**CNTRO TimeLine API Library**

The CNTRO Timeline library is a Java library. This library is intended to be used by developer and analysts who want to integrate this library in their workspace to compute temporal information about clinical events.

Prerequisites

* The library reads OWL files as input and these OWL files represents temporal events and relations between them. The instances of these entities must be of types defined in the CNTRO ontology or extended version of CNTRO ontology for normalized events. These ontologies are:

CNTRO Ontology:

<http://informatics.mayo.edu/CNTRO/CNTRO2.0.owl>

Normalized Event Ontology:

<http://informatics.mayo.edu/CNTRO/AE-lst%20(new).owl>

* The OWL files can be either manually edited or can be exported out form annotator tool, which is a Stanford’s Protégé 4.x Editor plugin - ‘Semantator’. More information on ‘Semantator’ can be found at:

<http://informatics.mayo.edu/CNTRO/index.php/Semantator>

* There is no user interface available and should be treated as java library which needs to be used in someone’s workspace.

**Download Instructions**

***Option 1: Using Jar File***

The library is available to be downloaded as a Java archive from the location:

<http://informatics.mayo.edu/maven/content/repositories/releases/edu/mayo/bsi/cntro/timeline/cntro-timeline/1.1.0/cntro-timeline-1.1.0.jar>

***Option 2: Using as a Maven Dependency***

The timeline library has been developed as a Maven project and is available to be included in user’s pom.xml file using the following information:

Repository location

<repository>

<id>edu.informatics.maven.Releases</id>

<name>Informatics Maven Release Repository</name>

<url>http://informatics.mayo.edu/maven/content/repositories/releases/</url>

<releases>

<enabled>true</enabled>

</releases>

<snapshots>

<enabled>false</enabled>

</snapshots>

</repository>

Dependency

<dependency>

<groupId>edu.mayo.bsi.cntro.timeline</groupId>

<artifactId>cntro-timeline</artifactId>

<version>1.1.0</version>

</dependency>

**Download Library Source**

The source code for CNTRO TimeLine Library can be downloaded from GitHub at:

https://github.com/dksharma/cntro-timeline.git

The project is Java Maven type of project and once you checkout the code, you should be able to build the code and run the test cases.

Sample Code:

The sample code usage is demonstrated in the test case in Java file:

“src/main/java/edu/mayo/informatics/cntro/test/SampleEventTest.java”

There may be other test cases in the same directory as the file above, but they are specially created for particular analysis for files in other resource directories. You can use those as examples to help you finding various ways to use the API and auxiliary tools included.

**Service Interface**

The main query service interface (for using the APIs) is defined in:

“src/main/java/edu/mayo/informatics/cntro/queryIF/CNTROQuery.java”