ENHSP

SJR Logs Visualizer

USER MANUAL

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ENHSP

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Foreword

Welcome to the user manual for ENHSP SJR Visualizer. This tool is designed to help you visualize the log file of a solved PDDL (Planning Domain Definition Language) problem as a tree. The tool allows you to see the tree properties, such as its depth or its average branching factor, as well as the properties of each node of the tree, which represent an action in the problem.

The ENHSP SJR Visualizer is a valuable tool for anyone working with PDDL problems. By providing a graphical representation of the problem's solution, this tool allows you to easily understand the choices that were made and the path that was taken to reach the solution. This can help you to better analyze the problem and make improvements for future iterations.

In this user manual, you will find detailed instructions on how to use the ENHSP SJR Visualizer, including how to upload and view the log file, how to navigate the tree, and how to view the properties of each node. Whether you are a seasoned PDDL user or new to the language, this tool will help you to gain a deeper understanding of the problems you are working on and improve your planning skills.

Getting Started

There are two ways to use the visualizer: online via the provided link or by downloading the tool to run locally on your computer.

USE THE VISUALIZER ONLINE

To use the tool online, simply follow the link provided to access the ENHSP SJR Logs Visualizer website. Once there, you can easily upload your PDDL problem's log file and begin visualizing the solution tree.

[Online Tool]

RUN THE VISUALIZER LOCALLY

Alternatively, if you prefer to run the tool locally on your computer, you can download the source files at the following link. Once downloaded, simply open the HTML file in your web browser and you will be able to use the tool locally.

[Source Files]

Regardless of which method you choose, the ENHSP SJR Logs Visualizer is designed to be user-friendly and easy to navigate. In the next sections of this user manual, we will provide more detailed instructions on how to use the tool effectively, including how to upload and visualize your PDDL problem's log file and how to view the properties of the solution tree.

Log Files

To get started with the visualizer you need to load in a .sp_log file of your problem, which is a JSON containing the saved state space of the problem explored by the solver. In order to obtain such file you need to run ENHSP to solve your PDDL problem.

GETTING ENHSP

If you do not own ENHSP, you can download it at the following link. You can then follow the instructions given to compile and run it.

[Get ENHSP](#)

GENERATE A LOG FILE

To get the log file for your PDDL problem, you will need to run the ENHSP planner with the `-sjr` argument. This will cause the solver to save the state space explored during the planning process into a JSON log file.

Once you have generated the log file, you can then load it in the ENHSP SJR Visualizer to visualize the solution tree and explore the properties of the nodes.

The User Interface
Initial View
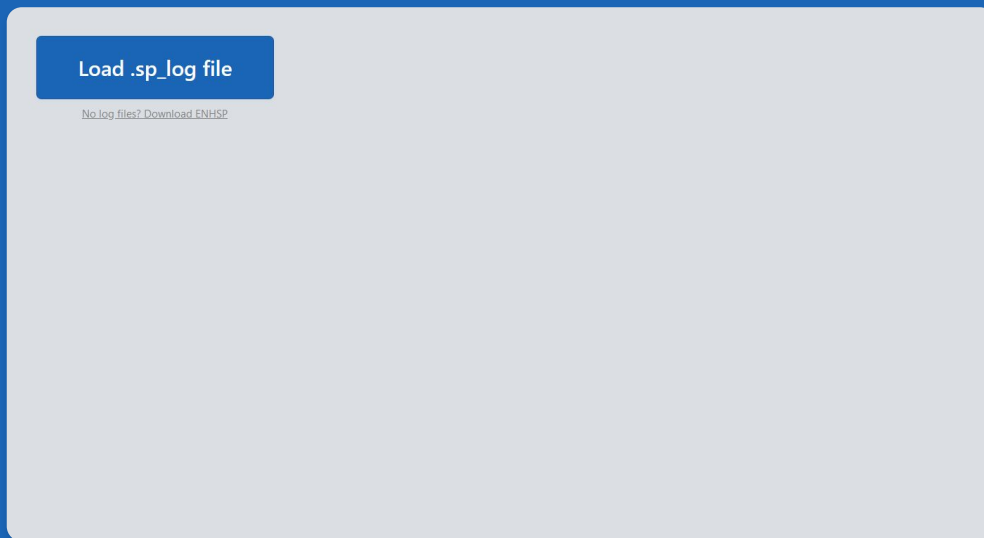
When you first load the Visualizer, you will be greeted by a simple page with two buttons in the top left corner. The first button allows you to load a log file for visualization. When you click on this button, you will be prompted to select the JSON .sp_log file that you generated using ENHSP. Once you have selected the file, the tool will load the solution tree and display it in the main window.
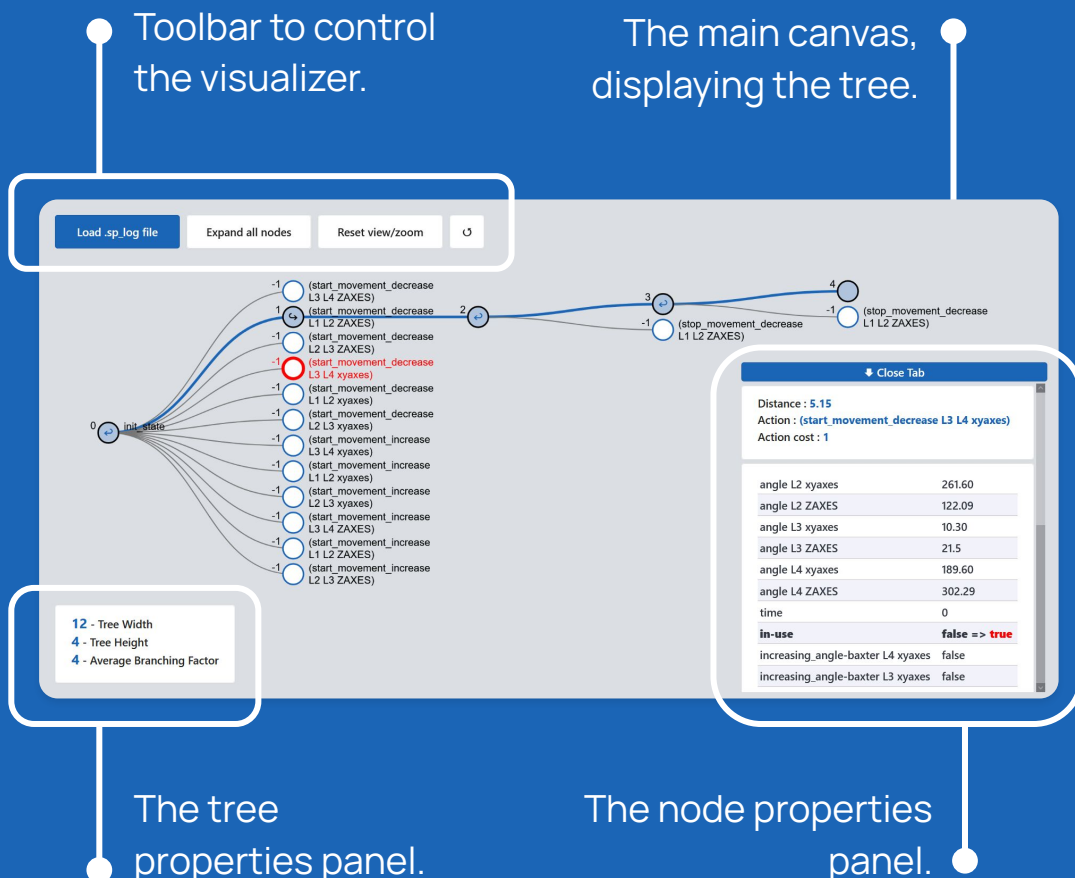
If you do not have ENHSP installed on your computer, you can click on the text under the main button, which is a link to the ENHSP solver website. From there, you can download and install ENHSP in order to generate the log file for your problem.

The User Interface
Overview

The interface consists of several key components, including the solution tree itself, the toolbar, and various panels that allow you to view additional information about the tree and its properties.

In the next sections of this user manual, we will provide detailed explanations of each of these components, including how to navigate the solution tree, how to use the toolbar, and how to view the properties of each node in the tree.

Toolbar to control the visualizer.

The main canvas, displaying the tree.

The tree properties panel.

The node properties panel.

The User Interface
Navigating The Tree

Navigating the solution tree in ENHSP SJR Logs Visualizer is designed to be intuitive and user-friendly.
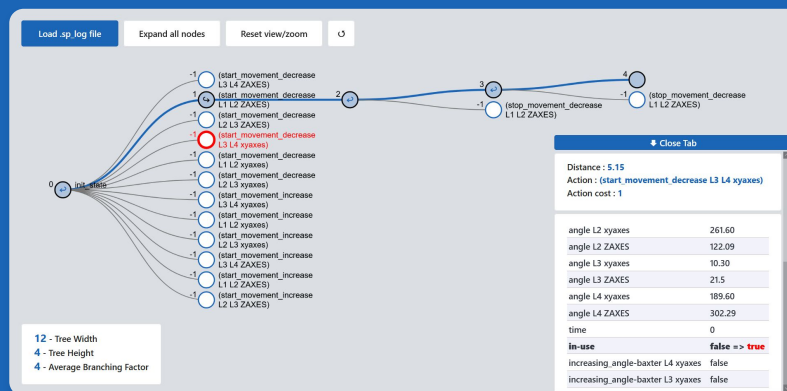
To move the tree around the canvas, you can simply hold down the left mouse button on the background and drag the tree. You can also use the mouse wheel to zoom in and out on the tree.

To view the properties of a specific node in the tree, you can left-click on the node. This will bring up a panel that displays the properties of that node.

If a node in the tree contains an arrow, it can be expanded or retracted by right-clicking on the node, or left-clicking while holding down the shift key. This will allow you to explore the different branches of the tree and better understand the choices and decisions made by the ENHSP solver.

If you prefer to invert mouse button controls, you can do so using the appropriate button in the toolbar. This can be useful for users who may be more comfortable with different control schemes.

Every path explored by the solver appear thicker. However because the solver can backtrack, not all paths are the decisive one. Thus, the main path is thicker and highlighted in blue.

Finally, if you ever need to reset the view or zoom level of the tree, you can use the appropriate button in the toolbar to do so. This will return the visualization to its default state, and center the view on the tree root.

The User Interface
Toolbar

At the top left corner of the visualizer, the toolbar contains several buttons that allow you to customize and control the visualization of your PDDL problem's solution tree.

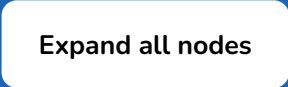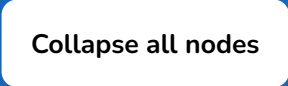### LOAD LOG FILE

Load .sp_log file

The first button allows you to load a JSON log file for visualization. When you click on this button, you will be prompted to select the .sp_log file that you generated using ENHSP.

EXPAND NODES

Expand all nodes

Collapse all nodes

These two buttons allow you to expand and collapse all nodes in the tree, respectively. This can be useful for quickly navigating the tree and exploring its structure.

The collapse all nodes button reveals itself when hovering the former one.

RESET ZOOM

Reset view/zoom

This button resets the zoom level to its default state, and refocuses the view back to the root of the tree, which can be helpful if you have made changes to the visualization that you would like to undo.

SWAP CONTROLS

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By default, the left mouse button is used to open the node properties, while the right mouse button or left mouse button while holding the shift key is used to expand a node. However, some users may find it more natural to reverse these controls, and this button allows you to do so.

The User Interface
Tree Properties

At the bottom left corner of the visualizer, the tree properties panel is a valuable tool for understanding the characteristics of your PDDL problem's solution tree.

16 - Tree Width

8 - Tree Height

3 - Average Branching Factor

The panel displays several key metrics related to the structure and complexity of the tree, including its width, height, and average branching factor. These metrics can help you gain insights into the number of choices and decisions made by the ENHSP solver, as well as the overall structure and complexity of the problem.

The tree width corresponds to the maximum number of nodes in any level of the solution tree.

The tree height corresponds to the number of levels in the solution tree.

The average branching factor corresponds to the average number of children that each node in the tree has.

The User Interface
Node Properties

The Node Properties panel is a key feature that provides detailed information about each node in the solution tree. When you click on a node of the tree, the Node Properties panel slides into view, displaying a range of useful information.

First, the panel shows the computed distance of the node by the solver. This can be useful for tracking progress through the problem and identifying potential bottlenecks or areas for optimization.

The panel also displays the associated action for the node, along with its cost. This can help you understand the choices that the solver is making at each point in the tree, and identify which actions are driving progress towards a solution.

In addition, the Node Properties panel shows the state of all of the problem's variables' states at this node. The variables that changed from the previous node are highlighted in red, making it easy to track how the problem is evolving over time.

Finally, when you're finished reviewing the information in the Node Properties panel, you can simply click the same node again or press the "Close Tab" button to make the panel slide back down.