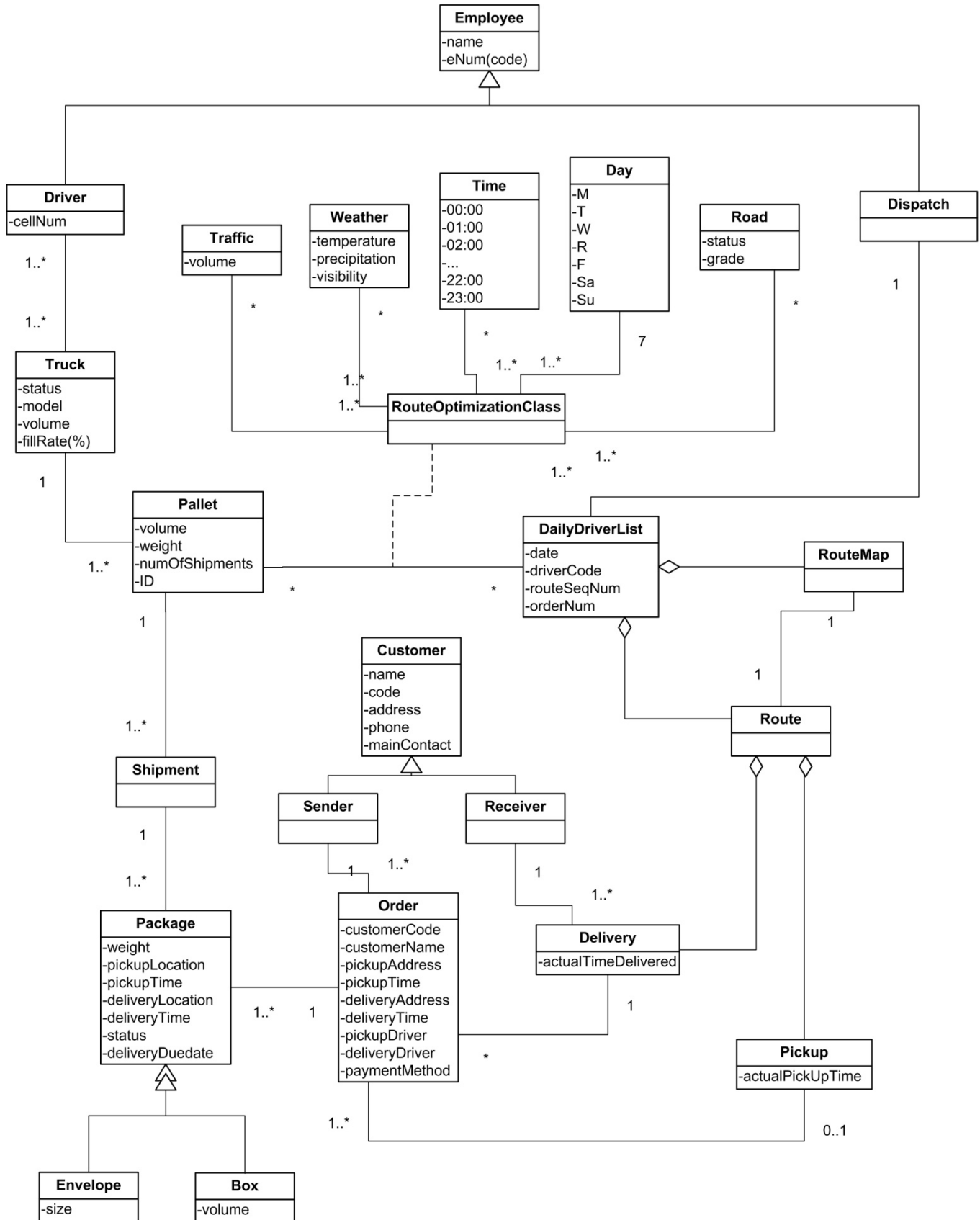


GPAC Delivery Inc. Problem Domain Model Class Diagram

Route Optimization and Schedule Creation Software Analysis



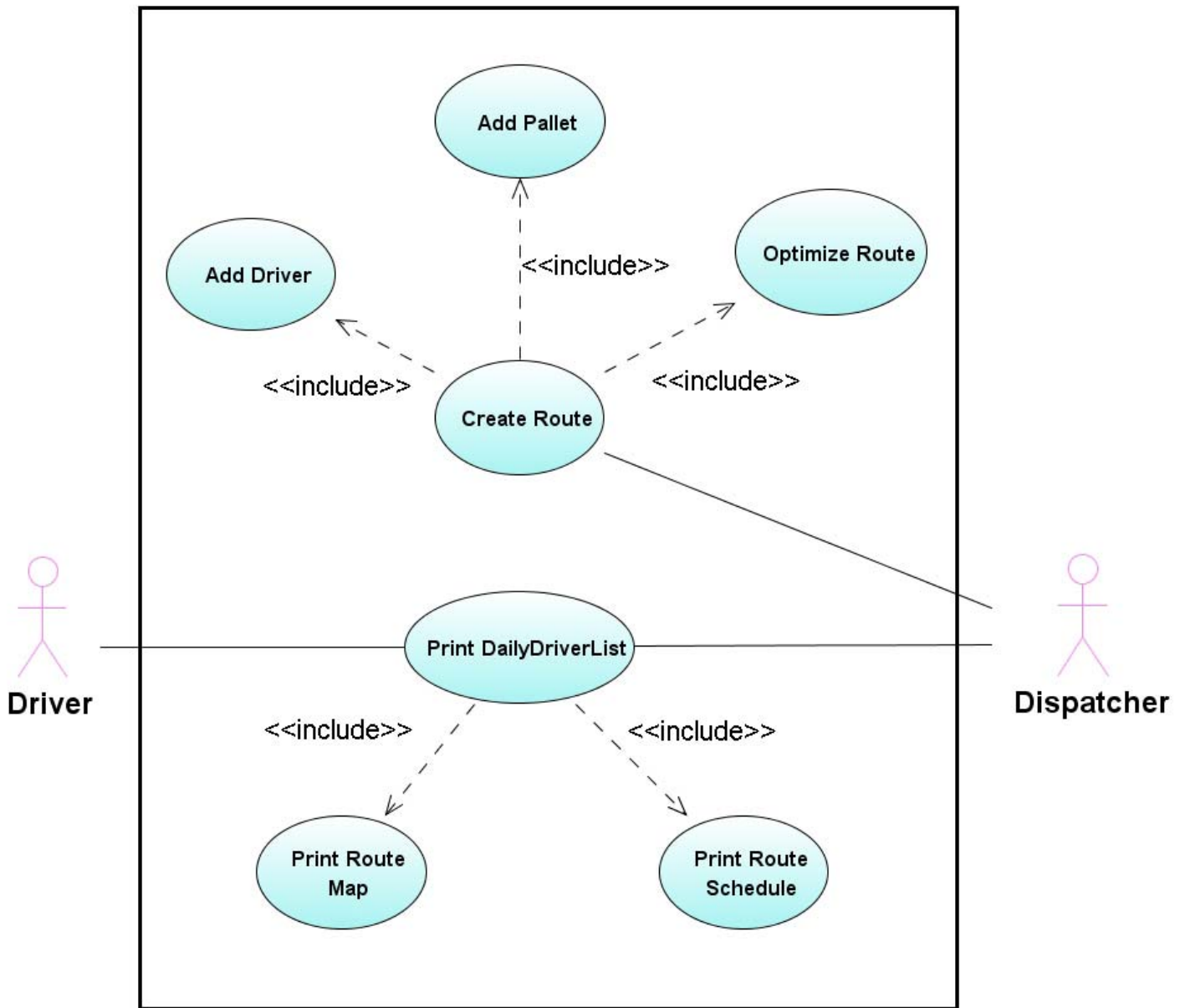
GPAC Delivery Inc.

Route Optimization and Schedule Creation Software Analysis

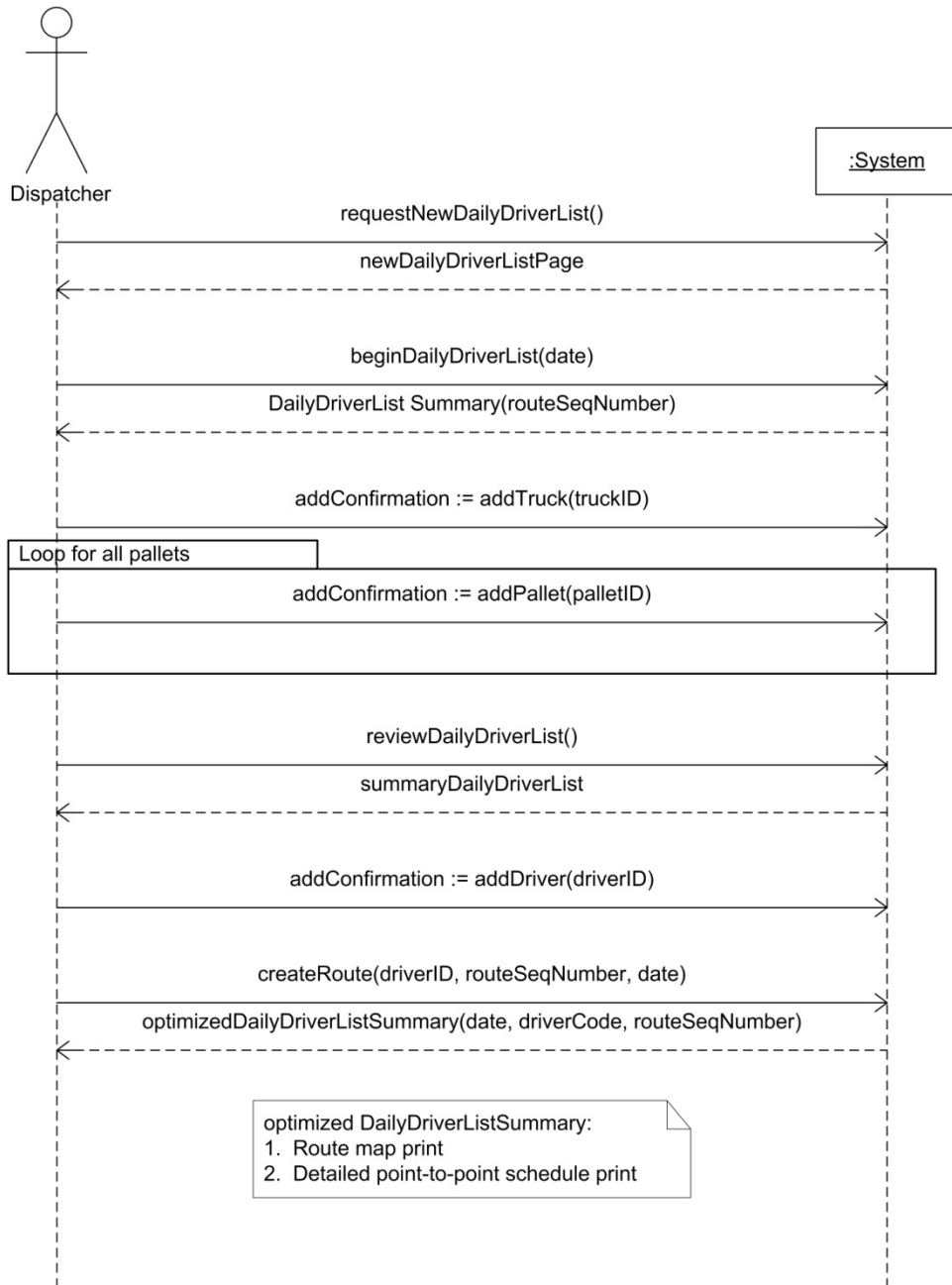
Use Case Name:	<u>Create Route</u>	
Scenario:	Create Route to accompany pallet of shipments.	
Triggering Event:	Dispatcher assigns pallet, driver to truck and creates optimal route.	
Brief Description	Warehouse builds pallet of shipments. Dispatcher assigns pallet(s) to truck, assigns driver to truck, uses patented optimization technology to produce route map and chronological schedule of pickups and deliveries to accompany pallet.	
Actors:	Dispatcher, Driver	
Related Use Cases:	Includes: Add Pallet, Add Driver, Optimize Route, Print Map, Print DailyDriverList	
Stakeholders:	Dispatch: to maximize efficiency and minimize cost. Driver: to maximize productivity and increase safety.	
Preconditions:	<ol style="list-style-type: none"> 1. Pallets of shipments assembled 2. Truck is available 3. Driver is available 	
Postconditions:	<ol style="list-style-type: none"> 1. Route optimized 2. Route Map printed 3. Route schedule printed 4. Route / Driver / Pallet related (associated) and stored 	
Flow of Activities:	Actor	System
	1. Dispatcher logs in	
	2. Dispatch begins new Daily Driver List	2. Create new Daily Driver's List object
	3. Dispatch adds truck	3.1 Verify truck availability 3.2 Add truck to DailyDriverList

		object
	4. Dispatch adds pallet	4.1 Verify pallet fits 4.2 Add pallet(s) to DailyDriverList object 4.3 Cue for additional pallets if there is room in truck
	5. Repeat 4 if necessary	
	6. Dispatch adds driver	6.1 Verify driver availability 6.2 Add driver to DailyDriverList object
	7. Dispatch requests route optimization	7.1 Pallet's contents analyzed and our patented optimization engine creates a route that maximizes speed, safety and minimizes cost 7.2 DailyDriverList route map created 7.3 Daily DriverList schedule created
Exception Conditions:	<p>3. If a truck is not available, the dispatcher can</p> <ul style="list-style-type: none"> a. choose another truck b. close DailyDriverList and put into "pending" until truck is available. <p>4. If pallet exceeds available truck cargo, dispatcher can</p> <ul style="list-style-type: none"> a. choose another pallet b. stop adding pallets <p>6. If driver isn't available for entire cargo, dispatcher can</p> <ul style="list-style-type: none"> a. Choose another driver b. Reduce number of pallets in cargo c. Close DailyDriverList and put into "pending" until driver is available. 	

Use Case Diagram "Create Route"



System Sequence Diagram: "Create Route" Use Case



Route Optimization and Schedule Creation Software Analysis

“Create Route” Use Case Sequence Diagram

