Team Details

Team Members

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Mentor

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Quick Description of Application

Application to test a client's conformance with FHIR implementation guides

GitHub Repository

Link: https://github.com/inferno-community/client-fhir-testing

Through research we have found:

- Inferno is an integral part of FHIR testing and is relied upon by industry. It is an open source tool that makes HTTP(S) requests to FHIR servers in order to test authentication, authorization, and standards (healthit.gov, 2020).
- Re-use what we can from the Ruby based server tool, Inferno.
- Certain guidelines must be met to make this tool useful and usable to industry:
  - Need to parse implementation guide (IG) for client and generate tests based on the requirements documented. Known as US Core Client Capability Statement.
  - Tests that check for reads, searches, and other artifacts in the IG
  - Tests should check for standard FHIR requirements. Ex. Correct HTTP headers.
  - Tests should validate data sent by clients to ensure it conforms to the specified profile in the IG.
  - Tests that check for "negative" interactions that modify server results. When clients receive bad data from servers.
- Majority of the project time will be spent understanding the existing application, the standards data structures, and then building the testing product.

- Inferno local deployment
  - Requirements: Ruby, SQLite
  - FHIR validator: https://github.com/inferno-community/fhir-validator-wrapper
  - Inferno: https://github.com/onc-healthit/inferno
- Local test run
  - Create Inferno test app (FHIR R4) in the Logica Sandbox server:
    - https://api.logicahealth.org/TestFHIRR4/data
  - Test run
    - SMART App Launch framework

- Server conformance to authentication, authorization and launch.
  - US Core v3.1.1 Profiles
    - Capability Statement and FHIR content standards

US Core v3.1.1 Profiles (patient: smart-1288992)

Dynamic Registration	4/4 Passed
Manual Registration	1/1 Passed
Standalone Launch Sequence	9/9 Passed
HER Launch Sequence	11/11 Passed

US Core v3.1.1 Profiles (patient: smart-1288992)

Patient Tests	2/10 Passed
AllergyIntolerance Tests	3/6 Passed
Condition Tests	3/6 Passed
MedicationRequest Tests	2/8 Passed
Smoking Status ObservationTests	2/6 Passed
Pediatric Weight ForHeight Observation Tests	2/8 Passed
Laboratory ResultObservation Tests	2/8 Passed
Pediatric BMI For AgeObservation Tests	2/8 Passed
Pulse Oximetry Tests	2/8 Passed
Pediatric Head Occipital-Frontal Circumference Tests	2/8 Passed
Others	NA