



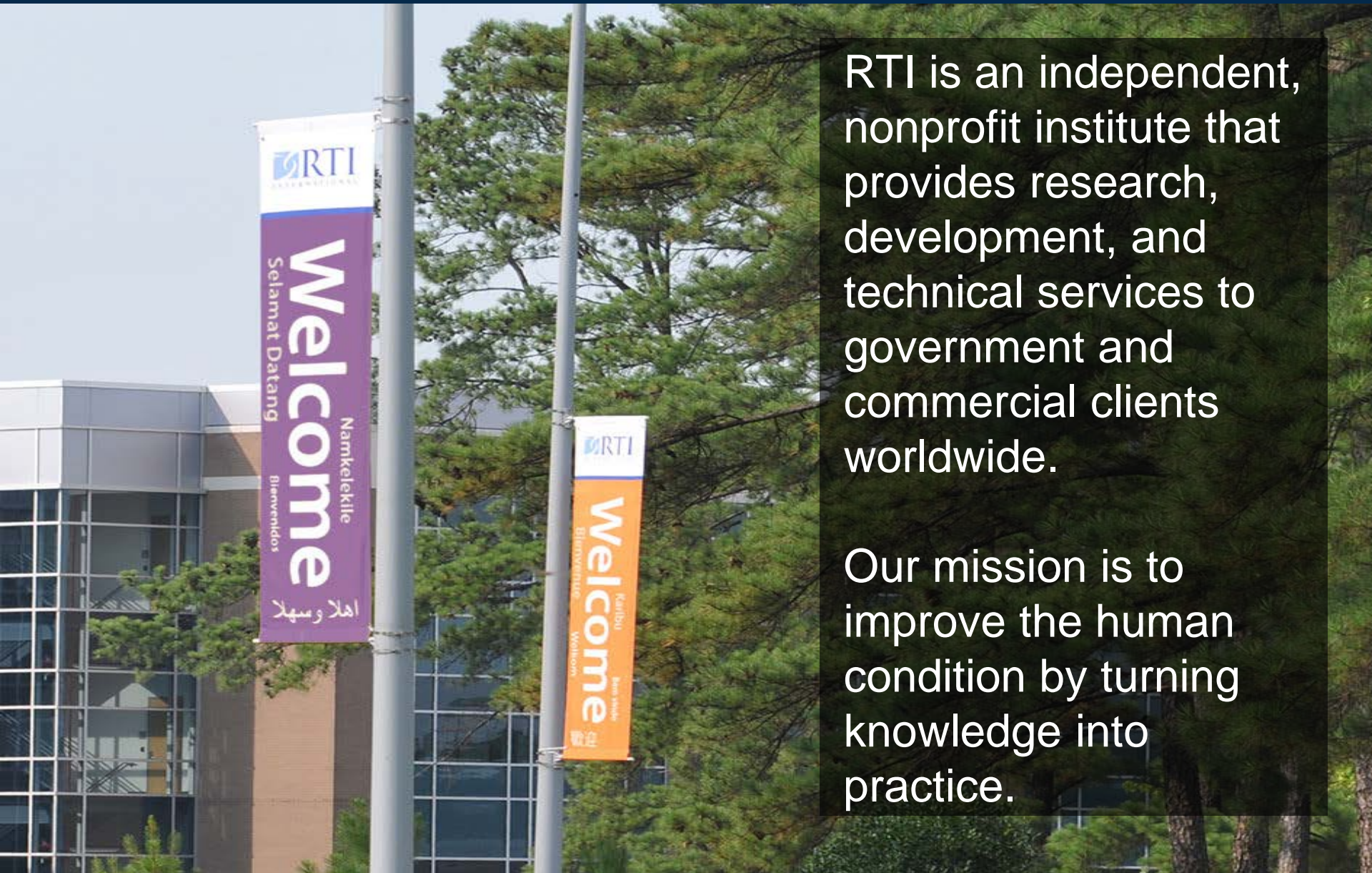
When Mobile Data Collection Apps Cannot Store Data on the Device

Prepared for FedCASIC 2018

Presenter Rebecca Watkins

Authors Matthew Boyce, Randy Eckhoff, Roger Jesrani, Paul Kizakevich, Rebecca Watkins

What Is RTI International



RTI is an independent, nonprofit institute that provides research, development, and technical services to government and commercial clients worldwide.

Our mission is to improve the human condition by turning knowledge into practice.

Agenda

1. Introduction and Motivation

2. Our Approach

3. Impacts


4. Lessons Learned

Motivation



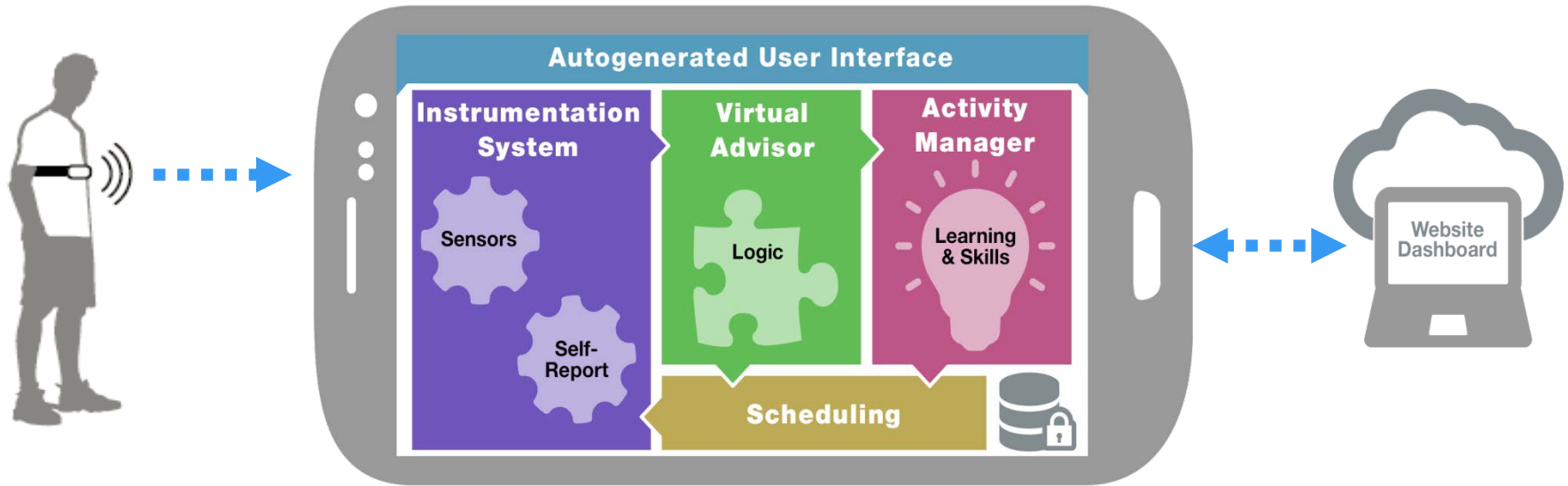
- Classroom setting, captive audience
- Extremely sensitive information.
- Data collected is anonymized
- Series of videos and follow-up questions

Motivation

A top-down view of a wooden desk cluttered with various mobile devices. In the foreground, a white tablet is prominent, displaying a dark screen. To its right, a black smartphone is visible. In the background, several other smartphones and tablets are scattered, some with their screens on and others off. A portion of a silver laptop is visible on the right side of the frame. The overall scene suggests a focus on mobile technology and its application in health care.

The PHIT mobile health framework is a cross-platform solution for rapid development of customized apps.

Motivation



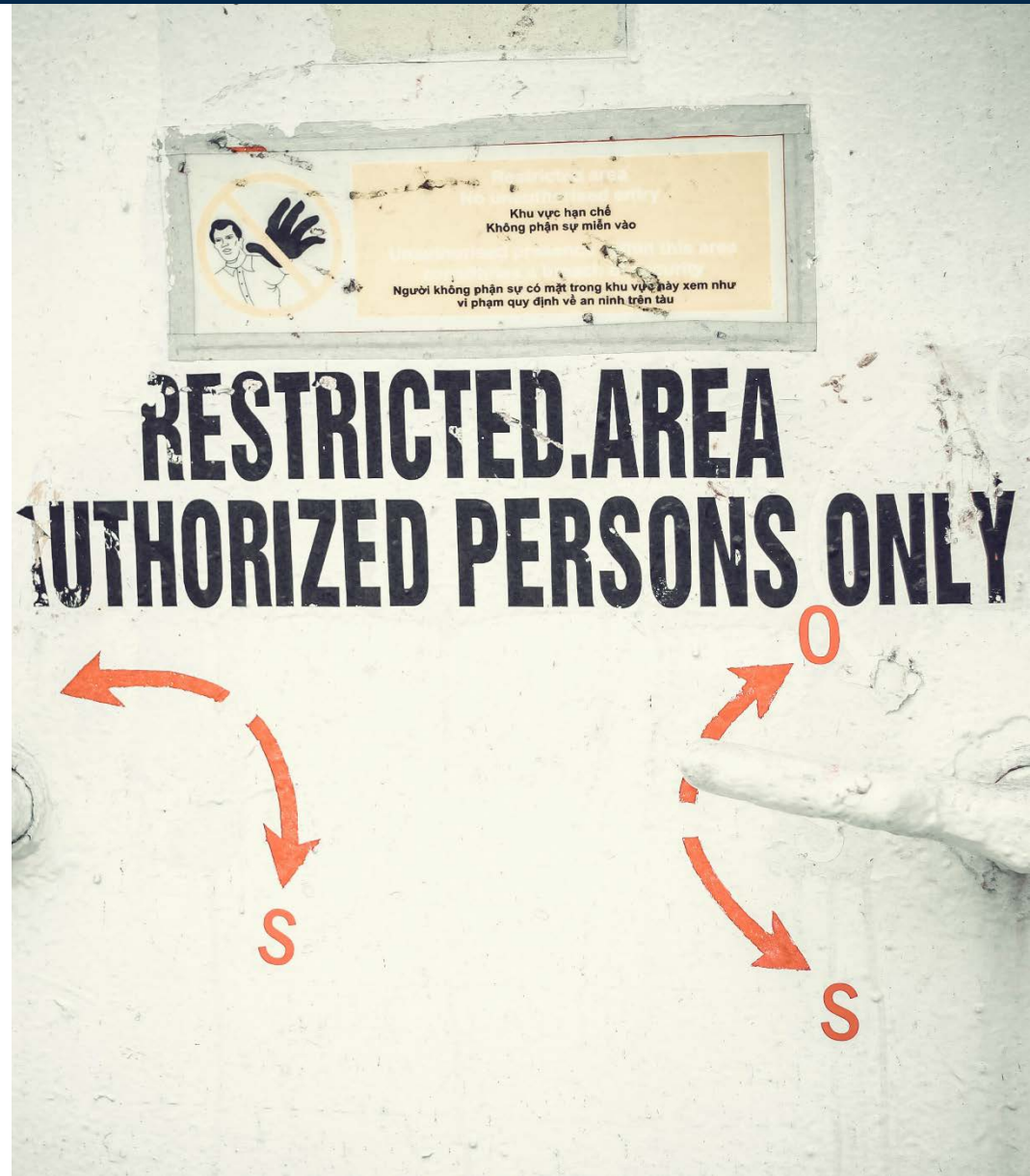
The PHIT Platform provides:

- Instrumentation
- Virtual Advisor
- Activities and Interventions
- Scheduling and Data Management

Motivation

Client requirements:

- No data on tablet.
- Information secured at all times.
- No ID that could identify respondent.
- No network or server infrastructure provided.



Our Approach



- Secured private network in each classroom.
- Laptop server receives data.
- Tablets kept in classrooms.
- Power at each seat for tablet charging.

Our Approach

Hardware protections:

- Encryption.
- Real time data transmission; not saved on the tablet.
- Tablets rebooted at the end of each training day.



Our Approach

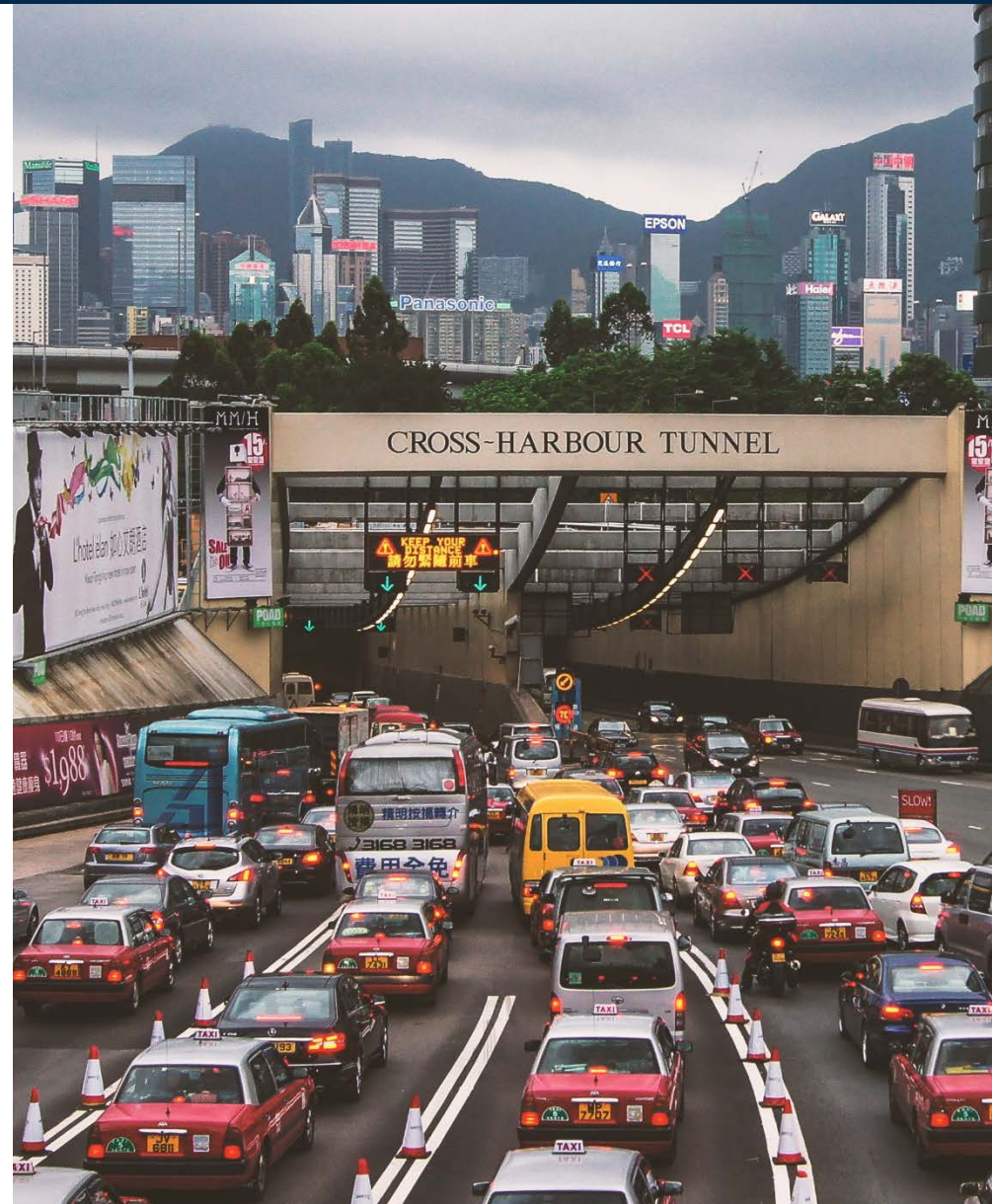


Network protections:

- Network password protected; no broadcasting SSID.
- Data encrypted then sent via HTTPS
- Requires app ID/PW only known to tablet and PW created by respondent to work.

Impacts

- Respondents picking up where they left off in the next session.
- Network must be working at all times.
- Congestion from lots of traffic.



Impacts



Instruments must find convenient places to send data to the server.

Lessons Learned

- An existing wireless infrastructure is ideal.
- Hybrid with local encryption that transmits and deletes periodically.



More Information

Rebecca Watkins

UX Developer

919.541.1206

rwatkins@rti.org

Matt Boyce

Mobile Application Developer

919.316.3500

mboyce@rti.org