

Open Data Kit

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Clint Tseng, Mitch Sundt, Gaetano Borriello

<http://opendatakit.org>



Paper-based systems are hard to search or transport.





Paul Persil Patient

[Back](#) [Print](#)

Gender **Male**

TRACnet ID: 12345

Age **44 years** (~ Jun 01, 1934)

Carte d'Identité: 1234567

Last Visit **1 week ago** (Aug 14, 2008)

Doug Doctor, Rwinkwavu Hospital

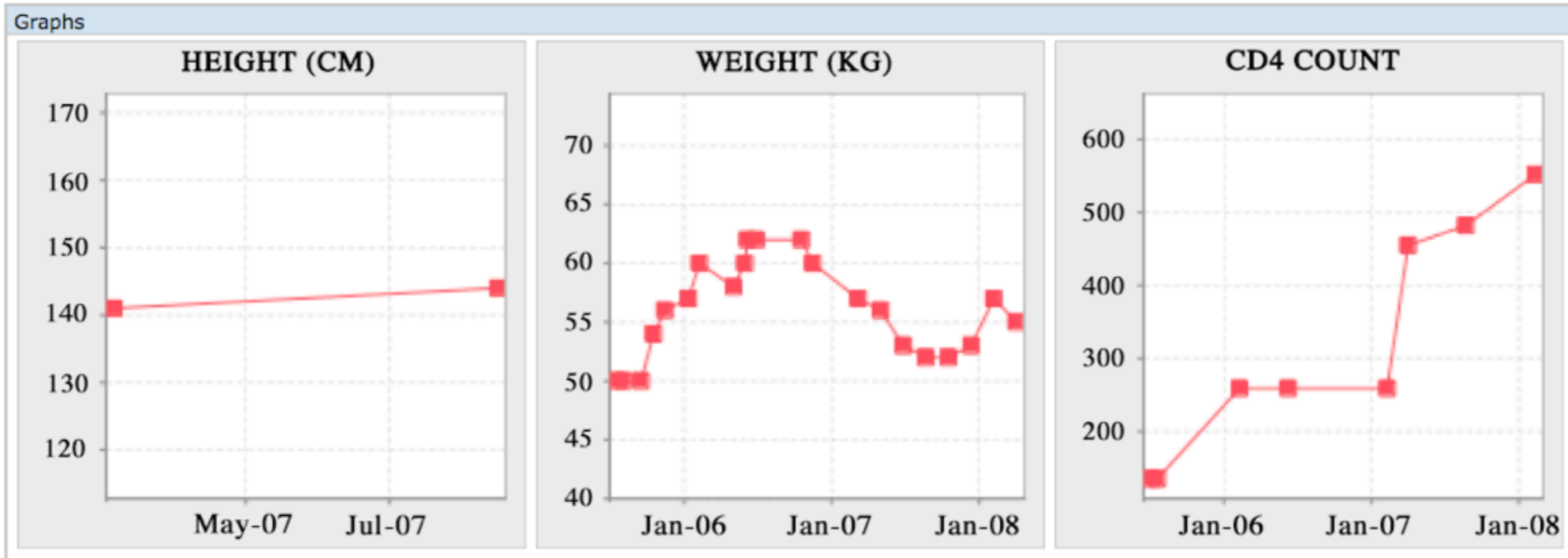
IMB ID **12345678-A**

Alerts
NO XRAY RESULT IN THE LAST 6 MONTHS
NO CXR RESULT

Notes
No known allergies

Drug Order	Dose	Frequency	Start Date	Stop Date	Notes
AZT+3TC	1.0 tab(s)	2/d x 7 d/w	Sep 13, 2007		
D4T	150 mg	1/d x 7 d/w	Aug 02, 2007		
Triomune-40 (stopped)	1.0 tab(s)	2/d x 7 d/w	Sep 01, 2007	Sep 13, 2007	Unexplained facial rash
EFV 600 (stopped)	1.0 mg	1/d x 7 d/w	Aug 02, 2007	Sep 13, 2007	

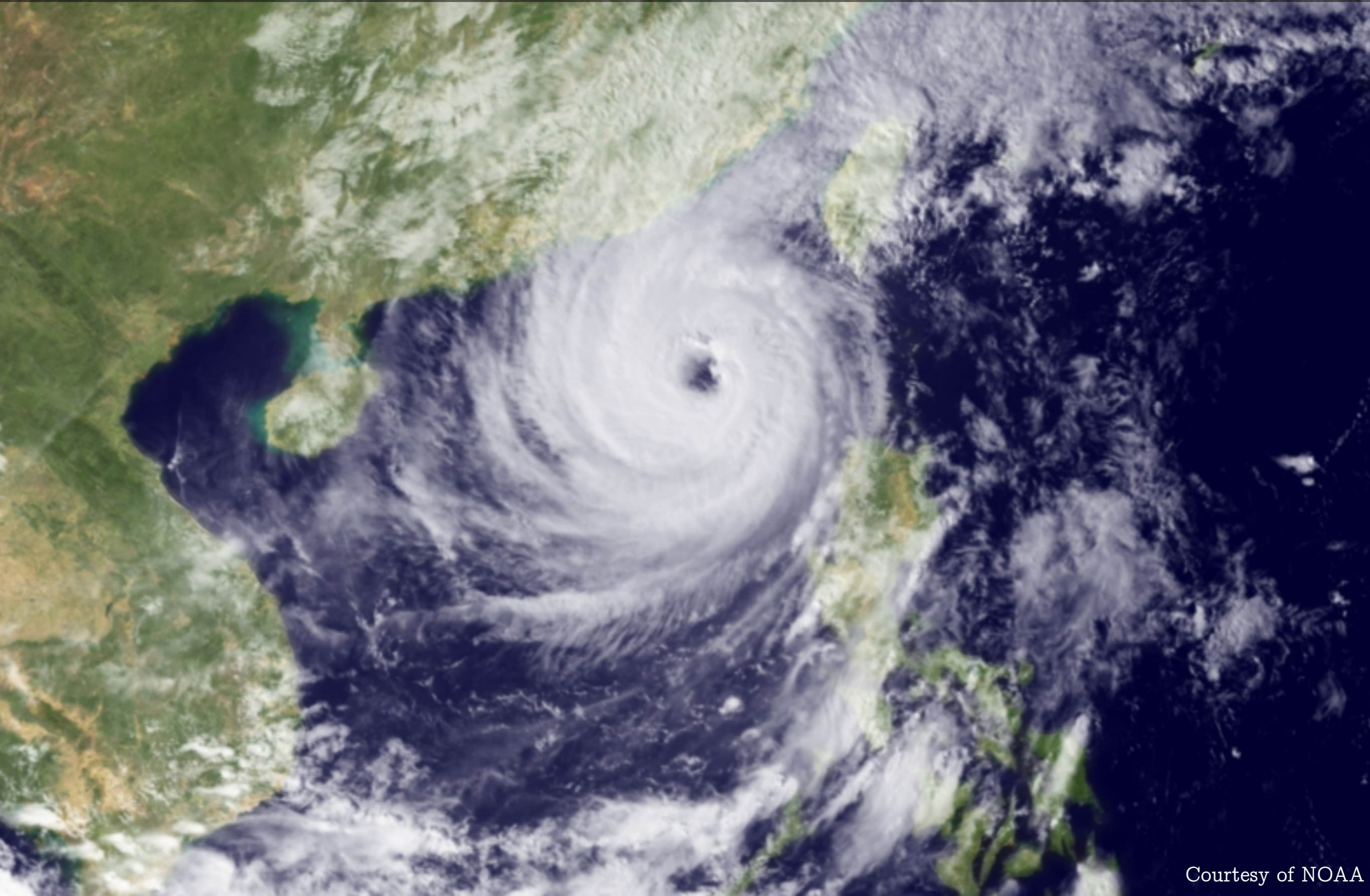
Lab Test	Result	Date	Notes
CD4	512	Aug 15, 2008	Ordered by Dr. Doctor
CD4	259	Aug 01, 2008	
Viral load	515	Jul 28, 2008	Second test for verification of status
Viral load	200	Jul 27, 2008	Ordered by Dr. Green



Lag between data collection and actionable information.



Data collection could provide much richer information



Mobile phones and cloud servers can increase the scale and speed of data collection in developing regions.

Important features are lost when using basic technology.



Domain-specific tools are inflexible and keep data siloed.



Sustainability is hard to achieve with a small team.



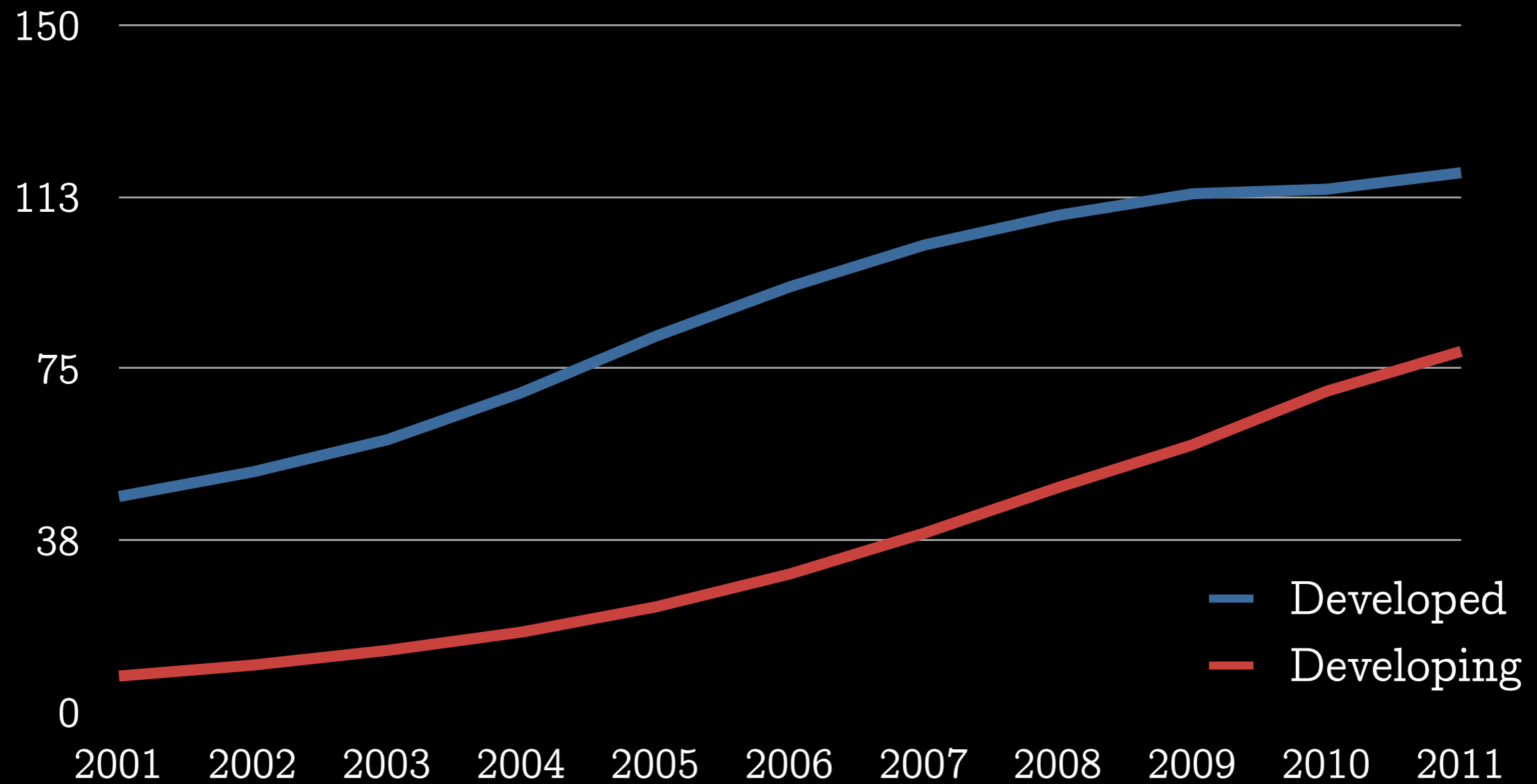
Important features are lost when using the most basic technology.

Domain-specific tools are inflexible and keep data siloed.

Sustainability and scale are hard to achieve with a small team.

26% of Kenyans have Internet with 98% using cell for access.

Mobile subscriptions per 100 inhabitants



ODK uses phones and servers to digitize data collection.

1. Build form

Untitled Form rename | File Edit View Help Signed in as Yaw

Properties
Data Name
The data name of this field in the final export
image

Caption Text
The name of this field as it is presented to the user
English
Please take a picture of yourself

Hint
Additional help for this question.
English

Read Only
Whether this field can be edited by the user

Required
Whether this field must be filled in before saving

Kind
Type of media to upload.
Image

Advanced

Abc First name
fname

Please record your location
location

When is your birthday?
bday

Please take a picture of yourself
image

Add new Text Numeric Date Location Media Choose One Select Multiple

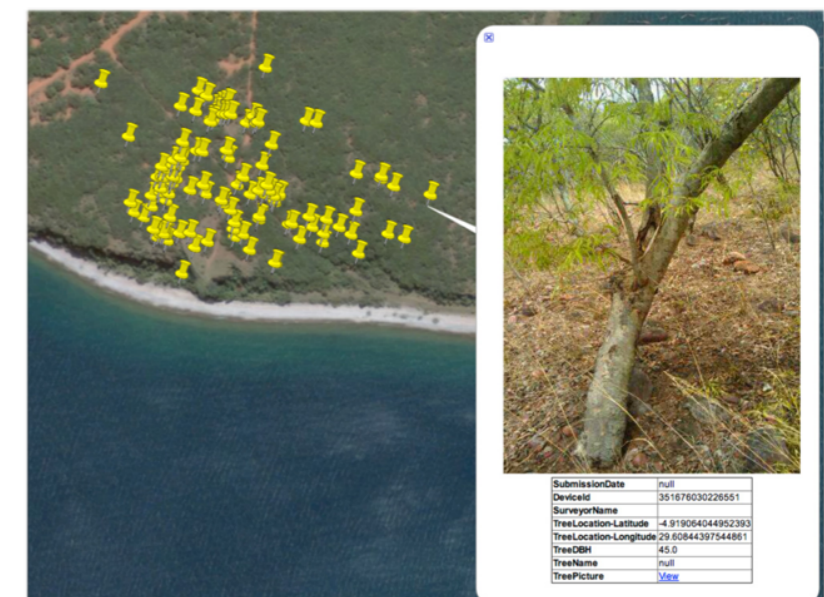
2. Collect data

ODK Collect > HCT Household Survey 9:47 AM
Household Survey > Individual Section (1)
First Name
jo

ODK Collect > IMCI Protocol 9:51 AM
ASK: Child's problems
 Cough or difficulty breathing
 Diarrhea
 Fever
 Ear problem
 Other/None of the above

ODK Collect > HCT Household Survey 8:59 AM
Survey Information
Survey Location
Ensure you have a clear view of the sky.
Replace Location
Latitude: N 35°16'21"
Longitude: E 0°30'0"
Altitude: 2036m
Accuracy: 6.0m

3. Aggregate results



Build: Drag and drop prompts for form creation.

The screenshot shows a form builder interface with a menu bar at the top containing 'Untitled Form rename', 'File', 'Edit', 'View', and 'Help'. On the right, it says 'Not signed in. Sign in now.' The main area contains a list of four prompts, each with an icon and a close button (X):

- Text prompt:** 'Enter the head of household's full name' with a 'name' data type and an 'Abc' icon.
- Date prompt:** 'Enter the head of household's birth date' with a 'date' data type and a calendar icon.
- Location prompt:** 'Capture the GPS location of the house' with a 'location' data type and a globe icon.
- Media prompt:** 'Record video of a walk around the house' with a 'picture' data type and a camera icon.

Each prompt has a speech bubble pointing to it, indicating that these are drag-and-drop prompts. To the right is a 'Properties' panel for the selected text prompt, which includes:

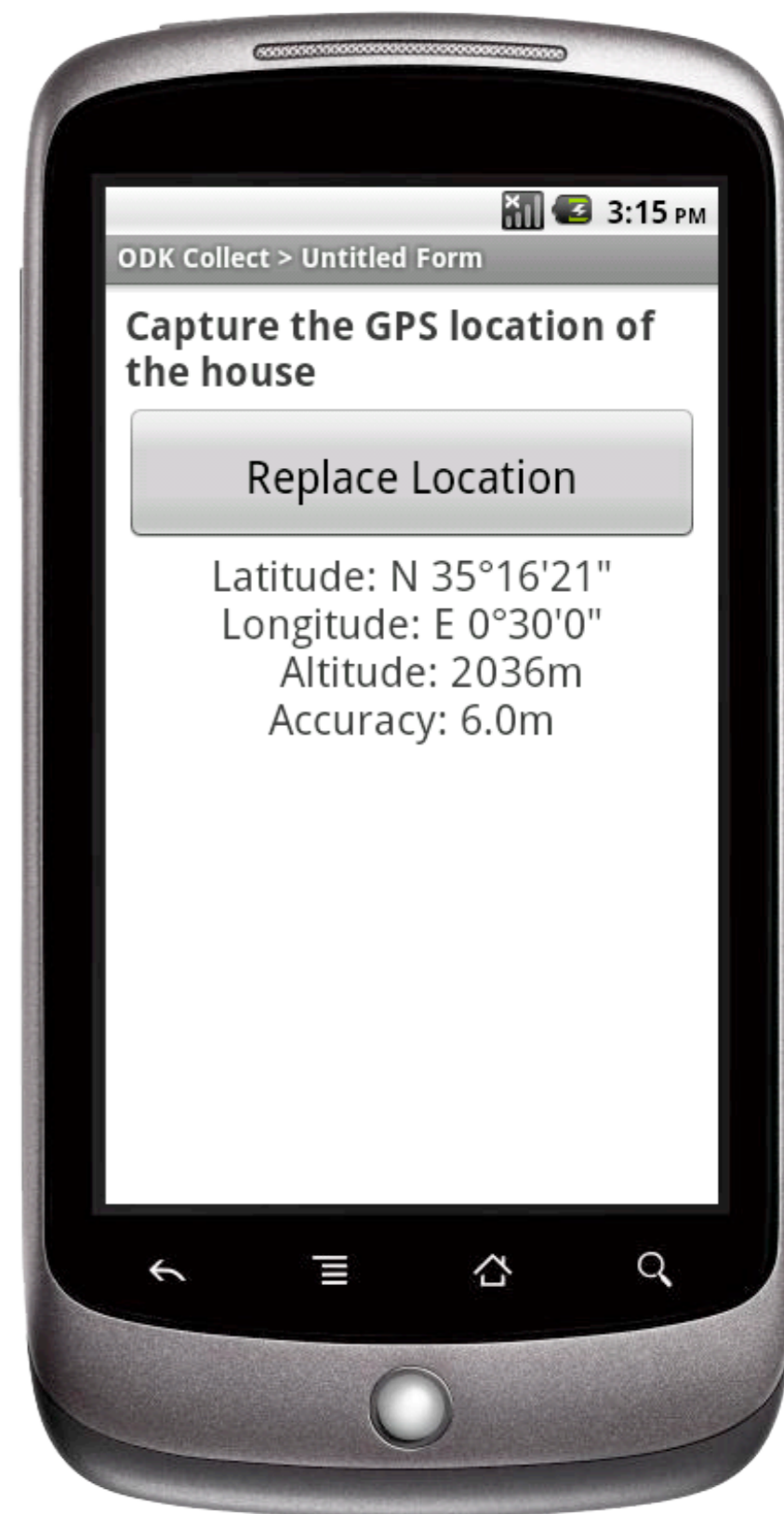
- Data Name:** A text input field containing 'name'.
- Caption Text:** A text input field containing 'Enter the head of household's full name'.
- Hint:** A text input field for additional help.
- Default Value:** A text input field.
- Read Only:** A checkbox with the description 'Whether this field can be edited by the end user or not.'
- Required:** A checkbox with the description 'Whether this field must be filled in before continuing.'
- Length:** A section for 'Valid lengths for this user input of this control.' containing 'Enable' (checkbox), 'Minimum' (input field), and 'Maximum' (input field).

At the bottom, there is an 'Advanced' section and a toolbar with a '+ Add new' button and several form control options: Text, Numeric, Date, Location, Media, Barcode, Choose One, Select Multiple, Group, and Branch.

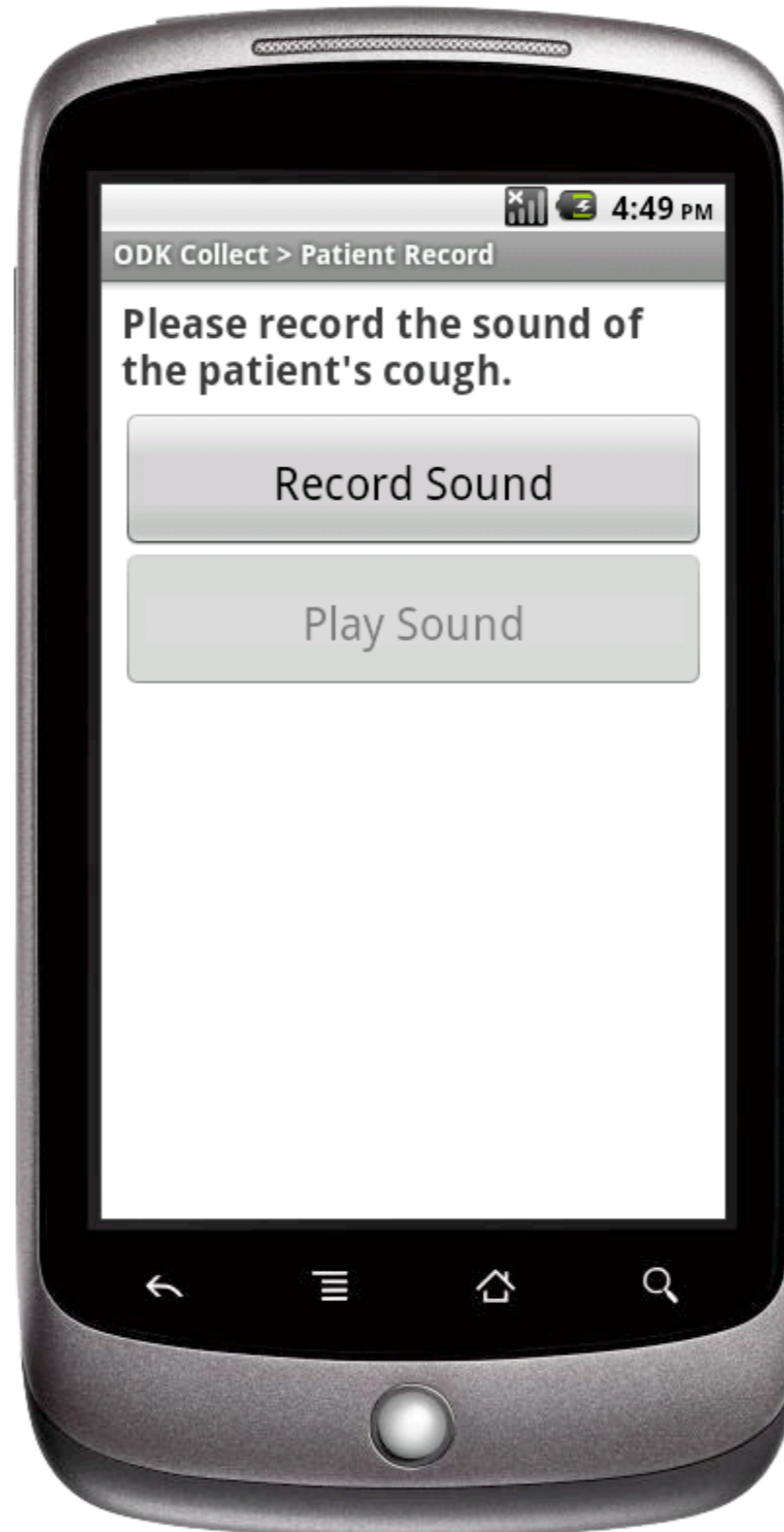
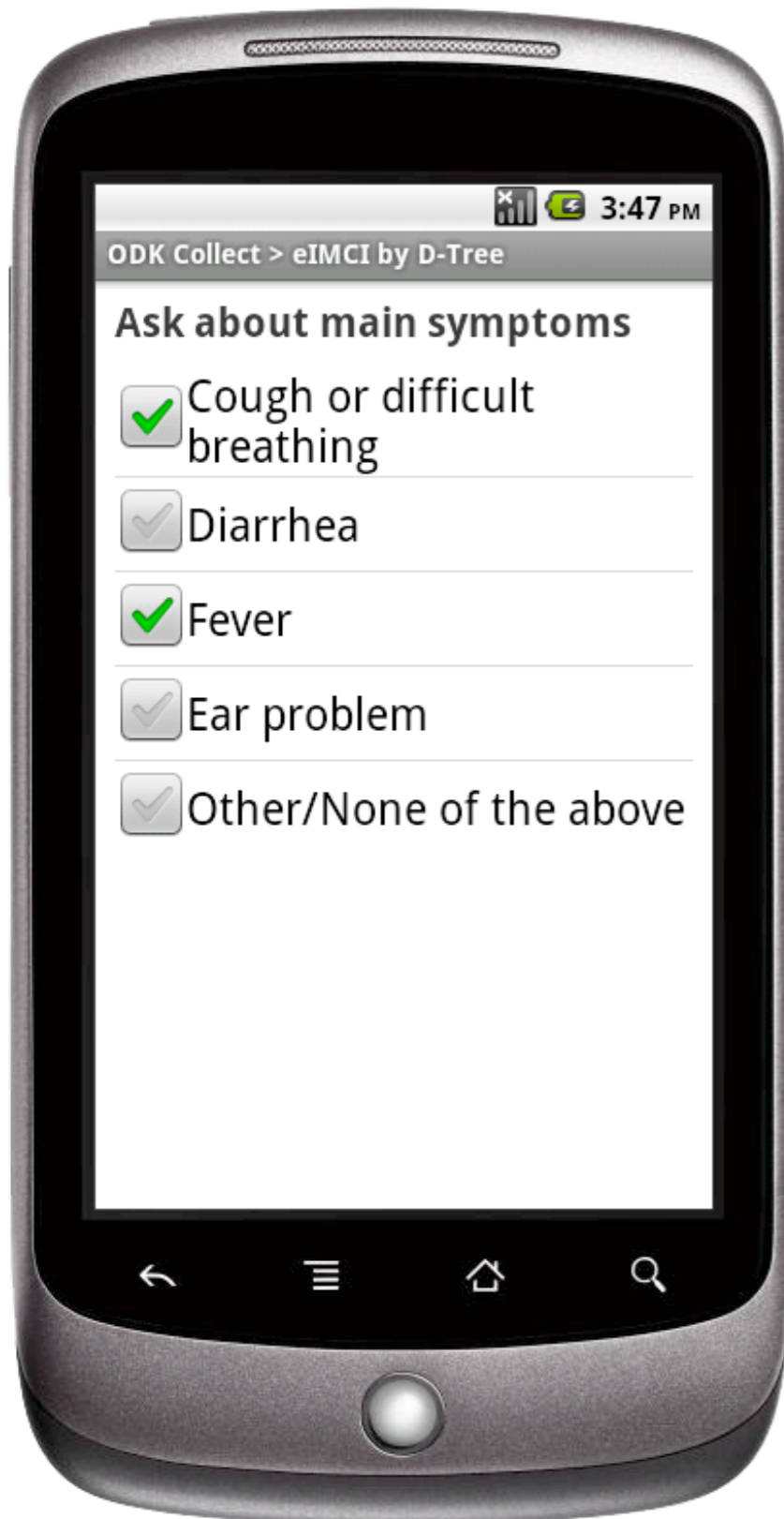
XForms describes the form logic and data schema.

```
<instance>
  <data>
    <name/>
    <date/>
    <location/>
    <picture/>
  </data>
</instance>
<itext>
  <translation lang="eng">
    <text id="/data/name:label">
      <value>Enter the head of household's full name</value>
    </text>
    <text id="/data/date:label">
      <value>Enter the head of household's birth date</value>
    </text>
    <text id="/data/location:label">
      <value>Capture the GPS location of the house</value>
    </text>
    <text id="/data/picture:label">
      <value>Record video of a walk around the house</value>
    </text>
  </translation>
</itext>
  <bind nodeset="/data/name" type="string"/>
  <bind nodeset="/data/date" type="date"/>
  <bind nodeset="/data/location" type="geopoint"/>
  <bind nodeset="/data/picture" type="binary"/>
</model>
</h:head>
<h:body>
  <input ref="name">
    <label ref="ir:itext('/data/name:label')"/>
```




Collect: Display prompts for data collection and delivery.



Collect: Display prompts for data collection and delivery.



Aggregate: Host data and provide extraction interfaces.

 **Submissions** Form Management Site Admin [Log Out](#)  wbrunette@gmail.com









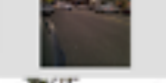
Filter Submissions Exported Submissions

Form Filter [Visualize](#) [Export](#)

[Save](#) [Save As](#) [Delete](#) [Previous](#) **Geo Tagger v2** [Next](#)

Display Metadata
Submissions per page

Filters Applied
[+ Add Filter](#)
 Hide DeviceId

	Image	Location Latitude	Location Longitude	Location Altitude	Location Accuracy	Description
<input checked="" type="checkbox"/>		47.65434975	-122.30498975	21.29999924	6.708204	HUB construction
<input checked="" type="checkbox"/>		47.64834739	-122.29989853	-20.29999924	5.656854	Docks at WAC
<input checked="" type="checkbox"/>		47.65335942	-122.3255423	-14.89999962	6.708204	Foot of Latona
<input checked="" type="checkbox"/>		47.64634424	-122.33644953	-7.0999999	6.3245554	Home
<input checked="" type="checkbox"/>		47.64540379	-122.33636588	-7.19999981	4.472136	Kite hill... Gasworks
<input checked="" type="checkbox"/>		47.62708792	-122.33274967	-8.0	6.708204	Chandler's Cove
<input checked="" type="checkbox"/>		47.65824883	-122.31314593	31.0	5.0	The Ave
<input checked="" type="checkbox"/>		47.66945725	-122.30360415	25.39999962	5.0	Ravenna Park
<input checked="" type="checkbox"/>		47.68088862	-122.3291259	48.59999847	5.0	Greenlake
<input checked="" type="checkbox"/>		47.68999464	-122.3554331	68.59999847	7.2111025	Greenwood

Aggregate: Codebase runs locally and in the cloud.



Aggregate: Designs database backend using XForm.

The screenshot displays the MySQL Workbench interface for a MySQL 5.1.41-3ubuntu12.6 instance. The main window shows the 'event' table structure with the following fields:

Field	Type	Length	Unsigned	Zerofill	Binary	Allow Null	Key	Default	Extra
name	char	64	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PRI		None
body	longblob		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		NULL	None
definer	char	77	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			None
execute_at	datetime		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		NULL	None
interval_value	int	11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		NULL	None
interval_field	enum	'YEAR','QUAR...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		NULL	None
created	timestamp		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		CURRENT_T...	on update ...
modified	timestamp		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		0000-00-0...	None
last_executed	datetime		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		NULL	None
starts	datetime		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		NULL	None
ends	datetime		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		NULL	None
status	enum	'ENABLED','DI...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		ENABLED	None
on_completion	enum	'DROP','PRES...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		DROP	None
sql_mode	set	'REAL_AS_FL...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			None
comment	char	64	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			None
originator	int	10	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		NULL	None
time_zone	char	64	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		SYSTEM	None

Below the field list, the 'INDEXES' section shows the following information:

Non_unique	Key_name	Seq_in_index	Column_name	Collation	Cardinality	Sub_part	Packed	Comment
0	PRIMARY	1	db	A	NULL	NULL	NULL	
0	PRIMARY	2	name	A	0	NULL	NULL	

The 'TABLE INFORMATION' section at the bottom left provides summary statistics for the 'event' table:

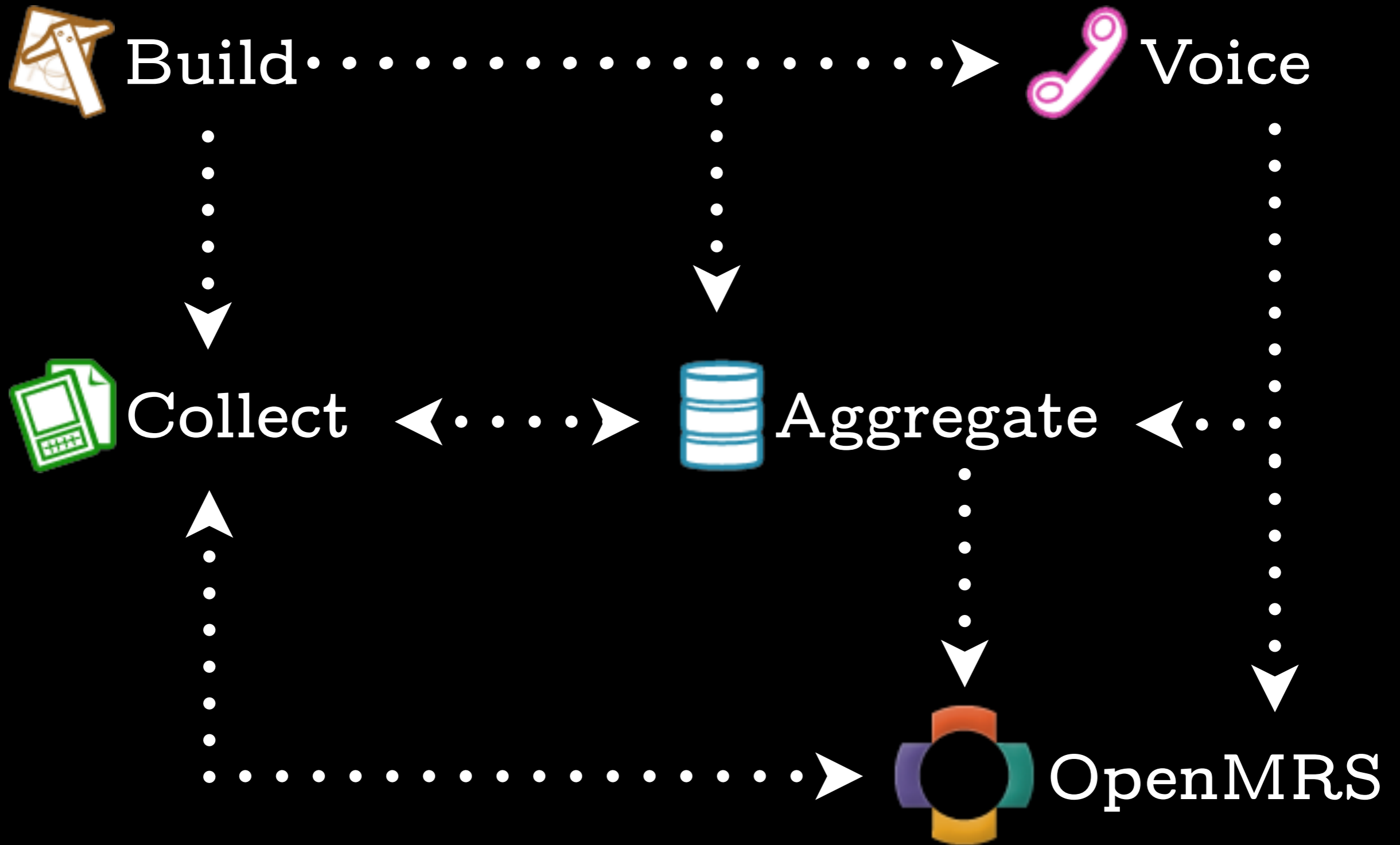
- created: 8/18/10
- updated: 8/18/10
- rows: 0
- size: 0 B
- encoding: utf8

Aggregate: Stores or forwards data to external systems.

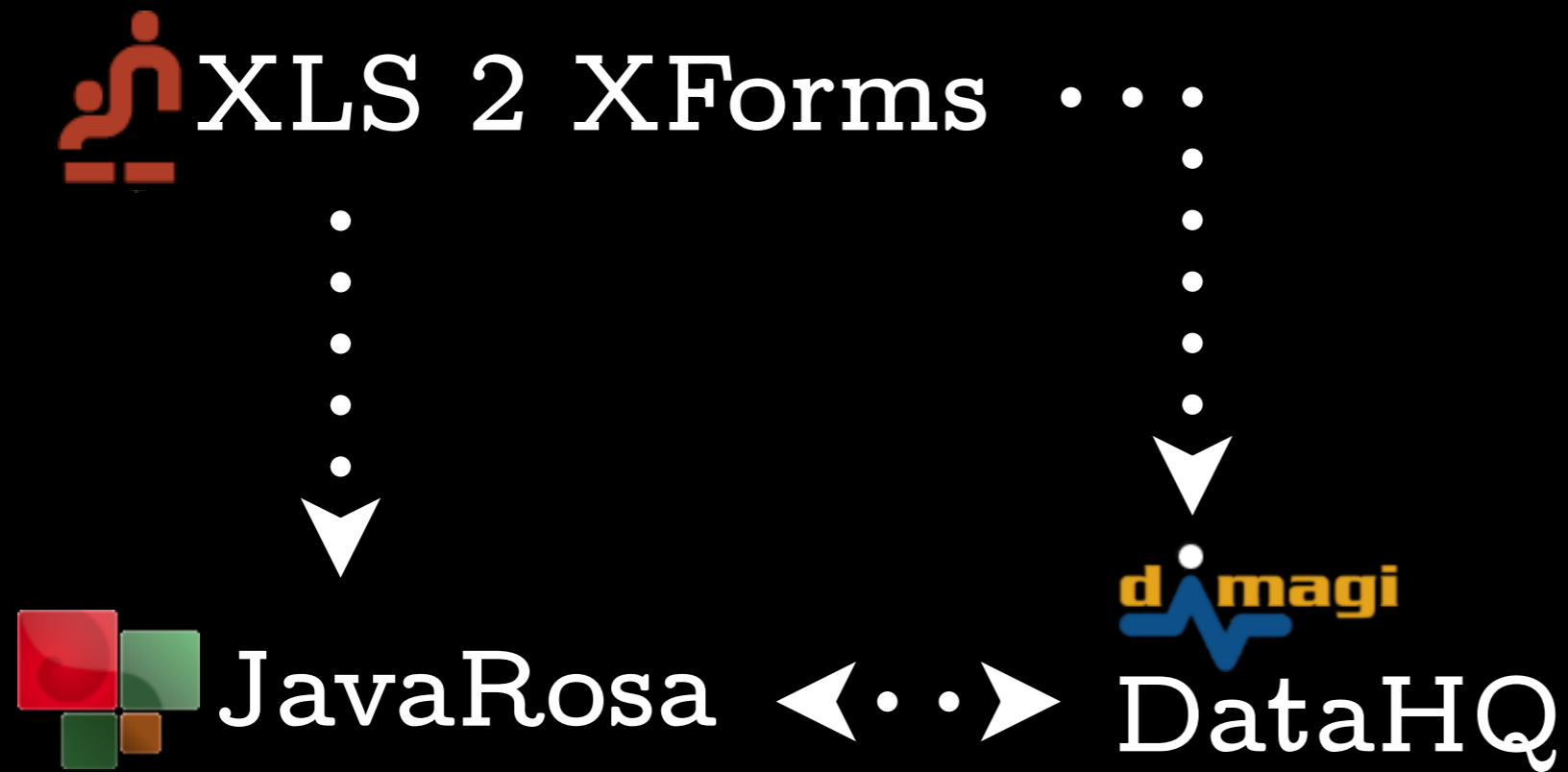


DeviceId	351676030226627
SurveyorName	Shadrack
TreeLocation-Latitude	-4.9192410707473755
TreeLocation-Longitude	29.60762321949005
TreeDBH	57.0
TreeName	Myombo
TreePicture	View

ODK tools are designed to fit together.



Users can design an end to end system in under an hour.



Reproductive Health Vouchers

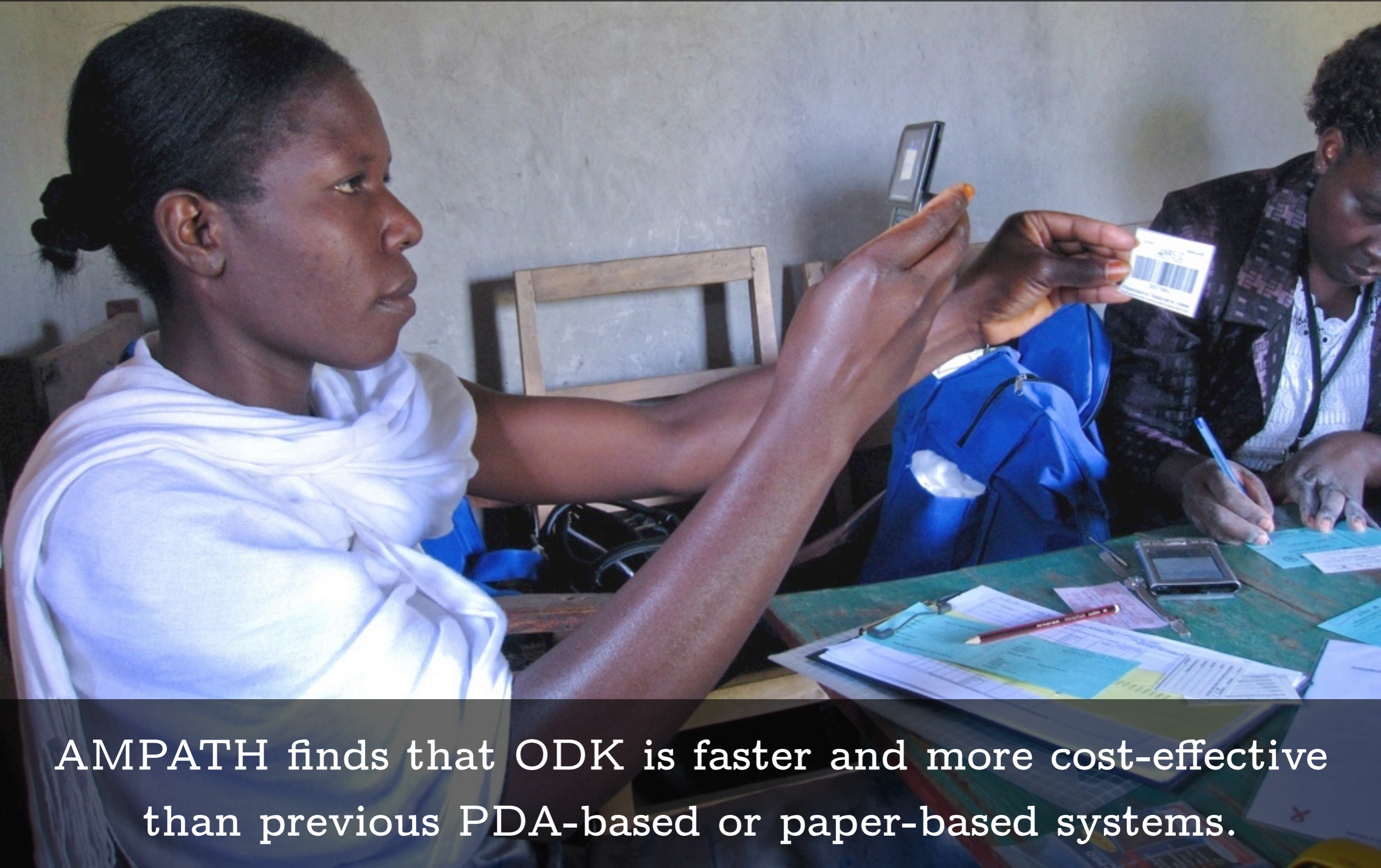
**Helping to save the lives of
thousands of mothers and of babies through
access to quality health care.**

Carbon For Water collected over 1,000,000 forms
with 4,000 ODK-powered phones in 6 weeks.



Carbon For Water finds that ODK enables real-time
collection of image, GPS and survey data at scale.

AMPATH's health workers have used ODK to counsel and test over 650,000 people for HIV.



AMPATH finds that ODK is faster and more cost-effective than previous PDA-based or paper-based systems.

Deployments: 10-50k active users of ODK tools globally.



Looking for a company to build a form or customize an ODK tool? Below are a few that we know about.

- [Nafundi](#) - A consulting company started by the guys who created Open Data Kit. If you need to customize ODK, they can help.
- [Dimagi](#) - Provides support for core and custom development on the Open Data Kit platform. They work closely with team that founded ODK.
- [Mindflow Associates](#) - Have experience customizing OpenMRS, ODK data collection solutions, building Android phone based applications, utilizing JavaRosa-based technologies amongst many others.
- [Afris](#) - Has developed and deployed end to end (mobile, touch-screen kiosks, SMS, desktop, web) software solutions across all provinces of Mozambique. They are quite familiar with JavaRosa-based technology.
- [Mega Six Solutions](#) - Has experience designing forms. Contact [Paul](#) for more information.
- [Group Complete](#) - Will design and implement survey collection forms for users of Group Complete (and ODK-based tool) for free.
- [ULevel](#) - A company based in Brazil doing customizations on Collect for Android.
- [WebFirst](#) - Well versed in the development of data collection systems like JavaRosa and ODK in low-resource and standard environments.
- [EarlySail](#) - Have customized ODK Collect for a few pilot projects as well as assisted in form development. They will soon be porting ODK to BlackBerry.
- [Seeing Swans](#) - A company focusing on data collection and complex analytics. They have customized ODK to be suitable for administering household surveys as well as construction management and stock control.
- [Development IT Solutions](#)

The turn key solution for mobile data collection



WHAT WE DO

ViewWorld provides a cloud-based data collection platform, that enables organizations as well as businesses to collect data and information using smart phones.

Whether for monitoring, documentation or reporting. Our system can be adapted to fit your standardized reporting format as required.

ViewWorld enables timely, effective and reliable transfer of information from the field to decision-makers in your organisation.

[VIEW REPORTS ON MAP](#)

CREATING VISIBILITY



[SEE HOW THEY DO IT](#)

HOW WE MAY HELP YOU

Almost any large organization can benefit from collecting fast and reliable information from the field.

Better and faster data offers better basis for decisions in the organization.

Try out a demo. Use 'demo' as login and password here.

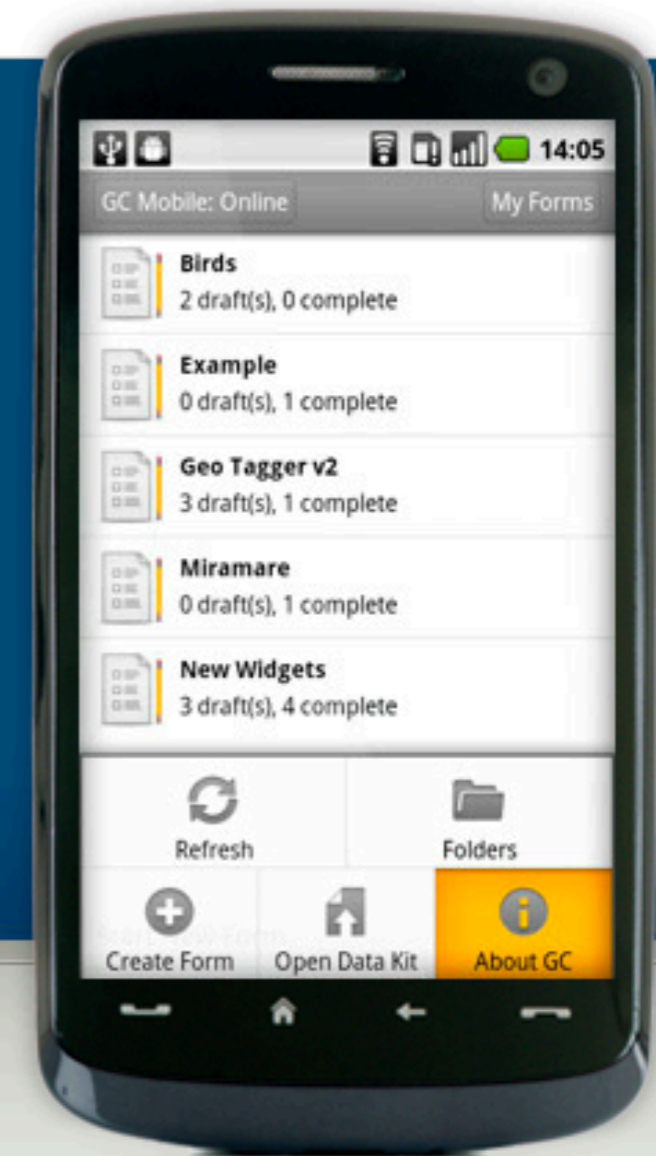
try it yourself

[LOG IN HERE](#)

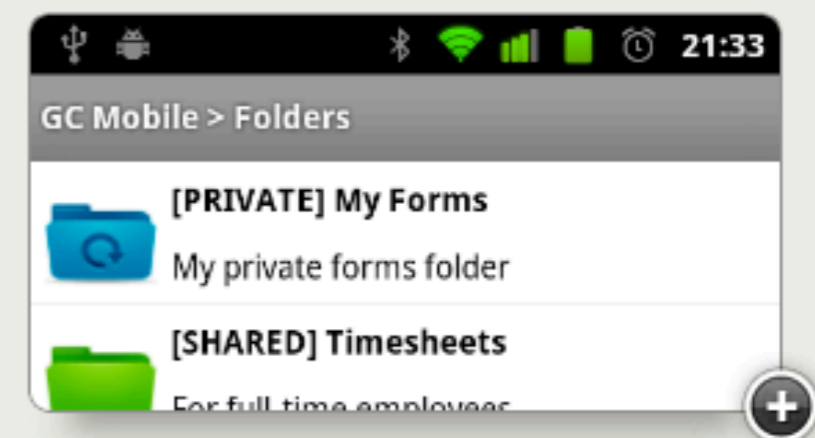
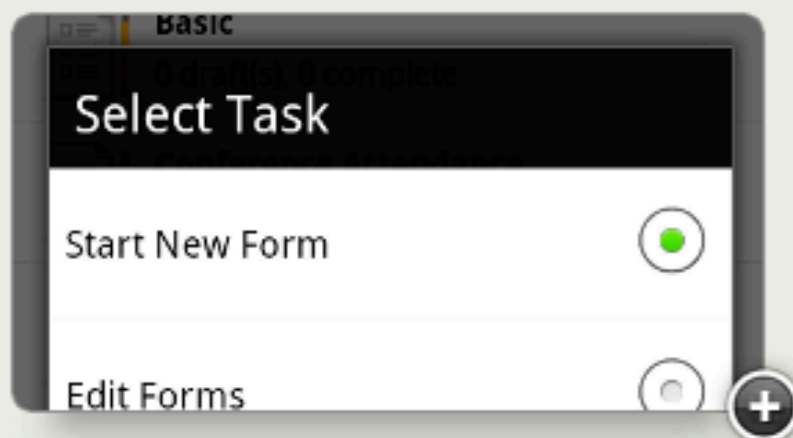
Bring Data To Your Doorstep

Group Complete is smart forms & remote data collection for your Android smartphone and tablet. Use it to put knowledge in the hands of your mobile team, improve productivity, and get the complete picture.

Try it now for free!



Power For People On The Go

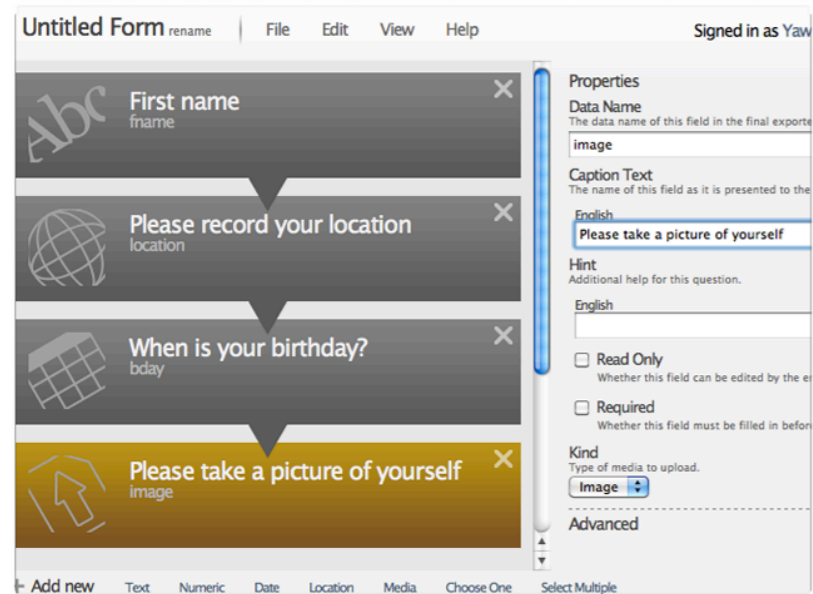


nafundi

Building the next generation
data collection platform

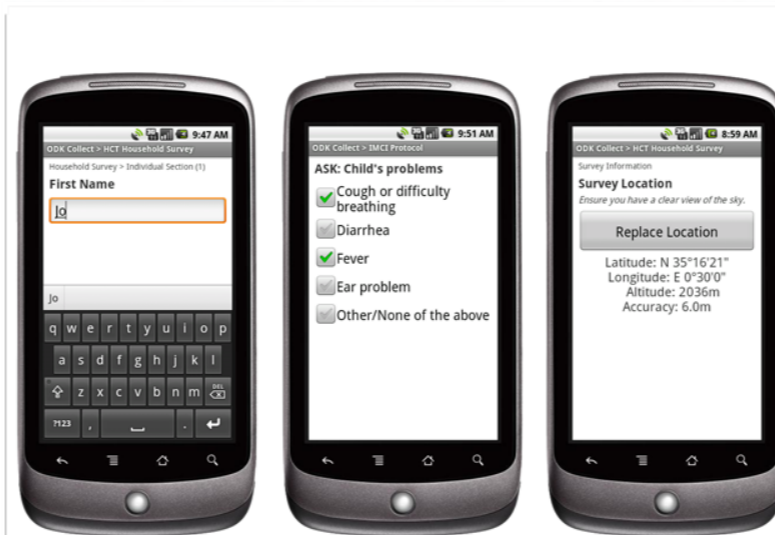
Using paper to collect data is difficult and inefficient.
ODK uses phones and servers to digitize data collection.

1. Build form



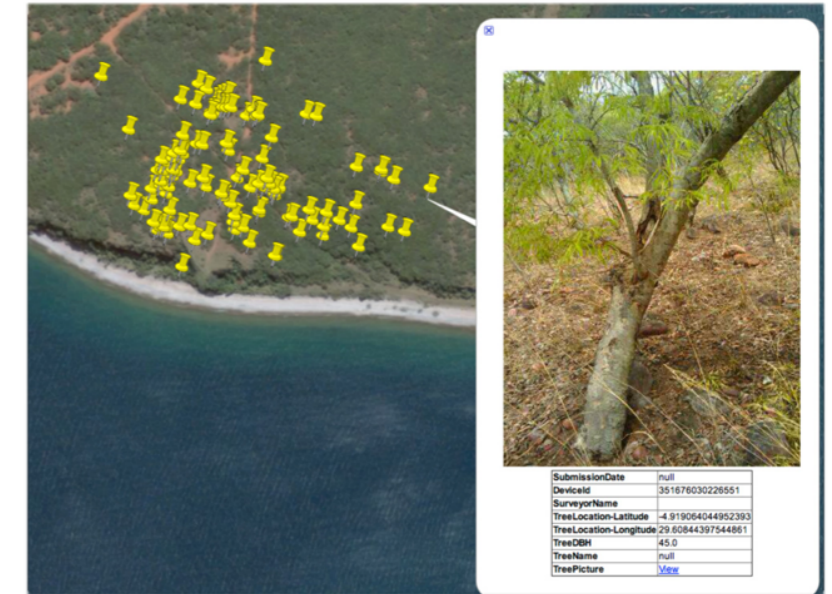
The screenshot shows the ODK Build form interface. It features a menu bar with 'File', 'Edit', 'View', and 'Help'. The main area displays a form titled 'Untitled Form' with several questions: 'First name', 'Please record your location', 'When is your birthday?', and 'Please take a picture of yourself'. A 'Properties' panel on the right allows for configuring the form fields, including 'Data Name', 'Caption Text', 'Hint', 'Read Only', 'Required', and 'Kind' (Image).

2. Collect data



Three screenshots of the ODK Collect mobile application. The first shows the 'First Name' field with the value 'Jo'. The second shows a list of 'Child's problems' with checkboxes for 'Cough or difficulty breathing', 'Diarrhea', 'Fever', 'Ear problem', and 'Other/None of the above'. The third shows the 'Survey Location' screen with a 'Replace Location' button and coordinates: Latitude: N 35°16'21", Longitude: E 0°30'0", Altitude: 2036m, Accuracy: 6.0m.

3. Aggregate results



[@yanokwa](http://cs.washington.edu/homes/yanokwa)

[@opendatakit](http://opendatakit.org)

[@nafundi](http://nafundi.com)