Documentation v.1.0

Note: It is recommended to use the online documentation which can be found here:
Smart Tools Documentation

Introduction

Thank you for choosing SmartTools, a powerful scene view overlay designed to optimize your workflow. Our goal is to provide intuitive, efficient tools that integrate seamlessly into your Unity projects, saving you valuable development time. Whether you are a professional developer or a hobbyist, SmartTools offers practical solutions to streamline your work and boost productivity.

Feature overview

- View-dependent, dynamic 3-axis grid overlay for precise placement
- Customizable grid offset
- Visual representation of movement increments for precision and intuitive working
- Adjustable primary and secondary movement and rotation increments
- Per-pivot rotation mode for individual object manipulation
- Object transformation via customizable hotkeys or UI buttons
- Seamless blending between free and horizontal movement modes based on view angle
- Auto-focus feature keeps selected objects centered in the scene view
- Advanced auto and manual snapping functionality for position, rotation, and scale
- Quick reset options for position, rotation, and scale, with per-axis controls
- Rapid duplication of selected objects
- Child compensation for transforming parent objects without affecting children
- Quick and efficient parenting controls
- Convenient hierarchy navigation with hotkeys for selecting parents or children
- Customizable hotkey assignments for all functionalities
- Compact and intuitive interface design, optimized for minimal scene view impact
- Seamless background operation for enhanced workflow flexibility
- Selection and view saving features for quick access and retrieval
- Selection history, allowing you to go back to your most recent selections
- Intuitive interface packed with features, saving screen estate as much as possible

Installation and changing the install location

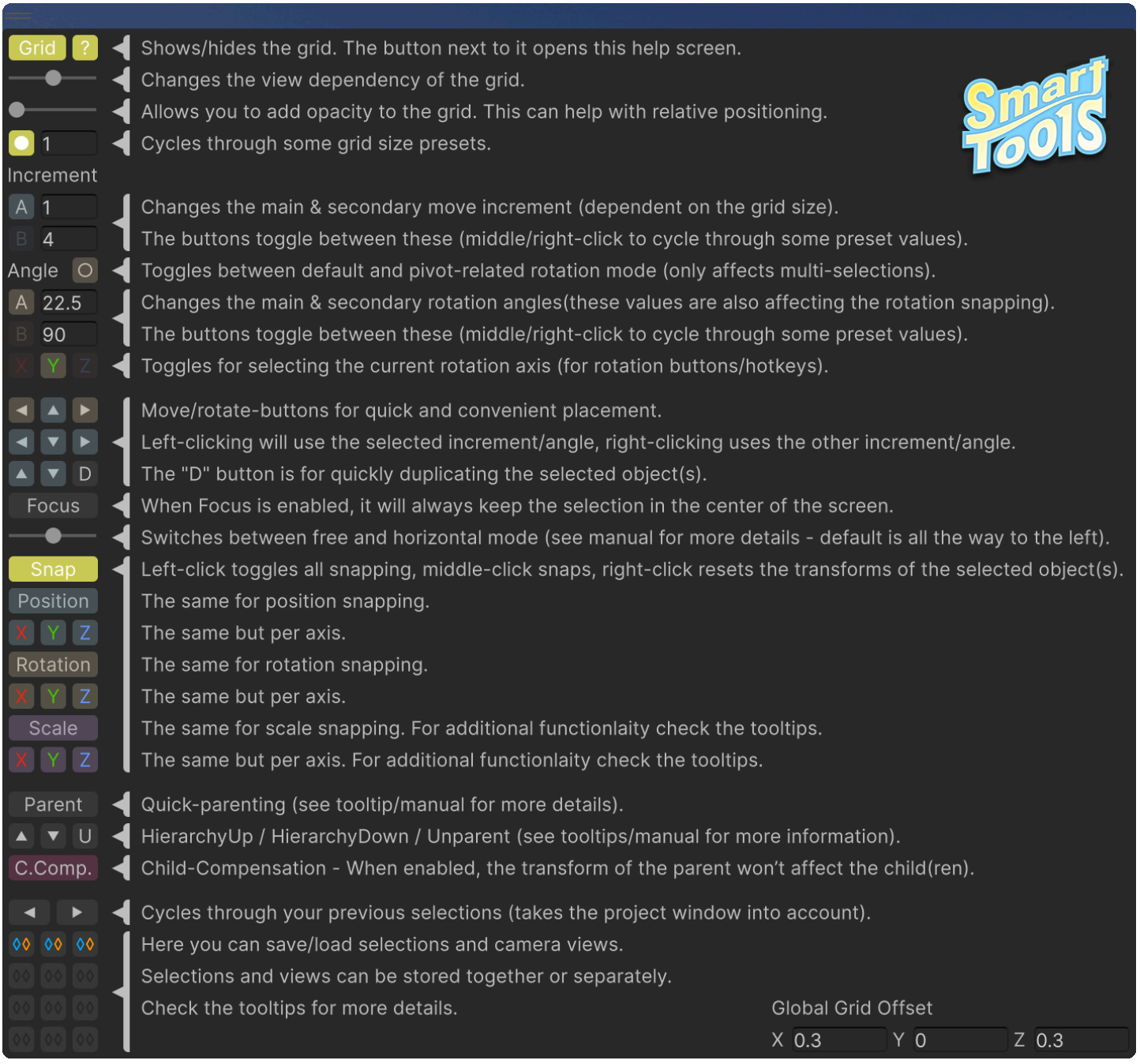
To install SmartTools, import the package into your Unity project. Ensure all components of the package are selected during the import process for full functionality.

After installation you may move the SmartTools folder to any location as you see fit. Please do not change any file locations or file names within the SmartTools folder.

Accessing SmartTools

Once installed, SmartTools is accessible directly within the Scene View as an overlay. No additional setup is required. Simply enable the SmartTools overlay from the overlay menu to begin using its features.

SmartTools is designed for ease of use, with a built-in quickstart guide available directly in the interface. This guide provides essential information to help you get started immediately. The interface is intuitive, allowing for a seamless integration into your workflow.



Interface Overview

SmartTools operates as an intuitive and compact scene view overlay, designed to maximize workflow efficiency while minimizing screen space usage. The interface is divided into several sections for easy navigation and use:

- **Grid Section**: Manages all grid-related settings, including grid increments and alignment angles.
- **Move/Rotate Section**: Controls object transformations, offering precise movement and rotation options to streamline manipulation tasks.
- **Snap Section**: Provides controls for auto and manual snapping, applicable to position, rotation, and scale, with per-axis customization.
- **Hierarchy Tool Section**: Includes features such as Child Compensation, Quick Parenting, and hierarchy navigation tools for efficient scene organization.
- **Selection/View Section**: Offers quick access to previously made selections and allows storage of frequently used selections and scene views, enhancing scene management efficiency.
- **Built-In Guide**: A quick access guide integrated within the overlay, providing an overview of key features and ensuring that essential information is readily available to the user.
- **Tooltips**: Detailed tooltips explain the functionality of each button and highlight the currently assigned keyboard shortcuts, enabling efficient usage without needing to reference external documentation.

Each section is color-coded and features intuitive tooltips that display relevant hotkey information, enhancing ease of use. The overlay can be positioned and docked anywhere in the Scene View to accommodate user preferences.

The interface in depth

(The elements are shown in the same order as on the UI)

Left-Click: Shows/hides the grid.
Default Hotkey: Shift+G
Right-Click: Visually offsets the grid by a half unit.

Open the quick start guide.

Left-Click: Cycles through some grid size presets.
Right-Click: Cycles backwards.

View Dependency
Controls the view dependency of the grid, making the camera-facing plane most visible and causing the other planes to fade out.
Right-Click: Resets the slider to its default value.

Opacity
Allows you to add opacity to the grid. This can help you better see where an object is placed relative to its surroundings.
Right-Click: Resets the slider to its default value.

Defines the number of grid units selected objects move when using the move buttons or hotkeys.
Left-Click: Toggles between the first and second move increment.
Default Hotkey: Num . (Also toggles the rotation angle)
Default Hotkey: Unassigned (Toggles move increment only)
Right-Click: Cycles forward through preset values.
Middle-Click: Cycles backwards.

When enabled, objects rotate around their individual pivots using the rotation buttons or hotkeys.

Defines the number of degrees selected objects rotate when using the rotate buttons or hotkeys.
Left-Click: Toggles between the first and second rotation angle.
Default Hotkey: Num . (Also toggles the move increment)
Default Hotkey: Unassigned (Toggles rotation angle only)
Right-Click: Cycles forward through preset values.
Middle-Click: Cycles backwards.

Left-Click: Selects the rotation axis used by the rotation buttons and hotkeys.
Default Hotkey: Num / (cycles through axes)

Left-Click: Rotates the selected objects counterclockwise using the selected axis and rotation amount.
Default Hotkey: Num 7

Left-Click: Rotates the selected objects clockwise using the selected axis and rotation amount.
Default Hotkey: Num 9

Left-Click: Moves the selected objects to the left.
Default Hotkey: Num 4

Left-Click: Moves the selected objects to the right.
Default Hotkey: Num 6

Left-Click: Moves the selected objects up.
Default Hotkey: Num 8

Left-Click: Moves the selected objects down.
Default Hotkey: Num 2

Left-Click: Moves the selected objects forward.
Default Hotkey: Page Up

Left-Click: Moves the selected objects forward.
Default Hotkey: Page Up

Left-Click: Duplicates the selected objects.
Default Hotkey: Num *

Movement Orientation
This slider affects how the directions of the move buttons and hotkeys are calculated. Movement is always camera-relative, meaning 'right' means right relative to the camera, snapped to the nearest aligning axis. Moving the slider to the left will orient movement on a horizontal plane, while moving the slider to the right will orient movement on a vertical plane. You can see the point at which the system switches by looking up and down with the scene camera while observing the slider knob. It will turn green when the switch happens.
Right-Click: Resets the slider to its default value.

Left-Click: Toggles focus mode, keeping the scene view focused on the selected objects.
Default Hotkey: Num 5
(Panning the scene view automatically ends focus mode)

Left-Click: Toggle snapping on or off.
Default Hotkey: Num 0 (Tap to toggle, hold to temporarily toggle)
Middle-Click: Snap the transforms of the selected objects according to the snap settings.
Default Hotkey: Num 0 (Double-tap)
Right-Click: Reset the transforms of the selected objects.
Default Hotkey: Unassigned

Left-Click: Enables/disables position snapping.
Default Hotkey: Num 1 (Tap to toggle, hold to temporarily toggle)
Middle-Click: Snaps the position of the selected objects according to the selected axis.
Default Hotkey: Num 1 (Double-tap)
Right-Click: Resets the position of the selected objects.
Default Hotkey: Unassigned

Left-Click: Enables/disables position snapping for the according axis.
Middle-Click: Snaps the position of the selected objects along the according axis.
Right-Click: Resets the position of the selected objects on the according axis.

Left-Click: Enables/disables rotation snapping.
Default Hotkey: Num 3 (Tap to toggle, hold to temporarily toggle)
Middle-Click: Snaps the rotation of the selected objects according to the selected axis.
Default Hotkey: Num 3 (Double-tap)
Right-Click: Resets the rotation of the selected objects.
Default Hotkey: Unassigned

Left-Click: Enables/disables rotation snapping for the according axis.
Middle-Click: Snaps the rotation of the selected objects on the according axis.
Right-Click: Resets the rotation of the selected objects on the according axis.

Left-Click: Enables/disables scale snapping.
Default Hotkey: Unassigned (Tap to toggle, hold to temporarily toggle)
Middle-Click: Snaps the scale of the selected objects according to the selected axis.
Default Hotkey: Unassigned (Double-tap)
Right-Click: Resets the scale of the selected objects.
Default Hotkey: Unassigned
Shift Click: Flips the scale of the selected objects.
Control Left/Right-Click: Doubles/halves the scale of the selected objects.

Left-Click: Enables/disables scale snapping for the according axis.
Middle-Click: Snaps the scale of the selected objects on the according axis.
Right-Click: Resets the scale of the selected objects on the according axis.
Shift Click: Flips the scale of the selected objects on the according axis.
Control Left/Right-Click: Doubles/halves the scale of the selected objects on the according axis.

Left-Click: Creates a new parent for the selected objects at the scene origin.
Default Hotkey: Unassigned
Right-Click: Creates a new parent for the selected objects at the center of the selection.
Default Hotkey: Unassigned
Middle-Click: Moves the parent of the selected objects to the scene origin.
Default Hotkey: Unassigned

Left-Click: Selects the parents/children of the selected objects.
Default Hotkey Up: Num +
Default Hotkey Down: Num -

Left-Click: Unparents the selected objects completely, parenting them to the scene root.
Default Hotkey: Unassigned
Right-Click: Unparents the selected objects by one level, making their parent a sibling.
Default Hotkey: Unassigned

Left-Click: When enabled, the children of the selected objects won't be affected by moving, rotating, or scaling the parent.
Default Hotkey: Unassigned
Note: Be aware that non-uniform scaling can have unwanted effects on child transforms. This is not a limitation of this tool but how scaling is handled in Unity in general.

Left-Click: Cycles your selections backward/forward.
Default Hotkeys: Unassigned
Note: Selection history is not retained between editor sessions.

View/Selection Set (number)
Left-Click: Load both view & selection.
Default Hotkey: Alphanumeric keys (1-9)
Right-Click: Load view only.
Middle-Click: Load selection only.
Shift Left-Click: Save both view & selection.
Shift Right-Click: Save view only.
Shift Middle-Click: Save selection only.
Control Left-Click: Clear both view & selection.
Control Right-Click: Clear view only.
Control Middle-Click: Clear selection only.

Grid and View Dependency

SmartTools offers a dynamic grid rendering system designed to optimize visibility based on camera angles:

- **Low View Dependency**: When the view dependency slider is set to the left, the grid displays all axes simultaneously. This setting is useful when an overall view of the grid is needed, regardless of the camera's orientation.
- **High View Dependency**: Adjusting the slider to the right aligns the grid closely with the camera's perspective, showing only the most relevant axis based on your view direction (e.g., X, Y, or Z). This minimizes visual clutter and enhances clarity, providing a focused and precise view of your scene elements.

Using the view dependency feature effectively ensures that the grid remains practical, reducing distractions and improving the overall efficiency of object placement and alignment. The view dependency is controlled by the first slider on the interface.

Opacity Feature for Relative Placement

The second slider on the interface allows you to add opacity to the grid. This can help you better see where an object is placed relative to its surroundings.

Movement Orientation and Grid Offsetting

SmartTools provides 3 movement modes that you can gradually switch between using the movement orientation slider (third slider on the interface), enhancing flexibility in different scene contexts:

- **Free Mode**: In this mode, the up/down and left/right hotkeys (or corresponding buttons) move objects along the grid. The objects move relative to the camera’s orientation, providing intuitive control for positioning objects.
- **Horizontal/Vertical Mode**: These modes enable horizontal/vertical movement. When these modes are used only left and right are relative to the camera while up/down respectively forward/back movements are fixed. The further the movement orientation slider is moved to the left or to the right the sooner the mode switch will happen when the scene view is oriented up or down. The slider will turn green if the view angle passes this threshold.

Grid Offsetting

For specific use cases, such as aligning objects to a custom point, SmartTools allows for grid offsetting:

- **Setting Up an Offset**: Users can open the quick guide by clicking on the question mark button on the top right of the overlay. In the bottom right area of the quick guide is a Vector3 input field that allows defining the offset. This feature is useful when working in customized spaces where standard grid alignment does not fit the scene's requirements.

Settings and Customization

SmartTools settings are now managed through a streamlined settings object located in the installation folder. The hotkey assignment functionality has been integrated into Unity's Shortcut Manager, allowing users to customize shortcuts directly within Unity's built-in system for consistency and convenience.

Appearance Customization

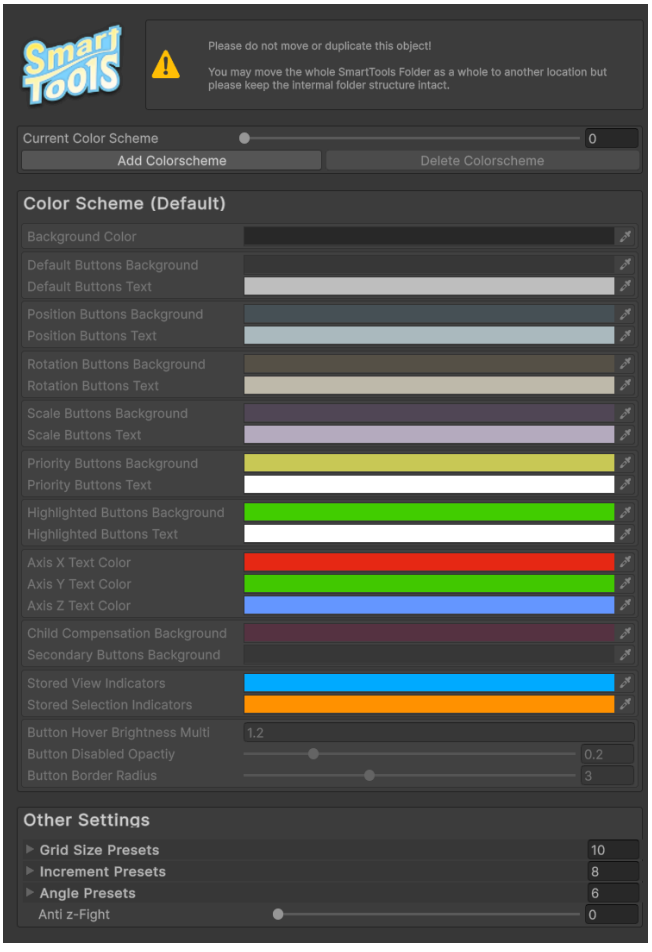
The settings object also introduces new customization options for the appearance of the SmartTools overlay, providing flexibility for users to adjust visual elements to suit their preferences. Available options include:

- **Color Schemes**: Users can choose from predefined color schemes or create and save their own. This feature allows for easy switching between different themes.
- **Button Background and Text Colors**: Customize the colors of various button categories, such as position, rotation, and scale buttons, to enhance visual clarity.
- **Axis Colors**: Adjust colors for axis indicators (X, Y, Z) to maintain consistency with your scene's design.
- **Special Button Highlights**: Configure the appearance of priority buttons, highlighted buttons, and other interface elements to suit your workflow.
- **Additional Visual Settings**: Options include adjusting button hover brightness, button border radius, and anti-z-fight settings to fine-tune the overlay's look and performance.

These settings provide users with the ability to create a personalized and efficient working environment, ensuring that the interface remains intuitive while matching their specific visual preferences.

Other Settings

Predefined grid sizes, increments, and angles, can be user defined to fit your individual needs.



Frequently Asked Questions (FAQs)

Q: I set the move increment to 1, but objects aren't moving by 1 scene unit. Why?
A: Ensure you are using the primary move increment. You can switch between primary and secondary increments using the increment controls or assigned hotkeys. Also, verify the grid size setting; increments are based on grid units. For example, if your grid size is set to 0.5 and your increment is 1, the object will move 0.5 scene units. Increments are essentially multipliers of the grid size.

Q: When I move an object, it appears as if the world is moving instead. What's causing this?
A: This behavior is likely due to the auto-focus feature being active. The camera automatically follows your selection, giving the impression that the world is moving. To disable this feature, check if the focus button is highlighted. You can toggle the auto-focus on or off using the corresponding button or hotkey.

Q: How can I customize the appearance of the overlay?
A: SmartTools provides customization options within the settings object. You can adjust colors, button highlights, and other visual elements to match your preferences.

If you run into any issues using this asset please join the Becoming Discord Server or send an email to support@becoming.at describing your issue.