



**TÉCNICO**  
LISBOA

# Instituto Superior Técnico

MESTRADO EM ENGENHARIA ELETROTÉCNICA E DE  
COMPUTADORES

**Sistemas de Informação e Bases de Dados**

2018/2019 1<sup>o</sup> SEMESTRE

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## Assignment 1 - Database Modeling

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Grupo: 4

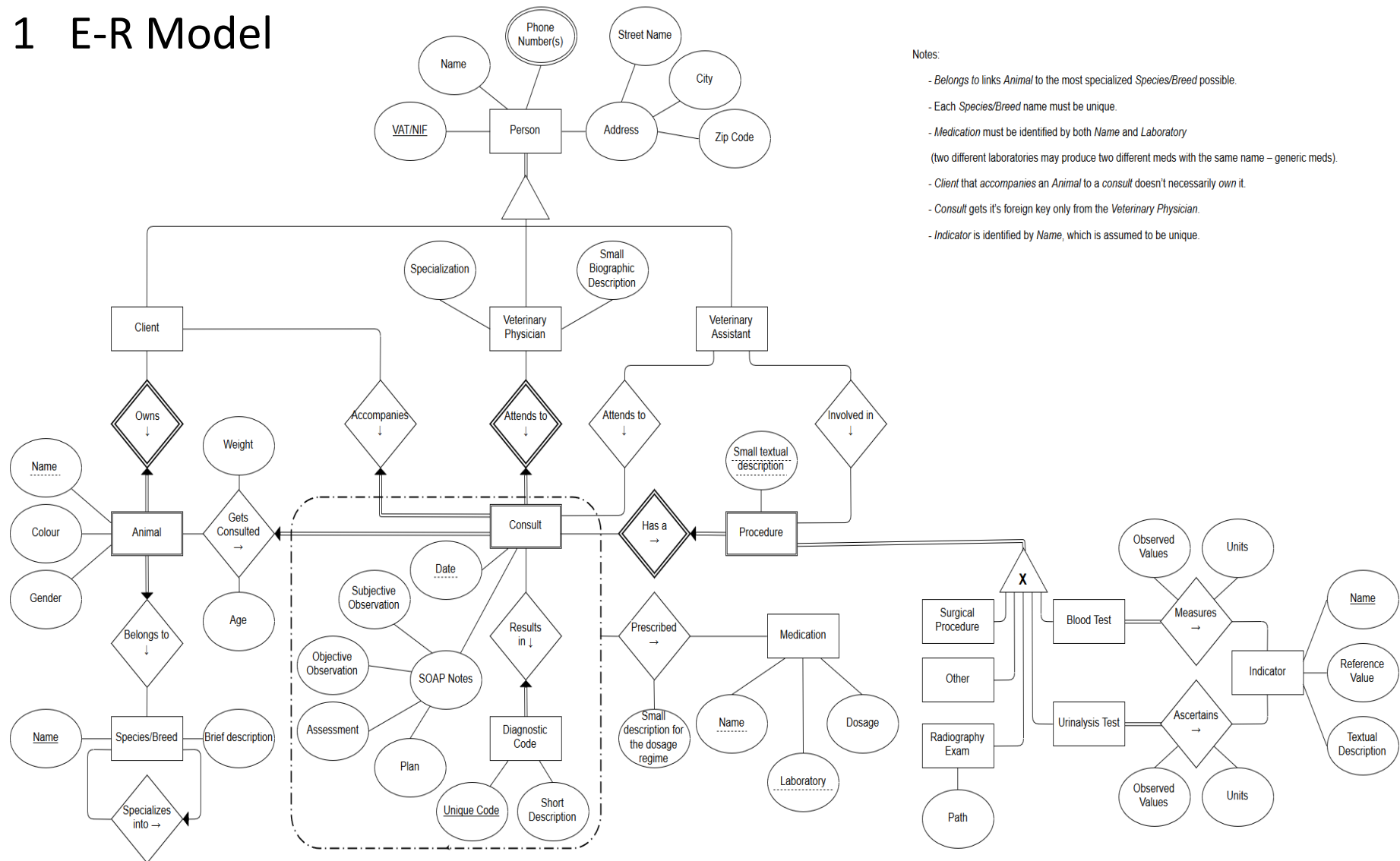
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# 1 E-R Model



## 2 Relational Model

Person(VAT/NIF, Name, Street Name, City, Zip Code)

**IC-1:** Every VAT/NIF must appear in at least one of *Veterinary Physician*, *Veterinary Assistant* and *Client*.

PersonPhoneNumber(VAT/NIF, Phone Number)

VAT/NIF: FK(Person)

Veterinary Physician(PhyVAT/NIF, Specialization, Small Biographic Description)

PhyVAT/NIF: FK(Person)

Veterinary Assistant(AssistVAT/NIF)

AssistVAT/NIF: FK(Person)

Client(CliVAT/NIF)

CliVAT/NIF: FK(Person)

Animal(CliVAT/NIF, AnimalName, BreedName, Colour, Gender)

CliVAT/NIF: FK(Client)

BreedName: FK(Species/Breed)

Species/Breed(Name, Brief Description)

Specializes into(SpecializedBreed, GenericBreed)

SpecializedBreed: FK(Species/Breed)

Consult(PhyVAT/NIF, Date, Animal Name, Owner VAT/NIF, Weight, Age, Client VAT/NIF, Subjective Observation, Objective Observation, Assessment, Plan)

PhyVAT/NIF: FK(Veterinary Physician)

Animal Name, Owner VAT/NIF: FK(Animal)

Client VAT/NIF: FK(Client)

Attends to(AssistVAT/NIF, PhyVAT/NIF, Date)

AssistVAT/NIF: FK(Veterinary Assistant)

PhyVAT/NIF, Date: FK(Consult)

Diagnostic Code(Unique Code, Short Description, Date, PhyVAT/NIF)

Date, PhyVAT/NIF: FK(Consult)

Medication(Name, Laboratory, Dosage)

Prescribed(Medication Name, Laboratory, Unique Code, Small description for the dosage regime)

Unique Code: FK(Diagnostic Code)

Medication Name, Laboratory: FK(Medication)

Procedure(Small textual description, PhyVAT/NIF, Date)

PhyVAT/NIF, Date: FK(Consult)

**IC-2:** Every *Small textual description*, *PhyVAT/NIF* and *Date* in *Procedure* must appear in one and only one of *Surgical Procedure*, *Blood Test*, *Urinalysis Test*, *Radiography Exam* or *Other*.

Involved in(AssistVAT/NIF, Small textual description, PhyVAT/NIF, Date)

Small textual description, PhyVAT/NIF, Date: FK(Procedure)

AssistVAT/NIF: FK(Veterinary Assistant)

Surgical Procedure(Small textual description, PhyVAT/NIF, Date)

Small textual description, PhyVAT/NIF, Date: FK(Procedure)

Blood Test(Small textual description, PhyVAT/NIF, Date)

Small textual description, PhyVAT/NIF, Date: FK(Procedure)

Urinalysis Test(Small textual description, PhyVAT/NIF, Date)

Small textual description, PhyVAT/NIF, Date: FK(Procedure)

Radiography Exam(Small textual description, PhyVAT/NIF, Date, Path)

Small textual description, PhyVAT/NIF, Date: FK(Procedure)

Other(Small textual description, PhyVAT/NIF, Date)

Small textual description, PhyVAT/NIF, Date: FK(Procedure)

Indicator(Name, Reference Value, Textual Description)

Measures(Indicator Name, Small textual description, PhyVAT/NIF, Date, Observed Values, Units)

Indicator Name: FK(Indicator)

Small textual description, PhyVAT/NIF, Date: FK(Blood Test)

**IC-3:** Every *Small textual description*, *PhyVAT/NIF* and *Date* in *Blood Test* must be present in *Measures*.

Ascertains(Indicator Name, Small textual description, PhyVAT/NIF, Date, Observed Values, Units)

Indicator Name: FK(Indicator)

Small textual description, PhyVAT/NIF, Date: FK(Urinalysis Test)

**IC-4:** Every *Small textual description*, *PhyVAT/NIF* and *Date* in *Urinalysis Test* must be present in *Ascertains*.