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**QUALITY REVIEW OF THYME EVENT ANNOTATION
AND
A REVIEW OF AUTOMATED EVENT-ANNOTATION METHODOLOGIES**

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TERM PROJECT PROPOSAL

The goal of the *Temporal Histories of Your Medical Events* (THYME) project is to develop a human-annotated corpus of medical records annotated with temporal relations between events, occurrences, states, dates, and procedures.[1].

Two annotation passes were carried out on the THYME corpus. The (primary) temporal annotation pass focuses entirely on temporal annotations and permits, for example, "*the same heart attack [to be labeled] as an EVENT ten different times in the document*"[1] whereas the purpose of the (secondary) coreference annotation pass is to figure out which specific mentions of events and entities are the same.[2]

In relation to the THYME project, this term project aims to accomplish the following:

1. Explain the two THYME annotation methodologies and their challenges
2. Synchronize the results of the two annotation passes
3. Quality check for events that were not, but should have been, tagged as events in the first annotation pass
4. Describe automated approaches to event annotation
5. Discuss the impact that annotation quality might have on automatic classification

Furthermore, the quality check component will attempt to provide examples of inconsistencies that could be fixed via hand-correction and determine whether some inconsistencies could be fixed deterministically. This project will not attempt to implement the suggested fixes. This work will hopefully serve to suggest methods of cleaning up the two annotations which in turn could improve results of classifiers "able to construct an accurate timeline of when the events in a given medical record occur relative to any fixed dates present and relative to one another"[1].

Bibliography

- [1] clear.colorado.edu, *THYME Guidelines*, <http://clear.colorado.edu/compsem/documents/THYME%20Guidelines.pdf>, Will Styler, Guergana Savova, Martha Palmer, James Pustejovsky, Tim Oâ€™Gorman, and Piet C. de Groen, Updated February 28, 2014, [Accessed March 2016]
- [2] clear.colorado.edu, *Clinical Coreference Annotation Guidelines (with excerpts from ODIE guidelines and modified for SHARPN/THYME)*, http://clear.colorado.edu/compsem/documents/coreference_guidelines.pdf, Arrick Lanfranchi, Kevin Crooks, and Mariah Hamang, Updated November 2, 2013, [Accessed March 2016]
- [3] clear.colorado.edu, *THYME Wiki*, https://clear.colorado.edu/TemporalWiki/index.php/Main_Page, Will Styler, Guergana Savova, Martha Palmer, James Pustejovsky, Tim Oâ€™Gorman, and Piet C. de Groen, Updated March 8, 2016, [Accessed March 2016]