

SAT-Based Two-Terminal Path Finding Software Design Document

Zhang Huimeng, 2015011280

May 17, 2016

Contents

1	Introduction	3
1.1	Purpose	3
1.2	Scope	3
1.3	Overview	3
1.3.1	Algorithm	3
1.4	Reference Material	3
1.5	Definitions and Acronyms	3
2	System Overview	4
3	System Architecture	5
3.1	Architectural Design	5
3.2	Decomposition Description	5
3.3	Design Rationale	5
4	Data Design	6
4.1	Data Description	6
4.2	Data Dictionary	6
5	Component Design	7
6	Human Interface Design	8
6.1	Overview of Human Interface	8
6.2	Screen Images	8
6.3	Screen Objects and Actions	8
7	Design Patterns	9

1 Introduction

1.1 Purpose

1.2 Scope

1.3 Overview

1.3.1 Algorithm

Source and Target Configuration Source and target positions must be occupied.

Consistency Constraints For source and target positions, there must be 1 (and only 1) position in N_5 occupied by the same wire. For other positions, if it is occupied by a wire, then there must be 2 (and only 2) positions in N_5 occupied by the same wire.

Overlapping Constraints One position cannot be occupied by two wires.

Blockage Wires must never occupy blocked areas.

1.4 Reference Material

1.5 Definitions and Acronyms

2 System Overview

3 System Architecture

3.1 Architectural Design

3.2 Decomposition Description

3.3 Design Rationale

4 Data Design

4.1 Data Description

4.2 Data Dictionary

5 Component Design

6 Human Interface Design

6.1 Overview of Human Interface

6.2 Screen Images

6.3 Screen Objects and Actions

7 Design Patterns

References

- [1] This is an example.