

Parking lot 2

- Vehicle
- Parking space
- Parking area for vehicle
- Admin
- Ticket
- Payment
- Multiple (this should be changed)
- Multiple entry and exit gates.

Requirements:

- Vehicle type
- Dynamic lot allocation
- Ticket creation (an entry ticket should be created, or exit user should be charged.)
- Payment processing
- Multiple floor support.
- Admin (should be able to manage parking areas, gates and all)

High level Architecture

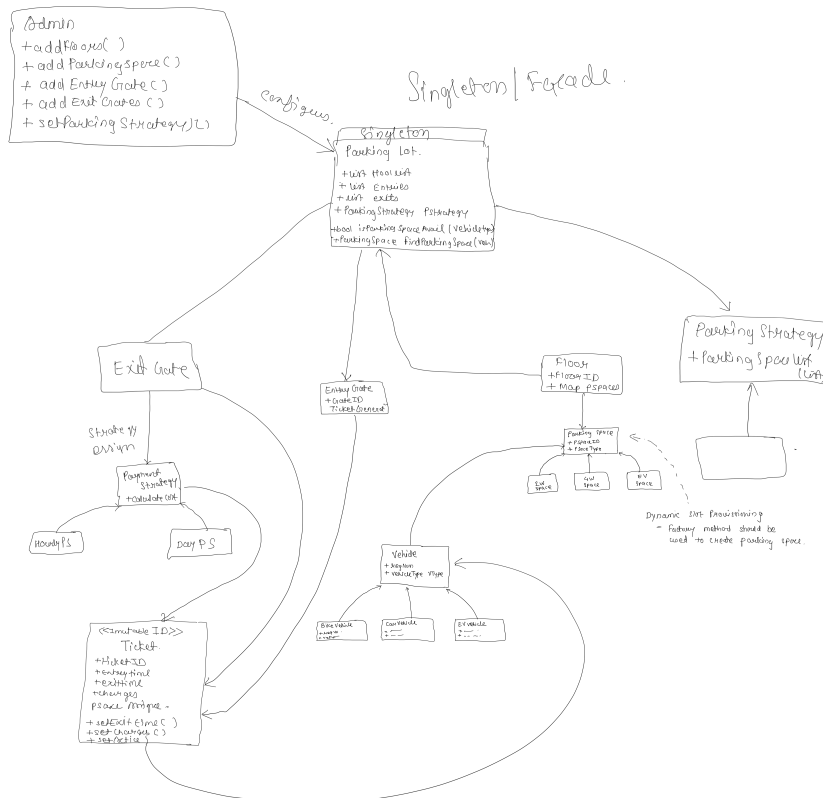
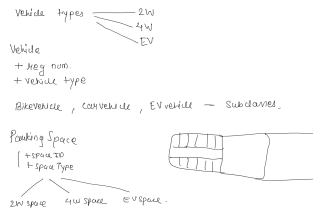


Control plane - Admin configures lot/space/gate/strategy
 Data Plane - Entry → Ticket → Exit

Actions:

- Admin → Configure infrastructure
- Vehicle owner → Driving in / payment
- Entry gates → Admit vehicles
- Exit gates → Payment / Release the space.

Q. Draw a UML Diagram showing the relationships and Design patterns, principles and algo's required.



*Handling Concurrency for Entry Gates.

Vehicle 1 → Entry Gate 1 → Acquiring P4-101 → acquire P401 → release the lock
 Vehicle 2 → Entry Gate 2 → Acquiring P4-101 → acquire P401 → denied lock.

8pm - 10pm.

PayStrategy → PrimeTimeSurgeCharge implements paymentStrategy.