Integrity Check Tool Hyeonjun Jeong 13630811

Introduction

The Integrity Check Tool is a utility designed to help artists ensure that their Maya scenes are ready for publishing. It performs validation checks on various aspects of a Maya scene and the tool provides a user-friendly interface to select and execute these checks. The results of the checks are displayed in an easily digestible integrity log which is within the interface.

Installation and Access

1. Download the script file 'integrity_check.py'.
2. Ensure that the Integrity Check Tool script is saved in a directory that Maya can source Python scripts from.
3. Open the Script Editor ('Windows' > 'General Editors' > 'Script Editor').
4. Load the script by writing the following import statement and function call in the Script Editor. Another option is to copy and paste the integrity_check.py code directly into the Script Editor.

```
import integrity_check
integrity_check.main()
```
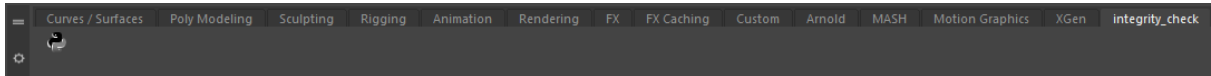
5. Execute the main function.

An alternative way to access the script is to create a shelf for the tool.

1. Create a new shelf by clicking the "New Shelf" button.
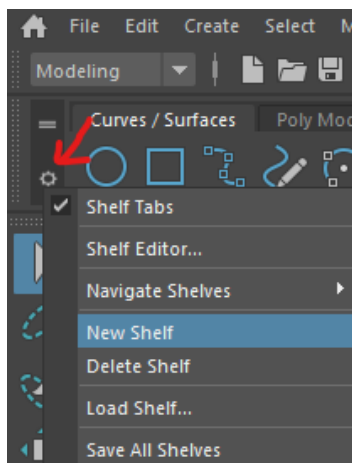
2.   Open the Script Editor, highlight the code and middle mouse drag the highlighted text into the desired shelf. A python icon button should appear on the shelf.

3. Left click the button to open the tool. You can modify the shelf button by right clicking it. You can change its name, add an icon, or add a tooltip.

Interface and Available Checks

The user interface is split into two columns, the left side is for the checks and the right side is the integrity logs.
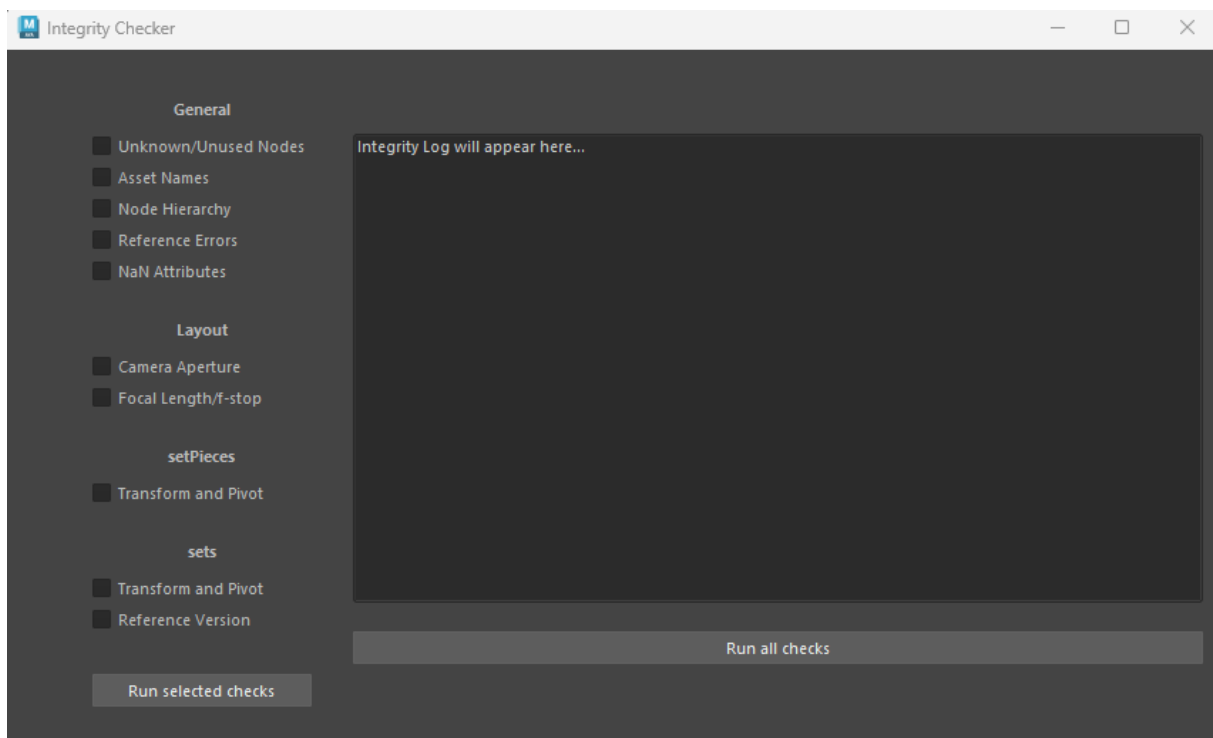
The following checks are available

General Checks

- Unknown/Unused Nodes:
    - Removes any unknown or unused node.
- Asset Names:
    - Checks whether assets follow the specified naming conventions.
- Node Hierarchy:
    - Checks the node hierarchy ensuring it's correctly structured for publishing.
- Reference Errors:
    - Checks for any reference errors such as missing files
- NaN Attributes:
    - Checks for NaN (Not a Number) or infinite values in asset attributes and corrects them to 4 decimal points.

Layout Checks

- Camera Aperture:
    - Check the camera apertures are set to a 16:9 aspect ratio.
- Focal Length/f-stop:
    - Checks the camera's focal length and f-stop values are consistent with real world cameras.
        - Focal length: "12", "14", "16", "18", "21", "25", "27", "32", "35", "40", "50", "65", "75", "100", "135", or "150"
        - f-stop : "1.3", "2", "2.8", "4", "5.6", "8", "11", "16", or "22"

setPieces Checks

- Transform and Pivot
   - Checks the set's transform and pivot points are at the origin.

sets Checks

- Transform and Pivot
    - Checks the set's transform and pivot points are at the origin.
- Reference Version.
    - Checks whether the most recent versions of the referenced assets are being used.

Using the Tool

Run Selected Checks

1. Select the checks you want to run by ticking the corresponding checkboxes.
2. Click on the "Run selected checks" button to start the process.
3. The results will appear in the Integrity Log.
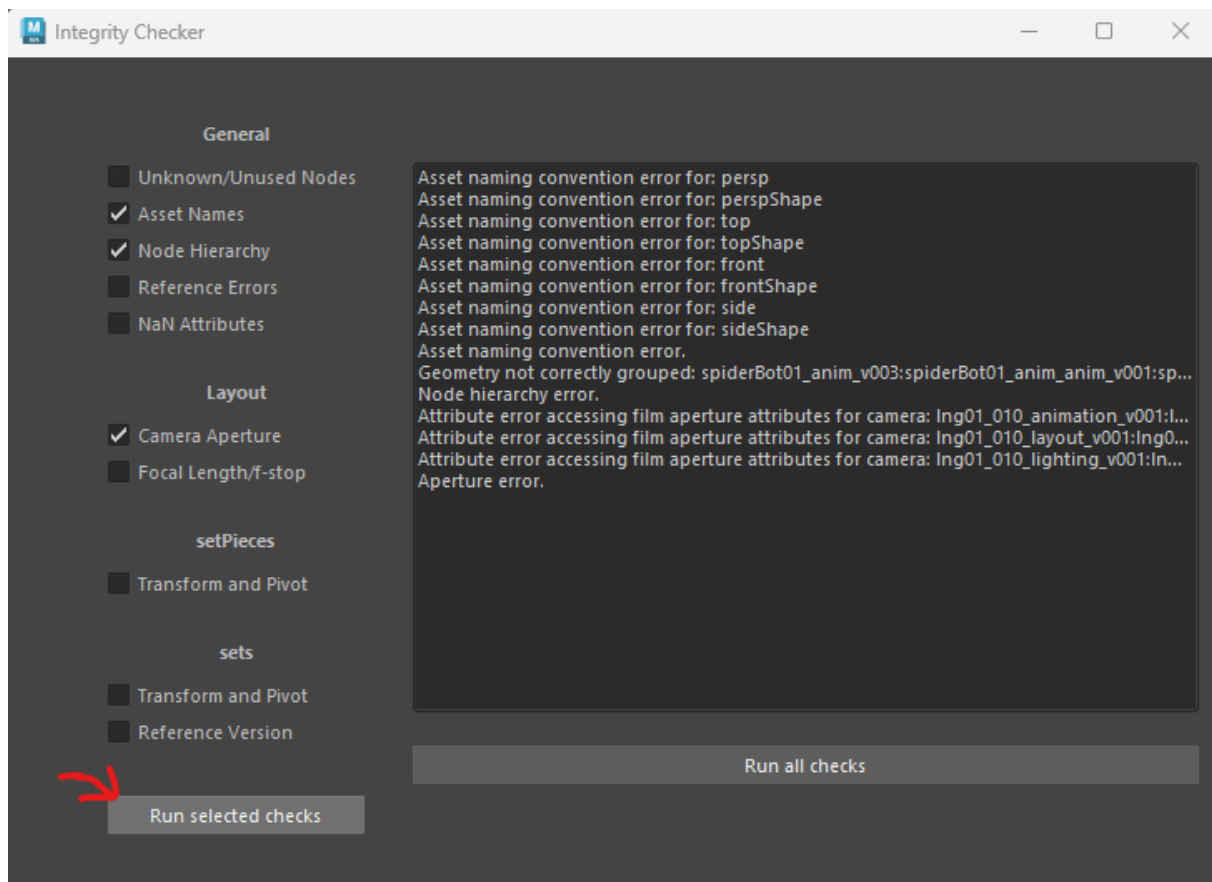
Run All Checks

1. Click on the "Run all checks" button to perform all available checks at once.
2. The result of all checks will appear in the Integrity Log .
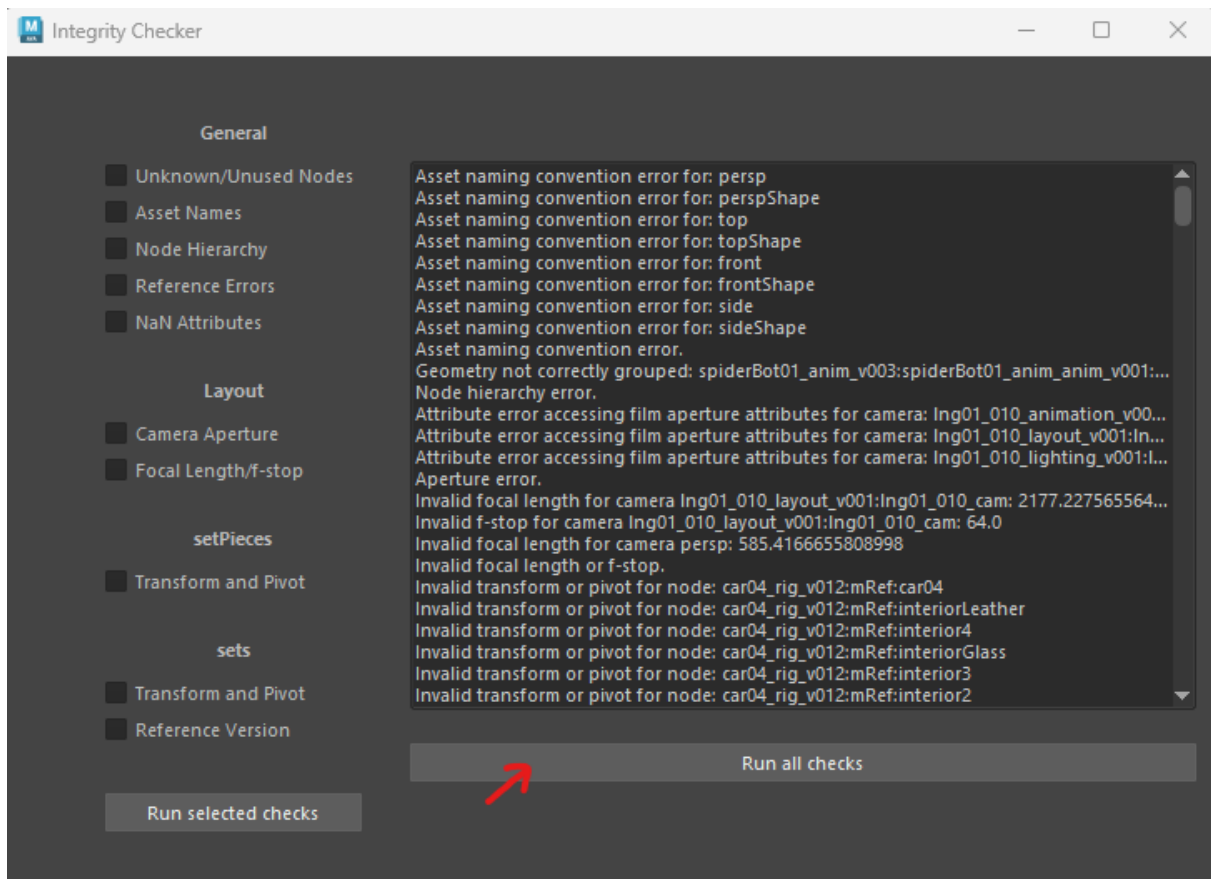
Interpreting Results

The Integrity Log will list all issues found during the checks. It will specify the check, and which asset is the cause of the issue. This can be used to address the listed issues before publishing.

Customizability

Every check has an associated method and is structured in a way that allows for easy addition or modification of checks making it adaptable to different project environments.

For example the naming convention can be changed by modifying this line of code in line 147.

```python
naming_convention_pattern = re.compile(r'.*v\d{3}.*')
```

Troubleshooting

- Ensure that your Maya scene is correctly set up and all referenced files are correctly located and accessible.
- Ensure that the tool's script is correctly located in a directory that Maya recognizes for Python scripts.
- If you encounter errors during execution, refer to Maya's Script Editor console for detailed error messages and troubleshooting information.

Conclusion

The Integrity Check Tool is a robust utility to ensure Maya scenes are ready for publishing, and that they adhere to the necessary conventions to avoid potential issues in the production pipeline.