1.0 CONTRACT WORK OVERVIEW

1.1 CONTRACT NAME
Web-based Terminology Resource Editor for FHIR

1.2 DATE OF ANNOUNCEMENT RELEASE
This contract work announcement is released for public review on June 7, 2022. Proposals must be received no later than 5:00 pm Eastern Time in the USA on July 1, 2022.

1.3 DATE OF SELECTION
Provided there has been interest in this contract work by qualified individuals, and subject to HL7 approval of the contract and funding, the awarding of this contract is anticipated to be made by July 8, 2022.

1.4 CONTRACT PERIOD
This contract is expected to be awarded for actions or work to be performed and completed by September 18, 2022 (this date reflects the end of the ONC grant period, which is funding the project)

1.5 CONTRACT PROJECT MANAGER
Once awarded, the contract’s progress and subsequent fulfillment will be monitored and reported on by David Hamill, HL7’s Director of Project Management Office.

2.0 SCOPE OF WORK

HL7 has developed the Unified Terminology Governance (UTG) process to maintain the terminology in specifications across all product families, including v2, v3, CDA, and FHIR. The terminology content maintained by the UTG process is published in regular versions at terminology.hl7.org (also known as THO). Throughout the UTG process, HL7 terminology content is represented as FHIR resources (e.g. CodeSystem, ValueSet, ConceptMap, NamingSystem, List).

Presently, the UTG process lacks an integrated terminology editing tool, so participants typically find themselves manually editing raw JSON or XML files. This is not ideal. To ensure that the HL7 standards development community can efficiently and accurately maintain its terminology content, HL7 therefore needs a terminology editing tool based on FHIR’s terminology module.

The purpose of this contract is to procure development of a terminology editing tool that supports the UTG process. Yet we do not believe that our terminology content needs are unique. Therefore, the software obtained under this contract will be made available to the HL7 community under an open-source license (e.g., Apache 2.0, MIT License).
2.1 PRIMARY FUNCTIONAL REQUIREMENTS

The HL7 community requires a web-based terminology editor. For example, many HL7 participants are not (easily) permitted to install software packages on their computers. Therefore, we seek an easy-to-deploy (e.g., containerized via Docker, etc.) web app that supports users with any modern browser (e.g., Google Chrome, Firefox, Safari, Opera, Brave, Microsoft Internet Explorer and Edge). Our target server deployment infrastructure is a cloud-hosted Ubuntu Linux environment.

The FHIR specification’s Terminology Module provides the core data structure and operation definitions that must be supported. The terminology editor application need not be a full-fledged terminology server. It must, however, have the capability of reading FHIR terminology resources (e.g. CodeSystem, ValueSet, ConceptMap, NamingSystem, List) in either XML or JSON format from the following sources:

1. Local file system (e.g., via upload)
2. Git repository
3. An open (i.e., no authentication required) FHIR terminology server via RESTful API
4. A FHIR terminology server via RESTful API using Basic authentication
5. [Optionally] a FHIR terminology server via RESTful API using SMART on FHIR Authentication

2.2 VALIDATION AND GUIDANCE REQUIREMENTS

We also require that the terminology editing application provide a flexible mechanism for defining, recommending, and enforcing additional content rules or constraints. These rules will help make it easier to follow good HL7 terminology practices. Examples of some of the rules we would like to define include:

- The CodeSystem.id element must be unique across all CodeSystem resources published in THO and must not contain certain characters (e.g., space, slash, etc.).
- The CodeSystem.url element for a previously published CodeSystem cannot be edited
- Any edits to a previously published CodeSystem must trigger corresponding version increments and date updates
- The default value for CodeSystem.publisher should be “HL7 International”.

Although some of these good practices are recorded in the UTG documentation (see example at Specifying the Details Inside the Proposal), we expect to add many more over time. Therefore, the mechanism for specifying these rules should be flexible and dynamically accommodating.

Additionally, the application must have a mechanism for adding context-specific help or guidance that is tailored to specific fields.

The application must yield valid FHIR terminology resources (e.g. CodeSystem, ValueSet, ConceptMap, NamingSystem, List) in both XML or JSON formats.
2.3 VALUESET EXPANSIONS

In order to ensure a ValueSet resource is properly defined, it is often helpful to review the test output of the $expand operation. In particular, this is useful when the ValueSet.compose makes use of a filter or references to one or more other ValueSet or CodeSystem resources.

Therefore, the terminology editor must have the capability of visually presenting the output of the $expand operation. It is expected that the editor will send the (draft) version of the ValueSet to a nominated terminology server, execute the $expand operation on the server, and then present the results for the user.

2.4 DEPLOYMENT

Contractor will work collaboratively with HL7 to deploy the terminology editor within HL7’s hosted infrastructure.

2.5 PROGRAM MANAGEMENT

The Contractor shall attend regularly scheduled (bi-weekly) project status meetings via teleconference with the designated key project stakeholders. These meetings will discuss progress, schedule, issues, and risks that may affect the project.

3.0 SELECTION CRITERIA

Proposals will be evaluated based on the overall best value, most timely and least risk approach for fulfilling the contract objectives, and the qualifications and experience of the contractor including, but not limited to:

1. Preference for resources actively engaged in current HL7 activities with advanced knowledge of HL7 processes, tools, and standards
2. Knowledge of, and experience with, FHIR standards, in particular pertaining to digital quality measurement and cohort definition
3. Other relevant skill and experience
   a. Oral and written communication skills
   b. Analytical and process design skills
   c. Training experience
   d. Ability to work in a distributed, virtual environment
   e. Commitment to protect HL7 Intellectual Property

4.0 SELECTION PROCESS

After the period has closed for receipt of proposals, each proposal will be examined to determine compliance with the format and information requirements specified in the RFP. HL7 reserves the right to reject any and all proposals.

- A Selection Panel will review each proposal that meets the stated requirements.
- Following independent evaluation of the proposal, the top candidates may be requested to participate in an interview.
- One or more proposals may be selected to provide resources to the project.
- The selected bidder(s) will be notified of the results.
5.0  HOW TO OBTAIN FURTHER INFORMATION

Direct any questions to:
David Hamill, HL7’s Director of Project Management Office at PMO@HL7.org.

The contractwork@lists.hl7.org list service informs potential contractors of work to be contracted out by HL7 International. If you have received this announcement by a means other than this list, you should sign up for the free HL7 List Service at:
https://www.hl7.org/myhl7/managelistservs.cfm?ref=nav

Any updates to this contract work announcement, additional announcements or information will be posted to that list and will reference the contract name.

6.0  HOW TO SUBMIT YOUR PROPOSAL

If you want to bid for the contract work, you should submit your proposal via e-mail to: PMO@HL7.org (do NOT provide submissions to the contract work listserv). At a minimum, you should supply:

- Proposed approach and considerations to fulfill the requirements detailed in this RFP
- A program management plan and proposed deliverable schedule to meet the objectives of this contract. Contractor and HL7, in coordination with ONC, will establish a final plan and schedule within two weeks of contract initiation.
- Resources, hourly rate (in USD), estimated hours and proposed schedule for performing the work
- Qualifications and resumes of proposed resources along with role and responsibilities

All submissions and information supplied to HL7 will become the property of HL7 International, Inc. and the awarded contract will be announced through the contractwork@lists.hl7.org list service.

7.0  STATUTORY REQUIREMENT: DIVISION H, TITLE V, SECTION 505 OF PUBLIC LAW 114-113, OF THE CONSOLIDATED APPROPRIATIONS ACT OF 2016

100% of the total costs of this project will be financed with Federal Money.

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