

# AgreementMaker Ontology Matching System Software Demonstration

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- Alignment
  - A set of *mappings* between semantically equivalent concepts in two ontologies.
- Matching Algorithms (Matchers)
  - Algorithms to automatically create mappings based on features of the concepts and ontologies.
- Reference Alignment (“Gold Standard”)
  - The set of mappings which are considered correct between a pair of ontologies. Created by domain experts.
  - Used to compute *Precision*, *Recall*, and *F-Measure* metrics.

- Efficient Matching Algorithms and their Combination
  - Syntactic, structural, and lexical matchers.
  - Combination → choose the best mappings from each algorithm.
- Alignment Visualization, Interaction and Evaluation
  - Understand the results of the matching.
  - Edit, update, analyze the alignment.
- Extensible Architecture and Developer Support
  - Easily and quickly implement your own matching algorithms.
  - Wiki: <http://agreementmaker.org/wiki>
  - Javadoc: <http://agreementmaker.org/javadoc>

- OAEI Anatomy Track
  - Mouse Anatomy Ontology to Human Anatomy Ontology
  - 2744 concepts, 3304 concepts
  - Reference Alignment: 1520 mappings.
  
- OAEI 2010 Results
  - Precision: 91.3%, Recall: 83.6%, F-Measure: 87.3%
  - 924 (60.8%) “trivial” mappings
  - 105 (7.0%) lexical mappings
  - 241 (15.9%) structural and syntactic mappings
  - 250 (16.4%) mappings not found (UMLS?)
  - Runtime:  $\approx$  12 minutes.