

RHEA Project Meeting Minutes – March 2012

Date and Time

March 26th, 2012

Agenda | Day One – AM session

MONDAY	26TH MARCH 2012	
AIM	Provide a brief background, a broad overview of the project as a whole, and an overview of the development work done to date. The afternoon sessions will focus on how this project harmonises with and provides artefacts for the HEAF and the HEART projects.	
9:00 to 9:10	Welcome and Introduction	Emmanuel Rugomboka
9:10:00 to 10:30	RHEA project overview - including new direction and high-level roadmap Work done to date – an overview of LHF Version 0.1 -	Carl Fourie Ryan Crichton
10:30:00 to 11:00	COFFEE BREAK	
11:00:00 to 12:00	Work done to date – Point of Care Systems OpenMRS Terminology Services	Liz Peloso & Wayne Naidoo Hannes Venter
12:00 to 13:30	LUNCH	
13:30 to 14:15	Harmonising efforts with HEAF – (Health Enterprise Architecture Framework) and the HEART project	Chris Seebregts
14:15 to 15:00		
15:00 to 15:30	TEA BREAK	
15:30 to 16:00	Cont.	Chris Seebregts
16:30	Buses leave for the Jembi Rwanda Office Launch	



Meeting Resources

rhea.jembi.org – Jembi RHEA wiki

notes,Jembi.org/rhea - Notes Etherpad

Key points of discussion:

Introduction by Emmanuel Rugomboka

ER welcomed the delegates and explained the agenda.

RG thanked the team for the work they have done so far and all attendees introduced themselves and their roles briefly.

1. RHEA Overview by Carl Fourie

CF – project initiated by IDRC and Rockefeller – now funded by PEPFAR through HIPPP. Overlaps with many other projects:

- OASIS project funded by IDRC started by CS several years ago with aim of promoting open architecture and use of standards in 3 countries – Mozambique, Zimbabwe and Rwanda.
- HEAF – Health Enterprise Architecture Framework headed by CS and funded by the Rockefeller Foundation formed the basis for the work done in Mozambique and Rwanda, and the outputs of the RHEA project are being distilled back into the HEAF.
- HEART project aims to build an online repository of tools and artifact accessible globally.
- CHP –Collaborative Health Project – Cambodia, Rwanda and Zambia. Published in HUB-the Health Unbound site.
- HEAL – Health Enterprise architecture Laboratory – with Computer Science department in University of KwaZulu Natal.

Sub-projects within RHEA project are:

- Technical Assessment – lead is Eduardo Jezierski
- Capacity Development – ongoing project headed by Jembi Rwanda
- Implementation Science – lead is Paul Biondich
- Requirements and scoping-lead is Liz Peloso. This has produced a set of documented requirements to meet the MoH needs. These are updated as the project focus has changed and new priorities identified.
- Implementation and Roll-out – lead is Carl Fourie

Implementation and Roll-out

Use Case - The descriptive use case of the RHEA project is based on the Mosa story.

Mosa goes to a faraway village to be tested and is HIV+ - this data is captured on the local clinic system. CHW sees that Mosa is pregnant – CHW send SMS to say she is pregnant – gets sms to say high risk patient and must go to the clinic for special care. Shared information leading to better care.

The Health Information Exchange-

- Interoperability layer – core of the EA solution and a pioneering project within the HEAL lab. This layer connects all the following components:
- Client Registry : a database uniquely identifying all the clients (patients)
- Provider Registry : a database uniquely identifying the healthcare providers
- Facility Registry : a database uniquely identifying the healthcare facilities
- Shared Health Record: all clinical patient data stored centrally
- Terminology service: a database of all codes used in Rwanda e-health services
- POC applications – RapidSMS and OpenMRS

Everything above the layer are centralized – single instance of these applications. All below are distributed and connect via the interoperability layer – multiple instances may be running.

Initial solution proposed was to use ez-Vida solution used in Brazil for above the layer components

One key characteristics of that is that it is a centralised solution all bound to one application and there are pros and cons to this. This is still under negotiation but RG has provided new direction to use a more modular service-oriented design.

Software Solutions:

- Interoperability layer – using Mule
- Facility Registry – Resource Mapper
- Client Registry – Mirth match and openempi
- Provider Registry – OpenEMPI or ihris
- Shared Health Record – OpenMRS
- Terminology Service – Apelon DTS

Key indicators for software choices are longevity, sustainability and the ability to build capacity in-country.

Aim of this meeting

- Review design decisions
- Select technologies
- Map way forward at the technical level, the programmatic level and the actual implementation

2. The LHF project by Ryan Crichton

Results – Resource Map loaded with some facility data and an XML API.

and has a basic instance of the interoperability layer built on Mule.

EJ demonstrated the Resource Map application.

Using this system means there is no need to change clinical processes therefore a good 1st choice

This technology is in use already so is an appropriate choice for Rwanda.

Did 1st migration of data to online tool and used an iterative development approach. The aim is to provide the one source of truth for that information and to simplify processes in MoH.

1st value point of a service oriented arch for RHEA project.

As others also use and improve the open-source Resource Map application there are implicit costs savings to Rwanda.

The team is currently building a new UI for better more usable data entry. Have fully implemented all transaction channels within interoperability layer and have a full API specification which is available

The interoperability layer is also now fully secured using https.

JC asked: How fully have end users been included?

EJ: Already done much of the design work in Cambodia –will be available for use when Rwanda needs this

Dennis – Target audience – med practitioners and CHW?

How much has lack of legacy systems affected this process

RW: There are 3-4 apps used by CHW – both web and mobile

Made a decision to use RapidSMS as tool to maintain the CHW registrations

More as part of the PR although the 2 are linked : The CHW have a relationships to a health centre

RC: Was an Access database in use but basically this was a clean slate – took input form content forms used to capture facility registry data

EJ: No resistance has been encountered so far – very collaborative process in place.

EJ gave a brief demo of Resource Mapper tool .

Data must be current and useful - UI must be easy to access. Need fine grained users permissions to allow access at various levels. Rwanda will have the application in the local data centre, not cloud-based solution as in other countries.

This application was built in Cambodia iLab always intended to be maintained locally in-country where it is implemented.

RW: challenge is to keep required data attributes only – have many that can be added. Try to keep it simple – Use the lowest common denominators across systems.

RG: Semi or permanent data to be kept here only.

PB asked about integration with DHIS – RC been in contact with Bob Joliffe –no formal integration yet but have been talking about possible designs.

3. OpenMRS demonstration by Liz Peloso, Wayne Naidoo and Desire

LP and WN and Desire demonstrated the OpenMRS use case.

LP All districts will be live for OpenMRS and acute and ANC visits

There is a barcode scanner to scan id and collect patient id.

1 use case – OpenMRS local database has the patient data. Will check the Client Registry for any new demographic data.

2 use case – not in local database but is in Client Registry, so pulls the data down.

3 use case – not in OpenMRS or in the Client Registry. Will then create the patient record.

Will check SHR for new data – pull down and will persist in the local database and build maternal summary.

At 2nd ANC visit, will enter thru form the clinical data – form maps directly to paper form and there is a background workflows to deal with this

WN – There is also a scenario not demonstrated here to deal with lack of connectivity.

When in labour the CHW send SMS message to say that the patient is in labour. Sends a notification through RapidSMS and pushes this up to the SHR. Then gets message back to say patient is at risk and must go to hospital as well as a automatic notification to the ambulance.

WN – RapidSMS is already built and implemented on a test server ready to deploy when other components are ready. The OpenMRS development is well underway.

LP - Significant point is that is the clinician, not a data entry clerk, who is entering and viewing data.

DR-Is OpenMRS providing decision support?

LP – Rules will be in the SHR possibly in a separate workflow engine.

DR – a trigger event – what are they, what is capturing them and where is decision tree defined to launch response. The SHR is more than a persistent database and should have decision support capability as well.

WN - Much of workflow engineered within the interoperability layer.

RC – Initial thought is to have in SHR – is it better suited to interoperability layer or separate engine?

Will be discussed in another session later

DR – Can you generate a single message to many recipients ? vThis is very powerful although not without challenges.

4. Terminology Service by Hannes Venter

HV – Brief description of TS

Described the backend and admin – used by terminologists and maintainers to update and maintain codes

Public facing website allowing for searching and exporting.

Choice of technology is ApelonDTS.

Backend is a powerful server – meets RHEA requirements well.

Admin use case – DTS editor – quite powerful and has rich plugin architecture

Public use case – DTS browser is a very basic tree browser and not rich enough to meet RHEA needs. Also has no export capabilities, so this will need to be developed.

Apelon DTS VER 3.5 is currently available with VER 4.0 available in late June Q2. Apelon are very willing to work with us.

HV then gave a demonstration of the DTS Browser showing ICD-10 codes listed.

The DTS editor is a desktop application – can connect to the server remotely. Is used to view and maintain codes – metadata and additional data (in properties)

HV – The user interface is not adequate but can adapt or build our own. Has designed a prototype which was shown. Can export a single term currently and can also export entire code-set.

CF – need to define data sets to be included for Rwanda's needs – built on Twitter bootstrap – can also be viewed on a mobile phone.

CS- machine or people readable? HV said both

RG are interested in about 100 key indicators – Rwanda can also aggregate some for the 100 indicators – still need to define ICD10 code needs especially at the facility level. RG – Would also like to bill according to diagnosis so had to decide which diseases to treat and attached a cost to them – about 100 or so – but may be a need to have rest of diagnoses in the background.

CF – who will be using this and what services need to be exposed? What do the POC apps want? what are you going to do with them?

DR- decision support is a key part of a terminology service.

JC – interested in version management especially when creating subsets. This is not just a technical solution and requires people co-ordination as well.

SG – are pre and post implementation roles – much mapping upfront – afterwards focus on different areas

LP – RG also wants the TS to be used for local code sets relevant to them although not typically part of a TS – eg: villages/districts.