



2022 Google Season of Docs

Standard, Easy to Access OpenMRS FHIR2 Module Implementation Guide

About OpenMRS

OpenMRS' mission is to improve healthcare delivery in resource-constrained environments by coordinating a global community that creates and sustains a robust, scalable open-source medical record platform. The OpenMRS Community is supported by OpenMRS, Inc., a 501(c)(3) whose purpose is to provide fiscal and legal support, infrastructure, and leadership for the community.

OpenMRS: Who Are We?

OpenMRS (Medical Record System) is a robust, scalable, user-driven, open-source electronic medical record system platform currently used to manage more than 15.8 million patients at over 6,500 health facilities in 40+ countries. More and more countries are choosing OpenMRS as a part of their overarching health information system architecture. These countries increasingly use patient-level data from OpenMRS to inform the public health decisions needed to measure progress towards and achieve their objectives in regard to the UN Sustainable Development Goals, UNAID's 95-95-95 targets for HIV epidemic control, and universal health coverage.

Since 2004, OpenMRS has brought together a global community of committed individuals with medical informatics, IT, and global health expertise who are dedicated to improving patient outcomes by creating and maintaining the OpenMRS platform and now, a shared frontend application. To achieve our vision, our community is currently working toward strategic goals related to evolving our core technical products, supporting the development of OpenMRS distributions, advancing meaningful partnerships, expanding the community's capacity, strengthening community engagement, and providing efficient operational support to the community.

About Our Project

Problem Statement

The FHIR2 module enables OpenMRS to act as a FHIR server and for FHIR client applications to speak to OpenMRS without needing to work with OpenMRS's custom APIs. The FHIR2 module has become an integral part of a growing number of OpenMRS implementations. As more countries implement standards-based health information exchanges, demand for the FHIR2 module will only grow.



Our current challenge? Most of our efforts to date have been focused on developing the solutions. What we're [missing is documentation of our technical specifications](#) in a format that is recognized by the broader FHIR community and can be actively used by OpenMRS implementers as well as other digital public goods working on similar, interoperable solutions.

[FHIR Implementation Guides](#) (IGs) provide a standard way of documenting FHIR services. The OpenMRS Community has an active "FHIR Squad" working on a variety of [OpenMRS HL7 FHIR Solutions](#), including the OpenMRS FHIR2 module.

Our Solution

Our proposed solution is a FHIR implementation guide for the FHIR2 module, based on the [OpenHIE Implementation Guide](#) created by Jose Costa Teixeira and lightly retouched to more closely match OpenMRS branding. In an effort to validate the capabilities of the OpenMRS FHIR2 Module using standard FHIR structures, we propose developing the OpenMRS FHIR IG into a testable IG that connects the contained technical specifications with the testing packages for the FHIR2 module.

Project Scope

Our primary goal is to align the [FHIR2 module](#) documentation with this standard, using the available best practices for IG development. This [github repository](#) currently houses the skeleton IG for the FHIR2 module, of which a compiled version is viewable at <https://fhir.openmrs.org>.

Objectives & Activities

Objective 1: Present FHIR specifications for the OpenMRS FHIR2 module as a FHIR IG

Activity 1.1: Research tools and best practices for writing a FHIR IG

Activity 1.2: Use FHIR shorthand and compile it using Sushi

Activity 1.3: Write FHIR based specifications as part of the FHIR2 Module IG

Objective 2: Evaluate the FHIR2 module IG process

Activity 2.1: Gather feedback on the FHIR IG and creation process

Activity 2.2: Make recommendations on improvements and future contributions to the IG

Activity 2.3: Disseminate the FHIR2 Module IG, lessons learned, and recommendations through community showcases and videos

Community Approach

Our community approaches each project with sustainability in mind. We achieve this by integrating opportunities for professional development into each project. This project provides



the technical writer with an opportunity to advance and apply their FHIR knowledge and/or share that knowledge with others in the community.

Project Timeline

The project will take approximately six months. The first four months will mainly concentrate on gathering and trialing FHIR IG resources and tools, then applying these resources and tools to create the FHIR2 Module IG. The last two months will focus on gathering feedback from OpenMRS implementers and FHIR gurus, then disseminating the IG to relevant digital health communities (including OpenMRS) and implementations.

Objectives & Activities	Q2			Q3		
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Technical Writer & Fellow Recruitment						
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Activity 1.1: Research tools and best practices for writing a FHIR IG						
Activity 1.2: Use FHIR shorthand and compile it using Sushi						
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Activity 2.1: Gather feedback on the FHIR IG and creation process						
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Activity 2.3: Disseminate the FHIR2 Module IG, lessons learned, and recommendations through community showcases and videos						

Measuring Success

The FHIR2 module IG created through this project will make it easier for a) OpenMRS implementers to use the FHIR2 module, and b) newcomers to the community who have a FHIR background and are familiar with the “FHIR way” of doing things.

We would consider the project successful if the following metrics are achieved:

- OpenMRS FHIR2 Module IG published



- OpenMRS FHIR2 Module IG demonstrated to the community in at least one community meeting or community mini-meeting
- X # of OpenMRS implementations are aware of the FHIR2 Module IG

Once published, we will determine the longer term success of this initiative using the following metrics:

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Additional Information

In 2019, several members of the OpenMRS Community formed the OpenMRS FHIR Squad. Since its inception, the FHIR Squad has become a hub for innovation when it comes to leveraging FHIR to advance solutions supporting interoperability between OpenMRS and a range of other digital public goods and assuring the quality of these solutions.

In collaboration with technical writers through Google Season of Docs 2019, 2020, and 2021, OpenMRS has made several improvements to documentation available on our Wiki (<https://wiki.openmrs.org/>).

OpenMRS has participated in Google Season of Docs since its inception. In 2019, we were one of the few organizations to successfully work with three technical writers on two key projects: Developing OpenMRS REST API Documentation (two technical writers) and Updating the OpenMRS Wiki Information Architecture (one technical writer). Through Google Season of Docs in 2020, OpenMRS worked with one technical writer on a project designed to improve our OpenMRS Getting Started Guide for New Developers, which serves as inspiration for this project. Although not selected for Google Season of Docs 2020, another aspiring Season of Docs technical writer joined our Documentation Team and moved ahead with her proposed GSOD project, Developing a Suite of Volunteer Guides. All technical writers became members of our Documentation Team and had ongoing support from experienced community members, our Community Director, and Product Director.

In addition to Google Season of Docs, OpenMRS has been accepted every year as a mentor organization for Google Summer of Code (2005-2021) and Google Code In (2010-2020). Our long running participation in these Google programs reflects our community's commitment to growing the next generation of OpenMRS developers - and cultivating an environment where community members identify and serve as mentors to others in the community.



As a result of these efforts, OpenMRS has a framework for working with technical writers to define and track a variety of documentation projects and tasks. This serves as strong foundation for success for this year's Google Season of Docs.

Project budget

Description	Amount	Running Total
OpenMRS Community Management, onboarding, and project support	\$5,250	\$5,250
Technical Writer: Research FHIR documentation resources & tools; apply relevant resources and tools to OpenMRS FHIR IG; create OpenMRS FHIR2 module IG; gather feedback, recommend improvements, and disseminate FHIR IG.	\$9,250	\$14,500
Sub-Total	\$14,500	\$14,500
Total	\$14,500	\$14,500