

Open-Sourcing and Enhancing the OpenFunction.io Integration Platform

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Proposal Status: **In Review**

Executive Summary

There has been tremendous progress in the digital health software space over the last ten years. An important part of this progress has been the shift away from once-off, custom-coded solutions to either robust SaaS offerings or well-supported open-source software. These tried-and-true solutions tend to be more secure, more stable, and more scalable than quick custom jobs.

Additionally, it's difficult to find an implementation success story in the digital health space that does not include an API integration between two different pieces of software. This may be a connection between a community health-worker tool (like ODK, CommCare, MedicMobile, etc.) and a government data management system—like DHIS2 or a legacy government system—or it could be a connections involving any number of critical technologies that support public health interventions—like MPESA, SMS-gateways, mapping and visualization tools, etc.

The problem is that this shift away from hastily-produced custom-solutions to well-established software has not taken place for the data-integration aspect of digital health initiatives. We have developed an incredibly robust SaaS offering which allows an organization to confidently create real-time two-way integrations between hundreds of tools in the digital health space (see <https://www.openfunction.io/apps> for a partial list). OpenFn's data integration platform already supports some of the most innovative organizations in the sector but, because our product is proprietary, our impact is limited.

Open-sourcing our platform will create that industry standard for data integration and will increase the success rate of digital health projects around the world. More than simply flipping a switch on a private code repository, open-sourcing means making the technology broadly accessible, easy to use, and instantly deployable on any server, in any country, by anyone. We plan to continue offering our SaaS technology (just as Dimagi offers CommCare as SaaS, for example) but open-source our code to:

1. Vastly expand the product's reach, scale, and impact by unlocking the platform for governments and INGOs. We have direct experience with implementers at the INGO or government level that simply can't use platforms unless they are open source and running on in-country servers.
2. Jumpstart an industry of implementers using our product who would no longer be reliant on us. Open sourcing would allow for the development of a new ecosystem—the growth of an army of open-source developers and consultants that could deploy the platform across the world.
3. Enhance the resilience of the technology by incentivizing implementers to become open source contributors.

With more stakeholders and deployments around the world driving revenue to other businesses, they'll be incentivized to fix bugs and introduce features rapidly while our lean core team plays a community-management and quality-control role. The result will be not just better, integrated DHIS2 implementations, but a more efficient digital health sector on the whole.

Consortium Team

Open Function (<https://www.openfunction.io/team>) was founded in 2014 to address the dearth of reliable data integration options in the international development space. This need was identified by our sister-company, Vera Solutions (<http://www.verasolutions.org/>), a technology consulting firm that has served over 230 clients in the social sector.

We have discussed our proposal with several digital health and open-source software experts, including Medic Mobile and DIAL. Both have expressed interest in support this concept.

We are open to collaboration and hope that in a community such as this (filled with digital health software providers) it will not be difficult to find more organizations that stand to benefit from an open-source variant of an integration platform that makes their software easier to implement with existing government systems.

Project Description

We first need to make significant technological enhancements to the platform, including a thorough security review and investment in ease-of-deployment features, breaking the platform into its most basic, stand-alone modules, and expanding our public API. All of this is critical to our success as an open source project. We also plan to invest in the user-interface, with the goal being to reduce the level of technological capacity required to set up integrations from where it currently stands. The specific items we plan to address include:

1. a front-end design overhaul,
2. a security review,
3. automating the deployment process (we use Ansible, but it's far from a single click),
4. breaking apart our platform-as-a-service features from the "core" application (things like credit card billing and plan usage limiters shouldn't be part of what we ship to the Kenyan MoH, for example),
5. machine-generating adaptors based on Swagger specs (and maybe standard mappings based on OpenHIE specs),
6. and potentially separating the Elixir/Erlang back-end from the React/Redux front-end.

Finally, and potentially most importantly, there is some meta-project work we'll need to undertake. We'd like to partner with a group like DIAL to establish clear governance procedures and community management policies for the code-base. Transitioning from open-core SaaS with large proprietary components to something that is fully open-source source will be a major transition, but we're confident that the impact on the sector will be great.