Universidad de Oviedo

Cypher & Neo4J

Information Repositories

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# Domain model

Our selected domain model represents a **Healthcare Management System** for a hospital. The domain has seven main entities:

* **Person:** Base entity for any person in the hospital. Other hospital roles inherit from this entity
* **Doctor:** Represents the medical professionals working in the hospital. Doctors have the following properties: gender, surname, name, weight, blood type, age and height.
* **Patient:** Represents individuals treated in the hospital. They have the same attributes as doctors, as well as a social security number.
* **Appointment:** Represents scheduled meetings between doctors and patients. They have a date property.
* **Case:** Represents a patient’s specific medical situation to be addressed. Cases have an id, a status and a description.
* **Disease:** Represents specific medical conditions. They have a scientific name and a cause.
* **Treatment:** Represents the treatments that can be used to deal with different cases. Treatments have a name and a type.

These entities are connected to each other through the following relationships:

* **Person relationships**
  + HAS\_CASE: links patients to cases.
  + ASSIGNED\_TO: links a case to a specific doctor.
  + REFERRED\_TO: links cases to other (referred) doctors with a specific reason for the referral.
* **Medical case relationships**
  + HAS\_APPOINTMENT: links cases with specific appointments.
  + DIAGNOSED: links an appointment to any disease identified during the session.
  + USED\_TREATMENT: links appointments to treatments administered during the session.
  + TREATED\_WITH: links diseases with treatments that can be used to address the medical condition.

