# Blender für SketchUp-User

Juli 2020

Übersetzung und Update auf Blender 2.83 ist noch in Arbeit.

Auflistung aus dem [Blender Forum](#)

Navigation

- Gemeinsam: 3D-drehen mit mittlerer Maustaste und verschieben mit Shift+Mittlere Maustaste.
- In Blender fehlt: Intuitives Zentrum der Rotation. Etwas besser wirds mit den Einstellungen „Orbit Around Selection" und „Zoom to Mouse Position":
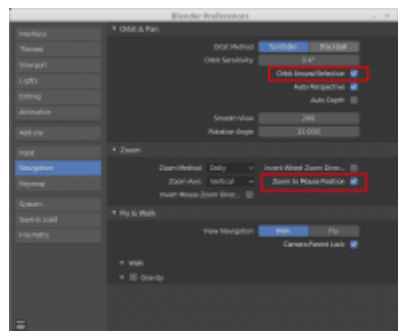
- Beide haben: Herumschauen und Gehen (SHIFT+^ in Blender)

Object-Mode and Edit-Mode

This modes are not explicitly known in Sketchup. By default, you start in Sektchup in Blender's edit mode. In this mode, you can manipulate vertices, lines and faces.

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Sketchup: Group/Component
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Blender: Object Mode
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Sketchup: drawing, manipulating a group/component
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Blender: Edit Mode
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Switch between them by pressing TAB Layers

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  Sketchup: Every element can be assigned to a layer. Each layer can be
visible or hidden.
  Blender. It is called Collections on the top right. It serves for 2
things:
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  It's the hierarchical view of grouped (parented) objects
  It lists all collections. Objects can be put into multiple collections and
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therefore can be used like layers. AFAIK they don't support colors.

Units

  Both support different base units such as mm, m, cm, inch, foot and both
understand dimensions with a written unit. E.g. if your model's unit is m
and you move something by 100mm, it is actually moved by 0.1m.

Sketching in a Plane

  Sketchup has these primitives: Line, circle, arc. Dimensions can be
entered during sketching, normally aligned to the local coordinate system.
  Blender: With the addon "Snap Utilities Line", which comes with Blender
2.80 but must be manually activated, precise sketichng feels like in
SketchUp. For other shapes the addon "Fast Carve" could help. Without these
addons the equivalent would be the knife tool, but it is very limited,
compared to Sketchup's sketching.

Tape and Protractor

  Sketchup: tape can be used very intuitively. Hitting CTRL once, switches
to guide mode, where lines can be offset by a given amount.
  Blender: clumsy usage of tape equivalent: first draw a tape, then position
their ends by drag'n'drop with CTRL held down for snapping.
  Blender: a protractor is created out of a tape by dragging it in the
middle
  Blender's missing: guide lines

Move

Precise moves are very limited in Blender!

  Sketchup: select object(s), hit M, click on snapped base point, move along
axis, edges plus entering dimensions or to other vertice and click - done!

  Blender: select object(s), hit G (think of grab), and move them along
global x,y,z axis with X, Y and Z, or along local axis with XX, YY or ZZ,
enter distance, done. Optionally with snapping to a target vertice.

  Blender's missing:
      no move along an arbitrary edge
      no base point selection
      no free navigation during move operation.

Rotate

With rotation, it get's even worse.

>   Sketchup: has precise and intuitive way of rotation: select object to be
> rotated, define center and axis for rotation, select basepoint of rotation,
> select target point or enter degrees.

>   Blender: center of rotation can be set to different things like ⸢active
> element⸤, ⸢global cursor⸤ and more. The axis of rotation can be fixed to
> x,y,z in global and local coordinate system.

>   Blender's missing: Blender fails on selecting a base point and target
> point for the ammount of rotation.

>   Blender's missing: Blender has no ability to align the axis to an
> arbitrary edge.

>   Blender fails: snapping a rotation makes no sense in the current
> implementation, since on basepoint can be selected.

Move or Rotate with Duplicate/Array

>   Sketchup: move/rotate and hit CTRL

>   Blender: SHIFT+D

>   Blender extra: ALT+D makes a new linked instance of an object.

>   Blender's missing: no base points can be selected

>   Sektchup: move, hit CTRL, drop the duplicated object and then type x7 for
> 7 copies repeating the last move.

>   Blender: use the array modifier

>   Sektchup: move, hit CTRL, drop the duplicated object and then type /7 for
> 7 copies placed in between the original object and the new object.

>   Blender: use the array modifier, make use of evaluated statements eg.
> 100mm/7 for spacing

Push/Pull

>   Sketchup: It's the key feature of that software and is patented. Draw a
> sketch on a surface and extrude it inwards (push) or outwards (pull). It can

cut through the whole volume and make a hole, but only, if the two faced are
parallel.
  Blender: Pull works quite similar with the extrude tool E, but pushing
isn't quite as powerful.
  Blender extra: the extrude is even more powerful, since it can pull each
face separately and also connected faces simultaneously.
  Blender extra: With the addon ExtrudePull we get an even more
sophisticated push tool, since it can cut through a whole geometry,
regardless of the orientation of the opposite surface.
  https://github.com/capnm/b8ExtrudePull 23
  Blender Workaround: use boolean modifiers, that cutout stays editable that
way!

Boolean Operations

  Sketchup: Groups can be combined by outer shell, union, subtract, trim,
intersect and split.
  Blender: It has by default only union, difference and intersect.
  Blender bonus: Boolean operation can be kept editable, if the modifiers
are not applied. An STL-export for 3D printing exports the model with the
modifiers applied (you get what you see). Very handy for this kind of usage
is the included but by default disabled addon "Bool Tool".

Groups and Components

  Sketchup: select multiple objects and right-click "Make Group" or "Make
Component"
  Blender: primitives are always within a "Sketchup group". Objects can be
grouped with Parenting, found in the context menu (CTRL+P to link, ALT+P to
unlink).
  Blender: Cloned components are created with ALT+D from a given object.

Good discussion about grouping: Grouping objects (2.8) Relative/Local Coordinate Systems

  Sketchup: Every group provides automatically a local coordinate system, if
it is edited again.
  Blender: supports the global coordinate system, and a local coordinate
system in edit mode.
  Blender unclarified: Does parenting provide a new coordinate system with
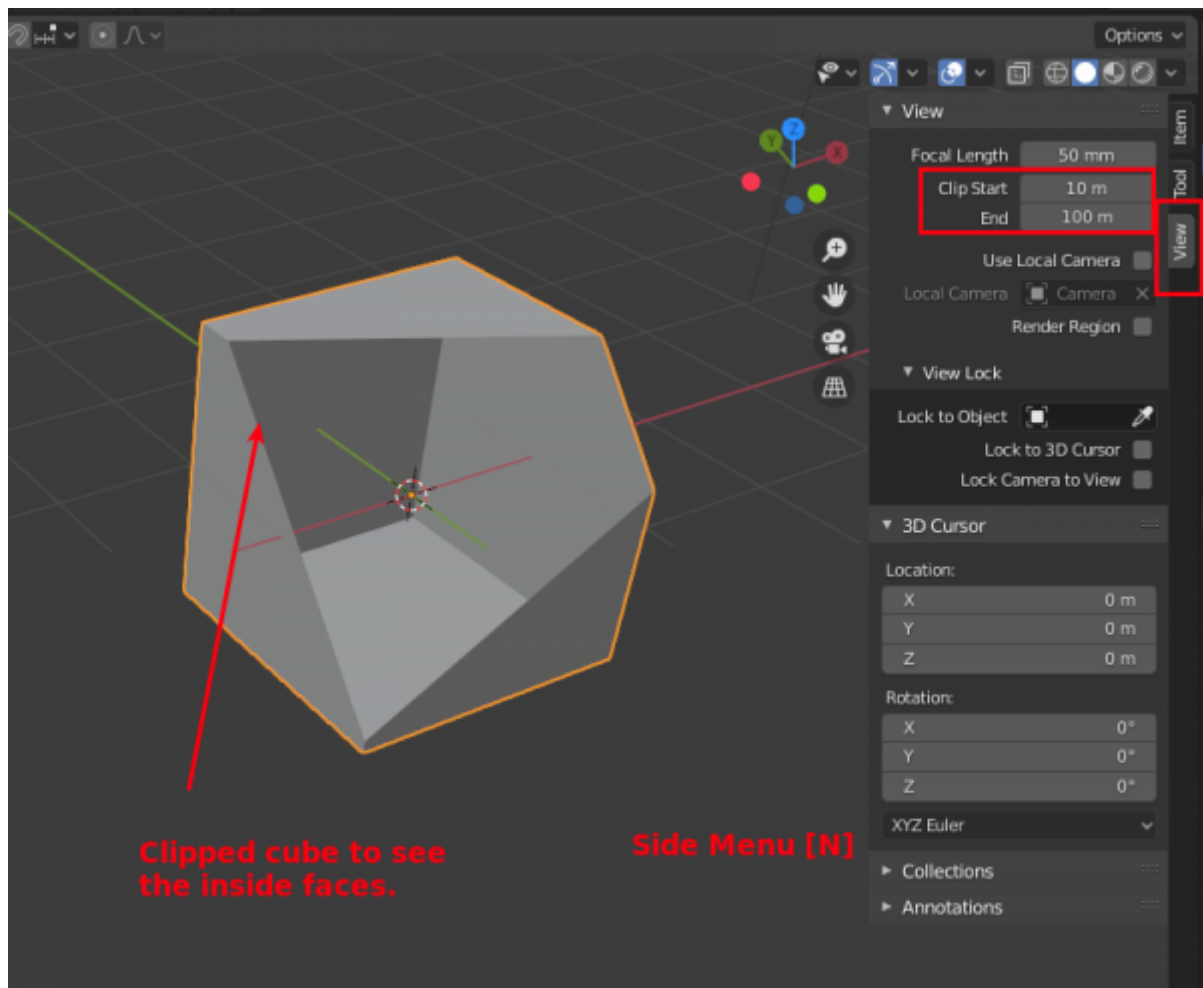similar behaveour like in Sketchup?

Outliner

  Both: provide an object tree, for organizing the model.
  Sketchup: this is mainly done via grouping and components.

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   Blender: very similar to Sketchup, but it has many more features and is a
bit different to use. The upcoming Blender 2.81 will have huge improvements
on this.
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Schnittebene

Wird in Blender scheinbar nicht direkt unterstützt. Ein Workaround, der gar nicht so schlecht funktioniert ist die Beschränkung der Kamera: