U. PORTO

FEUP FACULDADE DE ENGENHARIA
UNIVERSIDADE DO PORTO

Gestão de um metropolitano

Segunda Entrega
Bases de Dados

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Modelo Relacional

SubwayTrack(<u>id</u>, <u>name</u>, <u>color</u>, <u>letter</u>, <u>initialStationID</u> -> MetroStation, <u>finalStationID</u> -> MetroStation)

StationBelongs(<u>trackID</u> -> SubwayTrack, <u>stationID</u> -> MetroStation)

MetroStation(<u>id</u>, name, numberOfTracks)

TrainTime(<u>id</u>, source, destination, departureDate, arrivalDate, <u>journeyID</u> -> Journey)

Journey(<u>id</u>, departureDate, arrivalDate, <u>trainTimeID</u> -> TrainTime, <u>trainID</u> -> Train)

Train(<u>id</u>, type, maxSpeed, maxLoad, maxNumberOfPassengers)

TicketMachine(<u>id</u>)

TicketMachineBelongs(<u>ticketMachineID</u> -> TicketMachine, <u>metroStationID</u> -> MetroStation)

ValidationMachine(<u>id</u>)

ValidationMachineBelongs(<u>validationMachineID</u> -> ValidationMachine, <u>metroStationID</u> -> MetroStation)

Validation(<u>validationMachineID</u> -> ValidationMachine, <u>ticketID</u> -> Ticket, validationDate, terminationDate)

Ticket(<u>id</u>, type, numberOfTrips, price)

BuyTicket(<u>ticketID</u> -> Ticket, <u>ticketMachineID</u> -> TicketMachine)

ReloadTicket(<u>ticketID</u> -> Ticket, <u>ticketMachineID</u> -> TicketMachine, reloadDate)

Person(<u>id,</u> <u>name</u>, <u>nif</u>, <u>dateOfBirth</u>, <u>birthPlace</u>)

Passenger(<u>id</u>, discount, <u>personID</u> -> Person)

Employee(<u>id</u>, wage, socialSecurityID, <u>personID</u> -> Person)

TrainOperator(<u>id</u>, licenseNumber, <u>employeeID</u> -> Employee)

TicketInspector(<u>id</u>, <u>employeeID</u> -> Employee)

OperateTrain(<u>journeyID</u> -> Journey, <u>trainOperatorID</u> -> TrainOperator)

TicketInspection(<u>journeyID</u> -> Journey, ticketInspector<u>ID</u> -> TicketInspector)

Diagrama UML Atualizado