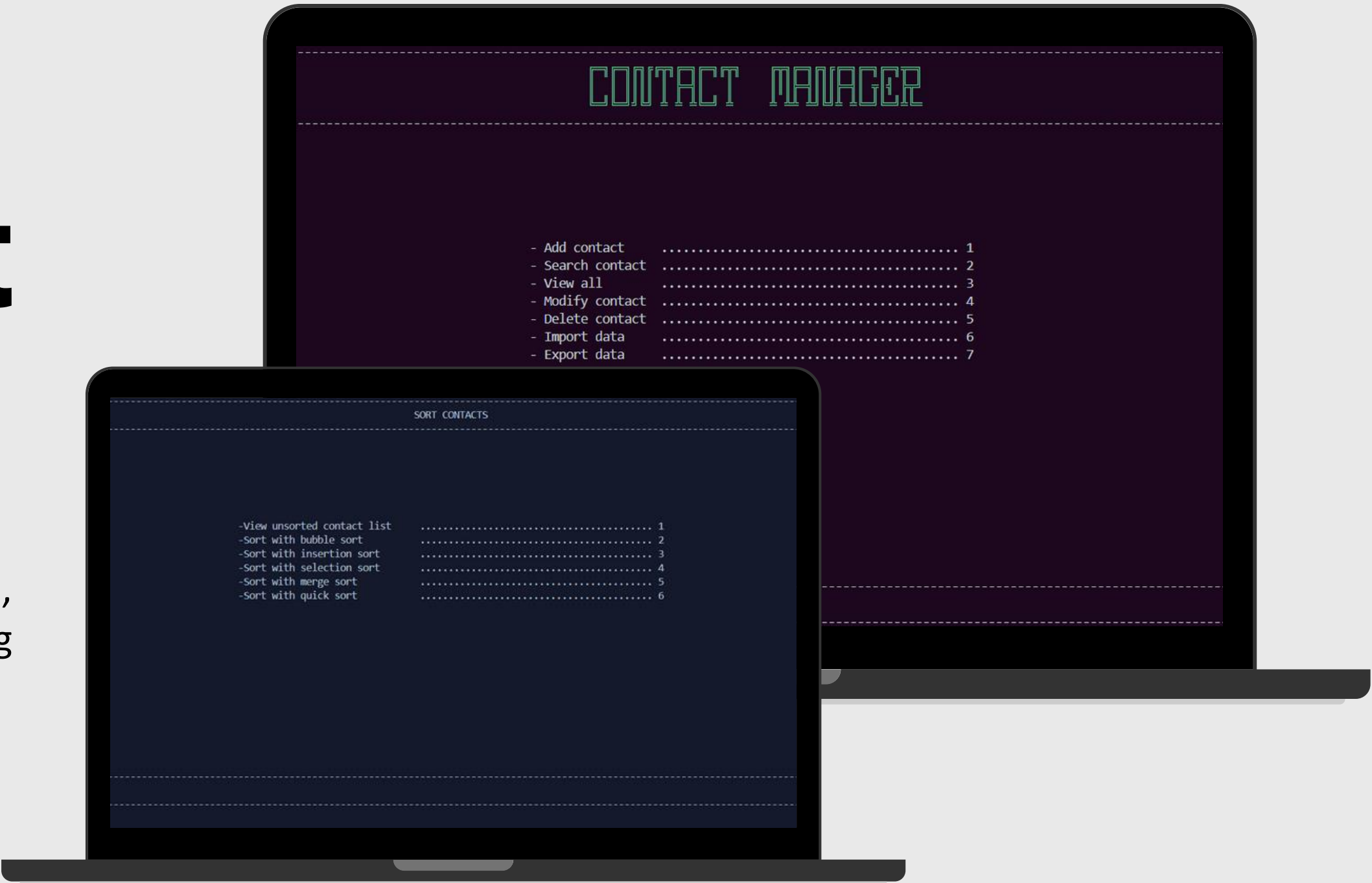


Contact Management System

Developing a system to efficiently manage, search, and sort contact records using various sorting algorithms.



GRUOP 43
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Advanced Contact Management System

Key Features:

- Basic CRUD Operations (Create, Read, Update, Delete)
- Search Contacts
- Sort Contacts (A-Z)
- Customizable Searching & Sorting Algorithms
- Task Time Measurement
- Export & Import Data (.txt file)

Data Structures & Algorithms Used

Data Structures:

- Arrays
- Dynamic Arrays

Sorting Algorithms & Complexity

- Bubble Sort – $O(n^2)$ *(8.058ms)*
- Insertion Sort – $O(n^2)$ *(8.530ms)*
- Selection Sort – $O(n^2)$ *(6.762ms)*
- Merge Sort – $O(n \log n)$ *(6.146ms)*
- Quick Sort – $O(n \log n)$ *(1.667ms)*

Searching Algorithms & Complexity

- Linear Search – $O(n)$
- Binary Search – $O(\log n)$

Performance & Flexibility

- Customizable Algorithms – Choose the best algorithm for efficiency
- Performance Tracking – Measure execution time of operations
- Data Management – Easily import & export contacts
- Optimized Searching & Sorting – Efficiently manage large contact lists

