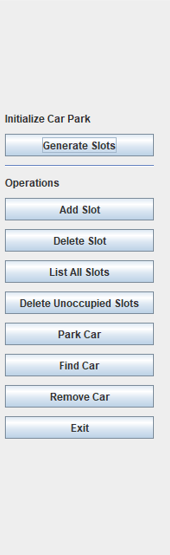
# GUI component list



The GUI is separated into 3 parts: the event buttons, the parking slot interface, and the event notification

## Event buttons:



### Generate Slots:

When selected, the user is prompted with the number of the staff and visitor parking slots.

### Add Slot:

When selected, the user is prompted with the ID of the added slot with its type (staff or visitor)

### Delete Slot:

When selected, the user is prompted with the ID of the slot that he/she wants to delete

### List All Slots:

When selected, this will show a table with all of the slots with its parked car (if parked) also with all of its details

### Delete Unoccupied Slots:

When selected, this deletes all parking slots not occupied by a car

### Park Car:

When selected, the user is prompted with: the parking slot ID, the car registration number, the owner’s name, and a checkbox if this car is a staff car (it will be a visitor car if not checked)

### Find Car:

When selected, the user is prompted with the ID of the car that he/she wants to find

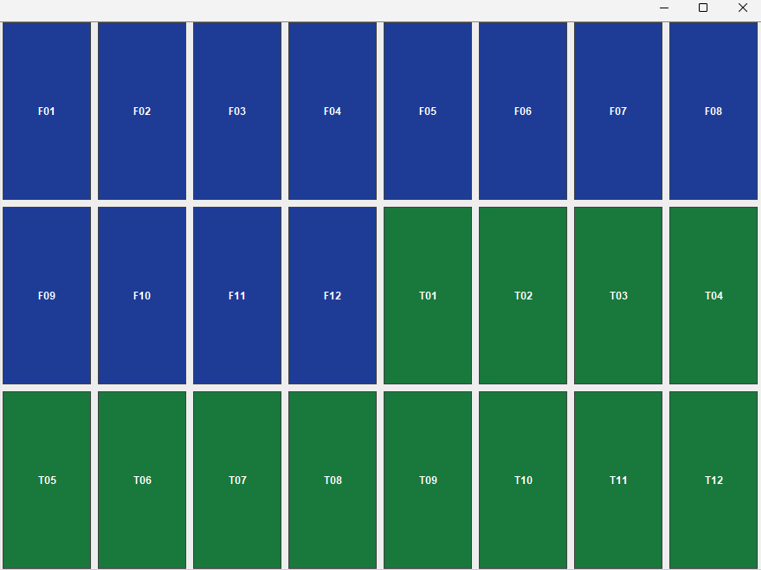
### Remove Car:

When selected, the user is prompted with the ID of the car that he/she wants to remove

### Exit:

This exits the program

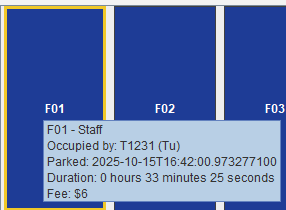
## Parking slot interface:



The generated parking slots are displayed here. The color indicates the type of parking slot. If a slot is occupied, there will be a yellow border



The user can hover over a slot to see the tooltip information of that slot



* User can left-click on a slot to park or remove a car
* User can right-click on a slot to delete the slot (occupied slot cannot be deleted)

## Event notification



This display the latest notification of the user’s action

# Event handling functions:

|  |  |
| --- | --- |
| **Function** | **Description** |
| onGenerateSlots() | Prompts the user for the number of staff and visitor slots, generates them with unique IDs, and updates the slot grid. |
| onAddSlot() | Opens a dialog to enter a new slot ID and type (staff or visitor). Validates input and adds the slot if valid. |
| onDeleteSlot() | Prompts for a slot ID and deletes it only if it exists and is unoccupied. |
| onListAllSlots() | Displays all slots in a formatted dialog, showing ID, type, occupancy, and if occupied 🡺 car details, parked time, duration, and fee. |
| onDeleteUnoccupiedSlots() | Removes all unoccupied slots from the car park and refreshes the grid. |
| onParkCar() | Opens a dialog for slot ID, car registration, owner, and type. Validates inputs and parks the car if rules are satisfied. |
| onParkCarToSlot(String slotId) | Triggered when a slot button is clicked. Opens a dialog tied to that slot for car details, then delegates to parkCarInternal. |
| parkCarInternal(String slotId, String reg, String owner, boolean isStaffCar) | Core logic for parking a car. Validates inputs, ensures the car isn’t already parked, checks type compatibility, and parks the car if possible. |
| onFindCar() | Prompts for a car registration number. If found, shows slot ID, owner, parked time, duration, and fee. |
| onRemoveCar() | Prompts for a car registration number. Removes the car if found and frees the slot. |
| onExit() | Displays a “Program end!” message and closes the application. |
| attachSlotButtonHandlers(SlotButton btn, ParkingSlot slot) | Adds interactive behavior to slot buttons: left-click to park/remove a car, right-click to delete an unoccupied slot. |