Project Summary Report

LexEVS Operations and Maintenance Support
ST12-1106

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LexEVS Operations and Maintenance Support

1. **Personnel Roster**

Name	Title/Role	Contact Information
Craig Stancl	Lead Analyst/Programmer	Stancl.craig@mayo.edu
Mandy Ager	Project Manager	Ager.mandy@mayo.edu
Kevin Peterson	Senior Analyst/Programmer	Peterson.kevin@mayo.edu
Pradip Kanjamala	Senior Analyst/Programmer	Kanajamala.pradip@mayo.edu
Scott Bauer	Analyst/Programmer	Bauer.scott@mayo.edu
Kim Frutinger	Senior Analyst/Programmer	Frutinger.kim@mayo.edu
Linda Hardie	Analyst/Programmer	Hardie.linda@mayo.edu
Harold Solbrig	Technical Specialist 1	Solbrig.harold@mayo.edu

Insert additional rows as needed.

2. **Technical Status Overview**

The release of LexEVS 6.1 encompassed a wide range of objectives, requirements and use cases. During the course of the development schedule a new REST based CTS2 compliant service running over LexEVS was implemented that included the capability to query code systems, entities in those code systems, relationships between entities, maps between code systems and value sets of the service code systems. Loaders for a variety of updated or original content were created including those from HL7, MedDRA and a new OWL standard OWL2. Performance issues were addressed with a new value set persistence mechanism, and an improved service wide search capability. A couple of options for improving some hierarchy traversal performance were investigated before a simplified approach was settled on. A number of minor outstanding issues were also successfully completed.

2.1 **Description of Work Completed During the Contract Period**

Table 2.1: Technical Progress/Accomplishments

Activity	Description
Loading New Content	LexEVS now loads content directly from MedDRA ASCII documents as well as from any UMLS releases. HL7 RIM content is now loaded directly from the MIF files. The latest OWL standard is can now be loaded along with the previous version.
Implementing the CTS2 Standard over LexEVS	Extensive Query and Read functionality is now available in the new CTS2 REST API for code systems, values sets, entities, and associations
Performance Projects	Enhancements to search, hierarchy traversal and value set resolution were implemented
Search Enhancements	Global search and a variety of text search mechanism tweaks allow for high performance and accurate searches

Various bug fixes and enhancements.	Detailed below

Describe each discrete activity on which work was performed during the month. When the activity encompasses work on a discrete task (see below), explicitly identify the task and task number.

3. Issue Management

Table 3.1: Business/Process/Technical Issues Encountered, Resolved and open

ID	Issue	Type	Status	Resolution/Proposed Resolution
554	LexEVS GitHub Migration	P	R	Process completed with full migration of source code to NCIP Github channel
533	LexEVS Loader Enhancement - HL7 MIF Loader	T	R	Now loading from the HL7 vocabulary MIF. The RIM MS Access loader is deprecated.
552	LexEVS Loader Enhancement - OWL2 Loader	T	R	OWL2 is the latest standard and LexEVS can now load OWL2 formatted content
551	LexEVS Loader Enhancement - MedDRA Loader	T	R	MedDRA maintains a proprietary ASCII table set that is now loaded by LexEVS
550	LexEVS Performance Enhancement - Performance Improvement of Hierarchy Traversal	T	R	Originally envisioned as support from a graph database, third party code instability pushed this to a simpler, more immediate remedy
548	LexEVS Performance Enhancement - Implement a persistence mechanism for resolved Value Sets	T	R	Permanently resolved value sets are now persisted as a kind of coding scheme in the LexEVS service
547	LexEVS Enhancement for CTS2 - Entity Query Across Code System	T	R	Global search enhanced by it's on Lucene index provides fast searches over a large set of terminologies
546	CTS2 REST MapEntry	T	R	CTS2 REST for Map Entries supporting maps between code systems
545	CTS2 REST MapVersionCatalogEntry	T	R	Map support in REST based on Map versions
544	CTS2 REST MapCatalogEntry	T	R	CTS2 REST for Map Catalogs supporting querying all Map resources on the service
543	CTS2 REST ResolvedValueSet	T	R	Value Set Resolution support
542	CTS2 REST ValueSetDefinition	T	R	Value Set Definition support
541	CTS2 REST Association	T	R	CTS2 REST for Associations
540	CTS2 REST EntityDescription	T	R	REST in the CTS2 Standard for Code

				System entities.
539	CTS2 REST CodeSystemVersionCatalogEntry	T	R	CTS2 REST calls for Code Systems
533	SNOMED Loader does not build Transitivity Table	T	R	Resolved as 'Cannot Reproduce'
527	LoadMetaBatch throws illegal character error	T	R	DOS-style encodings on files were found and fixed.
582	The MSSOUserValidator.jar in the GitHub project lexevs-remote is out-of-date.	T	R	Appropriate dependency jars replaced
578	Contains search using "non-small occult" as the search string against NCIt returns nothing.	T	R	Adjusted a tokenization problem that could impact how hyphenated input strings are parsed
577	MedDRA_history_english.asc data are not loaded by the MedDRA (ASCII file) loader.	T	R	The existing MedDRA loader was updated to load the new files and information
575	Provide a value set quick search capability.	T	R	Provided a more compact Lucene index, combined with ValueSet static resolution
571	Ability to drop or load multiple resolved value sets	T	R	A new RemoveResolvedValueSet script (and supporting code) was added
526	Metathesaurus unable to load or Resume	T	R	Database constraint errors caused by incorrect loader logic was fixed
514	OWL loader puts property comments on every property value	T	R	Property comment load logic was corrected in the OWL loader
506	Missing database index for Metathesaurus	T	R	Appropriate database scripts were modified to include the new index
495	ICD9 GEMS map throws java.lang.NullPointerException	T	R	Corrected incorrect loader logic
555	LexEVS 6.1 Software Design Document	T	R	Completed, on wiki
556	LexEVS 6.1 Information Systems Security Plan Document	T	R	Completed, on wiki
557	LexEVS 6.1 Technical/Product Documentation (Wiki)	T	R	Completed, on wiki
558	LexEVS 6.1 Release Notes	T	R	
559	LexEVS 6.1 Design Review Package	T	R	Completed, on wiki
560	LexEVS 6.1 Readiness Review Package	T	R	

561	LexEVS 6.1 Technical Project Plan	T	R	
562	LexEVS 6.1 Deployment to NCI Dev Tier	T	O	In progress
563	LexEVS 6.1 Deployment to NCI QA Tier	T	O	Awaiting Deployments to Previous Tier
564	LexEVS 6.1 Deployment to NCI Stage Tier	T	O	Awaiting Deployments to Previous Tier
565	LexEVS 6.1 Deployment to NCI Production Tier	T	O	Awaiting Deployments to Previous Tier
566	LexEVS 6.1 Production Announcements	T	O	Awaiting Deployments to Previous Tier

Type = B (Business)/ P (Process)/ T (Technical)
Status=R (Resolved)/ O (Open)

4. Success stories

Table 4.1: Items that went well

ID	Items that Succeeded
	Weekly technical meetings with NCI and Mayo.
	Communication (email) was managed timely and effectively.
	Scope was maintained for complex items.
	Evaluation of graph database provided good analysis for future potential enhancements.
	Face to Face meeting was successful in setting project scope.
	Functionality was successfully delivered with minimal problems and under budget.
	Successfully implemented CTS2 over LexEVS.

5. Lessons learned/Future Improvements

Table 5.1: Lessons Learned/Suggestions for Future Enhancements/Improvements

ID	Lessons Learned/Enhancements/Improvements
	Suggestion: Continued enhancement of CTS2 services.
	Improvement: Suggest a more streamlined delivery and deployment process.
	Lesson: Plan for longer deployment cycle as part of planning.

State here possible future implementation strategy, if different from the one used in the project
Enhancements – Software changes or additions; Improvements – Process/Communication/Structure changes.

6. Deliverables

Table 6.1: Status of Deliverables

Deliverable/Milestone	Delivery Date	Status
Financial Project Plan	Continuously Updated	Complete
Monthly Technical Status Report	10th of Each Month	Complete
Monthly Financial Status Report	10th of Each Month	Complete
Project Summary Report	8.30.2013	Complete
Updated Technical Documentation	9.23.2013	Complete
Updated Software Codebase	9.10.2013	Complete
Issue Tracking List	Continuously Updated	Complete
Software Requirements	3.21.2013	Complete
Software Design	3.21.2013	Complete
Software Codebase	9.10.2013	Complete
Information Systems Security Plan	4.10.2013	Complete
Technical Documentation	9.23.2013	Complete
Production System	Pending deployment	Code delivered

Final status of each deliverable identified in the contract