A UML class diagram (hand-drawn) containing the following classes and relationships:

- HotelManager
- Hotel
- Vaccine
- Species
- VaccineRecord
- AnimalCalculator
- Animal
- HealthRecord
- «Interface» Calculator
- «abs» Tree
- «Interface» SeasonalCalculator
- Habitat
- Deciduous
- Evergreen
- «abs» Employee
- ZooKeeper
- Veterinarian
- VeterinarianCalculator
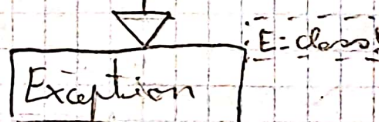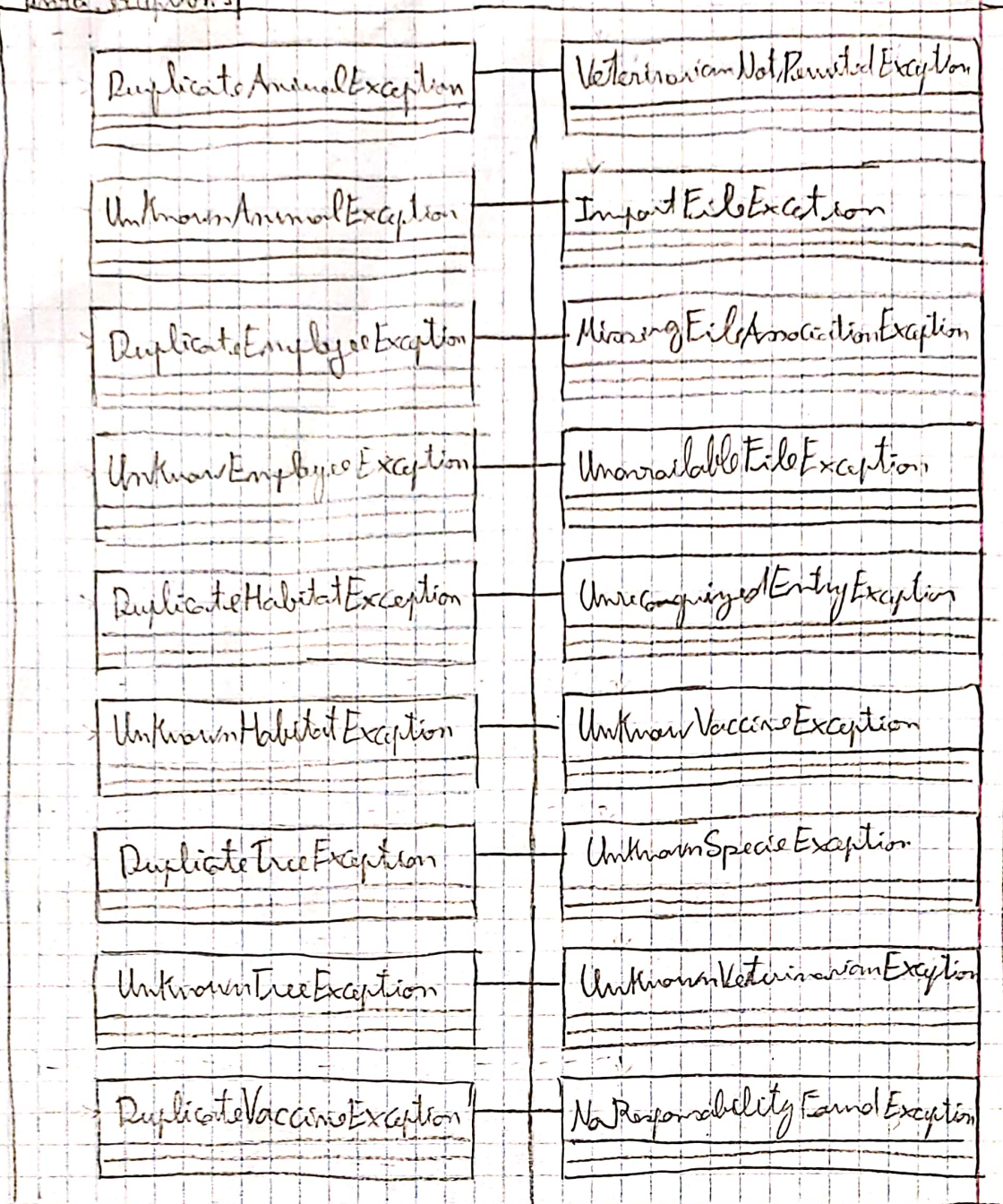- ZooKeeperCalculator
- Hotel — Tree

Declaro por minha honra que este diagrama foi realizado apenas pelos elementos que constituem o grupo de projecto.   Guilherme Lopes
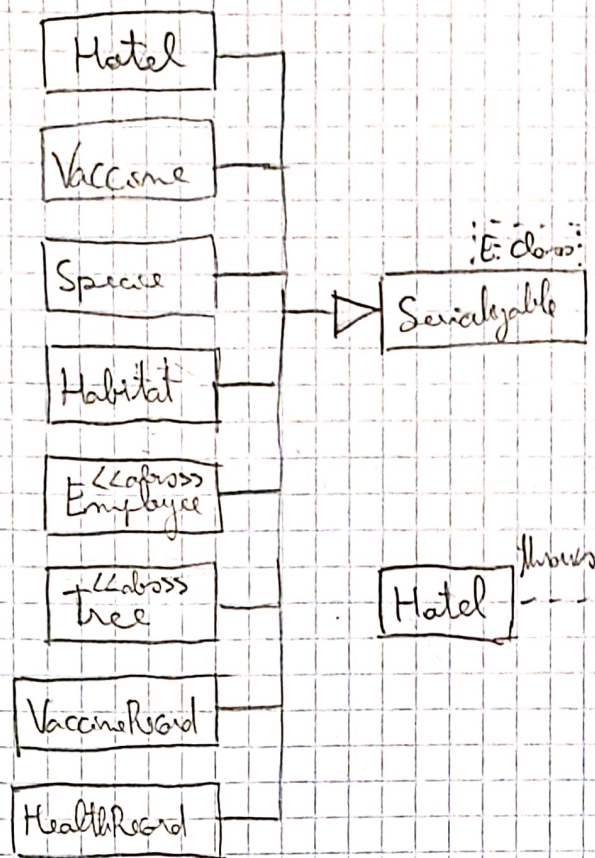
Declaro por minha honra que este diagrama foi realizado apenas pelos elementos que constituem o grupo de projeto.
Pedro Vicente

(1)

Raca exceptions

DuplicateAnimalException	VeterinarianNotPermittedException
UnknownAnimalException	ImportFileException
DuplicateEmployeeException	MissingFileAssociationException
UnknownEmployeeException	UnavailableFileException
DuplicateHabitatException	UnrecognizedEntryException
UnknownHabitatException	UnknownVaccineException
DuplicateTreeException	UnknownSpecieException
UnknownTreeException	UnknownVeterinarianException
DuplicateVaccineException	NoResponsibilityFoundException

Exception   [E: class]

(2)

Hotel

Vaccine

Specie ──────────────▷ :E class:
Serializable

Habitat

<<class>>
Employee

<<class>>
Tree

VaccineRecord
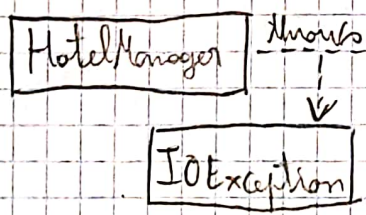
HealthRecord

Hotel ──throws──▷

HotelManager ──throws──▷

IOException

┌─▷ DuplicateAnimalException
├─▷ UnknownAnimalException
├─▷ DuplicateEmployeeException
├─▷ UnknownEmployeeException
├─▷ DuplicateHabitatException
├─▷ UnknownHabitatException
├─▷ DuplicateTreeException
├─▷ UnknownTreeException
├─▷ DuplicateVaccineException
├─▷ UnknownVaccineException
├─▷ UnknownSpecieException
├─▷ UnknownVeterinarianException
├─▷ NoResponsabilityFoundException
├─▷ VeterinarianNotPermittedException
├─▷ ImportFileException
├─▷ MissingFileException
├─▷ FileNotFoundException
└─▷ UnavailableFileException

③

```
┌─────────────────────────────────────┐
│ Animal                              │
├─────────────────────────────────────┤
│ - id:String                         │
│ - name:String                       │
├─────────────────────────────────────┤
│ + Animal(id:String, name:String,    │
│          Specce:Specie, habitat:Habitat)│
│ + Satisfaction():double             │
└─────────────────────────────────────┘


┌─────────────────────────────────────┐
│            Specie                   │
├─────────────────────────────────────┤
│ - id: String                        │
│ - name: String                      │
├─────────────────────────────────────┤
│ + Specie(id:String, name:String)    │
│ + showAllanimalsOfSpecie():void     │
└─────────────────────────────────────┘


┌─────────────────────────────────────┐
│           <<abs>>                   │
│           Employee                  │
├─────────────────────────────────────┤
│ - id:String                         │
│ - name:String                       │
├─────────────────────────────────────┤
│ + Employee(id:String, name:String)  │
│ + <<abs>> addResponsability(o:Object):void│
│ + <<abs>> removeResponsability(o:Object):void│
│ + <<abs>> Satisfaction():double     │
└─────────────────────────────────────┘


┌─────────────────────────────────────┐
│          Veterinarian               │
├─────────────────────────────────────┤
│                                     │
├─────────────────────────────────────┤
│ + Veterinarian(id:String, name:String)│
│ + VaccinateAnimal(animal:Animal, vaccine:Vaccine):void│
└─────────────────────────────────────┘


┌─────────────────────────────────────┐
│          ZooKeeper                  │
├─────────────────────────────────────┤
│ + ZooKeeper(id:String, name:String) │
└─────────────────────────────────────┘
```

(4)

Habitat

```
- POS: int = 20
- NEU: int = 0
- NEG: int = -20
- _id: String
- _name: String
- _area: int
- _treeNumber: int
- numberOfZooKeepers: int = 0
+ Habitat (id: String, name: String, area: int)
+ showAllTrees(): Void
+ changeHabitatInfluence (specie: Specie
                          influence: int): Void
+ plantNewTree (Tree: tree): Void
```

<<abs>>
Tree

```
- _id: String
- _name: String
- _age: int
- _cleaningDifficulty: int
- _firstSeason: int

+ Tree( id: String, name: String,
        age: int, cleaningDifficulty: int,
        firstSeason: int)

+ ageUp (): Void
```

Deciduous

```
+ Deciduous (id: String, name: String
             age: int, cleaningDifficulty: int
             firstSeason: int )
```

Evergreen

```
+ Evergreen (id: String, name: String
             age: int, cleaningDifficulty: int,
             firstSeason: int )
```

<<Interface>>
SeasonalCalculator

```
+ seasonalEffort(): int
```

⑤

```
┌─────────────────────────────────┐
│        <<Interface>>            │
│         Calculator              │
├─────────────────────────────────┤
│ + calculateSatisfaction() : double │
└─────────────────────────────────┘
```

```
┌─────────────────────────────────┐
│           Vaccine               │
├─────────────────────────────────┤
│ - id : String                   │
│ - name : String                 │
├─────────────────────────────────┤
│ + vaccine(id:String, name:String,│
│           species:String)       │
│ + showVaccinations() : void     │
│ + dano(animal: Animal) : void   │
└─────────────────────────────────┘
```

```
┌─────────────────────────────────┐
│         HotelManager            │
├─────────────────────────────────┤
│ + advanceSeason() : void        │
│ + newFile() : bool              │
│ + importFile(filename: String) : void │
│ + openAnimalMenu() : void       │
│ + openEmployeeMenu() : void     │
│ + load(filename: String) : void │
│ + openHabitatsMenu() : void     │
│ + openLookUpMenu() : void       │
│ + saveAs(filename: String) : void │
│ + openVaccineMenu() : void      │
│ + showGlobalSatisfaction() : int │
│ + save(filename: String) : void │
└─────────────────────────────────┘
```

```
┌─────────────────────────────────┐
│        VaccineRecord            │
├─────────────────────────────────┤
│ - idVaccine : String            │
│ - idVeterinarian : String       │
│ - idSpecie : String             │
├─────────────────────────────────┤
│ + VaccineRecord(idVaccine:String,│
│              idVet: String,     │
│              idSpecie:String)   │
└─────────────────────────────────┘
```

```
┌─────────────────────────────────┐
│         HealthRecord            │
├─────────────────────────────────┤
│ - healthState: String           │
├─────────────────────────────────┤
│ + HealthRecord(state: String)   │
└─────────────────────────────────┘
```

Hotel

~ SPRING: int = 0
~ SUMMER: int = 1
~ AUTUMN: int = 2
~ WINTER: int = 3
- _actualSeason: int

+ importFile (filename: String): void
+ advanceSeason (): void
+ globalSatisfaction(): int

+ showAllAnimals(): void
+ RegisterAnimal (id: String, name: String
        idSpecie: String, idHabitat: String): void
+ transferAnimalToHabitat (id: String, idHabitat: String): void
+ animalSatisfaction (id: String): void

+ showAllEmployees(): void
+ RegisterEmployee (id: String, name: String, type: String): void
+ addResponsabilityToEmployee (id: String, Responsability: String): void
+ removeResponsabilityOfEmployee (id: String, responsability: String): void
+ employeeSatisfaction (id: String): void

+ showAllHabitats (): void
+ registerHabitat (id: String, name: String, area: int): void
+ changeHabitatArea (id: String, area: int): void
+ changeInfluenceAtHabitatOfSpecie (id: String, idSpecie: String,
        influence: int): void
+ plantTree (id: String, idTree: String,
        name: String, cleaning: int, type: String,
        age: int): void
+ showAllTreesOfHabitat (id: String): void

+ showAllVaccines(): void
+ registerVaccine (id: String, name: String, Species: String): void
+ VaccinateAnimal (id: Vaccine, idVet: String, idanimal: String): void
+ showVaccineRecord (id: String): void

+ showAnimalsOfHabitat (id: String): void
+ showVaccinesOfAnimal (id: String): void
+ showMedicActsByVeterinarian (id: String): void
+ showWrongVaccinations (): void

+ addTree (id: String, name: String, cleaning: int, type: String, age: int): void