Smart Phone Vaccine Registry

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South Sudan
Health Infrastructure

• Weak health infrastructure

• Low vaccination coverage

• Polarized new wealth
South Sudan Vaccine Registry System

Current Operations:

• Coverage maintained by periodic visits by HCWs (estimation: bi-yearly)
• Paper Based
  • Data storage
  • Medical Record Tracking
South Sudan Vaccine Registry System
Proposed Solution

Provide an electronic registry via Mobile Application:

- Improve Data Accuracy
- Increase HCW Efficiency
- Improve Data Reliability
- Easily Reveals Need
Overview of implementation

• Hardware Components
  • Android 2.1, JSON, XML, Server, Database

• Software Components
  • Simple UI
  • Security
  • Patient information manipulation and storage
  • Forecasting
  • Notification System
The Process:

1. Initial Vaccine
2. Records are input electronically on an Android app
3. Records are sent to a centralized database
4. Other HCP’s can access the database and get follow-up information
5. HCP’s will know which children will receive follow-up vaccinations
Fieldwork and Initial Prototypes

• Rebecca Hills
  • Existing system in the US
  • Vaccine charts
  • Information about the current condition in Sudan
  • Simplicity
• Islam Ahmad
  • Vaccination Coverage Proceedings in Jordan
  • Public Infrastructure effects on data storage and reliability
  • Common HCW use cases
• Brian Taliesin (Path Senior Systems Analyst)
  • A clinicians perspective
• Concepts in similar applications
  • ODK Clinic
Use Cases

• Log accurate information in resource constraint environments:
  • Easy to handle, see, manipulate
  • Allow data to be easily transferable
  • Online/Offline Caching
  • Conflict Handling
  • Forecasting
Future Work

• Test usability on a national scale immunization dataset

• Fluent Arabic translation

• Contact Health Care Workers operating in Sudan.
  • Test and Tailor
Prototype Demonstration
South Sudan Vaccine Registry System Concerns

Potential Problems:

- Battery Life of Phones
- Time Spent Caching Data
- Learnability of App
- Cost of buying phones and maintaining software
- Information Security