

CRC Cards - Parking Lot System

CS3520 Assignment 6

Vehicle	
Responsibilities	Collaborators
<ul style="list-style-type: none">• Store vehicle information (license plate, type, times)• Calculate parking duration• Determine required space size	<ul style="list-style-type: none">• ParkingSpace• ParkingTicket

ParkingSpace	
Responsibilities	Collaborators
<ul style="list-style-type: none">• Track occupancy status• Store assigned vehicle• Validate vehicle size compatibility	<ul style="list-style-type: none">• Vehicle• ParkingLotManager

Customer	
Responsibilities	Collaborators
<ul style="list-style-type: none"> • Store customer information • Provide discount rates based on customer type • Handle customer-specific pricing logic 	<ul style="list-style-type: none"> • ParkingTicket • PricingStrategy

ParkingLotManager	
Responsibilities	Collaborators
<ul style="list-style-type: none"> • Manage all parking spaces • Assign vehicles to appropriate spaces • Handle vehicle entry/exit • Calculate pricing using strategy pattern • Manage object pool for tickets 	<ul style="list-style-type: none"> • ParkingSpace • Vehicle • Customer • ParkingTicket • PricingStrategy • ObjectPool

PricingStrategy

Responsibilities	Collaborators
<ul style="list-style-type: none">• Calculate parking costs based on different algorithms• Handle time-based and demand-based pricing	<ul style="list-style-type: none">• Vehicle• Customer

ParkingTicket

Responsibilities	Collaborators
<ul style="list-style-type: none">• Store parking session information• Track payment status• Calculate total cost	<ul style="list-style-type: none">• Vehicle• Customer• ParkingSpace• PricingStrategy

ObjectPool

Responsibilities	Collaborators
<ul style="list-style-type: none">• Manage pool of reusable objects• Allocate objects on demand• Recycle returned objects• Handle memory management	<ul style="list-style-type: none">• ParkingTicket (and other pooled objects)