NIEM tools

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* notes

# functions

## mapping

- going from local data requirements to niem content  
 - subset  
 - extension  
 - right now we tell people to use a spreadsheet

## search

- additional search targets  
 - NIEM release repository  
 - EIEM  
 - local folder  
 - git repository  
 - IEPD

## artifact production

## validation

- sample instance  
 - iepd conformance

## iepd repository

- search / fetch  
 - publish / push

## user mgt

- publication  
 - collaboration  
 - credentials  
 - privileges  
 - groups  
 - session management  
 - pause & resume  
 - delayed login  
 - let people get started before they have to create an account  
 - roll over in-progress content to the new account

## help & guidance

- online / tool documentation  
 - human intervention & support  
 - tutorial mode

# separate user interfaces

- map & model grid interface  
 - data model search interface  
 - conformant instance / message validation against an iepd  
 - iepd files / folder interface  
 - iepd metadata / manifest entry forms  
 - niem version migration  
 - start page / landing page

# assumptions

- who is creating IEPDs?  
 - What skill set is required?  
 - funding  
 - level of effort  
 - minimum ROM  
 - LOE  
 - 1 developer full time  
 - timeline  
 - 5 years  
 - 3 phase  
 - goal  
 - automated workflow  
 - flexible vs wizard-driven workflow  
 - prefer flexible  
 - COAs  
 - "maintain existing & develop new"  
 - follow current release schedule  
 - existing tool set is static

# constraints

# development

- agile development  
 - regular deployment  
 - customer participation

# architecture

- open source  
 - License?  
 - BSD-style  
 - GPL-style  
 - hosting  
 - publicly hosted  
 - privately hosted  
 - desktop hosted  
 - "user-installable"  
 - storage  
 - web interface  
 - service interface

# goals for this meeting

- requirements  
 - roadmap  
 - phases  
 - What do we deliver on what kind of increments?

# iepd development process

- phases  
 - scenario planning  
 - identify sources of requirements  
 - analyze requirements  
 - enumerate data requirements  
 - sources  
 - manually entered  
 - spreadsheet import  
 - database schema import  
 - other requirements  
 - end up as other artifacts & documentation  
 - populate mapping table  
 - map & model  
 - search  
 - smart search  
 - select content from  
 - NIEM release  
 - other IEPDs (via registry)  
 - enterprise models  
 - how?  
 - new content  
 - via extension XSDs  
 - via mapping table  
 - build & validate  
 - schema production  
 - sample instance validation  
 - partial conformance testing  
 - of schemas  
 - of instances  
 - assemble & document  
 - files/folder interface  
 - complete IEPD  
 - including  
 - manifest  
 - schemas  
 - sample data  
 - documentation  
 - other artifacts  
 - eg  
 - UML  
 - conformance testing  
 - implementation support artifacts  
 - publish  
 - via  
 - registry  
 - github  
 - download zip file  
 - implement

# domain model management

- build a domain data model, rather than just an IEPD  
 - publish  
 - data model  
 - domain update

# separate APIs

- component search API  
 - release repository  
 - enterprise model / eiem  
 - other iepd repository  
 - component browse API  
 - iepd registry  
 - iepd search API

# modeling support

- distinguishing between  
 - new type  
 - role  
 - augmentation  
 - association  
 - abstract substitution  
 - representation  
 - container element

# additional capability

- code list support  
 - code list specification  
 - metadata validation  
 - id/ref/uri validation

# Current tools

- Current tool gaps  
 - mapping data requirements to NIEM subset + extension  
 - defining & generating extension schemas  
 - producing JSON Schema  
 - IEPD assembly  
 - validation of instances against an IEPD  
 - List  
 - SSGT  
 - search  
 - subset building  
 - browse  
 - Contesa  
 - parse IEPD  
 - validate IEPD vs specs  
 - Migration tool  
 - update wantlist to new version  
 - Code list tool  
 - produce schemas from spreadsheets  
 - Wayfarer  
 - search  
 - browse  
 - Movement  
 - search  
 - model viewer website  
 - browse

# MVPs

- capabilities  
 - Landing page  
 - Files interface for an IEPD  
 - empty IEPD  
 - download zip  
 - upload zip  
 - upload file  
 - Message Description Manifest creation & editing  
 - user details  
 - iepd details  
 - content details  
 - schema assembly  
 - message formats  
 - Generate model from XML Schemas  
 - Generate model from spreadsheet  
 - Generate JSON schema from model  
 - Generate XSD from model  
 - Generate UML from model  
 - validation  
 - error handling  
 - report generation  
 - conformance assertion  
 - populate with a good template  
 - NIEM 5.0 targets  
 - production of NIEM 5 XSDs  
 - model-to-NIEM 5 XSDs  
 - SSGT  
 - add "model" schema generator  
 - NIEM release  
 - Generate JSON Schema from a schema set / zip  
 - as a UI / standalone webapp  
 - as a web service  
 - process:  
 - IEPD zip to XML Schema document set  
 - XML Schema set to model  
 - model to JSON Schema  
 - cons  
 - Requires JSON people to build XML Schemas  
 - Generate JSON Schema from a spreadsheet  
 - requires precise spreadsheet format  
 - list  
 - 1st MVP  
 - features  
 - landing page  
 - session mgt  
 - file interface  
 - spreadsheet-to-model  
 - model-to-JSON Schema  
 - capabilities  
 - generate JSON Schema from a spreadsheet  
 - XML-free JSON capability  
 - Additional capabilities queue  
 - model to XML Schema  
 - XML Schema to model  
 - service API  
 - IEPD assembly  
 - upload artifacts  
 - result in IEPD package  
 - following conventions  
 - IEPD validation  
 - validate XML Schemas vs. NDR  
 - validate XML instance vs. IEPD  
 - validate full IEPD vs. IEPD spec  
 - check catalog for validity  
 - check for mandatory artifacts  
 - Map & Model interface  
 - search for content  
 - add found content to a model

# Model “building blocks”

- IEPD zip to XML Schema document set  
 - XML Schema set to model  
 - model to XML Schema document set  
 - stabilize order of things in schemas  
 - model to JSON Schema  
 - JSON Schema has to generate & accommodate a specific JSON-LD context  
 - so you could build in aliases  
 - Zip + artifacts to Zip  
 - spreadsheet to model  
 - formats  
 - Zip file  
 - XML Schema document set  
 - JSON Schema + JSON-LD context  
 - OpenAPI  
 - Spreadsheet  
 - UML XMI  
 - Clicky diagrams  
 - Documentation  
 - … Word doc

# Registry/Repository

- Public  
 - MilOps/DOD restricted  
 - NTAC perspective  
 - would like to turn FHIR elements into NIEM definitions  
 - openAPI vs. JSON Schema  
 - Jim thinks openAPI is our best target  
 - likely that json schema won't get much use  
 - service description part of an openapi is outside the "schema" part

* roadmap
* NIEM Tools Requirements
  + Assumptions
    - Timeline
      * 1-year first phase
      * 5 year roadmap
    - Level of effort
      * 1 developer full time
      * Management support & oversight