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GUI Components and Event Handling Functions in Swinburne Car Parking System

1. JFrame (frame):

- Description: The main window of the application.

- Event Handling: None (frame setup and visibility).

2. JPanel (panel):

- Description: A container for buttons and output text area.

- Event Handling: None (used for layout).

3. Map (parkingSlots):

- Description: A collection to store parking slot information.

- Event Handling: None (data storage).

4. JTextArea (outputArea):

- Description: A text area for displaying messages and parking slot details.

- Event Handling: None (output display only).

5. JTextField (inputField):

- Description: A text field for user input (currently commented out and not used).

- Event Handling: None (not used in the current implementation).

6. JPanel (slotsPanel):

- Description: A container for displaying parking slot buttons.

- Event Handling: None (used for displaying parking slots).

7. JButton (various buttons):

- Description: Multiple buttons for different functions in the application.

- Event Handling: Click event handled for each button.

- "List all slots" Button:

- Description: Lists all parking slots and their details.

- Event Handling: Calls `listAllSlots` function when clicked.

- "Park a car" Button:

- Description: Allows the user to park a car in a parking slot.

- Event Handling: Opens an input dialog and calls `parkCar` function with user input.

- "Find a car by registration" Button:

- Description: Allows the user to search for a car by its registration number.

- Event Handling: Opens an input dialog and calls `findCarByRegistration` function with user input.

- "Add a parking slot" Button:

- Description: Adds a new parking slot to the system.

- Event Handling: Opens an input dialog and calls `addParkingSlot` function with user input.

- "Delete a parking slot" Button:

- Description: Deletes an existing parking slot from the system.

- Event Handling: Opens an input dialog and calls `deleteParkingSlot` function with user input.

- "Remove a car" Button:

- Description: Removes a car from a parking slot.

- Event Handling: Opens an input dialog and calls `removeCar` function with user input.

- "Exit" Button:

- Description: Closes the application.

- Event Handling: Exits the application when clicked.

8. displaySlotDetails(slotId):

- Description: Displays detailed information about a specific parking slot.

- Event Handling: Called when a parking slot button is clicked.

9. listAllSlots():

- Description: Lists all parking slots and their details.

- Event Handling: Called when the "List all slots" button is clicked.

10. parkCar(input):

- Description: Parks a car in a parking slot.

- Event Handling: Called when the "Park a car" button is clicked, and an input dialog is used to gather user input.

11. findCarByRegistration(registration):

- Description: Searches for a car by its registration number and displays the result.

- Event Handling: Called when the "Find a car by registration" button is clicked, and an input dialog is used to gather user input.

12. addParkingSlot(slotDetails):

- Description: Adds a new parking slot to the system.

- Event Handling: Called when the "Add a parking slot" button is clicked, and an input dialog is used to gather user input.

13. deleteParkingSlot(slotId):

- Description: Deletes an existing parking slot from the system.

- Event Handling: Called when the "Delete a parking slot" button is clicked, and an input dialog is used to gather user input.

14. removeCar(registration):

- Description: Removes a car from a parking slot.

- Event Handling: Called when the "Remove a car" button is clicked, and an input dialog is used to gather user input.

15. main():

- Description: The main entry point of the application.

- Event Handling: None (application startup).