

Standardized Mappings – A Framework to Combine Different Semantic Mappers into a Standardized Web-API

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Motivation

- Medical-Data-Models.Org
- Portal für Formulare im ODM-Format
- Aktuell > 4000 Formulare
- > 50.000 Itemgroups
- > 325.000 Items



Portal



Search

A-Z

Keywords

Medical Data Models

Portal

Best rated forms:		Medical Data Models offers:	Most frequent keywords:
CDASH LAB Result Assessment (Scenario ...	★★★★★	Current forms: 4085	Clinical Trial
EHR4CR data inventory	★★★★★	Form versions: 9570	Treatment Form
WHO (Five) Well-Being Index	★★★★★	Itemgroups: 50377	Eligibility Determination
register Finish Cancer Registry cancer	★★★★★	Items: 325383	Breast Cancer
NCI Standard Adverse Event/Serious Adve...	★★★★★	Tags: 16129	Follow-Up
CDA discharge letter VHitG 1.50 CDA_disc...	★★★★★	Ratings: 111	Cancer
CDASH ECG – Scenario 2 (local processing)	★★★★★	Comments: 35	Colorectal Neoplasms
CDASH Vital Signs	★★★★★		Leukemia
Follow Up	★★★★★		On-Study Form
Der Notfalldatensatz der eGK nfdm	★★★★★		Registration

Welcome to the MDM-Portal!

You are on the website of the world's largest open-access repository for medical forms.

MDM-Portal (Medical Data-Models) is a meta-data repository for creating, analysing, sharing and reusing medical forms, developed by the Institute of Medical Informatics, University of Muenster in Germany.

Electronic forms for documentation of patient data are an integral part within the workflow of physicians. A huge amount of data is collected either through routine documentation forms (EHRs) for electronic health records or as case report forms (CRFs) for clinical trials. This raises major scientific challenges for health care, since different health information systems are not necessarily compatible with each other and thus information exchange of structured data is hampered.

Software vendors provide a variety of individual documentation forms according to their standard contracts, which function as isolated applications. Furthermore, free availability of those forms is rarely the case. Currently less than 5 % of medical forms are freely accessible.

Based on this lack of transparency harmonization of data models in health care is extremely cumbersome, thus work and know-how of completed clinical trials and routine documentation in hospitals are hard to be re-used.

The **MDM-Portal** serves as an infrastructure for academic (non-commercial) medical research to contribute a solution to this problem. It already contains more than 4,000 system-independent forms (CDISC ODM Format, www.cdisc.org, Operational Data Model) with more than 320,000 data-elements. This enables researchers to view, discuss, download and export forms in most common technical formats such as PDF, CSV, Excel, SQL, SPSS, R, etc. A growing user community will lead to a growing database of medical forms. In this matter, we would like to encourage all medical researchers to register and add forms and discuss existing forms.

Form data

Detailed view

Follow Up

Follow Up Dokumentation zur automatischen Berechnung von Kaplan-Meier Kurven.

State: Current
Version: 22
License: none
Created at: 2015-01-14
Uploaded by: Martin Dugas
Your rating: ★★★★★
Average rating: ★★★★★
Keywords: Cancer, Follow-Up, Kaplan-Meier Estimate, Registries



Download

Comments (0)

Create comment

Languages (17)

Versions (19)

Compare versions

Follow-Up Oncology

Identity (0)

Patient Last Name*

Patient First Name*

Patient Day Of Birth*

Diagnosis (0)

Diagnosis text*

Date of Diagnosis*

ICD10 Code*

Therapy data (0)

Therapy Text*

Therapy Start Date*

Therapy End Date*

Procedure Code*

Study data (0)

Study patient*

- Yes
 No

Studies*

- AEGERA-XIAP (1)
 Sorafenib-AML-younger

Follow-Up Oncology

▾ Identity (0)

Name:Identity

Description:Identity

Item Patient Last Name*

Datatype text

Aliases:

SNOMED CT 2010 F-03D82

UMLS CUI-1 C0421448

Item Patient First Name*

Datatype text

Aliases:

SNOMED CT 2010 F-03D81

UMLS CUI-1 C0421447

Item Patient Day Of Birth*

Datatype date

Aliases:

SNOMED CT 2010 F-03D85

UMLS CUI-1 C0421451

▸ Diagnosis (0)

▸ Therapy data (0)

▸ Study data (0)

▸ Follow-up data (0)

Motivation

- Bei Suche nach Formularen.
- Auffinden von Synonymen.
- Wiederverwendung von Itemgroups und Items.
- Überwindung von Sprachbarrieren.

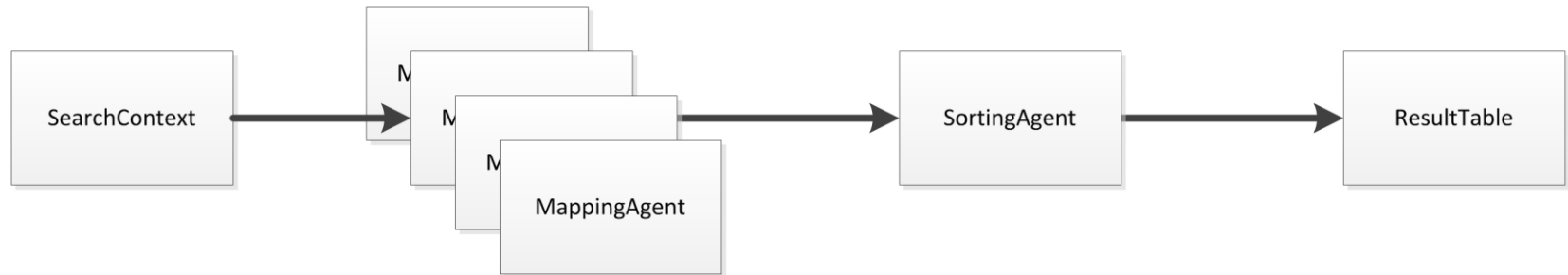
Problem

- Mapping kompliziert.
- Viele verschiedene Ansätze.
- Simpel
 - „Welchem String im UMLS am Ähnlichsten?“
- Erfahrungsbasiert
 - „Schon einmal im MDM-Portal vorgekommen?“
- Language Processing

Idee: Einheitliches Framework

- Web-Basiert. (JSON / REST)
- Java / Tomcat.
- Modular aufgebaut.
- Module zügig programmier- und austauschbar.
- Benutzer kann Module bei Aufruf steuern.

Workflow



- SearchContext: Suchbegriff und Kontext.
- MappingAgent:
 - Mögliche Codes
 - Scoring
- SortingAgent: Bewerten und Sortieren.
- ResultTable: Rückgabe der Ergebnisse

Workflow

```
"mapEntrys":[{  
  "code":"C1516728",  
  "description":"Common Terminology ...",  
  "system":"UMLS",  
  "scores":{  
    "mdm_aehnlichkeit":0.92614156,  
    "umls_codesuche":2.0626543,  
    "max":2.0626543,  
    "average":1.4943979  
  }  
}]
```

Kommende Schritte

- „Vorbereiter“
 - Sprachen übersetzen.
 - Reduzierung ganzer Sätze und Fragen.
- Verbesserung der Treffgenauigkeit
 - Aus Treffern lernen?
 - Nutzung vorhandener Mappings (z.B. im Portal)

Ausblick

- Implementierung von Benchmarking.
- Einbindung in das MDM-Portal.
- Freigabe des Frameworks als Open-Source.