Structured reporting system

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06.04.2018

Outline

Areas of interest of modern medicine

- increasing variety of diagnostic techniques and procedures
- unsatisfiable demand for medical services
- bureaucracy
- huge volumes of data to process and store. Healthcare Informatics

Healthcare Informatics vs Computer Science

Healthcare standards

- medical nomenclature SNOMED CT, LOINC
- exchange protocols and formats HL7, DICOM

Typical workflow of a radiologist

Figure: Typically, a radiologist analyzes medical images and creates report's text simultaneously

Areas of optimization

- radiologists are very BAD at typing on keyboard
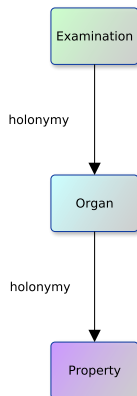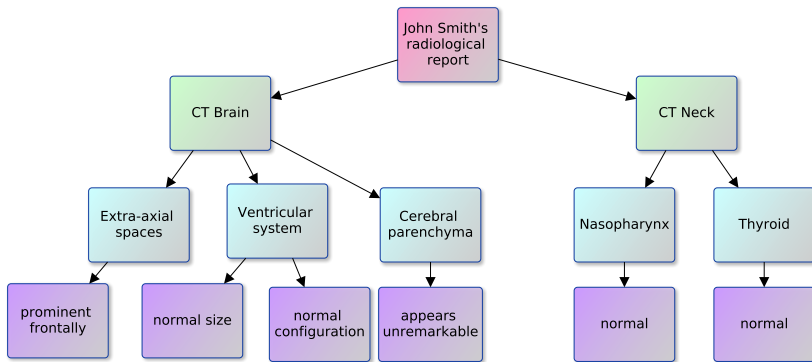- speech recognition has problems with capturing medical language

Reporting ontology

Figure: Types of entities and relations between them

Radiological report as a tree

John Smith

date: 02.04.2005

CT Brain

Extra-axial spaces: prominent frontally.
Ventricular system: normal size; normal configuration.
Cerebral parenchyma: appears unremarkable.

CT Neck

Nasopharynx: normal.
Thyroid: normal.