

# Practicum Sprint #2

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## 1 PROJECT SUMMARY

### 1.1 OMOPonFHIR

OMOPonFHIR (full name: Georgia Tech's Fash Healthcare Interopability Resources and Observational Medical Outcomes Partnership common data model mapping platform) is a powerful application used to read and translate data between multiple versions of FHIR and OMOP. More fundamentally, it is an FHIR server with an underlying OMOP database. The unique setup allows researchers to use data collected in OMOP to be available on an FHIR server, or to use FHIR queries to access their data stored in OMOP (OMOPonFHIR, n.d.)

### 1.2 OMOPonFHIR2.0

Although the program is extremely strong as is, the research group has planned major improvements to the application design to improve both the user and developer experience. One of the highest-value improvements is eliminating the N to N mapping layers for each unique version of OMOP CDM and FHIR; as the number of required versions scales, the maintenance burden can become difficult for engineers. Current plans are for a JSON based configuration, where users can quickly adjust and customize new versions or resources (OMOPonFHIR, n.d.) As the project matures many improvements to the user experience are planned.

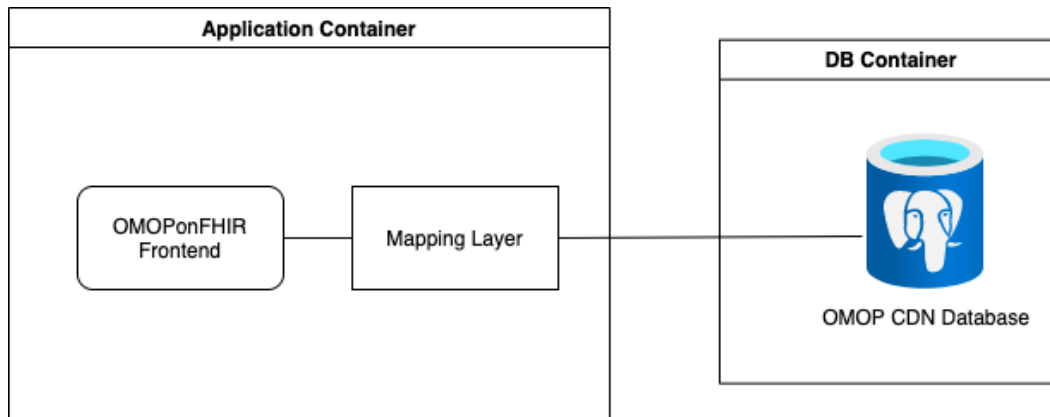
### 1.3 Project Tasks

To support the efforts of the OMOPonFHIR2.0 project, there are still FHIR resources that need new mappings in OMOPonFHIR1.0. Part of this project is to create mappings for the following three resources: MedicationRequest, ProcedureRequest, and RelatedPerson. Additionally, the project needs updated documentation as part of this same effort.

## 2 TOOLS AND TECHNOLOGY

- Java
- Spring Framework





*Figure 2 – OMOPonFHIR Deployment Architecture, with DB, mapping, and frontend layers*

The application will be deployed locally using Docker containers. The OMOP CDN Database is stored on its own Docker container, using PostgreSQL. The Java application, including the crucial mapping layer logic, and the frontend, which is largely straightforward HTML and CSS, are contained on the same Docker container on the local machine.

## 5 PROJECT TASKS

Task	Sprints
Explore Project Topics	1
Meet Advisor & Create a Project Plan	2
Setup of Development Environment	3
Study Other Resource Implementations	3
Design Database Schema for MedicationRequest, ProcedureRequest, and RelatedPerson	4-5
Implement Mapping Functions for MedicationRequest, ProcedureRequest, and RelatedPerson	5-6
Test Creation for Mapping Functions	6

Gather & Apply Feedback from Advisor and OMOPonFHIR	6-8
Submit Pull Requests for Publishing	8
Update OMOPonFHIR Documentation	9-10
Obtain PR Approval & Merge	8-10

## 6 NEEDS/RISKS

While there are benefits to contributing to an existing project rather than starting a new endeavor altogether, it also introduces many dependencies that can create risk against a project timeline. It is important, for example, to spend time researching how the existing resources were created: test requirements, existing style/architecture choices, and the design proposal, submission, and approval process for new code. This stage will benefit hugely from input from a mentor or developer on the project. The middle stages have the least amount of risk – implementation and testing can largely be executed individually, with occasional check-ins with the advisor. Following the appropriate process for getting work approved can potentially take an unexpectedly long amount of time, so this project timeline leaves multiple sprints for that task. The documentation work is also added to the back of the schedule, so it can be completed concurrently with any wait times for reviews or feedback.

## 7 BIBLIOGRAPHY

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