PIMAL v5.0

Software Release Note

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# Introduction

This document describes the modifications, additions, and/or removal of features of PIMAL from version 4.1 to version 5.0.

Version 5.0 modifies the packaging of the software to ease the installation process for the end user. This removes the need for the end-user to ensure they have Java or the appropriate version of Java installed. No technical modifications were made to models or methods.

# Abbreviations and Definitions

Table ‑. Abbreviations and definitions.

|  |  |
| --- | --- |
| Term | Definition |
| n/a | n/a |

# Base Line Code

The changes identified here have been incorporated into the baseline of PIMAL v5.0.

Table ‑. GIT attributes.

|  |  |
| --- | --- |
| Git Location | Revision ID (Commit SHA) |
| https://gitlab.com/RCD-1/pimal/-/tags/v5.0 | 2e62f5fc1215b1d5d67029933e8d36d9eb79acc3 |

Table ‑. Executable attributes.

|  |  |
| --- | --- |
| Executable Name | PIMAL-5.0.exe |
| MD5sum | 76effb11022eb0e6d4e298a47dbf101b |
| SHA256 | c7662e4efceb9345d7eae8ffa97cbaab  fff6b7b71667662d0b8b240389a898f6 |
| SHA512 | fdaf99a385efaf8c5d207add825851fdd  8d763b6a3e985e44da1c2d29ff13c9cb  609b7de9637ca0ab10c6da25f5e5ca2d  e6e32fb9398daa3b81000ed5cb995ad |

PIMAL v5.0 has the following project dependency as noted in Table 3‑3

Table ‑. Dependency attributes.

|  |  |  |  |
| --- | --- | --- | --- |
| Dependency | Version | Git Location | Revision ID (Commit SHA) |
| OpenGL | n/a | n/a | n/a |

# Changes

The following sub-sections outline the changes made from PIMAL version 4.1 to version 5.0. A summary of changes is provided below:

* Updated program version.
* A single deployable Install package has been created to bundle program dependencies.
* Updated java compilation to use JDK version 14.0.1 which is the newest version released by ORACLE that is compatible with the required dependencies and packaging tools (jpackage). The previous version was completed with JDK version 8. It is noted that there is a newer JDK version that is the newest long term support version but the required packages (e.g., jogamp v2.4.0) are not yet compatible with future JDK versions.
* General cleanup of project folders and removal of outdated and unused files.
* Updated installed desktop icon.
* Updated About screen.

## Version Change

The version is changed from v4.1 to v5.0.

## Single Install Package

A single install package is now created (.exe) that installs PIMAL and all associated dependencies. The user no longer has to concern themselves with the JAVA installation, updates, or its dependencies.

## Update of Java and Dependency Versions

The following dependency packages were updated to the latest versions:

* j3d-core v1.7.0 (org.jogamp.java3d)
* j3dutils v1.7.0 (org.jogamp.java3d.utils)
* vecmath v1.7.0 (org.jogamp.vecmath)
* jogamp v2.4.0-rc (org.jogamp)

For the dependency package updates above various imports needed to be updated:

* The import call “javax.media.j3d.\*” was updated to “org.jogamp.java3D.\*”.
* The import call “javax.vecmath.\*” was updated to “org.jogamp.vecmath.\*”.
* The import call “com.sum.j3dutils.\*” was updated to “org.jogamp.java3D.utils\*”.

In addition the use of the Color3f() method needed to be updated as the following constructor is no longer valid: Color3f(java.awt.Color color). Instead the individual RGB colors are obtained, rescaled (1/255), and passed to Color3f():

Color3f phantomColor = new Color3f((float) (guiColor.getRed()/255.),(float) (guiColor.getGreen()/255.), (float) (guiColor.getBlue()/255.));

The last modification made for the dependency update was the use of org.jogamp.java3d.TransformGroup(). Previous coding attempted to make an enumeration out of a TransformGroup object:

private boolean isTransparent(TransformGroup group, String name){

boolean value = false;

Enumeration en = group.getAllChildren();

…

}

An import is now required to make the iteratable object above an enumeration:

import static org.apache.commons.collections4.IteratorUtils.asEnumeration;

private boolean isTransparent(TransformGroup group, String name){

boolean value = false;

Enumeration en = ***asEnumeration*(**group.getAllChildren()**)**;

…

}

## General Project Cleanup

A general cleanup of extraneous files was performed. This has no impact on the execution of PIMAL.

## Updated Desktop Icon

The desktop icon was updated. In addition the installed location of PIMAL will be added to the Start Menu under the folder RAMP.

## Updated About Screen

The About screen was updated to include contact information and the PIMAL support website.