SMS And ICT4D
Connecting to People

Trevor Perrier

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Why SMS

Or: Where There Is No App

Advantages of SMS

- Ubiquitous
- No Install
- Low cost
- Scalable

Disadvantages

- No structure
- Limited bandwidth
- Complex syntax

When To Use

- Large scale
- No control over hardware
- Simple data collection or unstructured messages

Telecommunication Interface

Very Difficult ….

- Telco red tape
- Expensive to setup
- Only cost effective at scale

Connection Methods …

- GSM Modem
- Third Party Gateway
- Android Gateway

GSM Modem

- Direct connection to cell network

GSM Modem

Third Party Gateways

How connect a web application to the telecommunication system?

HTTP to SMS Gateways

- Twilio
- Nexmo
- Sendhub

Africa's Talking

HTTP to SMS Gateway

Send - POST request

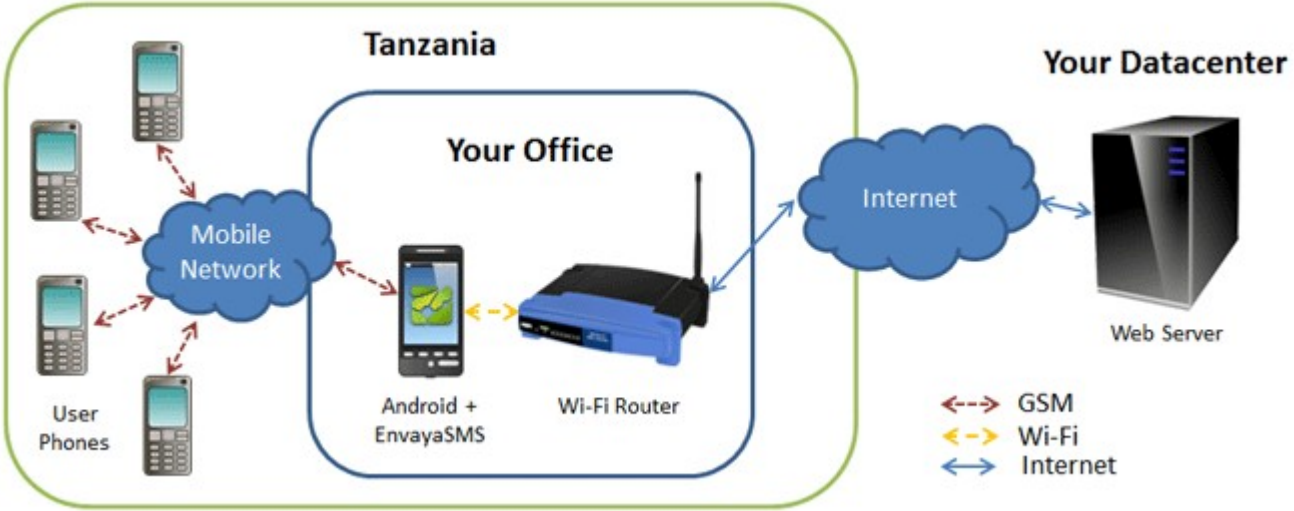
- URL: http://api.africastalking.com/version1/messaging
- Header: apikey=APPLICATION_API_KEY
- username
- message
- to

Receive - Call back URL

- URL: http://my.app.com/at/receive
- POST variables
  - from
  - message
  - date
  - uuid

Android SMS Gateway

Ushahidi SMS Sync and EnvaySMS



Frontline SMS

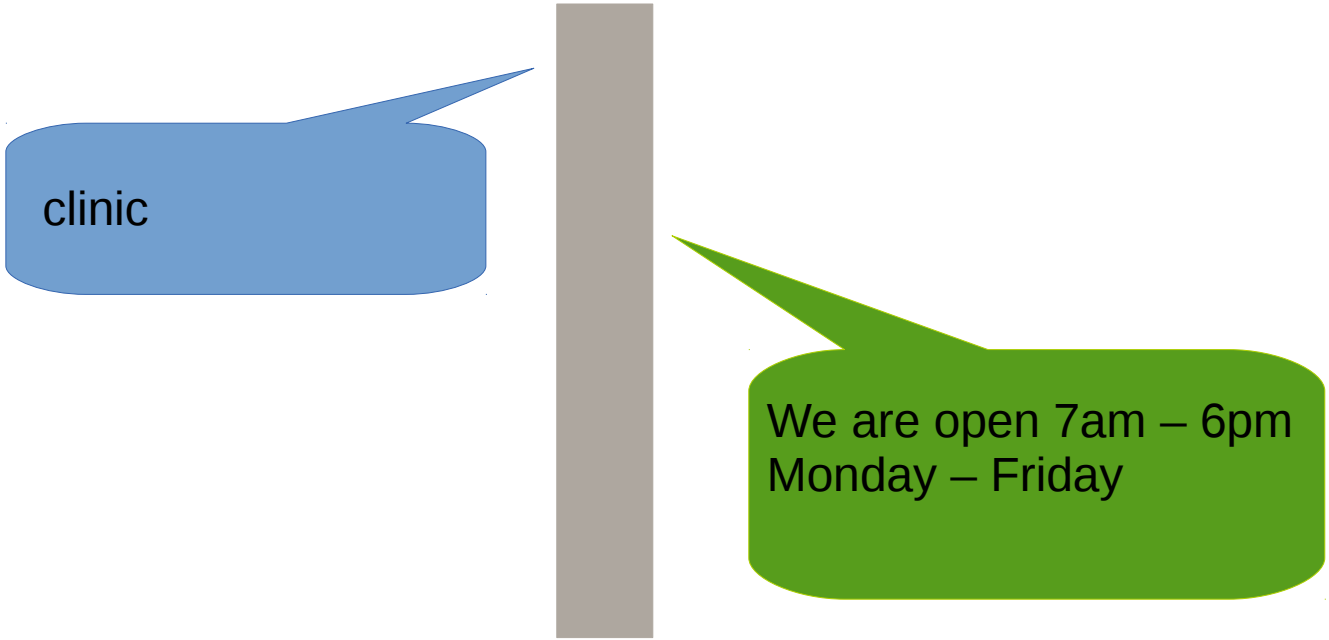
- Started in 2005
- Runs on a laptop connected to a GSM modem
- Easy to setup and get started

Features

- Groups
- Survey
- Keywords

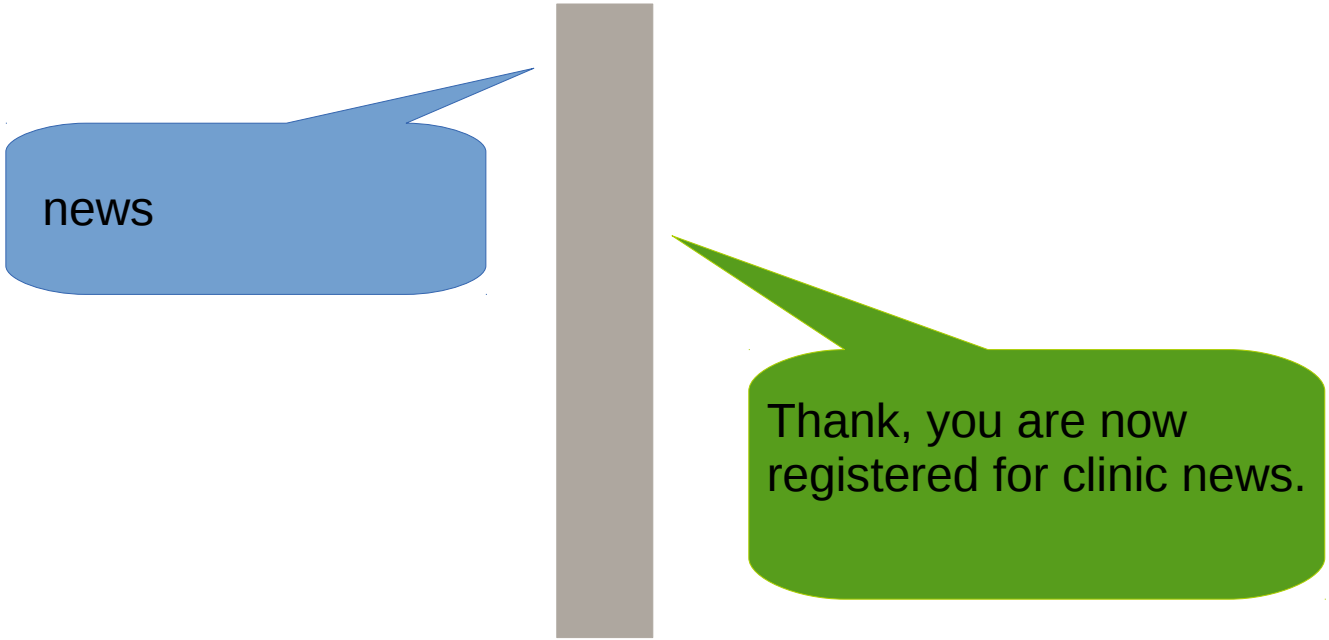
Frontline SMS

Keywords: prefix matching on incoming messages



Frontline SMS

Keywords: prefix matching on incoming messages



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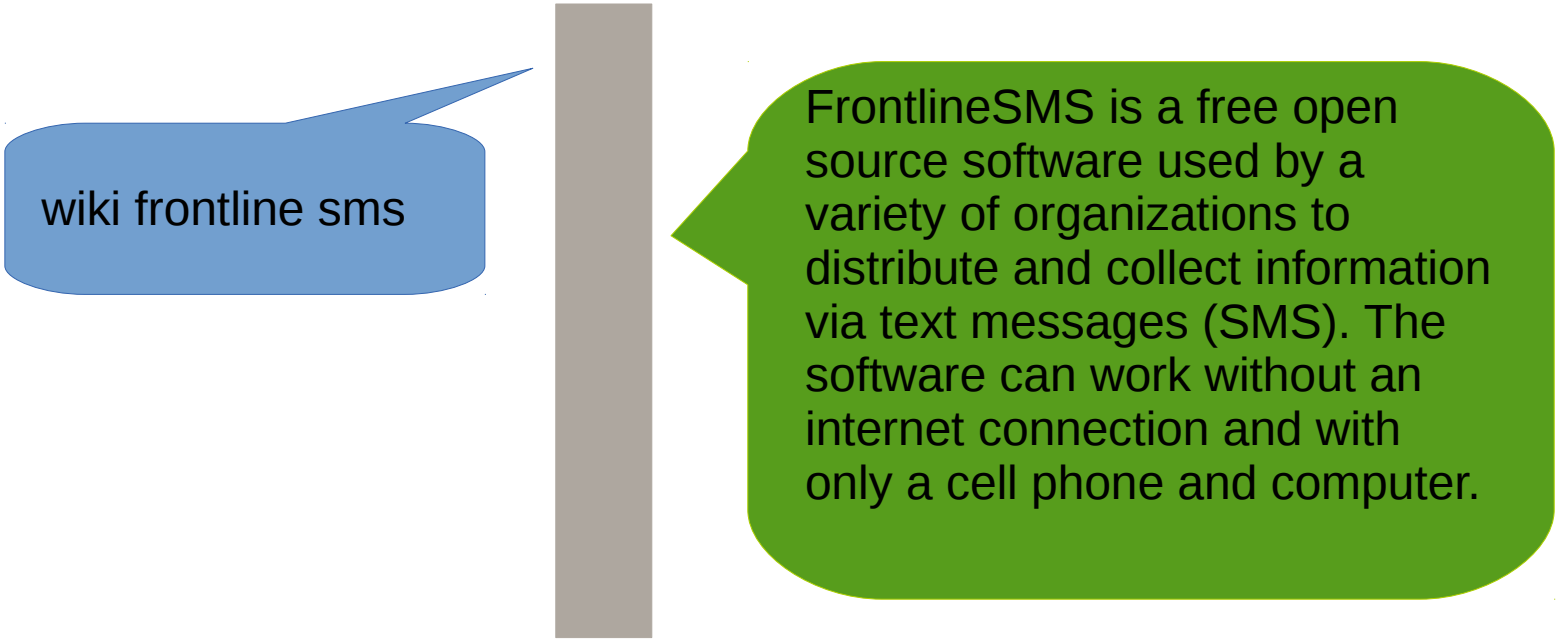
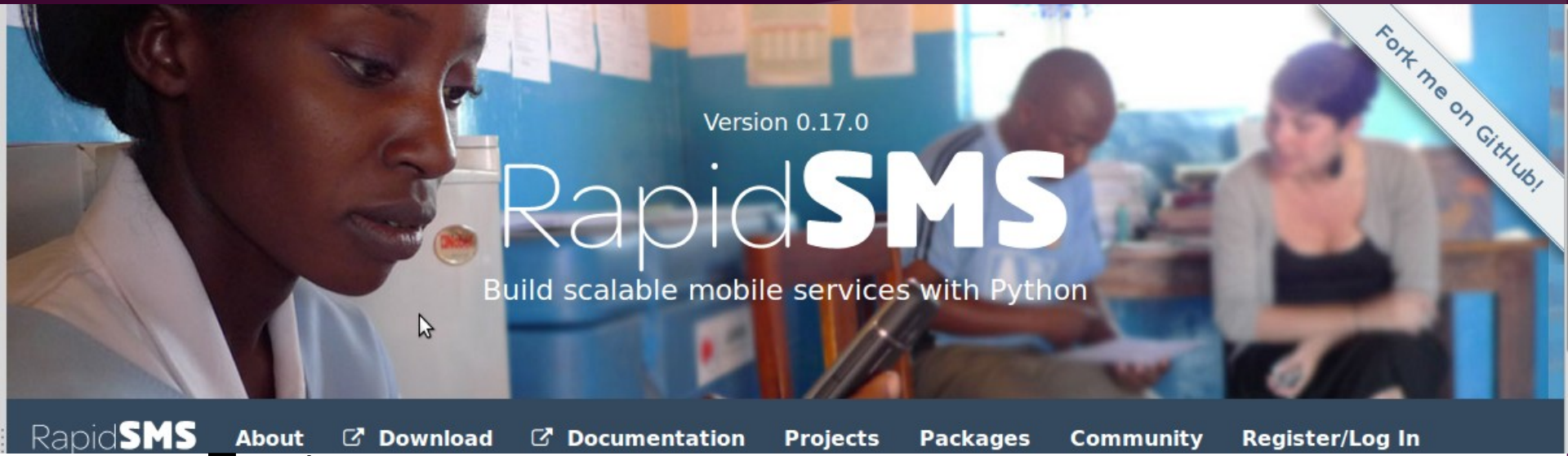


RapidSMS



Features

- Django application (python web framework)
- Keyword based router
- Base framework (connections, contacts, messages)

Cloud Platforms

RapidSMS as a service

- Telerivet (EnvayaSMS)
- FrontlineCloud
- Text It (RapidPro)

Features

- Channels – Android or Third Party Gateways
- Contacts and Groups
- Forms
- Messaging Campaigns
- Keywords

Telerivet: Example Project

https://telerivet.com/p/project1

Google

Telerivet

Example Project

Edit Settings

- Dashboard
- Messages
- Contacts
- Services
- Phones
- Account

media@telerivet.com

Example Project

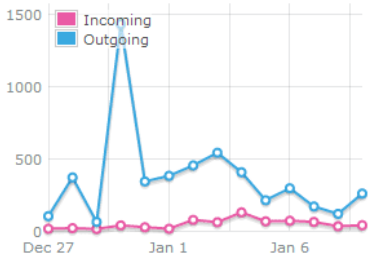
Help

Log out

Messages

38 received today

257 sent today



New Message

Export Messages

View Statistics

Contacts

188 active today

9537 total contacts

Add New Contact

Import Contacts

Export Contacts

Services

Poll

Subscription Service

SMS Auto-Reply

Phone Call Auto-Reply

Add Automated Service

Phones

(484) 555-0001 Twilio

555-1212 Test

Nexus 5 Android

Tablet Android
Disconnected since June 10, 2013

Account

Example Organization

User Accounts

Developer API

Live updates

Connecting to Patients

Can we use two-way SMS to engage pregnant women with the health system.

Study Design

Automated messages can be scheduled relative to:

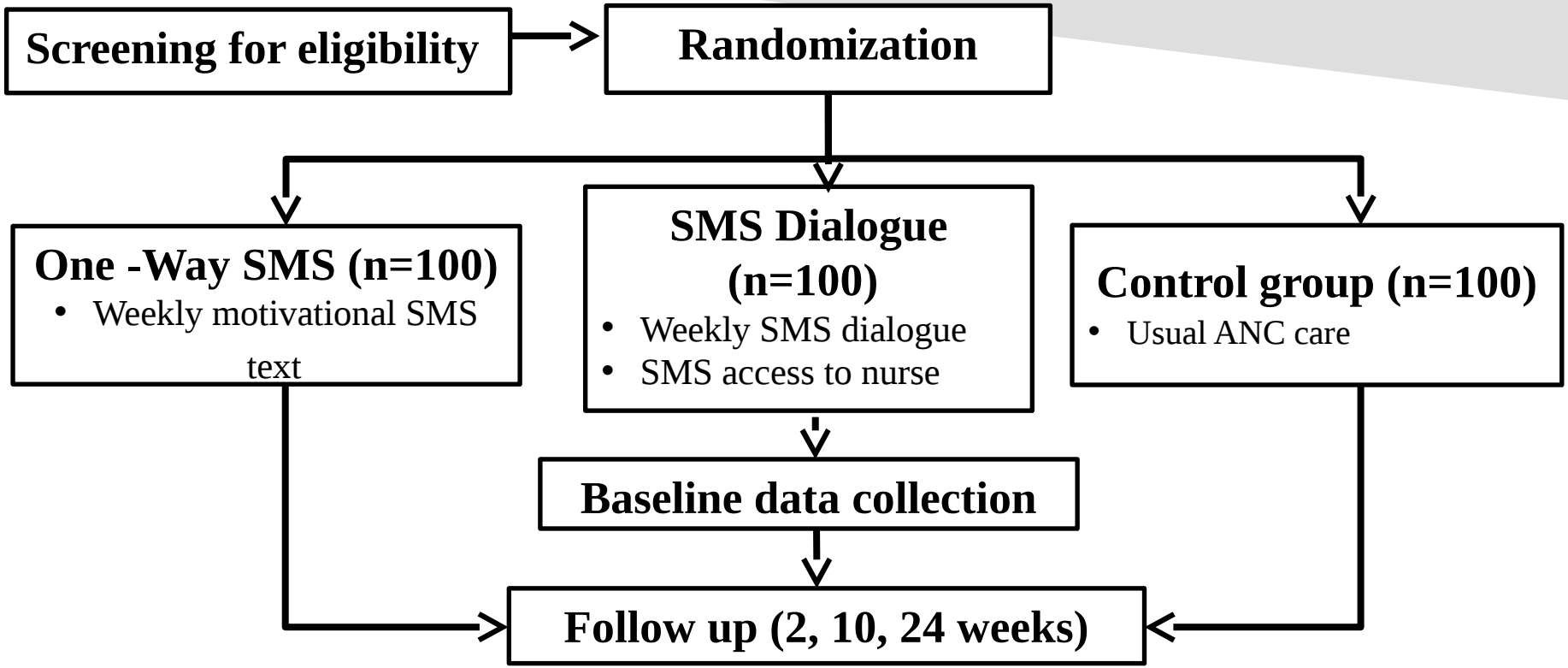
- Client enrollment
- Estimated delivery
- Next scheduled visit
- Actual delivery

472 preprogrammed messages
20 weeks before delivery
10 weeks after birth
4 categories

Messages can also be contextualized:

- Personalized with the woman's name
- Delivered on the requested day of the week at the requested time
- Customized based on medical condition

Study Design



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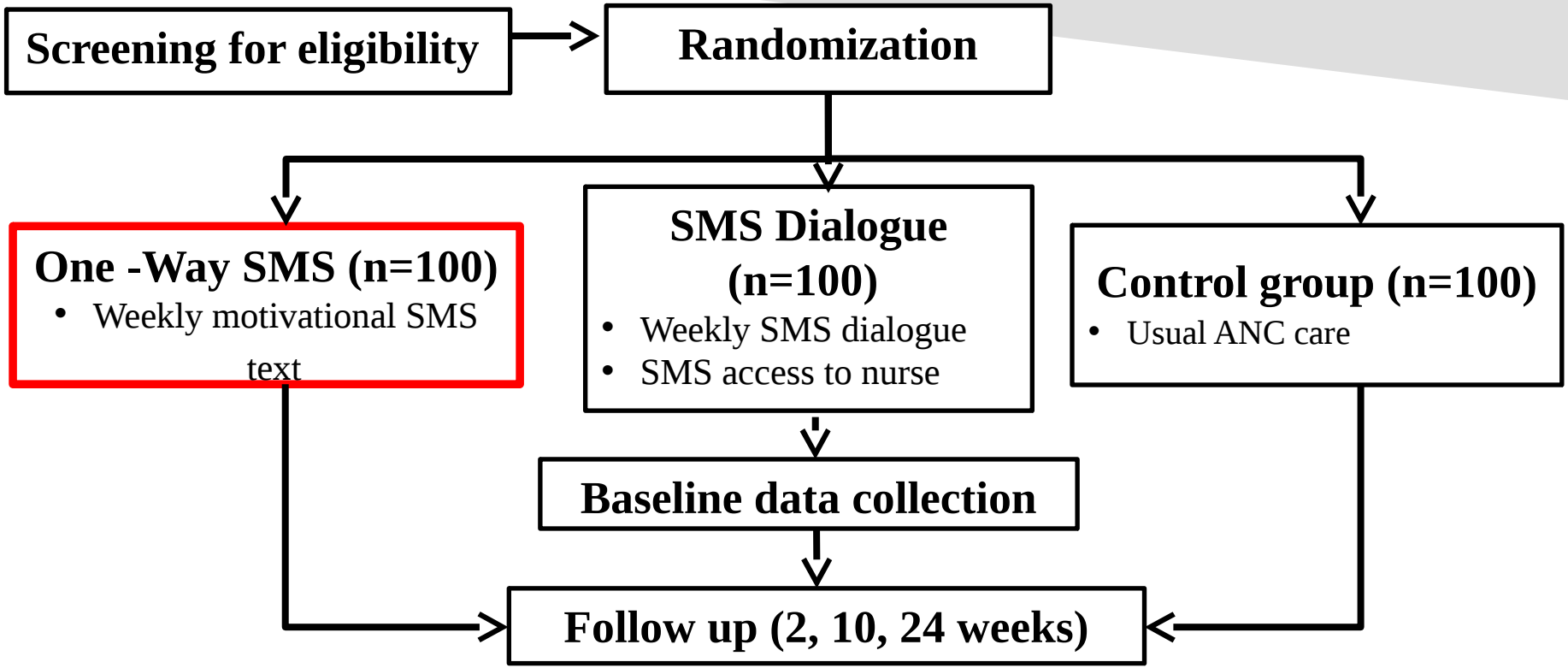

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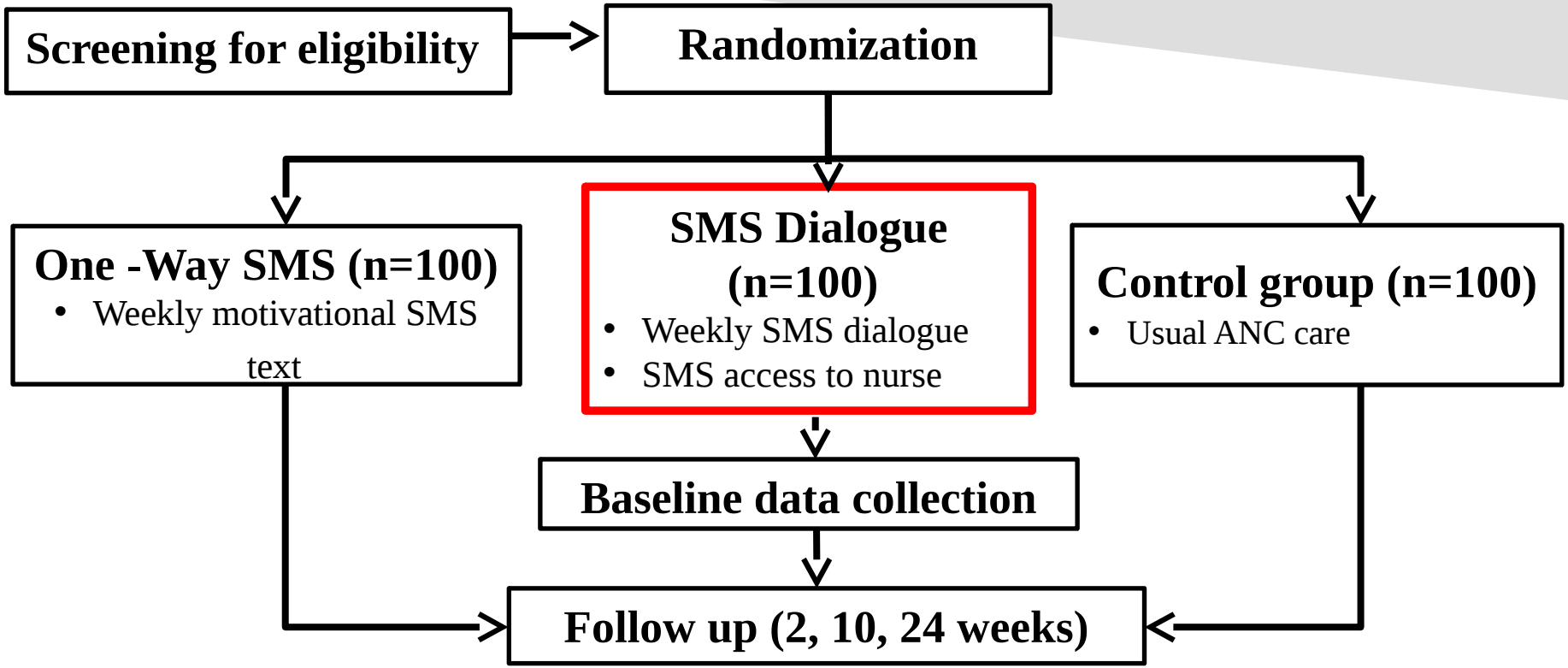

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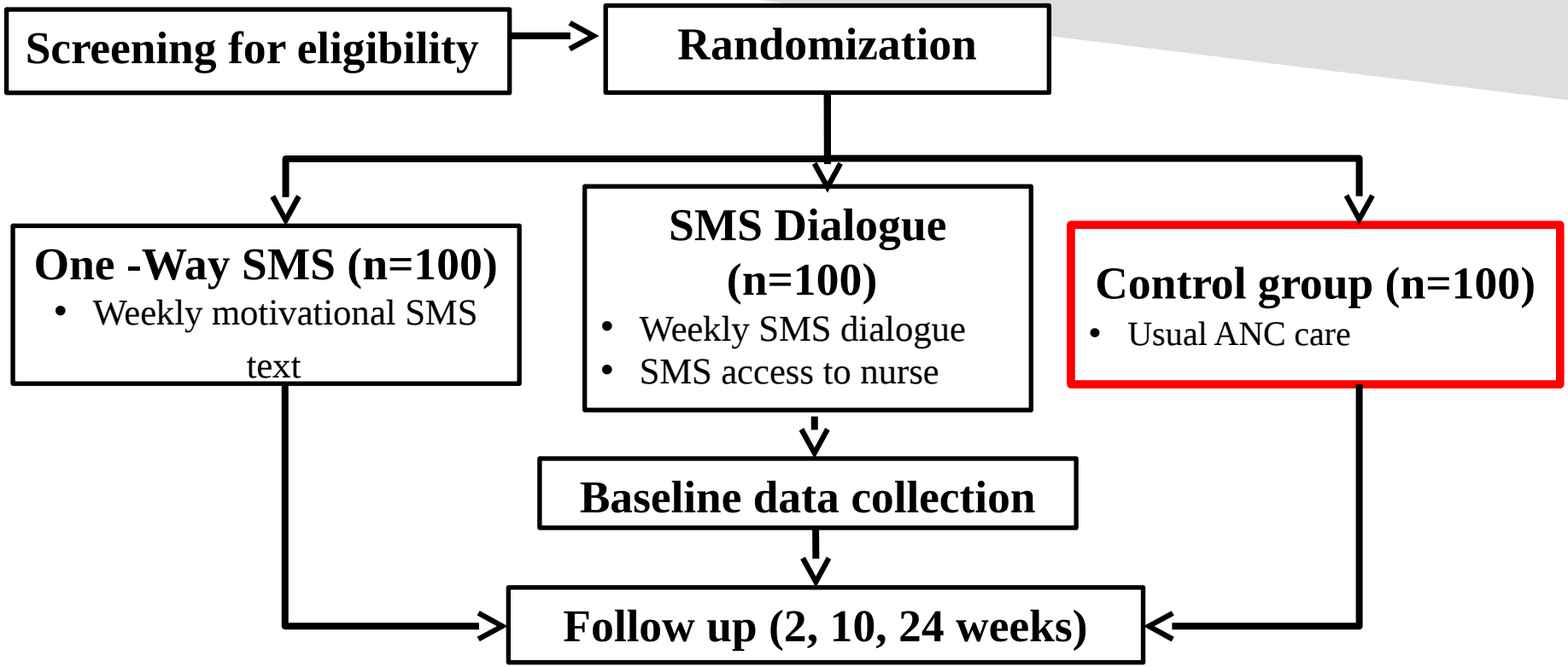
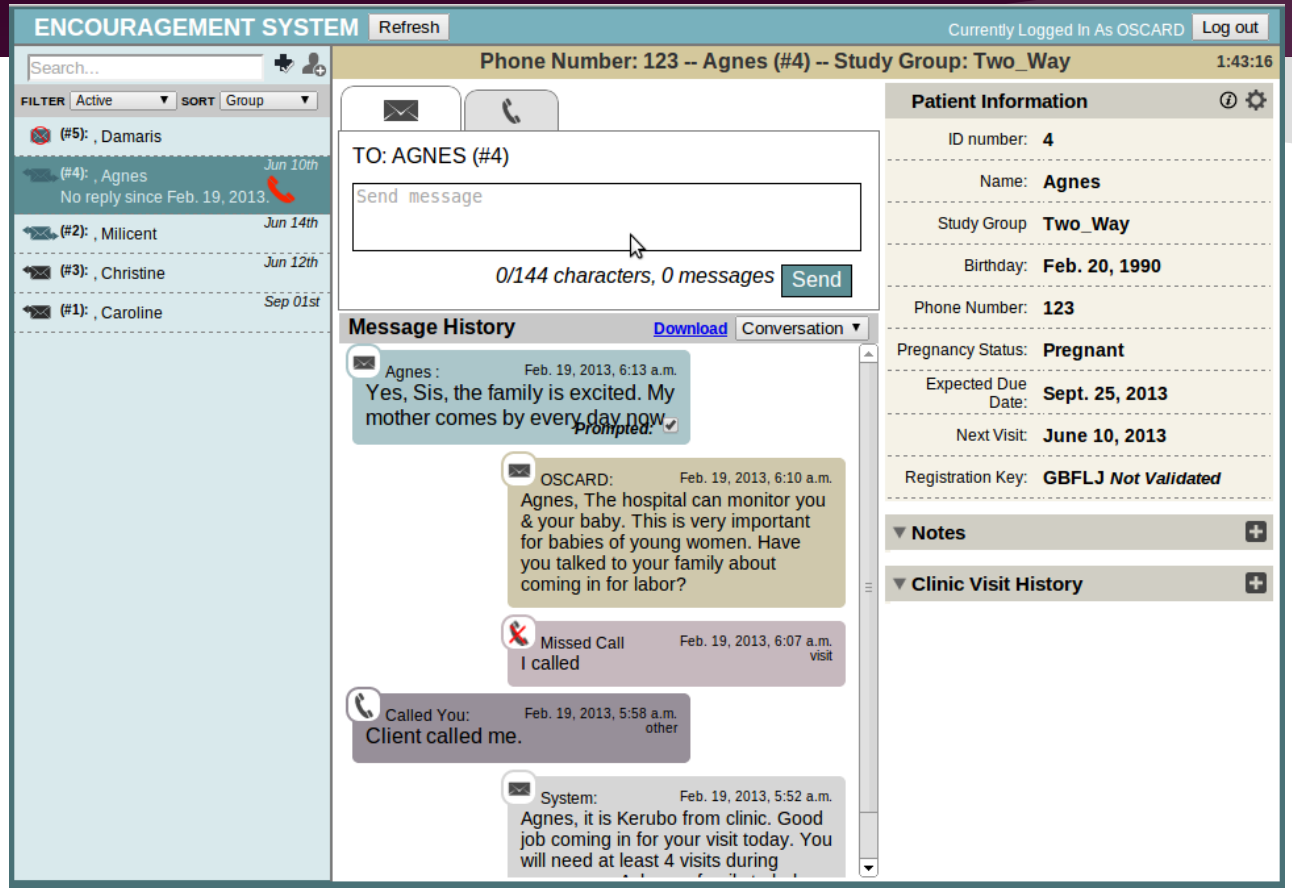


Web Based Interface

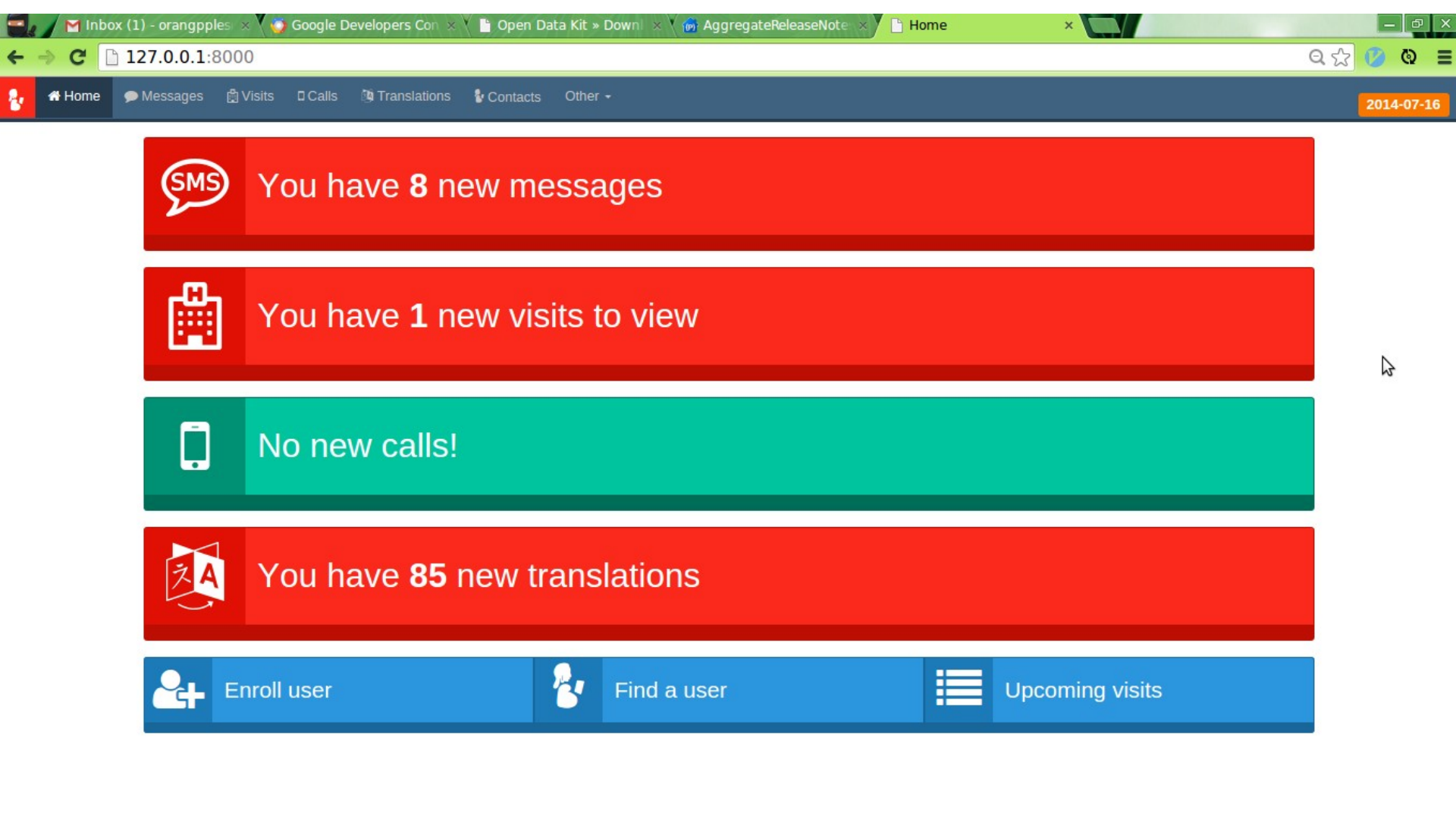


A Hybrid Human Computer SMS System

Problems

- Patient Management (Almost need an EMR)
  - Date of next visit
  - Estimated and actual delivery data
- Management of incoming messages
  - Messages would could go unanswered
- Multiple numbers per contact

What does the interface look like for a hybrid SMS system? How can we best use technology to amplify the efforts of individual nurses.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Google Developers Con
Open Data Kit » Downl
AggregateReleaseNote
Home
127.0.0.1:8000
Home
Messages
Visits
Calls
Translations
Contacts
Other
2014-07-16
You have 8 new messages
You have 1 new visits to view
No new calls!
You have 85 new translations
Enroll user
Find a user
Upcoming visits

Questions/Comments