DEVELOPMENT OF CLIENT-SERVER TECHNOLOGY FOR ACCESS TO THE DATABASE OF ALGORITHMS ON THE VUE.JS PLATFORM IN EDUCATIONAL PROCESS

Victoria Turygina, Alexander Tarasyev, Mark Pavlov, Yuriy Kharitonov and Danil Soltys

Speakers: Mark Pavlov, Yuriy Kharitonov
About the project

- Providing access to the database of algorithms.
- Interactive presentation of information.
- Web Application Implementation.
Web application

Web site

- statistical

vs

Web application

- dynamically
- standardization
- caching
Framework Vue.js

Vue.js — it is a progressive user interface framework

ROUTER

VUEX
Implementation example

Categories

**Sorting Algorithms**
A Sorting Algorithm is used to rearrange a given array or list elements according to a comparison operator on the elements. The comparison operator is used to decide the new order of element in the respective data structure.

**Numerical Methods**
A numerical method is a mathematical tool designed to solve numerical problems. The implementation of a numerical method with an appropriate convergence check in a programming language is called a numerical algorithm.

**Graphs**
A Graph is a non-linear data structure consisting of nodes and edges. The nodes are sometimes also referred to as vertices and the edges are lines or arcs that connect any two nodes in the graph. Graphs are used to solve many real-life problems.
Implementation example

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## Bubble sort

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>IMPLEMENTATION</th>
<th>SOURCES</th>
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<tbody>
<tr>
<td>Bubble sort is a sorting algorithm that works by repeatedly stepping through lists that need to be sorted, comparing each pair of adjacent items and swapping them if they are in the wrong order. This passing procedure is repeated until no swaps are required, indicating that the list is sorted. Bubble sort gets its name because smaller elements bubble toward the top of the list. Bubble sort is also referred to as sinking sort or comparison sort. Bubble sort has a worst-case and average complexity of $O(n^2)$, where $n$ is the number of items sorted. Unlike the other sorting algorithms, bubble sort detects whether the sorted list is efficiently built into the algorithm. Bubble sort performance over an already sorted list is $O(n)$. The position of elements in bubble sort plays an important role in determining performance. Large elements at the beginning do not pose a problem as they are easily swapped. The small elements toward the end move to the beginning slowly. As such, these elements are called rabbits and turtles. The bubble sort algorithm can be optimized by placing larger elements in the final position. After every pass, all elements after the last swap are sorted and do not need to be checked again, thereby skipping the tracking of swapped variables.</td>
<td>Here will an animation</td>
<td></td>
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The prospects

- Finalization of the prototype and launch of a stable version;
- Visualization of the work of algorithms;
- Step-by-step execution of algorithms;
- Comparison of the work of algorithms.
Thanks for attention!