Project 3

Yael R Brown-Evans
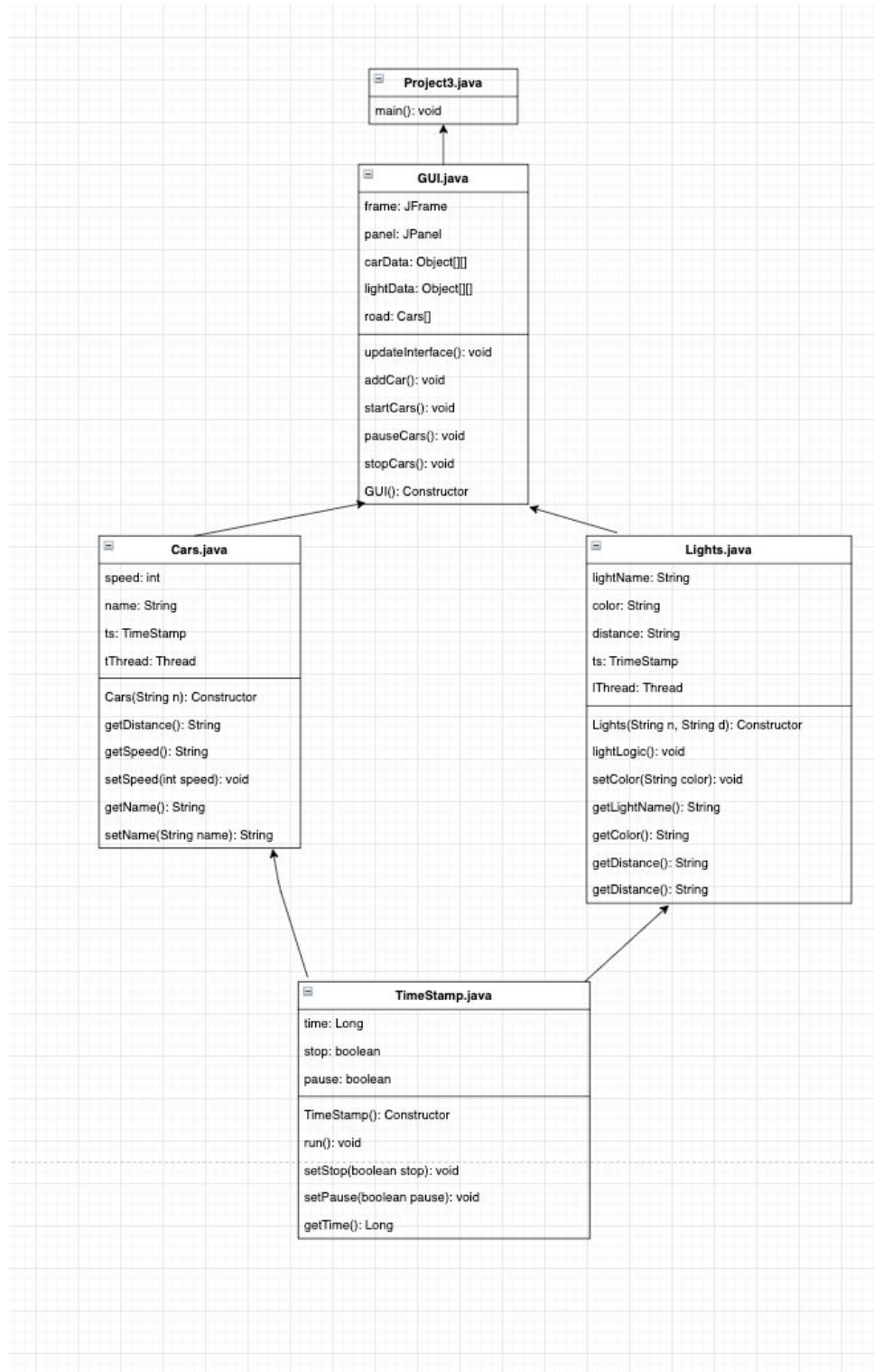
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For Professor Osama Morad

University of Maryland Global Campus

UML Class Diagram

Project3.java

main(): void

GUI.java

frame: JFrame

panel: JPanel

carData: Object[][]

lightData: Object[][]

road: Cars[]

updateInterface(): void

addCar(): void

startCars(): void

pauseCars(): void

stopCars(): void

GUI(): Constructor

Cars.java

speed: int

name: String

ts: TimeStamp

tThread: Thread

Cars(String n): Constructor

getDistance(): String

getSpeed(): String

setSpeed(int speed): void

getName(): String

setName(String name): String

Lights.java

lightName: String

color: String

distance: String

ts: TimeStamp

lThread: Thread

Lights(String n, String d): Constructor

lightLogic(): void

setColor(String color): void

getLightName(): String

getColor(): String

getDistance(): String

getDistance(): String

TimeStamp.java

time: Long

stop: boolean

pause: boolean

TimeStamp(): Constructor

run(): void

setStop(boolean stop): void

setPause(boolean pause): void

getTime(): Long

Users Guide:

1. **Run application**, from running the application the cars would of already started moving. Their distance will be increasing.

2. **Pause Button,** allows you to stop all the cars to look at information

3. **Start Button,** allows you to continue the analysis and the cars start moving again

4. **Stop Button,** stops the application.

5. **Add car,** adds a car and automatically starts running from starting point (distance: 0)

Lessons Learned:

For this application, I learned how to pull information from different threads to display to the GUI. Unfortunately I was not able to get the frame to update without constant flickering. I am not sure how to get the graph to update with the distances, but the distances do update in the threads. I could not figure out how to get them the cars to stop when the lights turned red.