2019-Q1 Quarterly Report

Hyperledger HC-SIG Quarterly Report

Special Interest Group

Healthcare Special Interest Group (HC-SIG)

HC-SIG Overall Health

The HC-SIG continues to evolve as it grows in membership, participation, and activities. We have successfully completed our transition to structure the general group to serve as a "front door" to better engage and keep prospective new members active in the community, align them with resources, and connect them more directly with our three HC-SIG subgroups.

HC-SIG General Meetings are held regularly and are well-attended.

HC-SIG Subgroups

HC-SIG Subgroups continue to evolve and include:

- The Patient/Member Subgroup
- The Payer Subgroup
- The Healthcare Interoperability Subgroup

Both the Patient/Member Subgroup and the Payer Subgroup are meeting regularly and seeing repeat member participation. At the end of 2018 the EMR Subgroup was disbanded due to inconsistent meetings. The Healthcare Interoperability Subgroup--the newest HC-SIG subgroup--is due to come online in early April.

HC-SIG Teams

HC-SIG Teams include:

- The Academic Research Team: developing a white paper to identify how best to engage the academic/healthcare community as the topic relates to blockchain technologies
- The Charter Review Team: charged with reviewing and rewriting the HC-SIG Charter (completed)
- The Wiki Redesign Team: initially convened to redesign the HC-SIG wiki, now working to manage wiki page conversion to Confluence, and sync with other SIG design efforts
- The Subgroup Review Team: convened to review the status of the EMR Subgroup, and to consider how other subgroup models may influence future HC-SIG subgroup designs

HC-SIG membership participated in three guest presentations: Seattle-area attorneys to speak on open source and IP-sharing; a development team interested in creating a healthcare solution using the Hyperledger Sawtooth framework; and Microsoft Corporation to speak on blockchain technologies and security in healthcare.

Of Merit

- The Charter Review Team successfully reviewed and rewrote the HC-SIG Charter
- The Subgroup Review Team successfully reviewed existing subgroup infrastructure, and in reporting back their findings, introduced the proposal for a new "bottom up" design for HC-SIG subgroups
- The HC-SIG became a sponsor for a healthcare-related Github Lab project entitled "Sawtooth Healthcare"
- HC-SIG members participated in the KidneyX Challenge
- HC-SIG members participated in the 2018 Hyperledger Global Forum, and participated in the 2019 HIMSS Conference

Issues

None to date.

Overall Activity in the Past Quarter

General Group

The general group serves as an entrée for prospective members in the global healthcare community interested in understanding how best to educate themselves and participate in the implementation of blockchain technologies–ostensibly using the Hyperledger Project umbrella of frameworks, tools, and extensive community–in order to create secure and healthcare-compliant enterprise solutions. For more established members, the general group serves as a resource for the notification and publication of relevant community healthcare activities (e.g., healthcare conferences), as well as a means for promoting and encouraging the project engagement and accomplishments of each of its three subgroups.

The general group holds a regular meeting on a bi-weekly basis on Friday mornings at 0700 (Pacific Time). As a regular agenda item, HC-SIG subgroup leads (or their proxy) "roll up" their subgroup activities so as to educate prospective new members on active project opportunities.

Membership and activity across the listserv(healthcare-sig@lists.hyperledger.org) continue to grow. Listserv membership is currently at ~1050 members. Our chat channel, #healthcare-sig (https://chat.hyperledger.org/channel/healthcare-sig), is seeing semi-regular exchanges.

Patient/Member Subgroup

Active since June, 2018 and led by Benjamin Djidi, the Patient/Member Subgroup continues to work towards a build effort leveraging Hyperledger tools in the healthcare space. We have meetings every other week and we are active in the healthcare Special Interest Group mailing list (see #patient-member-subgroup and #DonorMilk for details). We aren't seeing a lot of engagement on Rocket.Chat or on the Wiki, but we continue to work to engage folks on those platforms.

The Patient/Member Subgroup underwent a transition in leadership in January which also served as a documentation effort. The main challenge currently facing our subgroup is the loss of our main sponsor for the Donor Milk POC upon which we were focusing our primary efforts. This has left us without product guidance for the development of our blockchain POC as well as without the perspective of a pilot sign off for any MVP. As a result we are currently investing in two options:

1. An active lead generation where we hope to find an industry leader able to both guide the product and commit to a pilot
2. A call for project ideas so that, should our first option fall through, we would have foundations to move the subgroup past the Donor Milk POC

Payer Subgroup

The Payer Subgroup has been actively working since inception in June 2018 and is currently led by Raveesh Dewan. The subgroup continues to refine the use cases and to ensure the right use cases are being selected for POCs.

The subgroup is back on track with work in-progress with the paper:

- We are working on the Block Chain Decision paper that will help payers understand and identify the need for blockchain.
- Link to the work in-progress white paper - Link to White Paper - IN-PROGRESS
- We are targeting release this paper by end of Q2

POC and Prototypes

- We plan to start initial discussion regarding picking up a use case and start creating a prototype
- Plan to kick off this effort with the group sometime early May 2019

Healthcare Interoperability Subgroup

With the recent charter approval in mid-March, the Healthcare Interoperability Subgroup (HC-SIG HIS) has not yet had its first meeting, but preliminary membership interests are high. Steven Elliott serves as the HIS Lead.

The Healthcare Interoperability Subgroup has completed its charter and will begin regular meetings mid May. Initial work will be to deliver a roadmap that will culminate with a working POC that will demonstrate how a consortium of health systems and patients might store and access clinical information on a distributed ledger. This bottom-up approach will focus on the assets, transactions and policies needed to ensure clinical artifacts stored on the ledger have the same semantic meaning across members. One of the goals of the subgroup will be to complete a working system that at some level could be reused as a service by other healthcare related blockchains.

The HIS will also engage with industry and clinical SME's to solve and discuss work already done towards interoperability in the medical field. Work already done by groups at HL7, HSPC and Reginstrief will be leveraged by HIS and invitations to present will be extended to individuals from these institutions as SMEs who can help guide the processes and modeling needed to achieve our goals. Contact has been made with individuals including Stan Huff of HSPC and Claude Nanjo of HL7 for initial presentations of FHIR and alternative interoperable models.

Planned Work Products

General Group

Upcoming activities planned by the general group include:

- The establishment of regular speaker presentations from across the healthcare community to provide "real world" experiences in the design, implementation and establishment of a Hyperledger Project solution within their enterprise context
- The establishment of additional HC-SIG subgroups that appeal to membership healthcare specialties

- The development of an online HC-SIG healthcare resource for blockchain technologies. Numerous HC-SIG members have asked for academically-based educational resources to both learn about, and better communicate the value proposition of blockchain technologies in healthcare
- The completion of the redesign/migration of the HC-SIG Wiki in order to:
  - Provide a more meaningful "front door" experience for new members to quickly discover HC-SIG resources and subgroups
  - For established members, serve as a dashboard of activities and accomplishments
  - Better separate (and highlight) our subgroups (where the real action is) from general group coordinating activities/governance

Patient/Member Subgroup

Depending on whether our search for a new sponsor is successful, we would either resume the work on the Donor Milk POC or, if not, begin a selection progress to determine which project idea should replace it. The main intent is still to contribute to the broader Hyperledger code base through the lab. Given the current uncertainty, we do not have a defined product roadmap but we expect to engage in recruitment activities (especially around developer resources) either way.

Payer Subgroup

We are looking to expand the membership to include team members. I do plan to organize a local event in Maryland and invite various payers and leaders from the industry to start helping with this group. As well, we plan to finalize the POC/Prototype for a use case and kick off that effort in this upcoming quarter.

Healthcare Interoperability Subgroup

The HIS team plans to deliver the following work products:

- Documentation describing the requirements for a semantically interoperable healthcare ledger including:
  - Policies that guarantee interoperability
  - Transactions needed to complete an episode of care
  - Semantically interoperable Assets that can represent clinical artifacts whether or not the actual artifact is stored on or off chain
  - Use-cases that reflect real-life episodes of care
- POC : A functional (minimally viable) blockchain
  - Multiple health systems capable of storing / retrieving assets
  - Software and system design documentation (SDD)
  - Git code repository
- Lessons Learned and next steps

Participant Diversity

This is a very diverse membership with global representation (including, but not limited to, member participation from England, Canada, and India). The majority of membership represents corporate healthcare entities, though we do regularly see regular (and perhaps increasingly so) participation from smaller healthcare startups.

Additional Information

None to date.