TRENTINO TERRITORY & HEALTH FACILITIES

Project Purpose: This project seeks to create a comprehensive information system that combines the territorial characteristics of Trentino with the locations and details of various health facilities.
Domain of Interest (DoI): The domain of interest of this project is the Trentino territory and the healthcare facilities it has to offer.

Project Development:

a. Data Production:
   In this phase, we aim to collate datasets that serve our purpose of integrating Trentino's territorial characteristics with health facilities. The territories of interest include its towns, cities, and geographical features. Health facilities encompass hospitals, clinics, pharmacies, specialized care centers, and more. Data regarding territories should pinpoint exact locations and boundaries. For instance, coordinates for a specific town or city in Trentino. Data regarding health facilities should include their geographical coordinates, type of facility (e.g., hospital, clinic), services offered, operational hours, and any other relevant information.

b. Data Composition:
   Merging datasets to serve our purpose entails:
   Integrating datasets about Trentino's territory with datasets about health facilities to get a holistic view.
   We will utilize the Trentino OSM Lightweight Ontology dataset and the data from the official Municipality portal (Comune di Trento)
   Two primary methods of composition will be employed:
   Vertical Composition: This eliminates redundant data. If a hospital is mentioned in multiple datasets, it should only be represented once in the final combined dataset.
   Horizontal Composition: This method is about creating relationships between entities. For example, associating a health facility with its corresponding town or city in Trentino.

Purpose Formalization:

The overarching goal of this project is to synchronize Trentino's territorial data with health facilities, providing a detailed spatial-health reference. To showcase the multifaceted aspects of this purpose, we will use the following scenarios:

Scenario 1: A resident of Trento is seeking the nearest hospital that offers emergency services.

Scenario 2: A tourist in the Dolomites suffers a minor injury while hiking and needs to find the closest clinic or pharmacy.

Scenario 3: An elderly individual in Rovereto is looking for a specialized care facility nearby.

Scenario 4: A family moving to Riva del Garda wants to know about all the health facilities in the vicinity.

For a real-world representation, we'll introduce personas:

Persona 1: Marco, a 40-year-old resident of Trento, who recently moved to the area.

Persona 2: Isabella, a 28-year-old tourist, visiting the Dolomites for a hiking trip.

Persona 3: Giovanni, a 70-year-old retiree living in Rovereto.

Considering these personas and scenarios, we derive the following Competency Questions (CQs):

CQ 1: Where is the nearest hospital to Marco's residence that offers emergency services?

CQ 2: Which clinics or pharmacies are closest to the Dolomites hiking trails?

CQ 3: Which specialized care facilities are within a 5 km radius of Giovanni’s residence in Roverto?

CQ 4: What health facilities are available in Riva del Garda?

From the CQs, referring to Personas and Scenarios, we extract Entities with properties. These entities are categorized as either Common, Core, or Contextual entities by considering Focus classification and Popularity Classification. The details of this work are outlined below:

Scenarios	Personas	CQs	Entities	Properties	Focus classification	Popularity classification
1	1	1	Marco’s residence	name, address	Contextual	Contextual
1	1	1	Hospital	name, services, address	Core	Common
2	2	2	Dolomites	location	Core	Common
2	2	2	Clinics/Pharmacies	name, type, address	Core	Common
3	3	3	Giovanni’s residence	name, address	Contextual	Contextual
3	3	3	Specialized Care	name, services	Core	Common

4	-	4	Riva del Garda	location	Core	Common
4	-	4	Health Facilities	name, type, location	Core	Common

Entity-Relationship Model: