Epidemiology and public health information systems
• Who is EpiConcept

I. The Voozanoo technical platform

II. Mobile Data Collection

III. EpiMal data collection tool

IV. Wepi on/off-line data collection tool
Who is EpiConcept

- Paris – 1996 - Private

- Epidemiology & Public Health Information Systems

- 52 employees
  - Physicians, Epidemiologists, Project Directors, Biostatisticians, Software Engineers

- NGO origins

- Epidemiology | French cancer screening centers | Custom information systems
Clients & Partners

• Pasteur Institute
• ECDC - European Centre for Disease prevention and Control
• MSF - Doctors without Borders
• WHO - World Health Organization
• IOC - Indian Ocean Commission
• Mongolia ministry of health
• Hong Kong governmental health department
Types of Health Information Systems

• Clinical studies
• Cohort follow up
• Contact tracing
• Laboratory information systems
• Disease surveillance systems
• Medical record systems
• NGO Tools (Saga / Homer)
150+ custom information systems
I. The Voozanoo Platform

Our platform to build custom information systems

Linux – Apache – MySQL – Zend – React - Bootstrap - Cordova

Certification
Personal Medical Data Hosting
I. The Voozanoo Platform

History

2001 Voozanoo born – Web interface + MySQL database (multi-centric)
2009 Voozanoo 3 accounts open to health professionals
2012 Voozanoo “Junior” Wepi open to health professionals
2014 Wepi ODK Support
2014 First Voozanoo 4 project
2016 Mobile Data Collection integrated into Voozanoo
I. The Voozanoo Platform

Collaboration

Workshop and Training (technically oriented)

Or

Full Customized Project
I. The Voozanoo 4 Platform

Structure

Information entry points
- Browser based
- Mobile application
- Connected objects
- Medical devices
- Other sources

Application Logic & Data Storage
- Users and rights management
- Monitoring
- Export
- Workflow
- Database

MAIL MERGE
- SSO

EPI FILES
- SSO

DATA ANALYSIS PLATFORM
- SSO

REPORTING & CARTOGRAPHY
- SSO

Module X
- SSO

BUDI
II. Mobile Data Collection

EpiConcept is building a mobile platform for data collection and feedback/notification

Currently finalising our next generation IT tools (friendlier interfaces)
  • Voozanoo 4 modular structure
  • Mobile usage integrated into the tools (compare with Vooz3/wepi)
  • First usage now in Kenya - partially hard wired
II. Mobile Data Collection

Mobile Platforms

- Android (end February for Madagascar surveillance project)
- Apple iOS
- Windows phone OS
II. Mobile Data Collection

Communication channels

- No network (Hold & copy or Hold & send)
- SMS + reception confirmation
- Data connection (2G/3G/4G)
II. Mobile Data Collection

Information System Creation

• You use the same Voozanoo tools we do
• Determine what part of Info system needs mobile forms
  • Design forms for flat & relational systems (normal Vooz desktop environment)
  • In my Info system creation, I determine during creation, which input screens will be available for mobile data collection (data types - string, int, dates, real, choices, GPS, image, video)
  • Determine the data /notification/feedback/actions to mobile user (connected or off-line)
  • Determine which reference materials preloaded (lookups, textual guides)
  • Create back-end user/pool management
  • Roles based publishing to mobile devices
  • Roles based access rights
II. Mobile Data Collection

Notification & Feedback (not just collection)

• Informational, reminders, warnings
• Actions required (real world) - requires “done” response.
• Action officer dashboard - Task allocation and supervision
• New forms
• Form updates (by sms if needed)
• Logic for on/off line (time periods - short/long/unknown)
II. Mobile Data Collection

- Typical filtered data table listings (not R)
- Dashboards
- Printable Reports
- Geolocalised data mapping (Global Administrative Areas www.gadm.org)

Analysis & Visualisation:
- R statistical & Reporting module
II. Mobile Data Collection

Plans for 2016

• Version 1 end February (Madagascar project)
  • Android / multi-sms data transfer
  • improved data acknowledgement process
  • Multiple campaign (questionnaire) management
• Version 2 second quarter
  • Stronger integration for complex data structures
  • Notification integration (push back to client)
  • First connected objects
III. EpiMal Data Collection

Mobile Collection Application for pharmaceutical company

**Context:** real time, simple questionnaires, high security, voice/sms spotty coverage, 70 enumerators, multiple users per phone

**Solution:** Voozanoo back-end, phone fleet & user management, sms data transport, Android application, multi-sms management, dedicated application, initial questionnaire loading via data connection.
III. EpiMal Data Collection

- **Smartphones**
- **Interconnexion SMS/IP**
  - SMS chiffré
- **Voozanoo Central**
  - Région 1
  - Région 2
  - Région 3
  - ...
  - • Statistique
  - • Monitoring
  - • Notification
III. EpiMal Data Collection

[Images of mobile screens showing EpiMal application interface]

- Hello Etienne Sévin.
- Patient ID: HU00065
- Date of birth: 09/22/2012
- Date of event: 01/25/2016
• Long experience health IT
• Custom application development
• NGO roots
• 150+ information systems in operation

• Build your information system together
• Learn to use our tools
• Built-in mobile strategy
• Mobile data collection and feedback

• No technical knowledge necessary
• On-line forms creation & sharing
• Off-line with Open Data Kit (ODK) Collect
• Free & unlimited use
• New API for data access

The company www.epiconcept.fr
IV. Wepi on/off-line data collection

- No technical knowledge necessary
- On-line form creation & sharing
- Off-line with ODK Collect
- Geolocation variables
- Based on Voozanoo (extend to Voo3 app)
- API for data access
- Free to use

www.wepi.org
demo.wepi.org