KNOWDIVE

KGE - Knowledge Graph Engineering

Hypertensive Diagnostics and Treatments Process

KGE 2023 Project Proposal

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Project Objective

- This project studies **changing health states of a hypertensive patient** in which heterogeneous data about **diagnostics and treatments** should be integrated.
- The related data provide the information about a hypertensive patient' diagnostics and treatments over time, including for example, *patients*, *physicians*, *health issues*, *encounters*, and *medications*.
- The project aims to create a knowledge base to record each change of the hypertensive patient's health states and captures diagnostics and treatments at that time. This objective will be achieved through a data integration process that will create a domain specific health Knowledge Graph (KG) integrating data from different sources.

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Purpose

The resultant KG can organize a sequence of KGs representing a hypertensive patient's health states, diagnostics and medications over time. Comparing KGs can help precisely determine the parameters causing the changes in the patient's health states. This purpose can be described, in the form of the user request, as follow:

> *"A service that tracks a hypertensive patient's diagnostics and treatments process and finds the parameters changing her health states."*

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Data Resources

The data resource provided to achieve the project's objective is:

- **Hypertensive patient data from Rome** involving the Institute for Research on Population and Social Policies (IRPPS): The people who use the data have to sign an NDA document.
- Possibly new datasets, as we may discover when building the stream of KGs.

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Schema Resources

The reference schemas provided to achieve the project's objective are:

- **iCal (for modelling time)** :
  https://www.rfc-editor.org/rfc/rfc5545

- **FHIR (for modelling patients, diagnostics, medications, etc.)**:
  https://www.hl7.org/fhir/

- **Schema.org (maybe?)(for modelling general concepts)** :
  https://schema.org/docs/full.html

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Project Involving Institutions and People

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