

Test Report: Double Pendulum

Zhi Zhang

December 18, 2019

1 Revision History

Date	Version	Notes
Dec.17	1.0	Final Draft

2 Symbols, Abbreviations and Acronyms

symbol	description
T	Test

Contents

1	Revision History	i
2	Symbols, Abbreviations and Acronyms	ii
3	Functional Requirements Evaluation	1
4	Nonfunctional Requirements Evaluation	1
4.1	Usability	1
4.2	Correctness and Verifiability	1
4.3	Maintainability	1
4.4	Portability	1
5	Comparison to Existing Implementation	1
6	Unit Testing	2
7	Changes Due to Testing	2
8	Automated Testing	2
9	Trace to Requirements	2
10	Trace to Modules	2
11	Code Coverage Metrics	2

List of Tables

List of Figures

This document introduces the result of the system VnV test.

3 Functional Requirements Evaluation

All the functional requirements have been met.

4 Nonfunctional Requirements Evaluation

Generally, all the nonfunctional requirements have been met.

4.1 Usability

The system is easy to use, anyone with general computer technology is able to use it. Tested with 5 users, all of them get the output with their own input data.

4.2 Correctness and Verifiability

The outputs generated by Double Pendulum were compared to the θ_1 and θ_2 graph from <https://www.myphysicslab.com/pendulum/double-pendulum-en.html> with the same input data, and the graphs match well.

4.3 Maintainability

The source code was examined by the developer, and ensured that each module only performs one function, makes it easy to maintain.

4.4 Portability

The unit testing has been performed on Mac OS X 10.11 and Windows 10. All functions works on both systems.

5 Comparison to Existing Implementation

Compared to the existing implementation<https://www.myphysicslab.com/pendulum/double-pendulum-en.html>, Double Pendulum generated the list

of $\theta_1(t)$ and $\theta_2(t)$ results, but does not provide animation of the motions, and does not provide as many graphs as the existing implementation <https://www.myphysicslab.com/pendulum/double-pendulum-en.html>.

6 Unit Testing

The Unit testing has been done with unittest in accordance with Unit VnV. All test succeeds.

7 Changes Due to Testing

No change has been made.

8 Automated Testing

9 Trace to Requirements

10 Trace to Modules

11 Code Coverage Metrics