

Assessment 2 User Document

13915311 Ruben Antao
23458909 Yuanqing Wang
13329370 Guangyu Yao

Part A: File Open Tool (Ruben Antao):

- Overview

So you want to start making a new project. Well how are you going to do that without a nifty little tool to open them. It's able to catagorise assets when you find the asset you were looking for you can then find every version of that asset quickly and relatively clearly.

- Setup

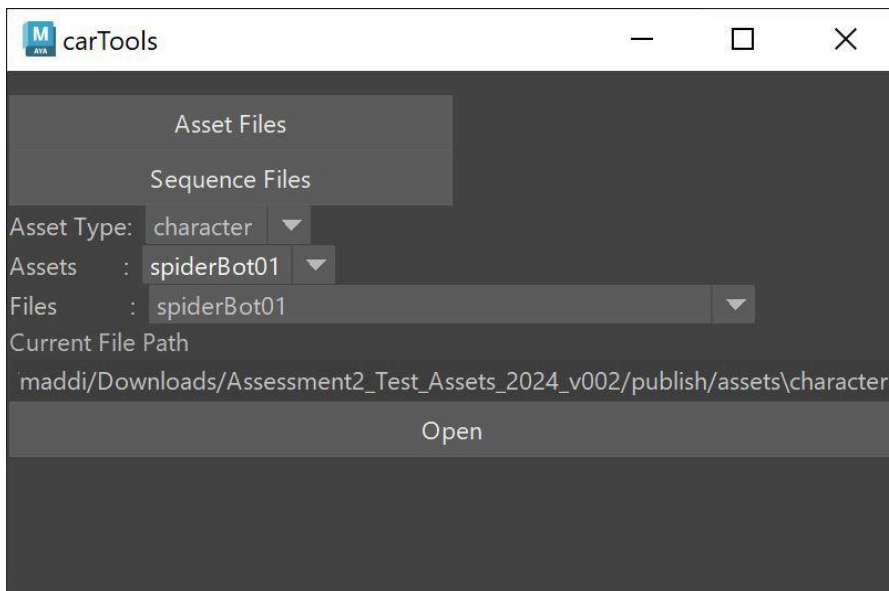
Just make sure you have your project work space set and that your file structure looks something like this:

```
-- publish
-- assets
--   asset_type
--   asset_name
--   pipeline_step
--   source
--     |-- asset_pipeline_step.v000.mb
--   caches
--   fbx
--     |-- asset_pipeline_step.v000.fbx
--   alembic
--     |-- asset_pipeline_step.v000.abc
-- sequence
--   sequence_name
--   shot_name
--   pipeline_step
--   source
--     |-- shot_pipeline_step.v000.mb
--   caches
--   fbx
--     |-- shot_asset_pipeline_step.v000.fbx
--   alembic
--     |-- shot_asset_pipeline_step.v000.abc
-- wip
-- assets
--   asset_type
--   asset_name
--   pipeline_step
--   source
--     |-- asset_pipeline_step.v000.mb
-- sequence
--   sequence_name
--   shot_name
--   pipeline_step
--   source
--     |-- shot_pipeline_step.v000.mb
```

- How to Use

The system is rather simple so have fun following these steps

1. Select the File type: At the top of the screen you can press either the asset files or the sequence files
2. Select an asset type: Underneath the buttons you will see a drop down called asset type that has just been loaded with all the asset types for your project
3. Select a specific asset: You will then see the name of all the different assets of the chosen type. Pick the one that you are looking for
4. Select a file: On the final dropdown you will see that it is now populated with every file with the same name from both the WIP and Publish directories.
5. Confirm you got the asset you want: double check the current file path text field to see what file you have exactly and where it exists in the file system
6. Open the file you want: press the open button and the file will automatically be loaded into maya. [WARNING: The file will not open if there are any unsaved changes so make sure to save your work before trying to open the file



- Troubleshooting

- The dropdown lists do not clear themselves when dropdowns earlier in the hierarchy are updated with a new file path which can potentially yield interesting results. As long as you follow all the steps in order with will not become an issue for you
- There isn't a way to further filter through the different assets so i can imagine it might get to cluttered in target projects with over 5 versions of the one item
- Probably could use a popup message reminding you save your current project when you try to open a new file

Part B: Saving and Publishing Tool (Yuanqing Wang):

- Overview

Save Publish Tool is designed to streamline file saving, organisation, and version management for artists. This tool supports `.mb`, `.abc`, `.fbx`, and `.usd` file formats and automatically generates filenames based on the selected folder path, maintaining consistent file naming conventions. Depending on the selected folder (`publish` or `wip`), the tool will automatically decide which file types are available for saving.

- Setup Requirements

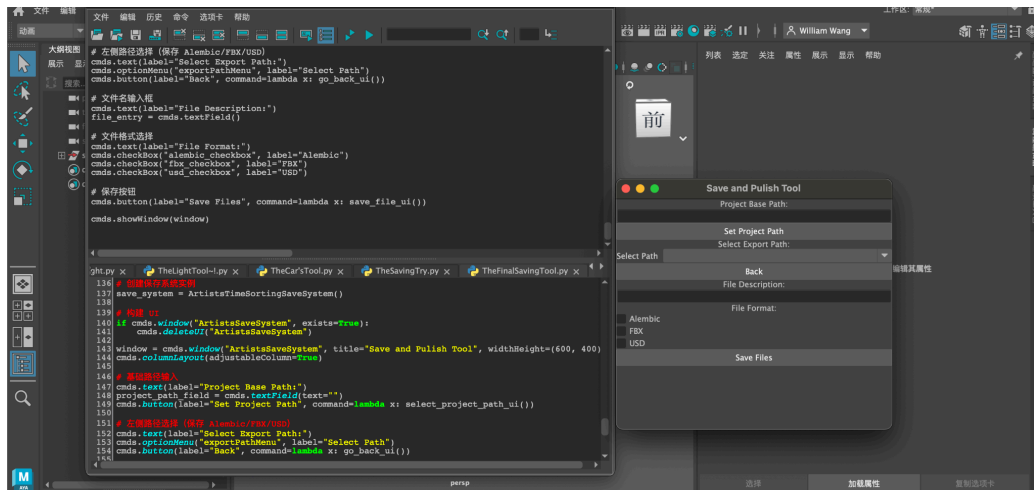
- **Maya:** Make sure Autodesk Maya is installed and configured to run Python scripts.
- **Folder Structure:** The tool requires a specific folder structure to function correctly and generate accurate filenames. Here's an example:

```
|-- project_base_path/  
  |-- publish/  
    |-- sequence/  
      |-- lng01/  
        |-- lng01_010/  
          |-- animation/  
            |-- caches/  
              |-- alembic/  
  |-- wip/  
    |-- sequence/  
      |-- lng01/  
        |-- lng01_010/  
          |-- animation/  
            |-- source/
```

- How to Use

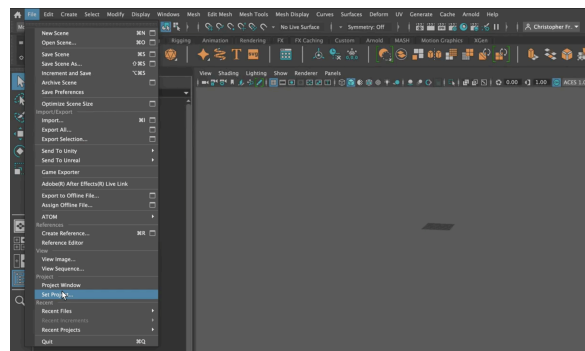
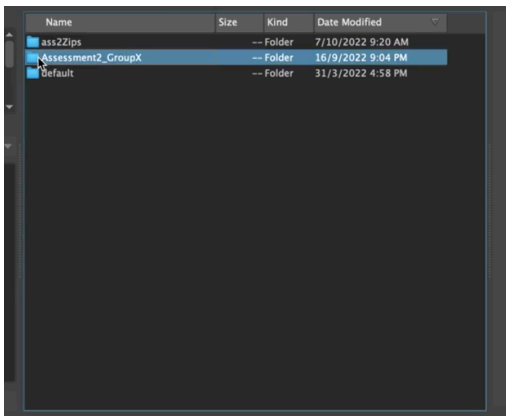
1. Launch the Artists Time Sorting Save System

1. Copy the provided code into Maya's script editor and execute it.
2. The following window should appear:



2. Set the Project Path

1. Click the **Set Project Path** button.



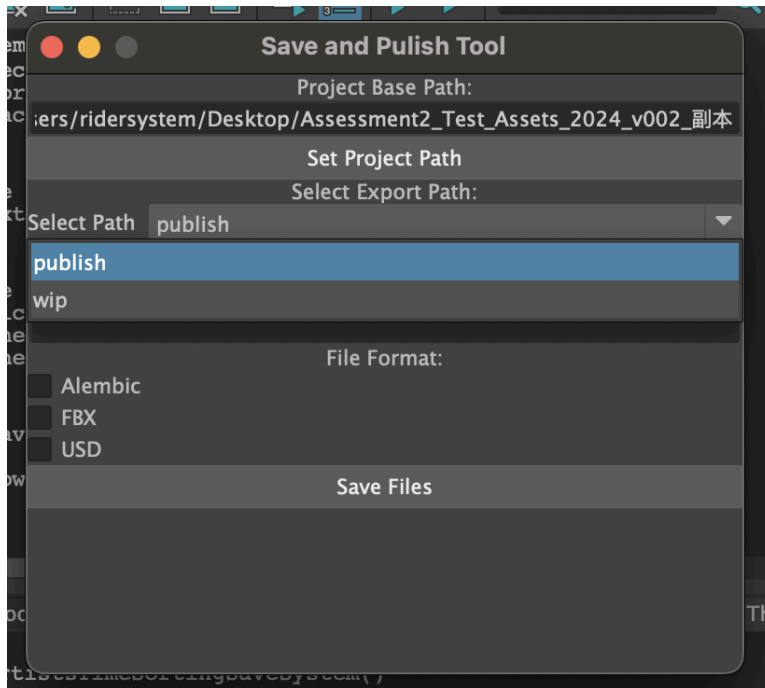
2. A file dialog will appear. Select the root directory of your project, such as **/Assessment 2_GroupX/**.

3. The current **Project Base Path** will display in the UI after setting.

SavingTry.mb - Autodesk MAYA 2023.3: /Users/ridersystem/Desktop/Assessment2_Test_Assets_2024_v002_副本/SavingTry.mb

3. Choose Export Path

1. Under **Select Export Path**, use the dropdown menu to select the folder where you want to save the file.



2. Use the **Back** button to navigate back up a directory if necessary.

Note: Depending on the folder path you choose, the system automatically determines the file types available for saving:

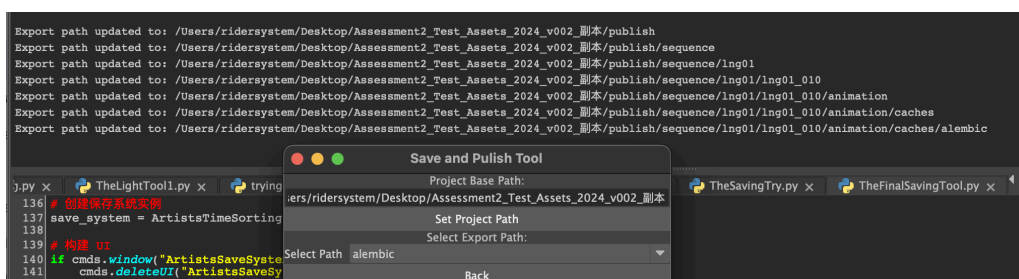
- **publish** folder: Supports **.abc**, **.fbx**, and **.usd** formats.
- **wip** folder: Only **.mb** format is allowed.

4. Enter a File Description

1. Type a brief description in the **File Description** field. This will be used to generate the filename.

For example, if you type "car_animation" as the description, the generated filename could look like

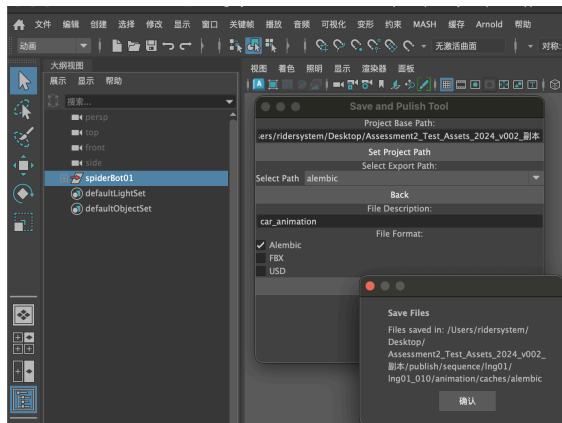
Ing01_010_car_animation_animation_v001.abc.



5. Select File Formats

1. In the **File Format** section, choose the file formats you wish to save. Options will vary based on your selected folder.

Note: If you're in the **publish** folder, you can choose from **.abc**, **.fbx**, and **.usd**; in the **wip** folder, only **.mb** is available.



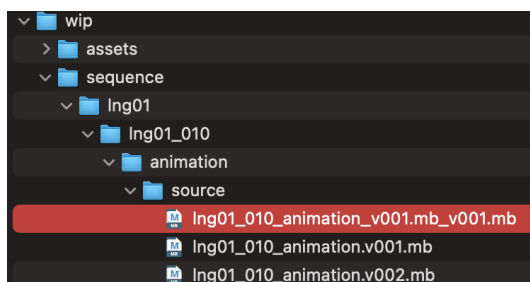
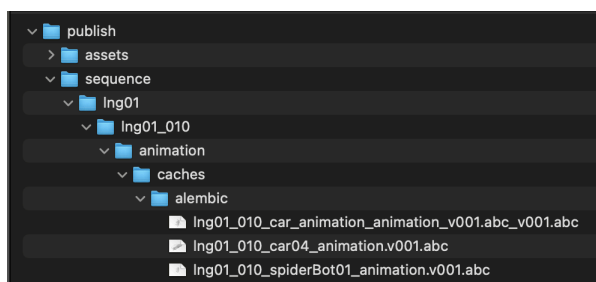
6. Save the File

1. Click the **Save Files** button.
2. The system will generate a filename and save the file in the specified directory. Example filenames:

- In the **publish** folder:

Ing01_010_description_animation_v001.abc

- In the **wip** folder: **Ing01_010_animation_v001.mb**



- Troubleshooting

1. Problem: File cannot be generated or path is incorrect

- Verify that the project path and export path are set correctly and match the expected folder structure.

2. Problem: Error “No valid root nodes were specified” when saving

- Ensure you’ve selected at least one valid scene node before saving .abc, .fbx, or .usd files.

- FAQ

- Q: “Why doesn’t my filename match the example format?”

- A: This could be due to discrepancies in the filename generation logic. The function `generate_file_name()` uses folder names to build the filename. Double-check that your directory structure aligns with the expected format, and adjust the function if necessary.

```
def generate_file_name(self, description, file_format):
    parts = self.export_path.split(os.sep)
    sequence_name = parts[-3] if len(parts) > 2 else "UnknownSeq"
    action_name = parts[-2] if len(parts) > 1 else "UnknownAction"
    sequence_name_p = parts[-4] if len(parts) > 3 else "UnknownSeq"
    action_name_p = parts[-3] if len(parts) > 2 else "UnknownAction"

    if "publish" in parts:
        return f"{sequence_name_p}_{description}_{action_name_p}_v001.{file_format}"
    elif "wip" in parts:
        return f"{sequence_name}_{action_name}_v001.mb"
```

- Q: “Can I set the file name manually?”

- A: The tool automatically generates file names based on the folder structure to ensure consistency, so manual naming is not supported.

Part C: Scene Builder Tool (Guangyu Yao):

The Scene Builder Tool is a tool for managing project assets in Maya. It allows users to load the latest version of assets from the project folder, detect updates, and perform rollback operations. The tool includes the ability to automatically detect asset updates within folders, ensuring that working files are always in sync.

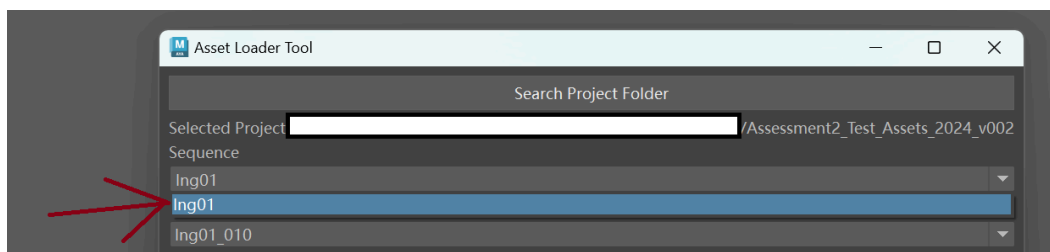
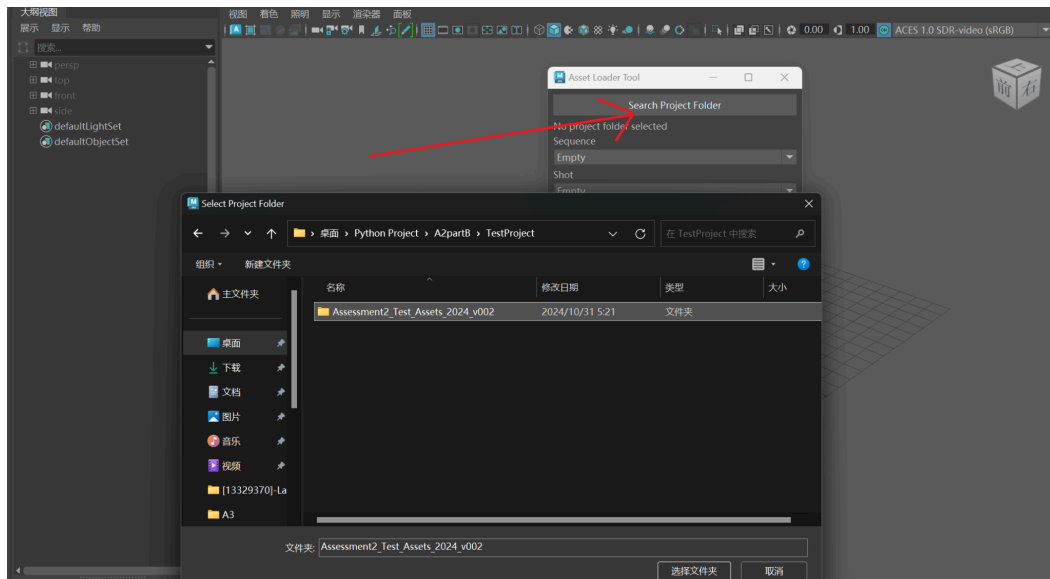
Function overview

- Project folder selection: Select the project folder and automatically read the sequences and shots in the folder.
- Asset loading: Automatically loads the latest version of the scene asset based on the lens selected by the user.
- Real-time update detection: Automatically alerts users when changes occur in the project file.
- Asset rollback: Allows users to roll back an asset to a previous version to restore the historical status.

Functional Modules

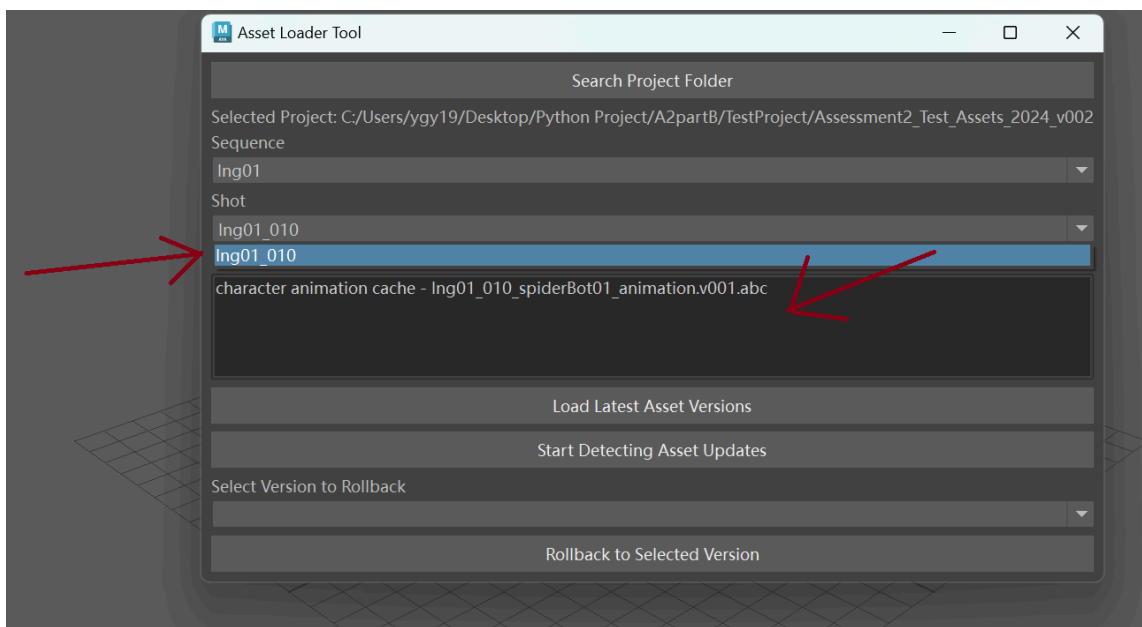
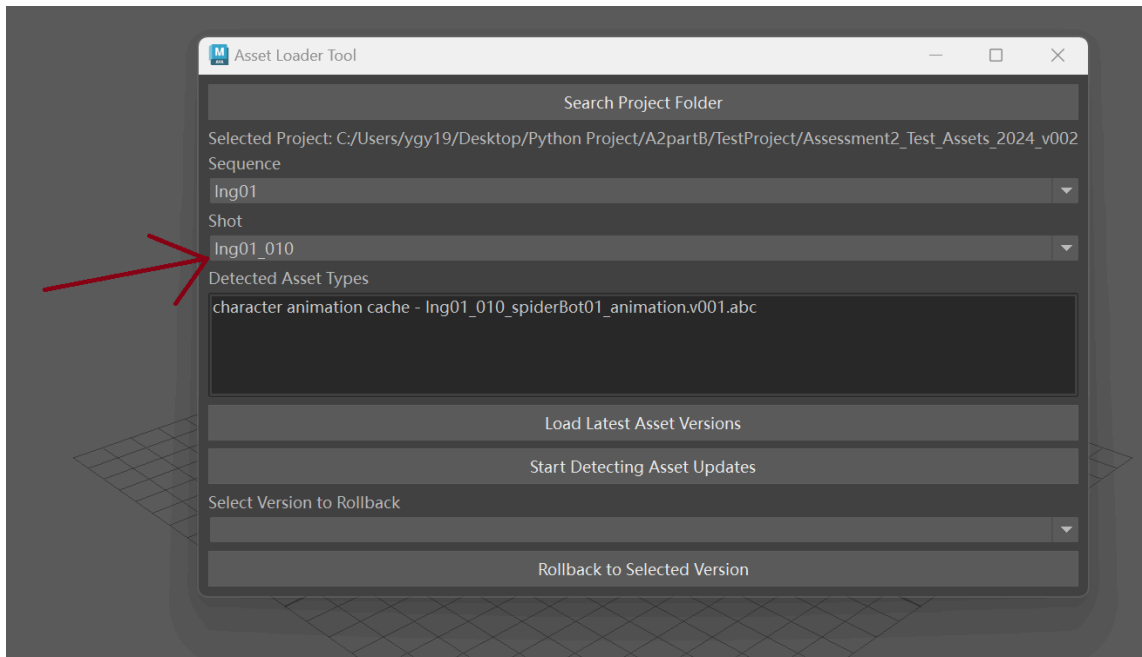
1. Project Folder Selection

1. Click the **Search Project Folder** button to open a folder selection dialog.
2. After selecting the project folder, the tool will automatically read the folder structure and display the current project path.
3. The **Sequence** dropdown menu will be populated with sequences found within the selected project folder.



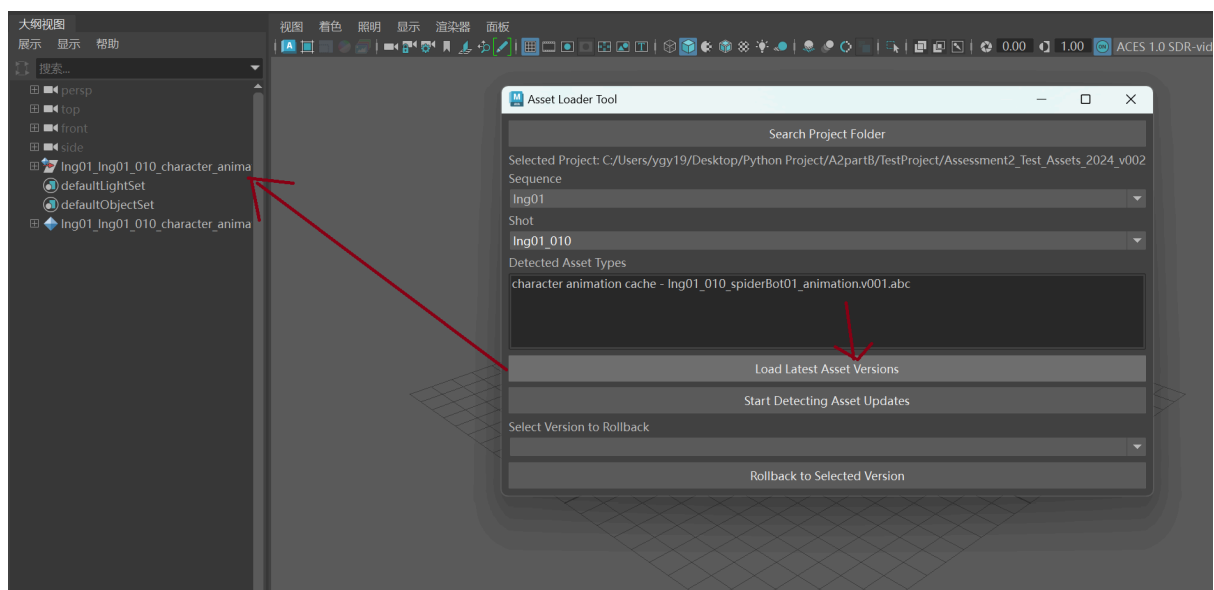
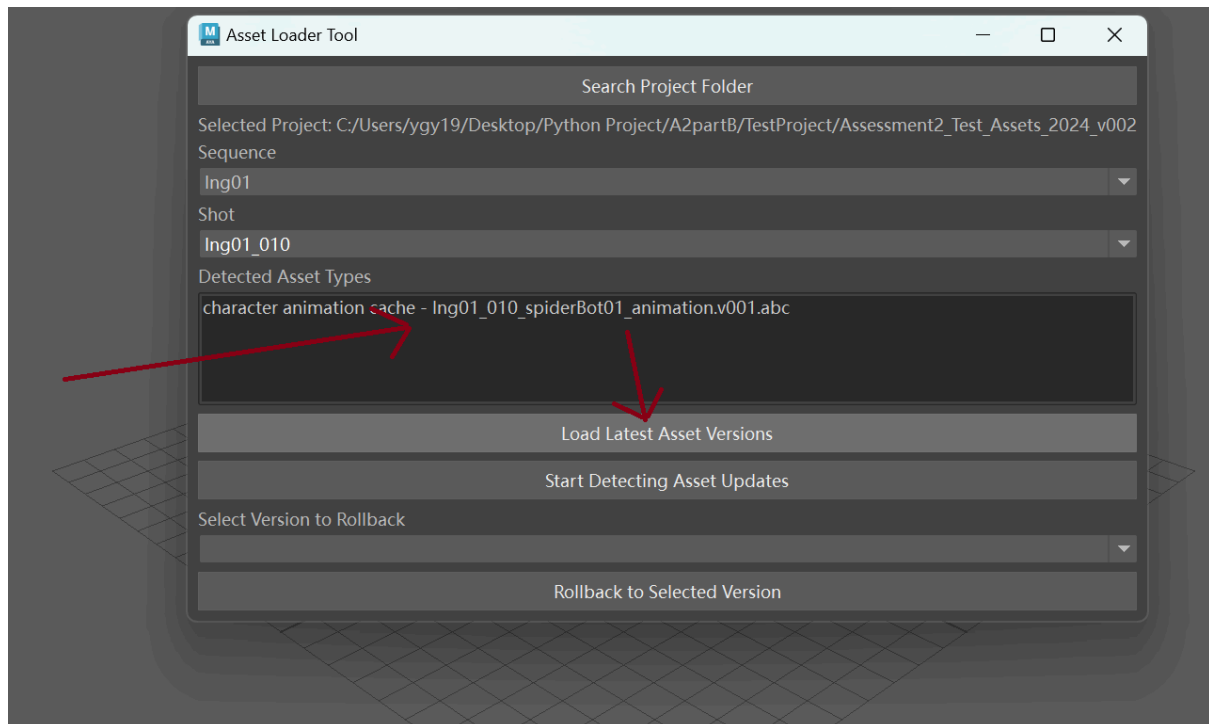
2. Sequence and Shot Selection

1. In the **Sequence** dropdown menu, select the sequence name from the project.
2. After selecting a sequence, the **Shot** dropdown menu will automatically display all shots within that sequence.
3. Once a shot is selected, the **Detected Asset Types** list will show all available asset types and their latest versions for that shot.



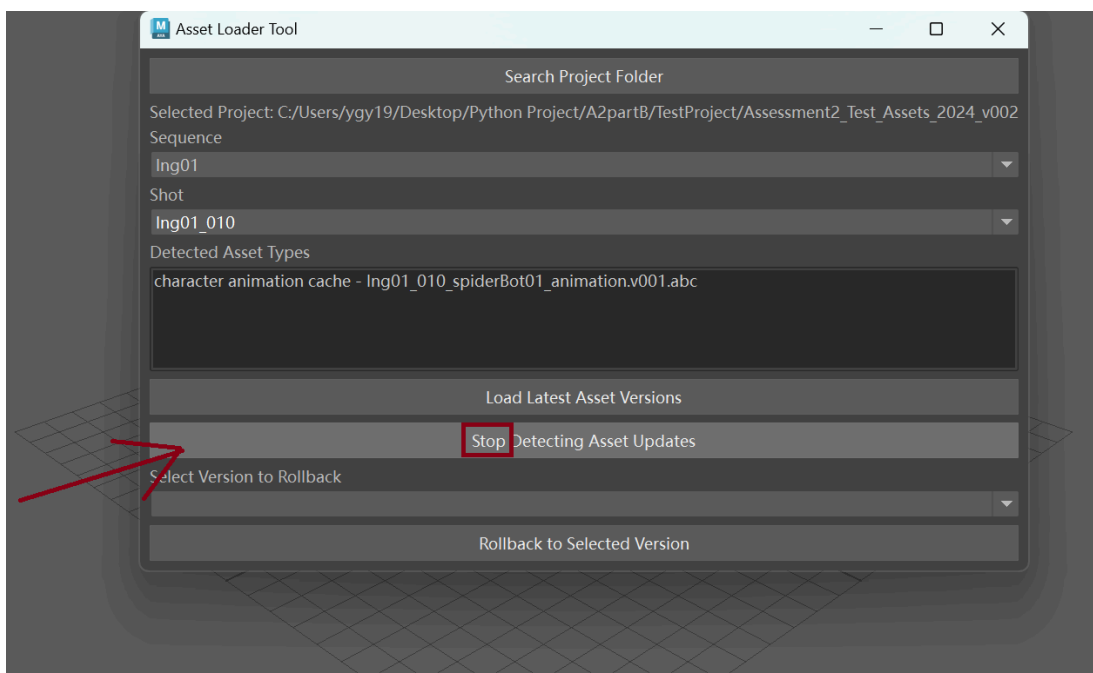
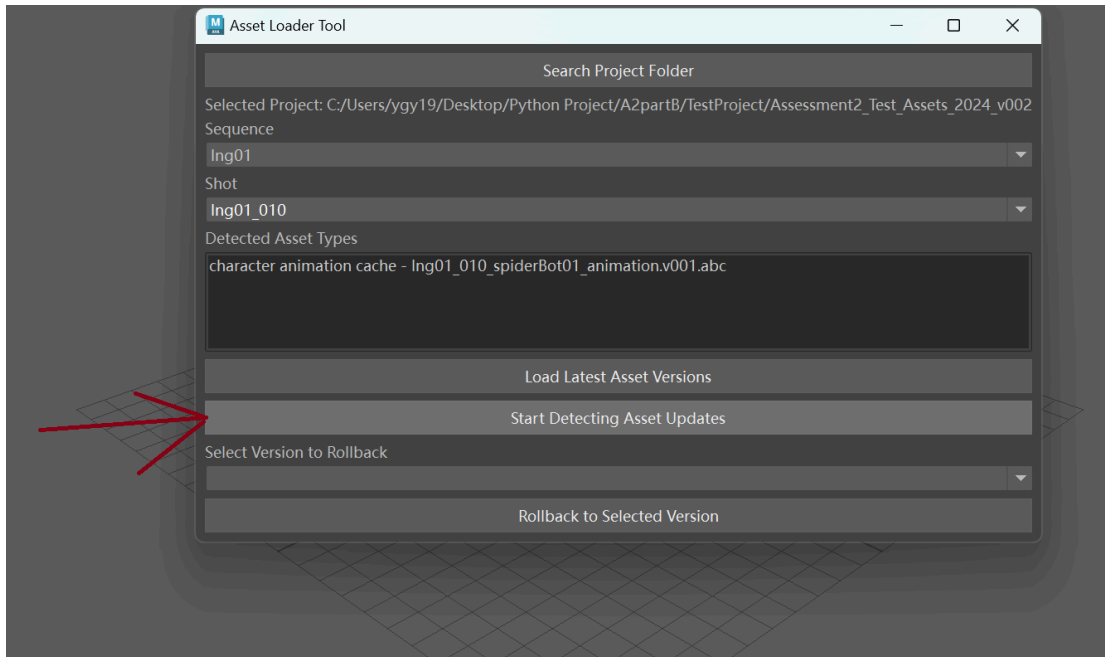
3. Load Latest Asset Versions

1. In the **Detected Asset Types** list, the tool displays available assets for the selected shot and their latest versions.
2. Click the **Load Latest Asset Versions** button to load all detected assets in their latest versions for the shot.
3. Assets will be loaded into the current Maya scene with specified namespaces to avoid naming conflicts.



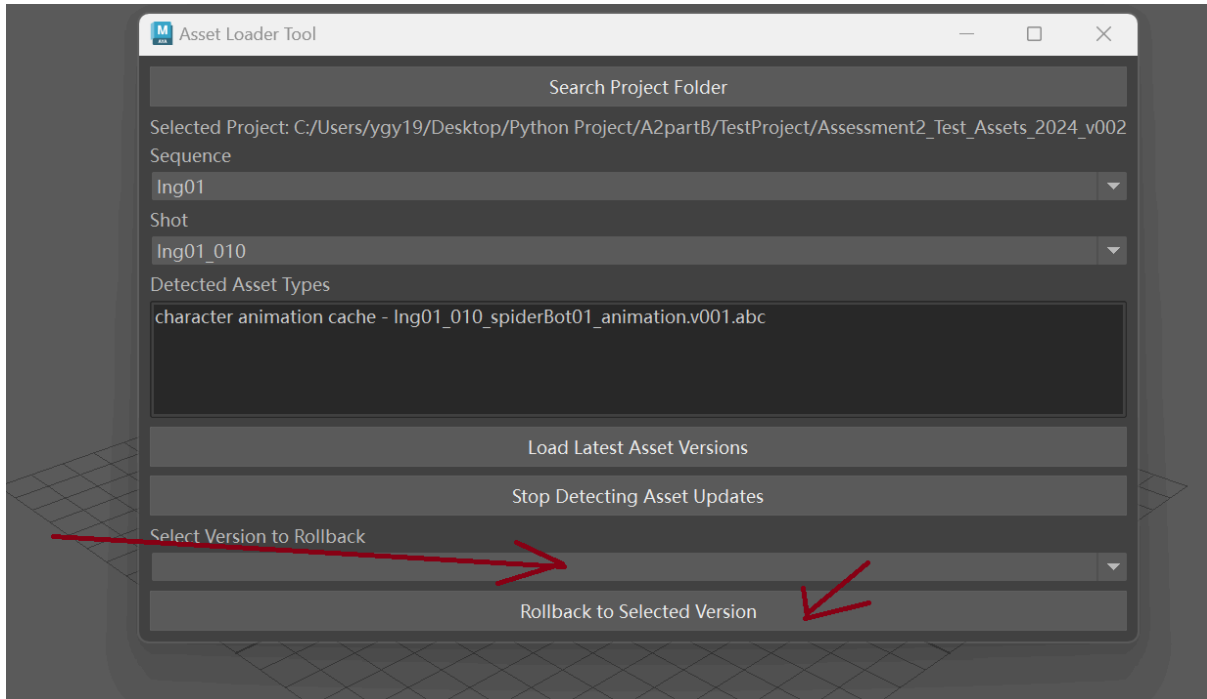
4. Enable Real-Time Update Detection

1. Click the **Start Detecting Asset Updates** button to begin monitoring for updates in the project folder.
2. While in detection mode, the tool automatically checks for asset file updates every 10 seconds.
3. If an asset file is detected as modified, a message will prompt the user to update, ensuring the working scene stays synchronized.
4. Click the **Stop Detecting Asset Updates** button to halt update detection.



5. Asset Version Rollback

1. In the **Detected Asset Types** list, select the asset type you want to roll back.
2. The **Select Version to Rollback** dropdown menu will display all previous versions for the selected asset type.
3. Choose the desired version, then click the **Rollback to Selected Version** button.
4. The tool will automatically load the selected version of the file and apply it to the current Maya scene.



Important Notes

- **Plugin Requirements:** The tool requires the **AbcImport** and **mtoa** plugins to be loaded successfully, supporting assets in **.abc** and **.fbx** formats.
- **Path Configuration:** Ensure the selected project folder adheres to the standard folder structure (including **sequence**, **set**, **animation**, **prop**, etc.) for correct asset type detection.
- **Frequency Setting:** Auto-update detection checks every 10 seconds. You can adjust this interval by modifying the **self.update_timer.start(10000)** value in the code.

Common Issues

1. **Project Folder Not Found:** Ensure that the project folder structure meets preset standards.
2. **Asset Loading Failure:** If an asset cannot be loaded, verify that the necessary plugins are installed and the project folder structure meets requirements.
3. **No Updates Detected:** Verify that the file modification times have actually changed; no updates will be detected if modification times are unchanged.

Technical Support

For additional technical issues, please contact us.

Presentation link

https://www.canva.com/design/DAGVFEPNV60/dL57gqfvlp0TtXz6jTvzQ/edit?utm_content=DAGVFEPNV60&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton