Assignment 1 UML

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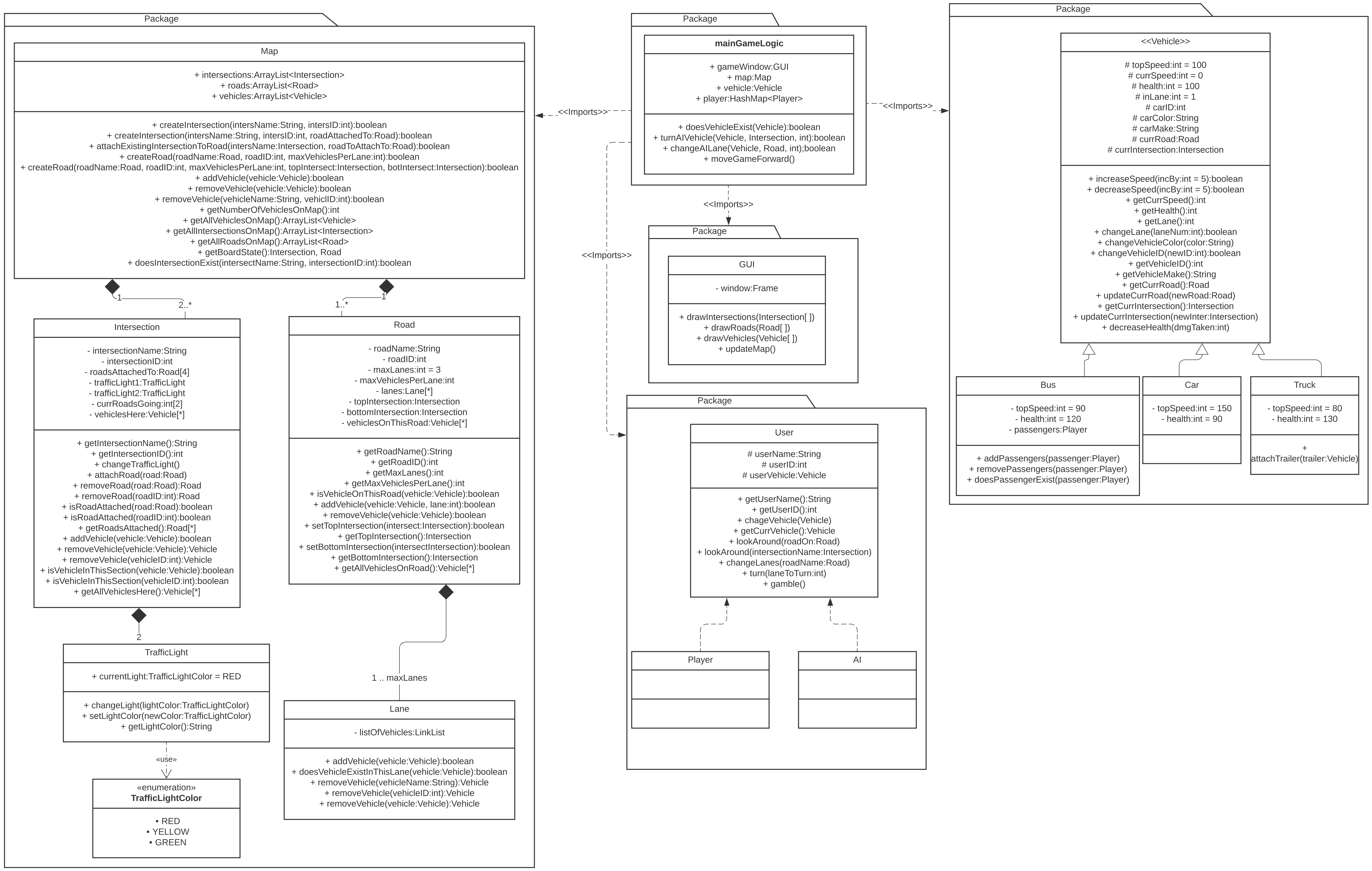
Package
Map
+ intersections:ArrayList<Intersection>
+ roads:ArrayList<Road>
+ vehicles:ArrayList<Vehicle>
+ createIntersection(intersName:String, intersID:int):boolean
+ createIntersection(intersName:String, intersID:int, roadAttachedTo:Road):boolean
+ attachExistingIntersectionToRoad(intersName:Intersection, roadToAttachTo:Road):boolean
+ createRoad(roadName:Road, roadID:int, maxVehiclesPerLane:int):boolean
+ createRoad(roadName:Road, roadID:int, maxVehiclesPerLane:int, topIntersect:Intersection, botIntersect:Intersection):boolean
+ addVehicle(vehicle:Vehicle):boolean
+ removeVehicle(vehicle:Vehicle):boolean
+ removeVehicle(vehicleName:String, vehiclID:int):boolean
+ getNumberOfVehiclesOnMap():int
+ getAllVehiclesOnMap():ArrayList<Vehicle>
+ getAllIntersectionsOnMap():ArrayList<Intersection>
+ getAllRoadsOnMap():ArrayList<Road>
+ getBoardState():Intersection, Road
+ doesIntersectionExist(intersectName:String, intersectionID:int):boolean
1
2..*
1
1..*
Intersection
- intersectionName:String
- intersectionID:int
- roadsAttachedTo:Road[4]
- trafficLight1:TrafficLight
- trafficLight2:TrafficLight
- currRoadsGoing:int[2]
- vehiclesHere:Vehicle[*]
+ getIntersectionName():String
+ getIntersectionID():int
+ changeTrafficLight()
+ attachRoad(road:Road)
+ removeRoad(road:Road):Road
+ removeRoad(roadID:int):Road
+ isRoadAttached(road:Road):boolean
+ isRoadAttached(roadID:int):boolean
+ getRoadsAttached():Road[*]
+ addVehicle(vehicle:Vehicle):boolean
+ removeVehicle(vehicle:Vehicle):Vehicle
+ removeVehicle(vehicleID:int):Vehicle
+ isVehicleInThisSection(vehicle:Vehicle):boolean
+ isVehicleInThisSection(vehicleID:int):boolean
+ getAllVehiclesHere():Vehicle[*]
Road
- roadName:String
- roadID:int
- maxLanes:int = 3
- maxVehiclesPerLane:int
- lanes:Lane[*]
- topIntersection:Intersection
- bottomIntersection:Intersection
- vehiclesOnThisRoad:Vehicle[*]
+ getRoadName():String
+ getRoadID():int
+ getMaxLanes():int
+ getMaxVehiclesPerLane():int
+ isVehicleOnThisRoad(vehicle:Vehicle):boolean
+ addVehicle(vehicle:Vehicle, lane:int):boolean
+ removeVehicle(vehicle:Vehicle):boolean
+ setTopIntersection(intersect:Intersection):boolean
+ getTopIntersection():Intersection
+ setBottomIntersection(intersectIntersection):boolean
+ getBottomIntersection():Intersection
+ getAllVehiclesOnRoad():Vehicle[*]
2
TrafficLight
+ currentLight:TrafficLightColor = RED
+ changeLight(lightColor:TrafficLightColor)
+ setLightColor(newColor:TrafficLightColor)
+ getLightColor():String
«use»
«enumeration»
TrafficLightColor
• RED
• YELLOW
• GREEN
1 .. maxLanes
Lane
- listOfVehicles:LinkList
+ addVehicle(vehicle:Vehicle):boolean
+ doesVehicleExistInThisLane(vehicle:Vehicle):boolean
+ removeVehicle(vehicleName:String):Vehicle
+ removeVehicle(vehicleID:int):Vehicle
+ removeVehicle(vehicle:Vehicle):Vehicle
<<Imports>>
Package
mainGameLogic
+ gameWindow:GUI
+ map:Map
+ vehicle:Vehicle
+ player:HashMap<Player>
+ doesVehicleExist(Vehicle):boolean
+ turnAIVehicle(Vehicle, Intersection, int):boolean
+ changeAILane(Vehicle, Road, int);boolean
+ moveGameForward()
<<Imports>>
<<Imports>>
Package
GUI
- window:Frame
+ drawIntersections(Intersection[ ])
+ drawRoads(Road[ ])
+ drawVehicles(Vehicle[ ])
+ updateMap()
<<Imports>>
Package
User
# userName:String
# userID:int
# userVehicle:Vehicle
+ getUserName():String
+ getUserID():int
+ chageVehicle(Vehicle)
+ getCurrVehicle():Vehicle
+ lookAround(roadOn:Road)
+ lookAround(intersectionName:Intersection)
+ changeLanes(roadName:Road)
+ turn(laneToTurn:int)
+ gamble()
Player
AI
Package
<<Vehicle>>
# topSpeed:int = 100
# currSpeed:int = 0
# health:int = 100
# inLane:int = 1
# carID:int
# carColor:String
# carMake:String
# currRoad:Road
# currIntersection:Intersection
+ increaseSpeed(incBy:int = 5):boolean
+ decreaseSpeed(incBy:int = 5):boolean
+ getCurrSpeed():int
+ getHealth():int
+ getLane():int
+ changeLane(laneNum:int):boolean
+ changeVehicleColor(color:String)
+ changeVehicleID(newID:int):boolean
+ getVehicleID():int
+ getVehicleMake():String
+ getCurrRoad():Road
+ updateCurrRoad(newRoad:Road)
+ getCurrIntersection():Intersection
+ updateCurrIntersection(newInter:Intersection)
+ decreaseHealth(dmgTaken:int)
Bus
- topSpeed:int = 90
- health:int = 120
- passengers:Player
+ addPassengers(passenger:Player)
+ removePassengers(passenger:Player)
+ doesPassengerExist(passenger:Player)
Car
- topSpeed:int = 150
- health:int = 90
Truck
- topSpeed:int = 80
- health:int = 130
+ attachTrailer(trailer:Vehicle)