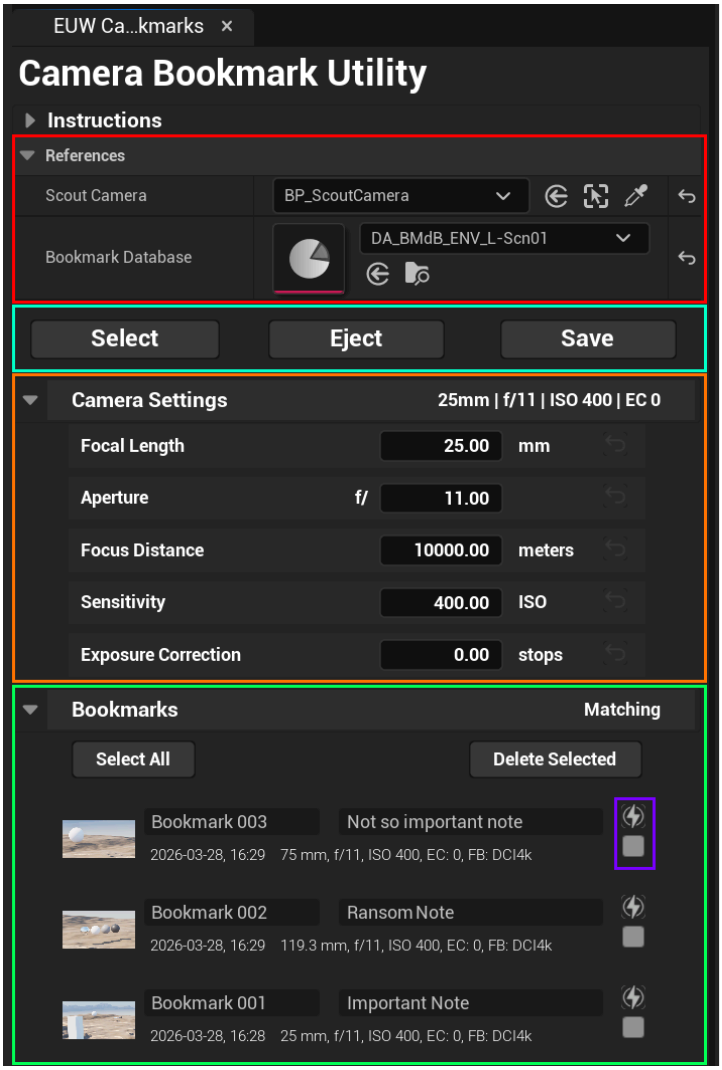
Camera Bookmark Utility

User Guide

The Camera Bookmark Utility lets you save bookmarks of your current camera setup while working in the editor.

This allows you to scout a location, explore different shots, angles, lenses, exposure, focus, depth of field, and more, and potentially create a shot list or storyboard from your scenes.

A bookmark stores more than just the camera's position and rotation. It also stores the current camera settings, such as lens, aperture, focus distance, ISO, exposure compensation, filmback, and more.



In addition to the Camera Bookmark Utility itself, you will need:

- a valid **Scout Camera actor**
- a **Bookmark Database asset**

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1. Before you begin

Scout Camera

You must use a valid Scout Camera.

- A valid `BP_ScoutCamera` is included with this utility.

A valid Scout Camera must contain:

- a **CineCameraComponent**
- a **Cine Capture Component 2D** attached to that CineCameraComponent
- an **`ST_Default_CameraSettings`** variable (also included)

To save a bookmark, that camera must be **selected** or **actively piloted**. This prevents accidental bookmarks and requires that the camera view be shown in the PiP window when selected, or as the main viewport when piloted.

Bookmark Database

You need one Bookmark Database for each level.

The Bookmark Database is a **Data Asset (DA)** saved on disk.

To create a Bookmark Database:

1. Create a new **Data Asset**
2. Choose **`PDA_BookmarkDatabase`** as the parent class (included)
3. Name it clearly, for example:
    - `DA_BMdB_MyMapName`

- `DA_Bookmarks_MyMapName`

4. Save it somewhere you will remember, such as the level's **`_sharedassets`** folder, or another location that makes sense for your project's organization

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2. Basic workflow

Setup

1. Open the level you want to work in
2. Place at least one valid Scout Camera actor in the scene
3. Create a Bookmark Database for that level if needed
4. Open the Camera Bookmark Utility
5. Assign a valid Scout Camera using the picker in the **Reference** section of the utility
6. Assign the Bookmark Database using the picker in the **Reference** section of the utility

Save a bookmark

To save a bookmark:

1. Make sure the correct Scout Camera is assigned
2. Make sure the correct Bookmark Database is assigned
3. Select or actively pilot the camera
4. With your selected or piloted camera, frame the shot
5. Save the bookmark

Apply a bookmark

Use the "Apply" button  on the bookmark row to apply a saved bookmark.

The camera settings immediately update with that saved setup. The camera will noticeably "jump" to the new settings. There is no easing or animation.

Delete bookmarks

To delete a bookmark:

1. Select the bookmark in the list
2. Click **Delete Selected**

To delete all bookmarks:

1. Click **Select All**
2. Click **Delete Selected**

If you change your mind, **Select All** becomes **Deselect All**, so you can clear the selection again.

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3. Camera settings

The **Camera Settings** section lets you adjust the active camera directly while working.

When a valid Scout Camera is assigned, while that camera is selected or being piloted, the settings in this panel affect the current camera immediately. This allows you to change lenses, exposure, focus, and other settings, recompose the shot, and save a new bookmark.

This is useful both for setting up new shots as you go, and for comparing settings, such as lens choice, from the same camera position.

The current version of the utility supports controls for:

- **Focal Length**
- **Aperture**
- **Focus Distance**
- **Sensitivity / ISO**
- **Exposure Correction**

If you want to return any setting to its default value, use the **Reset** button beside that setting.

Two Important Notes::

- The Filmback is currently saved along with all of the other camera settings, but is not exposed in the camera settings section, so can’t be changed on the fly.
- The Default Settings are currently hard coded in the Scout Camera’s BP.

See the “Roadmap” and “Custom Filmback” sections below.

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4. How the Bookmark Database works

Each Bookmark Database belongs to one specific level.

The first time a database is used, the utility records which level it belongs to. After that, the database can only be used with that level.

This means:

- if the database matches the current level, saving is allowed
- if the database belongs to another level, saving is blocked
- you will need a separate database for each level

Be aware that if you rename the current map or level, this will invalidate your Bookmark Database. We are aware of this limitation, and there is an item on the roadmap to allow repointing Bookmark Databases.

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5. Warnings and troubleshooting

No Active Camera

No valid Scout Camera is currently assigned.

To fix this:

- place a valid Scout Camera in the level if needed
- assign that camera in the utility
- make sure it is a valid `BP_ScoutCamera`

No Active Database

No Bookmark Database is assigned.

To fix this:

- create a new Bookmark Database for the current level or
- assign an existing valid Bookmark Database

Make sure:

- it was created as a Data Asset using `PDA_BookmarkDatabase` as the parent
- it is saved on disk
- it is assigned in the utility

Database Mismatch

The assigned Bookmark Database belongs to a different level.

You will not be able to use a mismatched database.

To fix this:

- assign the correct database for the current level or
- create a new database for that level and assign it to the utility

I cannot save a bookmark

Check the following:

- Is a valid Scout Camera assigned?
- Is the camera currently **selected** or **actively piloted**?
- Is a Bookmark Database assigned?
- Does the database belong to this level?

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6. Thumbnails

The utility will try to save a thumbnail for each bookmark.

The thumbnail system is intended to:

- capture a thumbnail from the Scout Camera
- save it as an image file within the project's **Saved** directory
- show it in the bookmark list

Clicking on the inline thumbnail will show an expanded preview version of the thumbnail image. Clicking anywhere in the utility will close the preview if it is open.

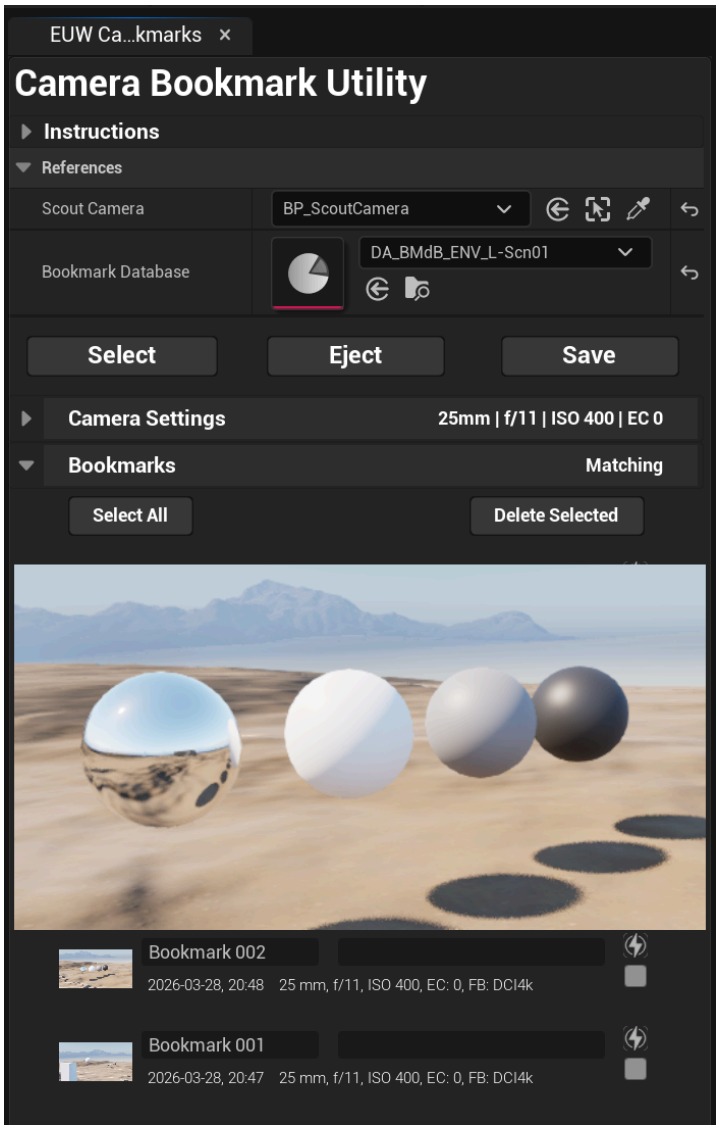
The current resolution of the thumbnail is hard coded to **512 px** along the width. Height is calculated from your filmback's aspect ratio. There is an item on the roadmap to make the resolution of these screen captures user-defined.

Thumbnails are stored as `.png` files in the project's **Saved** directory under:

`CameraBookmarkUtility/Thumbnails/<DA_DatabaseName>/<GUID_thmb>`

User interaction in this directory is not recommended. You can copy the images from this folder, but renaming or deleting them will result in no thumbnail showing in the utility.

If the utility cannot find or save a valid thumbnail, a default icon is displayed.



Camera Bookmark Utility with the thumbnail expanded.

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7. Recommended usage

- Use **one Bookmark Database per level**
- Save the database in that level's `_sharedassets` folder, or somewhere that suits your project organization
- Use the included `BP_ScoutCamera`
- Always make sure the active camera is **selected** or **actively piloted** before saving
- Adjust camera settings while piloting if you want to store a complete shot setup
- Do not reuse a Bookmark Database across different levels

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8. Known Issues

- Renaming a map will render the associated Bookmark Database unusable. The data will be there but you will be unable to save new bookmarks to it. This is due to the Bookmark Database using the Name of the Map as the identifier. This will be fixed in future versions in a way that will allow the user to override the mismatch, update the link, and use the database with a newly named map.
- When there is a mismatch between the Bookmark Database and the Map Name, save is disabled, but delete and apply (and pretty much all the other buttons) still work, so the user needs to be just as careful when using a mismatched database, as with a live one.

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9. Roadmap

- Create Scout Camera button in the Utility
- Create Bookmark Database button in the Utility
- Custom Filmback preset exposed in the Camera Settings.
- Set Default Values from Camera Settings
    - These are currently hard wired in the Scout Camera BP
    - These may migrate into the tool, not the camera itself
- Add preset camera kit lenses
    - enum-driven
    - include Zoom & Custom
- Print Storyboard from Row
- Promote Shots to Sequencer

10. Creating a Custom Filmback

The utility will try to save a thumbnail for each bookmark.

If you want to use custom named filmbacks, Unreal Engine allows you to create your own Filmback presets for the project. A custom Filmback preset lets you save a sensor width and sensor height under a clear name, so you can reuse that setup without re-entering the values each time. The Camera Bookmark Utility will save the current Filmback settings, so you can change the Filmback settings to simulate a different camera.

To create a custom Filmback preset:

- Open **Edit > Project Settings**
- Go to **Engine > Cinematic Camera**
- Find **Filmback Presets**
- Add a new preset
- Enter a clear name for the preset
- Enter the sensor width and sensor height in **mm**

The preset is then saved as part of the project settings and becomes available to Cine Cameras in that project.

To use a custom Filmback preset on your Scout Camera, use the Details View when the camera is selected. At the time of writing, the Custom Filmback preset is not exposed in the Camera Settings, but it IS being saved and applied with all of the other film back settings.

To use a custom Filmback preset within the Camera Bookmark Utility (***Not Yet Implemented!***):

- **This is not yet implemented!**
- Make sure you have a Scout Camera referenced at the top of the Utility
- Expand the Camera Settings section
- Find Filmback
- Choose a new Filmback

Filmbacks will be maintained until a new Filmback is chosen, or a bookmark is applied.

Be aware that changing the Filmback changes the camera's sensor dimensions and aspect ratio. In this utility, thumbnail height is derived from the Filmback's aspect ratio, so changing Filmback will also change the thumbnail shape.

Be aware that changing the Filmback will change the relationship between the Lens (Focal Length) and the Filmback which will affect the feel of the shot. Focal Length and Filmback work together to determine the camera's field of view. Focal Length determines the angle of view for a lens (how much of the scene is captured) and magnification (how large distant objects appear). The Filmback defines the sensor width, height, and resulting aspect ratio. This means that if you keep the same Focal Length but change the Filmback, the framing will change: a larger Filmback gives a wider view, while a smaller Filmback gives a tighter view. Changing Filmback can also change the image aspect ratio, depending on what values are chosen for the height and width. The composition of a shot may feel different when changing the Filmback as much as the lens, even if the camera itself does not move.

The relationship between the Lens (Focal Length) and Filmback is worth understanding, because together they determine the camera's field of view and framing. In Unreal, changing the Filmback changes the virtual sensor dimensions and aspect ratio. This can make the same Lens appear wider or tighter. Unlike physical formats, either film or digital sensor, a smaller

Filmback in Unreal does not inherently reduce render resolution. The output resolution is controlled separately by the render settings in the output pipeline.

We would **strongly recommend** that you choose and lock a Filmback and Lens Kit for the duration of your project for optical consistency and “shot feel”.