

SK PARKING LOT SOFTWARE

SK Parking Lot program is designed for Parking lot service automation. The software takes care of membership, discounts, refunds, allotting empty spots, checking price for cars that are already in, changing members' validity/hours per day, statistics and more.

System Requirements:

- Operating System: Microsoft Windows 7 or later
- .NET Framework: Version 4.0 or later
- System Architecture: x86 (32bit) or x64 (64bit)

Licence:

- The program's binaries are free to use and distribute.
- Using the program commercially without author's permission is not appreciable.
- Source code of this program is copyrighted © Shubham Kumar.

Developer:

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- Education: Currently pursuing B.Tech (3rd year) in computer science from University of Delhi.

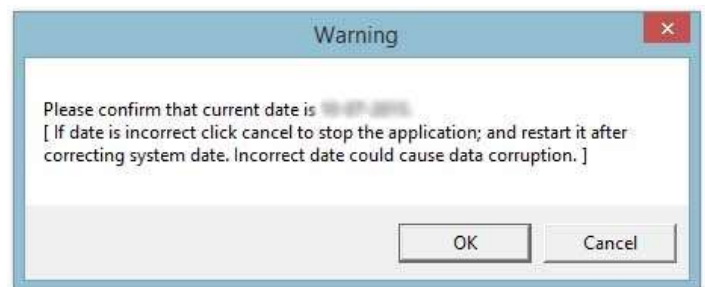
PROGRAM MANUAL

1). Date Warning:

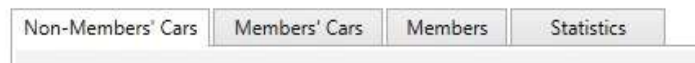
Since data of parking lot is managed using date and time, therefore date and time of the system should be correct while running the application. Program notifies user to check date before data manipulation starts.

Click OK to continue running the app.

Click Cancel to stop application from running, so that date-time of system could be corrected.



2). Tabs:



Program contains 4 tabs for Non-Members' cars, Members' Cars, Addition/removal of members and Statistics.

3). Output Sections:

Output Section on each tab displays output for performed action like: New Entry, Price Checking, New Member, errors and warnings, etc.



4). Lists Sections:

PRKNG ID	CAR REG. NO.	CAR DESCRIPTION	SPOT
402004	UP-000-0023	Black Jaguar	5
402005	UP-000-0074	Red Honda	6
402006	UP-742-0023	Brown Jeep	7
402008	UP-004-0024	White Scorpio	8

In this section, details of cars currently present in the parking spot/ all members / valid members / Validity expired members are displayed as a list.

5). Refresh button & Update List Automatically check box:

☒ Update List Automatically

Refresh button reloads the list section.

There is an option to update list automatically. This will reload the list automatically when any operation changes the list.

'Update list automatically' is checked by default. In very low-end systems, updating list may take some time; this will slow down other actions. So, it is advised to low-end system users to uncheck this option and use Refresh button whenever required.

6). Member Type Selector:

This item manages the Member List on Statistics tab.

It gives user, option to view all members, valid members, and validity expired members.

Member Type : ▼

- All Members
- Valid Members
- Validity Expired Members

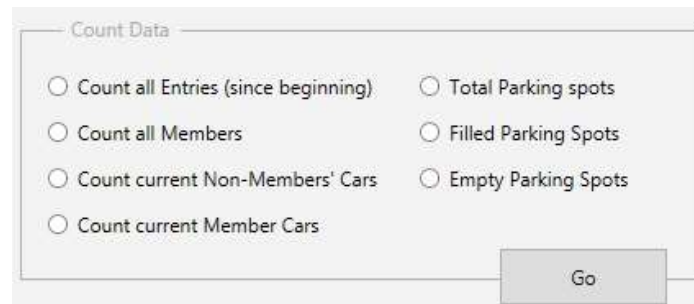
7). Total Price Calculator:



The 'Total Price' window contains two radio buttons. The 'On' radio button is selected and is followed by a date selection box showing '15'. The 'From' radio button is unselected and is followed by a date selection box showing '15', then the word 'to', and another date selection box showing '15'. A 'Get Price' button is located at the bottom right of the window.

This option is basically for administrator. Total price generated on a particular day, or between two days can be calculated by selecting dates from calendar.

8). Count Data section:



The 'Count Data' window contains two columns of radio buttons. The left column has four options: 'Count all Entries (since beginning)', 'Count all Members', 'Count current Non-Members' Cars', and 'Count current Member Cars'. The right column has three options: 'Total Parking spots', 'Filled Parking Spots', and 'Empty Parking Spots'. A 'Go' button is located at the bottom right of the window.

Count data section provides options to count entries, members, parking spots.

9). Special Buttons:



A row of four buttons: 'Export', 'Save', 'Reset', and 'i'.

Export: Exports all data (Non-Members' cars list, Member s' car list, Member list, parking spots etc.) to a human readable text file named 'Exported_Data.txt' next to program binary.

Save: Saves current session.

Reset: Deletes all data and reset the program.

About: Displays information about software and developer.

WORKING

- Entry of the cars of non-members are based on their registration number and their description. Car description could be anything like colour, manufacturer, type, etc.
- Once car is entered, current date and time is stored as its entry time.
- Program user can check cost of parking anytime using check price option.
- When customer takes his/her car back, the entry is removed. Cost of parking is generated using time of entry and current time.
- Price for 1 hour for customer is ₹20 and for member is ₹10.
- Entry of member cars are based on Member ID and car description.
- Addition of new member requires customer name, SSN, Phone, validity in months, hours per day.
- Payment method for members is monthly based.
- Member's validity and hours per day can be increased or decreased. If decrement happens, Refund money will be generated.
- To decrease validity or hours per day, negative integers are used.
- Removal of a member before his/her validity generates refund money; with penalty deducted from it automatically.
- If a member does not renew his/her validity before it expires, then the member will be moved to validity expired member list and can no longer take benefit of membership discounts.
- If a member uses parking facility for time more than his/her hours per day limit, a warning message is displayed on output section.
- Total price on a day or between two days calculations, and counter option are available on statistics tab.
- Program automatically saves and load data on exit and start respectively.
- If program is used in an environment of frequent power outage, 'Save' button can be used frequently to save the data.
- A report of all the data can be generated using 'Export' button.
- Everything can be restored back to default using reset button. This will close the application after data deletion, a restart will be required.

Software Version History

- **Version 1.0**
 - Basic Version
 - Supports addition and removal of cars only
- **Version 1.1**
 - Performance improvements
- **Version 1.2**
 - Support for addition and removal of members.
- **Version 1.3**
 - Support for increase and decrease of member's validity and hours per day.
- **Version 1.4**
 - Errors and exception handling

- **Version 2.0**
 - GUI improved
 - huge performance improvements
 - automatic data save and load
- **Version 2.1**
 - Total price calculator and count facilities introduced
- **Version 2.2**
 - Export all data feature added
 - Bugs fixes
- **Version 2.3**
 - Navigation through TAB key added
 - Performance improvements
 - savedData file backup feature is added