

Software Requirement Specification

1 Introduction

1.1 Project Identification

Project Title	Visualization of sorting algorithms
Software Name	Donimo
Crouse Name	Software Engineering Group Project
Crouse Identifier	AE2GRP
Project Supervisor	Heshan Du
Group Number	5
Group Members	Zhefeng Zhou, Yangyu Gao, Muiyi Jiang Jiaying Sun, Kan Liu, Zhe Ren
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End Date	May 3, 2017

1.2 Purpose

This Software Requirement Specification (SRS) identifies the requirements and specification for the software of this project. It explains the functional features of the animation together with design, interface details and other considerations.

1.3 Scope

The software is designed to provide visualization of sorting algorithms. The main purpose is to help users understand the principle and efficiency of sorting algorithms. Users should have basic understanding of what algorithm is, such as computer science students or those interested in sorting algorithm.

1.4 Overview

The rest of the SRS presents the specifications of the software in detail. Section 2 of the SRS is the overall descriptions of the software and its requirements. Section 3 outlines other related requirements of the software.

2 Overall Descriptions

2.1 Product Perspectives

The software is an independent and totally self-contained product intended for use on the windows platform.

2.2 Product Functions

The list provides a description of main features of function. These features are divided to two categories: core features and optional features. Core features are essential to the operation of the application, and optional features are additional functionalities.

2.2.1 Core features

1. The software should provide users a guide of how to use core features.
2. The software should allow users to select which sorting algorithm to be animated.
3. The software should visualize the processes of running sorting algorithm. For example, bars' movement represent the output of two input numbers's comparison when users choose bar chart to visualize the sorting algorithms.
4. The software should allow users to start, stop, slow down, speed up, restart or pick up a point of the animation.
5. The software should show the running sorting algorithms source code to users.
6. The software should match specific line of running sorting algorithms source code and it's explanation with animation.
7. The software should allow users to compare the efficiency of different sorting algorithms by showing the animation of them simultaneously in the interface.

2.2.2 Optional features

1. The software should provide the voice service of algorithms explanation.
2. The software should allow user to share this application to Social Network Services(SRS) website.
3. The software should allow user to customize the preferences of interface.
4. The software should allow user to download the source code.

3 Specific Requirements

1. Capacity
The maximum number of sorting algorithms in comparison function is limited to 2.
2. Software Language
All coding will be done in Java SE8 and CSS.
3. Online User Documentation and Help System Requirements
The software should allow user to download the source code to local address. All documentation will be made in accordance with requirements pertaining to open source software under the GNU General Purpose License. Additionally, on-line user documentation will be in the form of Java Platform, Standard Edition 8 API Specification.