

# Smart Phone Vaccine Registry

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# South Sudan Health Infrastructure

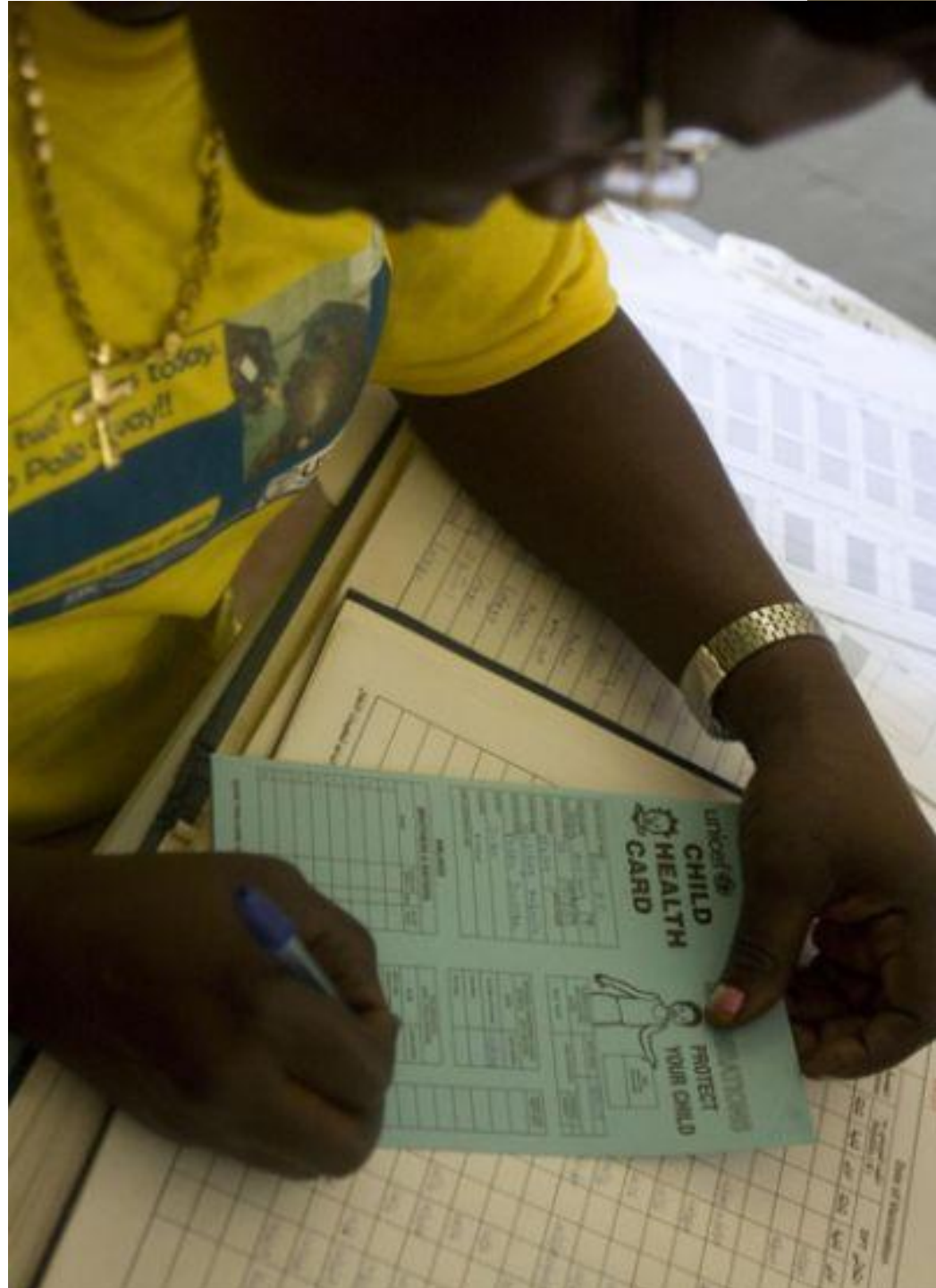
- Weak health infrastructure
- Low vaccination coverage
- Polarized new wealth



# South Sudan Vaccine Registry System

## Current Operations:

- Coverage maintained by periodic visits by HCWs (estimation: bi-yearly)
- Paper Based
  - Data storage
  - Medical Record Tracking

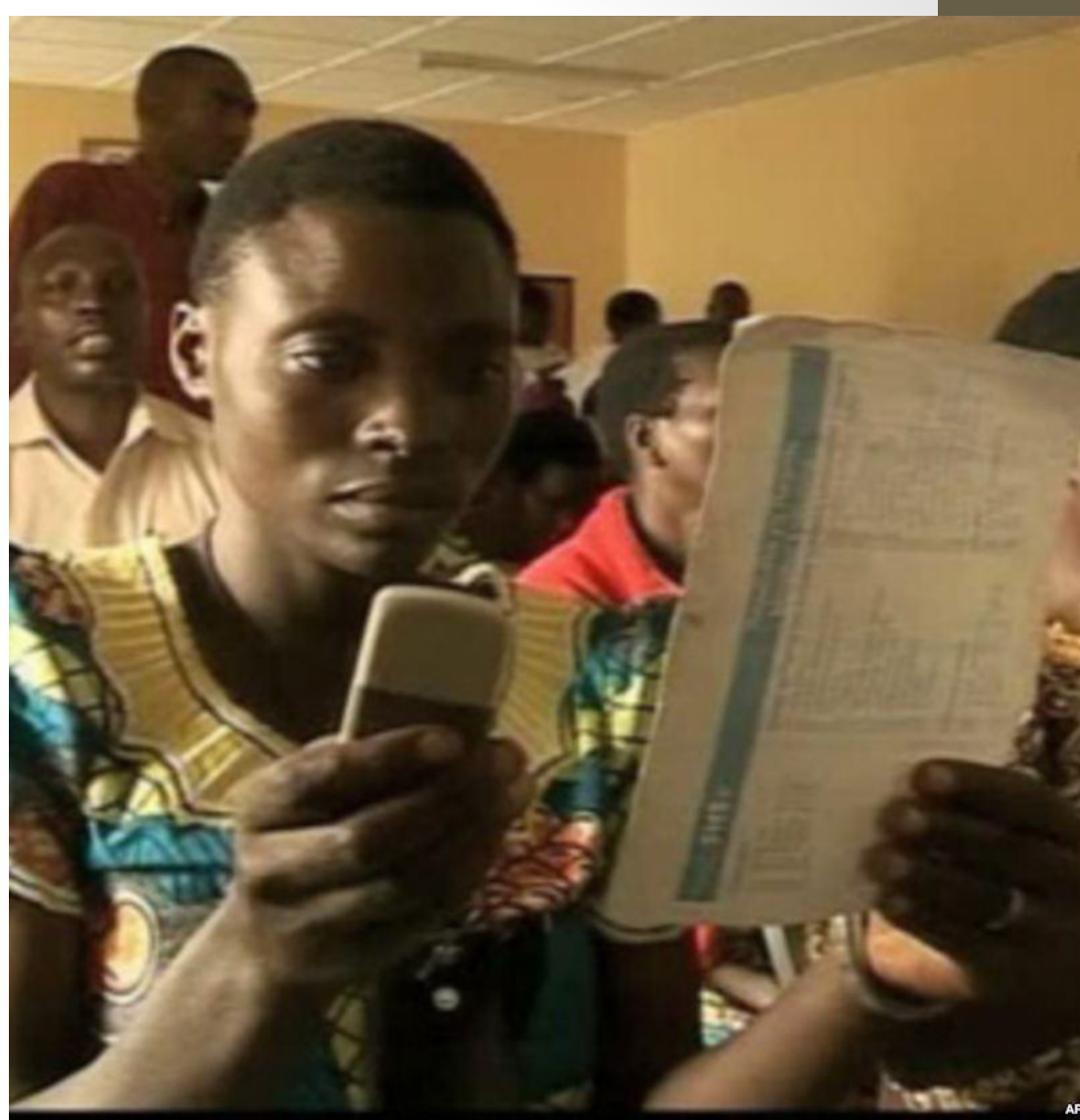


CHILD'S PARTICULARS		IMMUNISATION RECORD		PMTCT	
Name of Health Facility		IMMUNISATION against Tuberculosis (TB) BCG (at birth) _____ Date _____ 1st dose after 12 weeks _____ Date _____ Repeat dose: Under symptoms only _____ Date _____		CE _____ MSU _____ CNE _____	
Child's No.	Boy/Girl	AMMUNISATION against Polio (OPV), Diphtheria, Whooping Cough, Tetanus, Hib, Hepatitis B, Meningitis, Pneumonia (DPT-HaB-Hib) & Measles		Test by:	
Mother's or Guardian's Name	NIRC no.	OPV 0 (at birth in 12 days) _____ Date _____	OPV 1 (at 6 weeks) _____ Date _____	OPV 2 (at 10 weeks) _____ Date _____	OPV 3 (at 14 weeks) _____ Date _____
Father's or Guardian's Name	NIRC no.	OPV 4 (at 18 months) _____ Date _____	OPV 5 (at 4 years) _____ Date _____	OPV 6 (at 4 years) _____ Date _____	OPV 7 (at 4 years) _____ Date _____
Date first seen	Date of Birth	Birth weight	Other immunisations	MONITORING OF INFANT AND YOUNG CHILD FEEDING	
Place of Birth:		VITAMIN A SUPPLEMENTATION		Feeding Code:	
Where the family lives: address		Date _____ Dose _____		1) Exclusive breast feeding for the first 6 months, breast feeding only, or breast feeding plus other feeds (except medicines indicated for medical purposes)	
Tick if the child has:		MOTHER		2) Breast feeding	
Both weight less than 3 kg	Birth defect/handicap	Date given _____		3) Breast feeding	
Born within 2 years of last delivery	Fully protected against Tetanus at birth	Date given _____		4) Mixed feeding (breast only and other feeds)	
Mother dead	Father dead	Date given _____		5) Complementary breast feeding after six months is added to other feeds	
Number of brothers and sisters	Teeth shed	Date given _____		6) Milk based feed after six months is added to other feeds	
Any other reason for special attention:		Date given _____		7) Other: specify _____	
DEWORMING		Vitamin A 1 (dose of 200,000 IU) to be given soon after birth or within two months of delivery.		Ministry of Health	
Date _____ Medication _____	Date _____ Medication _____				

# 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

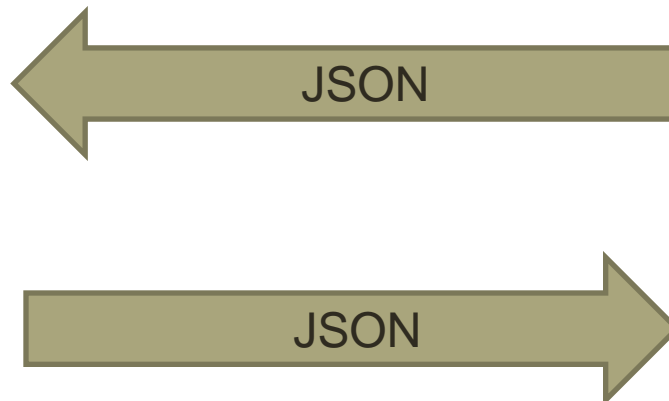




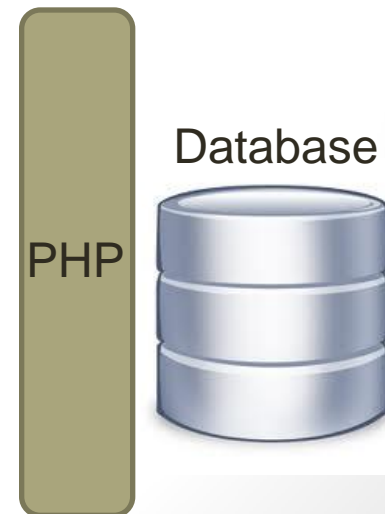
# Overview of implementation

- Hardware Components
  - Android 2.1, JSON, XML, Server, Database
- Software Components
  - Simple UI
  - Security
  - Patient information manipulation and storage
  - Forecasting
  - Notification System

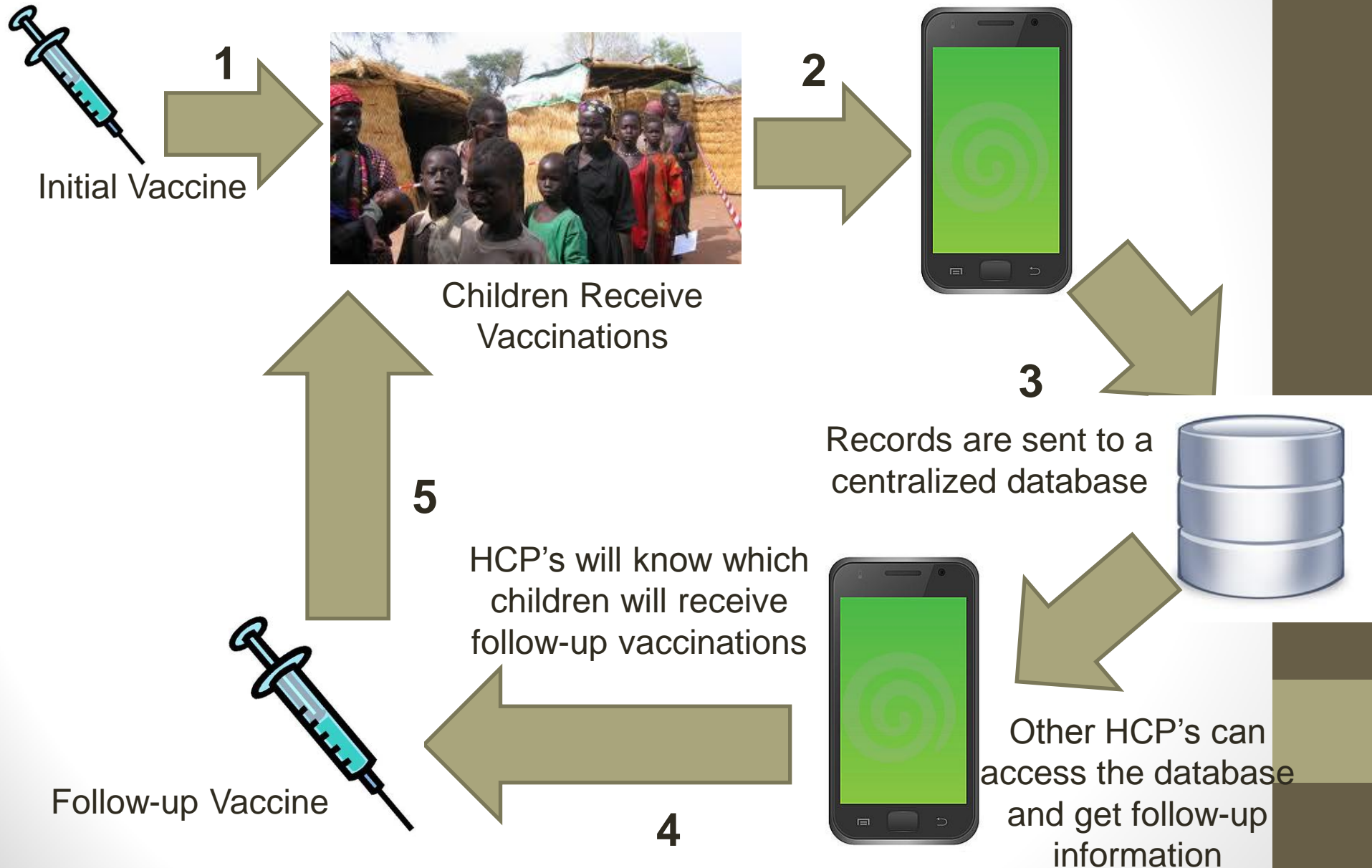
Android 2.1



Server



# The Process:



# 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

