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# Sorting Visualizer

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**ABSTRACT**

Sorting algorithm are one of the most important in IT industry. Algorithm helps us to maintain the data and values in a proper order and set. Sorting. Visualizer is a web app for visualizing a bunch of different sorting algorithms Like Selection Sort, Bubble Sort, Insertion Sort, Merge Sort, Quick Sort, Heap Sort With the functionality of (Speed Control) and (Array Size Control). Sorting helps us to understand that how data is being processed and is managed. This project depicts that how different sorting algorithm works and how each sorting algorithm is different from the other one.

Keywords: Technical writing, sorting visualization, sorting algorithm, Algorithm

## I. INTRODUCTION

Importance of Sorting algorithms are fundamental in organizing and manipulating data, improving program performance, and solving complex problems.

The sorting visualizer provides a hands-on and interactive way to learn how sorting algorithms work and their practical applications

Discover the importance of understanding sorting algorithms and their real-world applications. Learn how our visualizer can help you grasp these concepts quickly.

Objectives:

1. Sorting visualizer manly focuses on different types of sorting algorithm.
2. This project mainly aims on focusing that students, programmers with technical knowledge and without technical knowledge can learn and understand the in demand sorting skills in the industry which can eventually place them at a good position in the software industry.
3. Objective of the sorting visualizer project are: To gave idea what basically is sorting to the students.
4. Students with and without technical knowledge can also understand the sorting algorithm in a efficient manner.

## II. LITERATURE REVIEW

[1]Sorting algorithms have been widely researched for decades due to the ubiquitous need for sorting in many application domains. Sorting algorithms have been specialized for particular sorting requirements/situations, such as large computations for processing data , high-speed sorting.

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Sorting algorithms, comparison-free, GHz clock cycle, 90 nm TSMC, one-hot weight representation, SRAM, speed complexity O(N)[3]

Sorting algorithms, comparison-free, GHz clock cycle, 90 nm TSMC, one-hot weight representation, SRAM, speed complexity O(N)[4]

## III. PEROBLEM STATEMENT

Understanding sorting algorithm is one of the difficult task due to the huge code and logic. Sorting visualizer helps us to understand the code in much more easier way

We can understand the algorithm in much more easier way. Can understand the logic of the code and can know how basically is the implementation is done.

## IV. RELATED WORK

This survey paper analyzes ten recent IEEE reference papers and a base paper on college Admission systems using PHP, html. The papers cover a range of topics related to college Admission systems, including student information management, course management.

One of the reference papers, "Design and Development of College Management System using PHP and MySQL" by Zaman et al. (2020). The system includes features such as student registration, course management, and gra. RELATED WORK de management. The paper provides a detailed description of the system architecture, database design, and user interface. Another reference paper, "Development of College Management System using PHP and MySQL" by Ayyub and Malik (2021), presents the development of a college management system using PHP and MySQL. The system includes features such as student registration, access admin. The paper provides a detailed description of the system architecture, database design, and user interface.

## V. METHODOLOGY

This chapter we are going to have an overview about how much time does it took to complete each task like-

Introduction and Problem Statement, Literature Survey, Project Statement, Software Requirement and

Specification, System Design, Partial Report Submission, Architecture Design, Implementation, Deployment, Testing, Paper Publish, Report Submission, etc. We divided each task between the team members and according to that we start to build each and every module of the project.

## VI. PROJECT IMPLEMENTATION

OVERVIEW OF PROJECT MODULES:

This chapter we are going to have an overview about how much time does it took to complete each task like-

Introduction and Problem Statement, Literature Survey, Project Statement, Software Requirement and

Specification, System Design, Partial Report Submission, Architecture Design, Implementation, Deployment, Testing, Paper Publish, Report Submission, etc. This chapter also gives focus on stakeholder list which gives information about project type, customer of the proposed system, user and project member who developed the system.

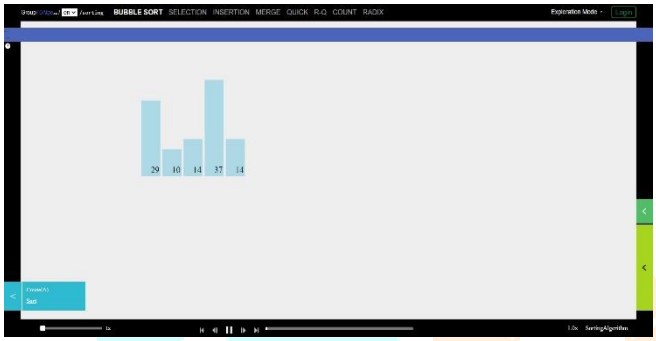
### HARDWARE REQUIREMENTS :

- Internet: - 2GB
- Minimum RAM: - 4GB
- Hard Disk: - 256GB
- Processor: -Intel Pentium 4(1.50 GHZ) or above

**SOFTWARE REQUIREMENTS:**

- Xampp server
- MySQL database
- Notepad
- VS Code
- Browser

**VII. RESULTS**




**VIII. FUTURE SCOPE**

The scope of this project mainly focus on the Students, Developer, Teachers who will use this system to learn, understand the different kinds of sorting algorithms.

This project will let the students to gain the knowledge on the different kinds of sorting algorithms.

Students who have technical knowledge and who don't have technical knowledge can also learn this algorithm and can have great and bright future in the industry.

Developer can use this tool to understand other algorithms which are new to them and can understand it in very simpler Manner such that they can use the different sorting techniques in there programs.

**XI. CONCLUSION**

The sorting visualizer is very user friendly web application that has user friendly GUI , which can be used and understand by person with both technical and without technical knowledge.

The objective achieve through the project are:

•Easy GUI which makes it easier and user friendly to interact.

**APPLICATIONS :**

1. Used in The IT sector to maintain the data.

2. For learning process for students, teachers

3. To get placed at product based companies where data structures are given importance.

4. To know how basically the data is being maintained and stored

•Helps us to understand the sorting algorithm in easy manner.

•Very interactive examples have been depicted

**X.REFERNCE:**

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