2019 OpenHIE Hackonnect-a-thon

Overview

The OHIE'19 Hackonnect-a-thon is scheduled for Friday 8th November.

The OpenHIE Connectathon is a merger of two exciting types of meetings. This is a technical space for software teams and architects to engage and get their "hands-in" or "on" OpenHIE itself and see it materialised. Combining the principles of a connectathon and a hackathon we are excited to provide a space for teams to connect their existing tools to OpenHIE workflows and use-cases as well as give the community an opportunity to propose low hanging fruit use cases for the groups to work on. Recognising that many attendees may be new to OpenHIE there is no better way than actively engaging in designing, developing, configuring, implementing and connecting to an OpenHIE architecture to learn the fundamentals and build the relationships that you will need going forward.

Review of OHIE '18 Hackonnnect-a-thon.

Overview of OHIE '19 Hackonnect-a-thon.

SLACK Channel

Registration link for slack team. Once you register, join the #ohie-hackonnect-athon channel.

Objectives

The attendees of the Hackonnect-a-thon are aiming to:

- Connect existing tools to OpenHIE foundational registries
- Learn how to implement workflows within their tools
- Jointly work together to implement common use-cases within an OpenHIE architecture
- Self-organise into learning sessions and create breakaway groups to discuss topics / show ideas

So what does this really mean/look like?

We are looking forward to the attendees (that is you, the participant) bringing their technical strengths to the table and bringing their systems to engage with others in the field. These sessions are focused at providing the space for the architects, the analysts, the developers and the integrators within the communities to meet and discuss how to solve active problems as well as start on the fundamentals of connecting systems. We are expecting a combination of the following to emerge:

- Focused technical discussions around how best to engage with the deeper aspects of data exchange on a fundamental standards level and workflows.
- Generating sequence diagrams and talking about what data systems curate and what would be available in the other systems and documented models and technical specifications to get it there.
- Bringing your technical questions and started projects/code to any persons representing tools and technologies and engaging with them and others on how best to architect and develop the solution.
- Bring your code and application and your development skills to the table and try to connect to systems that are present and possibly consume an OpenHIE workflow and share data with other system.
- Learn more about the technical nature and how to model things in FHIR and/or how others have done it.
- Design decisions that impact scale and speed as wells as how different implementers select different development patterns and architectures to solve their challenges.

What will be available to connect to and test against?

This space is a technical space and we encourage participants to "**put their hands up**" as to what they will be brining and what they will be making available to the participants to engage with. Depending on the number of participants we are considering scheduling a lightning session where groups can rapidly (5min/5 slides) present their tools as an intro. Currently the following teams and tools have put their hands up to be at the event and have technologies available.

HIE Component Tooling

Component Group	Tool / Solution	Organisation / Contact	Description	Online Demo /Sandbox

IOL	OpenHIM (www. openhim. org)	Jembi Health Systems (www. jembi.org)	The OpenHIM is an interoperability layer that facilitates OpenHIE workflows. It allows easy configuration and setting up of channels and endpoints that allow systems to connect and exchange information. The use of mediators allows implementer/developers to add logic and custom flows to the channels. This is the current reference technology for the IOL community of OpenHIE. **Connectathon offering:** The OpenHIM will be setup and available for teams to create their own channels and the Jembi team be available to advise of how mediators and additions can be made.	TBD
SHR	HEARTH (https://gith ub.com /jembi /hearth)	Jembi Health Systems (www. jembi.org)	HEARTH is Jembi's HL7 FHIR server that serves as an SHR on many of Jembi's internal projects. This FHIR server allows for FHIR resource management and has been used in multiple ways to manage more than just patient health data; such as patient management, facility mangement etc. **Connectathon offering:** HEARTH will be setup and available for teams to leverage and engage with the endpoints that include the storage and retrieval of FHIR resources from the tool	TBD
CR / MPI				
FR				
LMIS	OpenLMIS (www. openlmis. org)	VillageReach, OpenLMIS Community	OpenLMIS is an electronic logistics management information system that manages and automates logistics processes at over 10,000 health facilities across 9 country implementations in Africa. In the OpenHIE landscape, key areas of interoperability are: Facility Master Data, Product Master Data, and pushing data out to HMIS and third-party reporting/dashboard /analytics tools. **Connectathon offering:** OpenLMIS is available at a demo site in the cloud with a documented REST JSON API. This demo site is available for teams to log in and access the APIs to demonstrate integrations.	TBD
HWR				
TS	Open Concept Lab (OCL)	Regenstrief /Apelon	OCL provides cloud-based community-driven terminology management. OCL lowers implementation barriers by 1) providing access to major terminologies, such as the Columbia University eHealth Laboratory's interface terminology (CIEL, utilized in OpenMRS) and other international standards like ICD-10 and 2) supporting standards based operations to enable interoperability. **Connectathon offering:** OCL is available at a demo site for teams to utilize on various levels, from exploring how standardized terminologies and indicators can be represented to testing out the REST API and initial FHIR Terminology Services.	TBD
UHC	openIMIS (www. openimis. org)	openIMIS Community	openIMIS is an open-source MIS designed to facilitate the move towards Universal Health Coverage (UHC) by supporting the management of various types of social health protection schemes, including management of policies - financial information but also included medical supplies and services -, insurees - incl. Enrollment and renewals - and claims. **Connectathon offering:** A connectathon instance will be available to analyse and demonstrate ongoing work to develop integrations with POS applications and potential OpenHIE registry components.	TBD
HMIS	DHIS2 (www w.dhis2.org)	JSI	DHIS2 is a tool for health information collection, management, analysis and reporting. It is the current reference software for the HMIS component within the openHIE architecture. **Connectathon offering:** A sandbox instance of the latest version of DHIS2 software will be available locally and on the cloud specifically for use within the connectathon/hackathon.	TBD
POS (mobile)	CHT Core Framework (community healthtoolki t.org)	Medic Mobile (m edicmobile.org)	The Community Health Toolkit includes resources to support full-featured, scalable digital health apps that equip health workers to provide better primary health care in their communities. The Core Framework can support many languages, run offline when needed, and work with basic phones (via SMS), smartphones, tablets, and computers. App developers are able to define health system roles, permissions and reporting hierarchies, and make use of five highly configurable areas of functionality: messaging, task and schedule management, decision support workflows, longitudinal person profiles, and analytics. **Connectathon Offering**: A sandbox environment and a few teammates from Medic Mobile will be available to connect with other components in the ecosystem.	TBD

| POS (mobile) | CommCare | JSI | CommCare is an open source mobile platform designed for data collection, client management, decision support, and behavior change communication. CommCare's mobile application is used by client-facing community health workers in visits as a data collection and educational tool and includes optional audio, image, and video prompts. Users access the application-building platform through the website which Dimagi operates on a cloud-based server.

Connectathon Offering:

A sandbox environment of CommCare will be available in the cloud for use to connect with other components in the ecosystem. | TBD |

Current Challenges

Taking into account systems and teams attending we are looking for groups and members to list out the current challenges that they are posing to the attendees. Please add your challenges/hacking ideas below

Title	Description	Ambassador
OpenHIM Mediator Development	Tutorial and training on developing an OpenHIM mediator.	Jembi Health Systems
CommCare - DHIS2 Interface	Automate data exchange between CommCare and DHIS2 using the OpenHIM, to limit duplication of efforts and data entry errors for health workers collecting community health information using the CommCare mobile app and managing aggregate data on CommCare server and in DHIS2. The two systems (CommCare and DHIS2) have the same organization unit structure and data elements which will make the data exchange process less complicated.	JSI

openIMIS Data Exchange and Interoperability	Support for interfacing with various tools and workflows (OpenMRS Bahmni, DHIS2), leveraging the OpenHIM and other HIE components:
	
	• Beneficiary enrollment
	  • Check enrollment status
	  • Check beneficiary balance
	• Claim submission
	  • Track status of claim
	  • Resubmit rejected claim
	• Indicator Reporting
	• Interactions with other HIE components e.g. Product Registry, Terminology Services
	
	Slides: https://drive.google.com/file/d/1wbcx7c1sVkWZGgoJWsSf5yTd-VFi-Q3s/view?usp=sharing
		openIMIS Community

Community Health Toolkit	The Community Health Toolkit (CHT) includes resources to support full-featured, scalable digital health apps that equip health workers to provide better primary health care in their communities. This stream will look at opportunities to incorporate the CHT into the OpenHIE framework as a mobile POS, interfacing with HIE components e.g. - creating a patient, health worker, or facility in the CHT could create the corresponding records in the Client Registry, Health Worker Registry, or Facility Registry.	(Medic Mobile) Michael Kohn
Computable Care Guidelines	The World Health Organization is creating Computable Care Guidelines as FHIR Implementation Guides; bundles of artifacts to help streamline implementation of WHO guideline content. Use the newly proposed $cpg-next-step operation to invoke this decision support from a simplified client. Slides: https://docs.google.com/presentation/d/1XmVaYnoFIWD-xidQTGe4JwSuYlNzr1pli2Z1ukVV1t0/edit?usp=sharing	CCG Working Group, WHO Bryn Rhodes
DHIS2/FR - Administrative Area Registry Interface	Develop an interface between DHIS2 or Facility Registry with the Administrative Area Registry used in Tanzania.	Oswald Luoga
RASS-DHIS2 Interface	Develop an HIE interface between Uganda RASS (https://mets.or.ug/events/real-time-arv-stock-status-rass-monitoring-system/) with the national reporting system (DHIS2) as used in Uganda	Jonathan Mpango Lubwama Samuel @colupot Kaye Milton

Schedule

The Hackonnect-a-thon will be hosted in the main ballroom.

Time	Session Description	Presenter (s)	Notes & Slides
9:00 - 9:15	Opening and Introduction to Hackonnect-a-thon	Daniel Futerman	Slides: https://docs.google.com/presentation/d/1obHjfNDDRraTza9jl1Xj9cDvxLT3ZWTq581VUN_ZbMc/edit#slide=id.p
9:15 - 10:00	OpenHIM Mediator Development 101	Jembi Health Systems	Notes: https://notes.ohie.org/2019-11-08_OpenHIM_Mediator_Development
10:00 - 10:30	Coffee break		
10:30 - 11:00	**Quick-fire Introductions:** 5 min presentations from topic facilitators outlining the challenge they'll be working on and any associated products/tools they'll be using.	Topic facilitators	
11:00 - 13:00	**Hackonnecting!**	All	
13:00 - 14:00	Lunch		
14:00 - 15:00	**Hackonnecting!**	All	
15:00	Coffee available 💡		
15:00 - 16:00	**Hackonnecting!**	All	
16:00 - 17:00	Recap, presentations on work done	Daniel Futerman	Notes: https://notes.ohie.org/OHIE19_Hackonnect-a-thon_After_Action_Review