**Proposer Details**

| Group Number | Group 1 |
| --- | --- |
| Registration Number of Group Members | 2021-CS-7  2021-CS-12  2021-CS-41 |

**Proposal Details**

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| ***Project*** |  |
| Proposed Project Title | Car Details Platform |
| Executive Summary | The system manages sorting and searching of a particular car through a modular network, which can be adopted to any given condition and constraints. It makes various operations related to cars more efficient as possible. |
| ***Business Case*** |  |
| Outline the business need for the project | Cars is a dynamic need for society. Most people use them for daily commuting. To buy or inspect a particular car is a persisting problem that employs a lot of effort. Car dealerships and middlemen will benefit from our project as they would not have to manually view each website. This project would do it for them. |
| End user of the product | Car dealerships, Car selling middlemen and prospective buyers |
| Motivation for Project | Two of our members were at some point in their lives, involved in car business. First hand experiencing the difficulties stated in the business case drives us to develop this project with excellence. |
| State the level of impact expected should the project proceed and implications of not proceeding | The implementation would streamline mainstream car business ‘as we know it’ and the miracles of internet, and revolutionizing the industry in hitherto unknown manners. |
| ***Technical Details*** |  |
| Name of Entity | Carvago.com ,Pakwheels.com |
| Attributes of Entity  (Minimum seven attributes/rows can be increased) | |  |  |  | | --- | --- | --- | | *Name* | *Data Type* | *Description* | | Name | string | Make model variant of the car. | | Make | int | Manufacturing year. | | Mileage | int | Total kilometers driven at the time of fetch. | | CC | int | Total Engine power in ccs. | | Grade | string | Auction grade of the imported cars (3,4,5) | | Transmission | string | Automatic or manual gear shifting involved. | | Fuel | string | Modus operandi of engine (Petrol / Gas / Diesel / LPG). | | URL | href | Link to the ad on the browser | |
| Sample of Scrapping Source |  |
| Gitlab Repository Link | <https://gitlab.com/buttafraz22/cs261f22pid01.git> |
| Sorting Algorithms |  |
| |  |  | | --- | --- | | **Algorithm Name** | **Description (Each algorithm in 2-3 lines)** | | Insertion Sort | This is a doubly-nested loop algorithm that’s why it has n square time complexity. This algorithm is good when for number of elements in an array. | | Bubble Sort | This is a doubly-nested loop algorithm that’s why it has n square time complexity. This algorithm is good when for number of elements in an array. This algorithm is not better than insertion sort. | | Heap Sort |  | | Merge Sort | This is a recursive algorithm and uses only two single for loops to sort elements. It has nlgn time complexity. This algorithm is preferable when number of elements is larger. | | Quick Sort | This is a recursive algorithm. It has average case nlgn time complexity but in worst case it has n square time complexity. This algorithm is preferable when number of elements is larger. | | Counting Sort | This is an iterative algorithm and works on utilizing the couting technique to sort numbers. This algorithm has linear time complexity. | | Radix Sort | Radix sort is basically the improved version of counting sort as it uses only 10 indexes to sort number. This is also a linear algorithm. | | Bucket Sort | Bucket sort works by utilizing buckets to store sets of number and serves on last come first out technique to sort numbers. This is a linear sorting algorithm. | | Selection Sort | Selection sort is also a doubly-nested algorithm like insertion and bubble sort. It also has n square running time. | | 3-way Merge Sort | As merge sort parts the array in two parts on each recursive call, 3-way Merge Sort parts the array in each recursive call rest of the process is same. It has nlgn running time. | | Cocktail Sort |  | | Tim Sort |  | | Cube Sort |  | | |
| Searching Algorithms | Jump Search, Linear Search, Binary Search |
| Searching Filters for each data type | *Contains: list the elements that contains the specified input.*  *Start with: list all the elements that starts with the specified input*  *Ends with: list all the elements that ends with the specified input.*  *And: list all the elements that fulfills the given input in addition to all other filters.*  *Or: list all the elements that may or may not fulfill given input in addition to other filters.*  *Not: list all the elements that does not contain the given input in addition to other filters applied.* |
| Multi-Level Sorting | Check Multiple Radio Buttons on Columns and Sort them using algorithm of choice. |
| Any other features | *[Describe details of any other feature that you want to implement, or any bonus task]* |
| ***Interfaces for your project*** |  |
| Dashboard Layout is provided.     |  |  |  | | --- | --- | --- | | UI Component Name | Type of UI component | Purpose of UI Component/Other details | | scrap\_progress\_bar | Progress Bar | Shows the details of scrap operation from the website. | | Pause | Button | Pause the scrap operation | | Resume | Button | Resumes the scrap operation | | Stop | Button | Stops the scrap operation | | URL input | Text Edit | Input the link for scrap | | Scrap | Button | Start the scrap operation | | X entities Scrapped | Label | Shows the details of entities scrapped | | Entity Count in the table X | Label | Entities count in the table | | X milliseconds as of now | Label | Time occurred in the sorting operation | | Widget Controls | Button | Close, Maximize and minimize the window | | Algorithms | Combo Box | Gives the list of sorting algorithms to choose from | | Ascend and descend | Radio Buttons | Order of sorting | | Sort | Button | Starts the sorting operation | | Column | Combo Box | Choose the column for search | | Contains | Text Edit | Contains the term for search | | Starts with | Text Edit | Term for search starts with | | Ends with | Text Edit | Term for search ends with | | AND | Radio Button + Text Edit | Composite Filter for search | | OR | Radio Button + Text Edit | Composite Filter for search | | NOT | Radio Button + Text Edit | Composite Filter for search | | Algorithm | Combo Box | List of Algorithms for searching | | Search | Button | Starts the search operation | | X milliseconds as of now | Label | Gives the time of search operation | | Table for entities | Table | Holds and displays Entities | | Table Header (x8) | Header (contains radio button) | Shows Name of attribute and radio button to check in multiple sorting | | Horizontal scroll bar | Scroll bar | Horizontal scrolling | | Vertical scroll bar | Scroll bar | Vertical scrolling | | |