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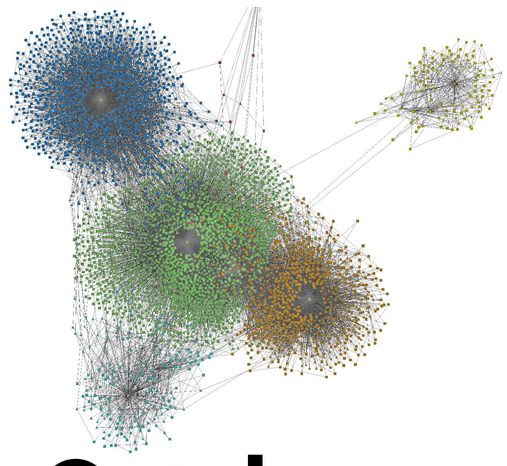

The SNIK Graph: Visualization of a Medical Informatics Ontology

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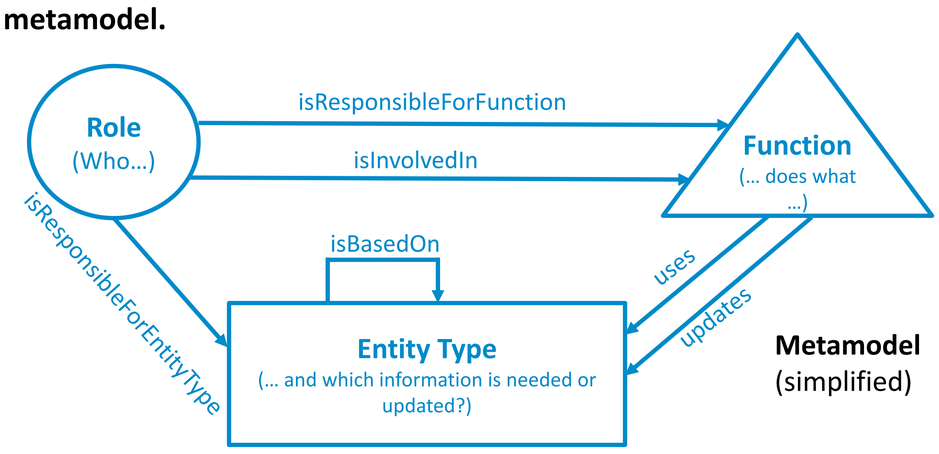
SNIK

SNIK, the **semantic network of information management in hospitals** (German: Krankenhäuser)

- describes hospital information system (HIS) management from a functional point of view: **Who performs which function and which information is needed or updated by this function?**
- is a medical informatics ontology containing 2845 entity types, 1090 functions and 234 roles (16.11.2018). It comprises knowledge from five different textbooks which are linked to each other by 704 interlinks.

The rules for building the SNIK ontology are described by the **SNIK metamodel.**



Metamodel (simplified)

isBasedOn

updates / uses

Extraction of HIS text books

isResponsible ForFunction

SNIK team

isResponsible ForFunction

isInvolvedIn

SNIK user

Quality Assurance and Bug Reporting

updates

updates

updates

Design of new teaching scenarios

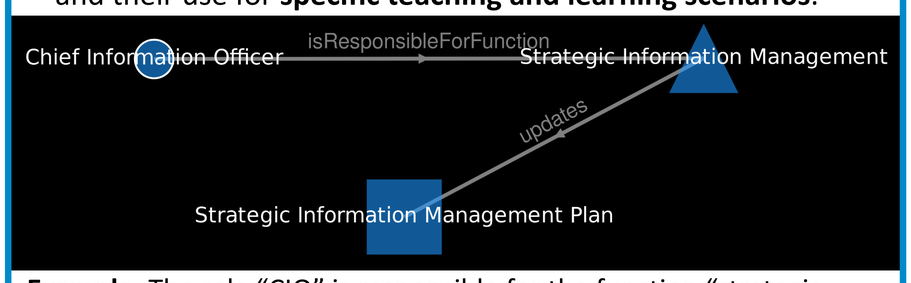
SNIK Graph

The web-based SNIK graph visualizes the ontology: **Rectangles** represent **entity types, triangles** represent **functions** and **circles** represent **roles. (Be aware of this poster's design!)**

SNIK is available as Linked Open Data together with a web-based graph visualization based on cytoscape.js.

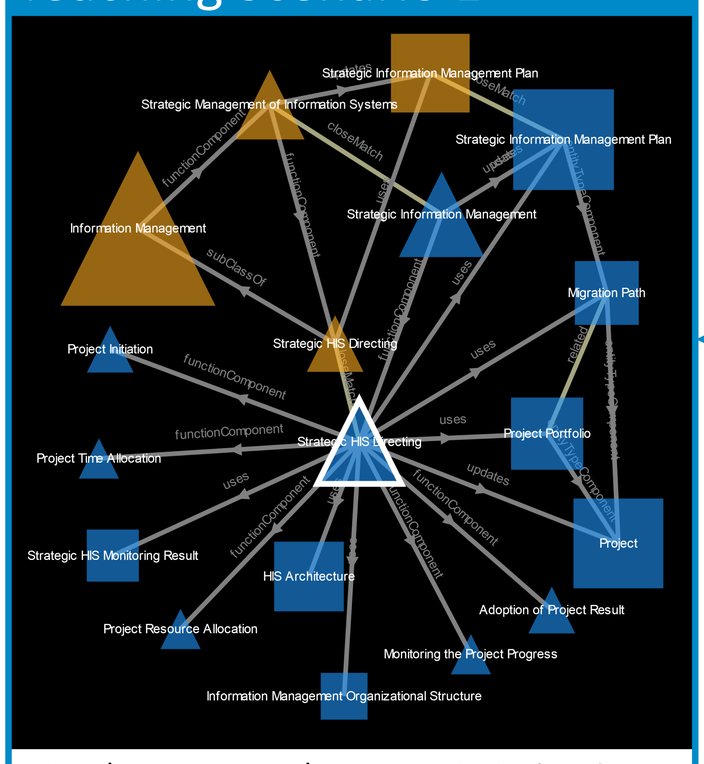
It is the aim of this work to demonstrate

- the **visualization capabilities of web-based SNIK ("SNIK graph")**
- and their use for **specific teaching and learning scenarios**.



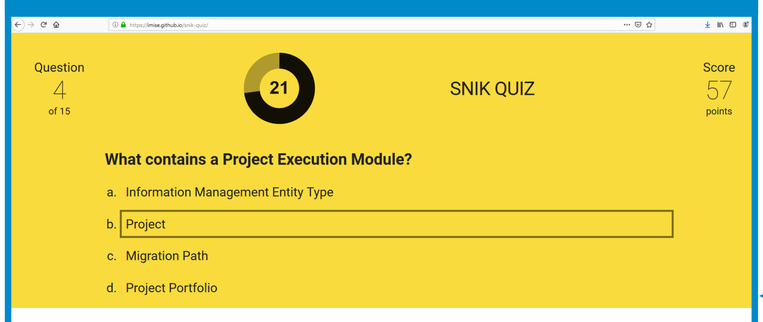
Example: The role "CIO" is responsible for the function "strategic information management" which updates the entity type "strategic information management plan".

Teaching Scenario 1



A teacher prepares a lecture on strategic HIS directing. He or she uses the **"circle star" visualization** for the function "Strategic HIS Directing" and gets a mind map to structure the lecture.

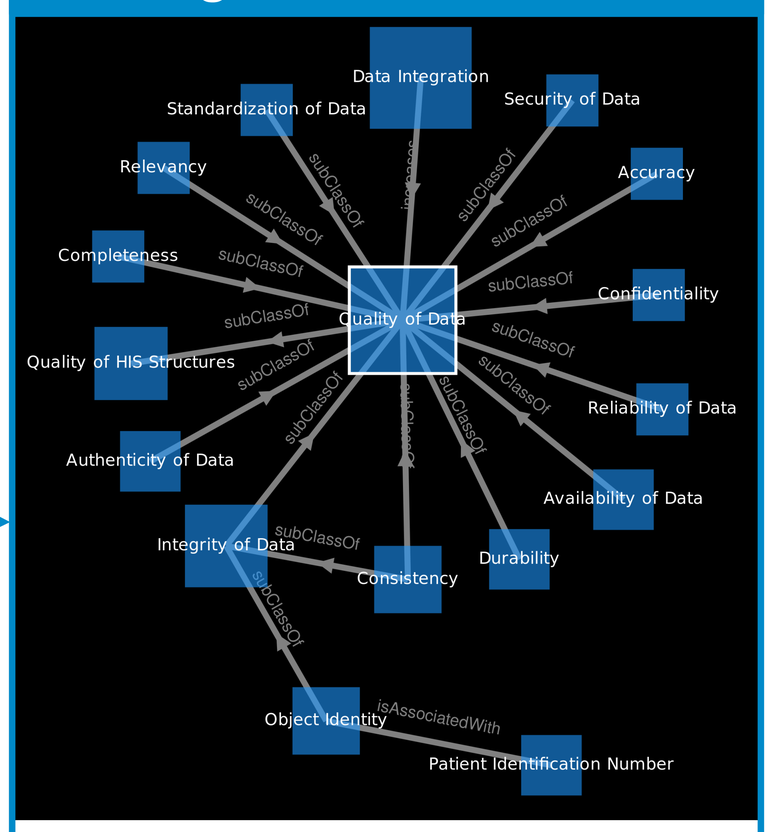
Further Research



Further teaching support by SNIK like the automatic generation of multiple choice tests is subject of further research.

uses

Teaching Scenario 2



Students learn new concepts about HIS quality by linking them to concepts already learned. A teacher asks a student to find out how the new concept "Quality of Data" is linked to the "Patient Identification Number". The student connects the two concepts by using the "**spiderworm" visualization** and learns that a patient identification number is associated with object identity. Object identity is a subclass of integrity of data. Besides integrity of data, there are also 13 other criteria for quality of data.

References

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