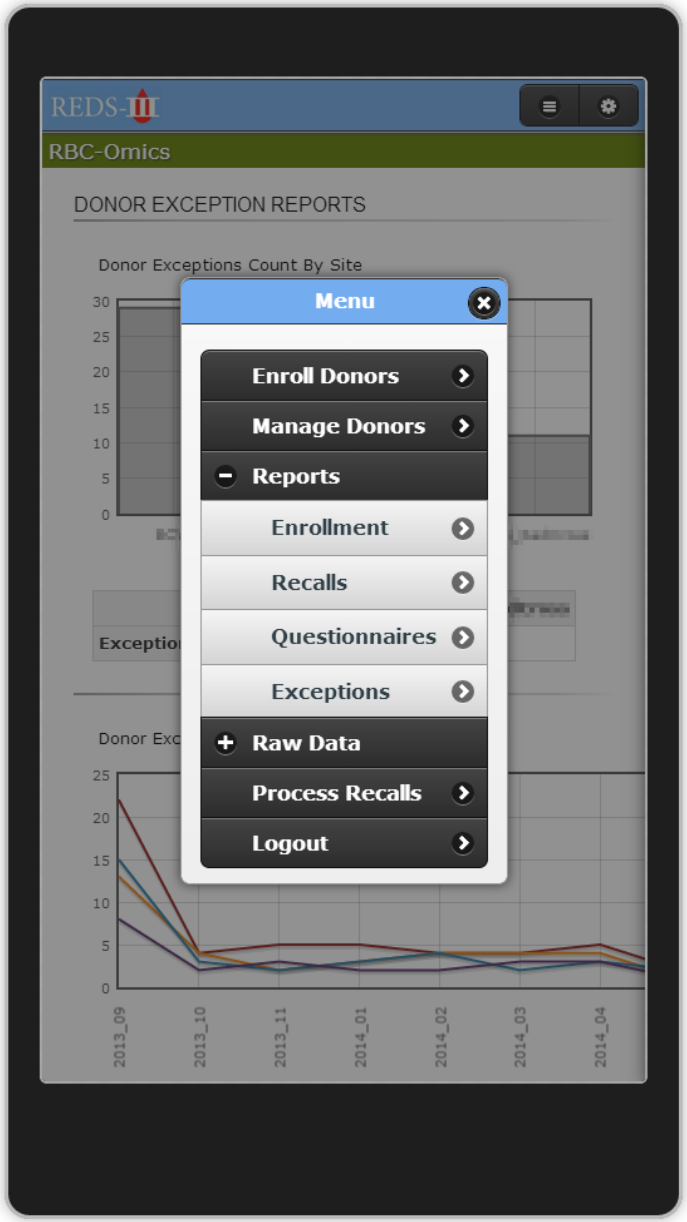

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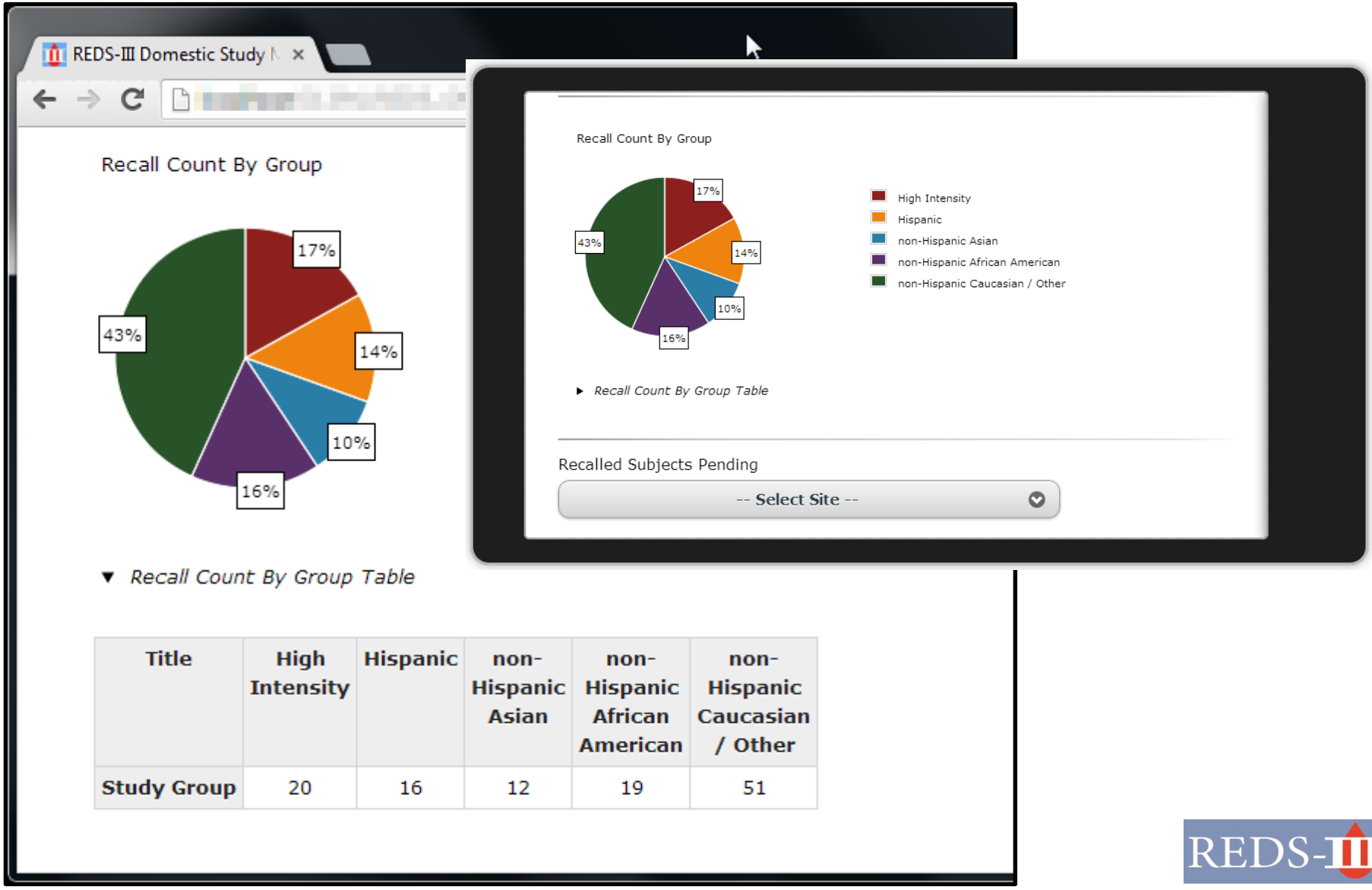
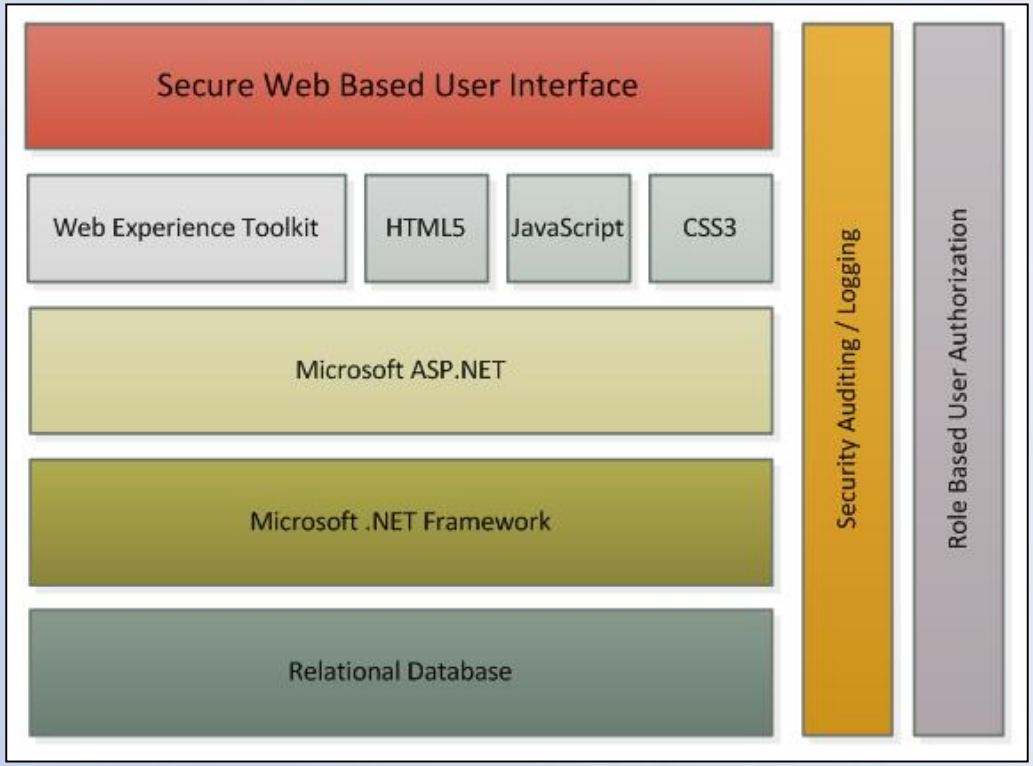


Challenges

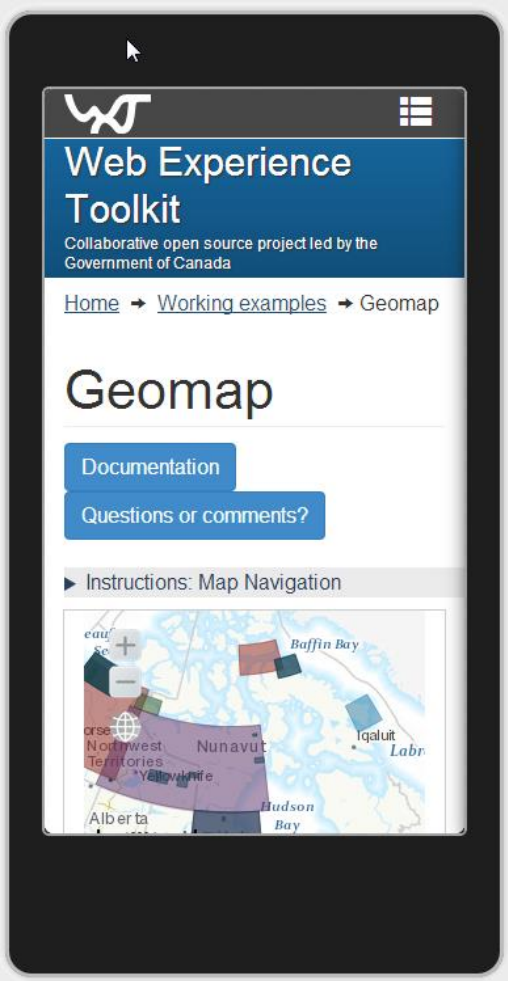
- Legacy Browser Support
- Modern Browser Differences
- User Expectations
- Development Integration
- Toolkit Customizations
- Predictability of Change



Conclusion

- Success
  - Multi-study / multi-mode data collection
  - Positive end user experience
  - Flexible device support

- Web Experience Toolkit
  - http://wet-boew.github.io/wet-boew



More Information

Christopher Siege
Senior Software Engineer
919.485.5605
Research Computing Division
csiege@rti.org

Debra Fleischman
Data Management Director
919.541.6367
Environmental and Health Science
dmf@rti.org