University Parking System - Advanced Use Case Diagram

Users

Student

Staff

Visitor

Management & Support

Local Resident

Administration

IT Support

Security Staff

Alternative Transport Options

Find Parking Spot

Mobile App Guidance

Request Visitor Permit

Reserve Staff Parking

Handle Complaints

Generate Reports

Manage Parking Zones

Update Availability

Enforce Rules

Payment & Fees

Plan Expansion Projects

Monitor Illegal Parking

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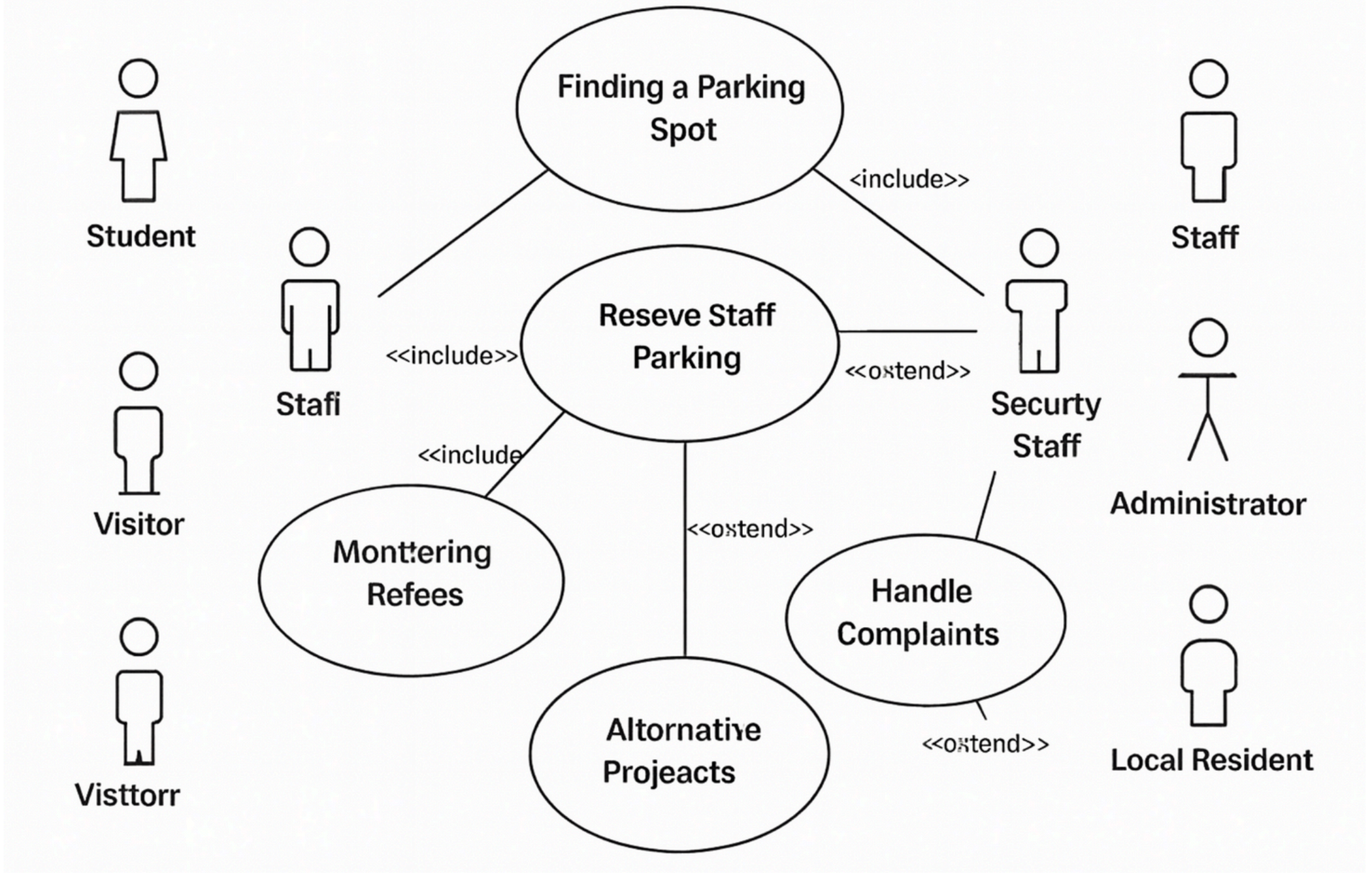
Use-case

No. Functions		Function 1. Finding a Parking Spot on Campus
Actor		Student or Staff Driver
Description		Allows the user to locate and occupy a legal parking space on campus.
Starting Event		Arrival at campus Parking spaces are available and system is operational.
Preconditions		Vehicle is parked in a designated spot.
Postconditions		
Main stream:		1.The system displays available parking areas.
		2.Real-time availability is shown via app or display.
		3.The driver selects a preferred zone.
		4.The system confirms availability.
		5.The driver parks the vehicle.
Alternative streams:		If no spots are available:
		1.The system suggests alternative zones or nearby overflow lots.
		2.The driver chooses to wait or park off-campus.
List of rules:		Only registered vehicles may use reserved staff zones.
		Time-limited zones must be vacated within the allowed period.
		Illegal parking triggers alerts and fines.
Terms and definitions:		Designated spot — a marked legal parking space within campus boundaries.
		Overflow lot — secondary parking area used during peak hours.
Description of fields:		1.Zone name
		2.Availability status
		3.Time limit (if any)

No. Functions		Function 2. Updating Parking Availability
Actor		Campus Security or IT Staff
Description		Allows staff to update real-time parking data and manage zones.
Starting Event		Start of monitoring shift or system update
Preconditions		Staff has access to the parking management system.
Postconditions		Updated availability is visible to users.
Main stream:		1.The system opens the parking management dashboard.
		2.Staff selects a zone to update.
		3.Occupancy data is entered manually or synced from sensors.
		4.Staff confirms the update.
		5.System refreshes public availability display.
Alternative streams:		**If sensor data is unavailable:**
		1.Staff manually estimates availability.
		2.System flags the zone for review.
List of rules:		Updates must reflect actual occupancy.
		Reserved zones cannot be reassigned without admin approval.
Terms and definitions:		Parking zone — a defined area with multiple parking spots.
		Occupancy status — number of free vs. occupied spots.
Description of fields:		Zone ID
		Total Spots
		Free spots
		Last update time
		Zone type (student/staff/reserved)


Finding a Parking Spot
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