

Formfinder 2.0

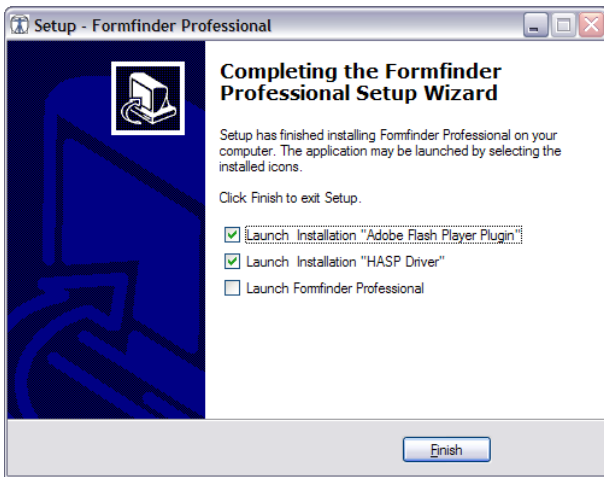
Quickstart



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INSTALLATION



The Formfinder installer.

Where to get the software:

The latest version can be downloaded at www.formfinder.at. To upgrade to *Formfinder Professional* please contact mail@formfinder.at or rwehdorn@wehdorn.at.

Firewall and anti-virus software:

Some personal firewalls, internet security or anti-virus software can intercept the installation process which can lead to an unsuccessful installation attempt or even freeze the installer. Therefore any such security software should be **temporarily disabled** before starting the installer.

Formfinder Light:

Open the installer and follow the steps on the screen:

- Install the *Formfinder Light* software.
- Install the *Adobe Flash Player Plugin*.
- Launch *Formfinder Light*.

Formfinder Pro:

Open the installer and follow the steps on the screen:

- Install the *Formfinder Pro* software
- Install the *Adobe Flash Player Plugin*.
- Install the *HASP Driver*.
- Insert the dongle and launch *Formfinder Pro*.

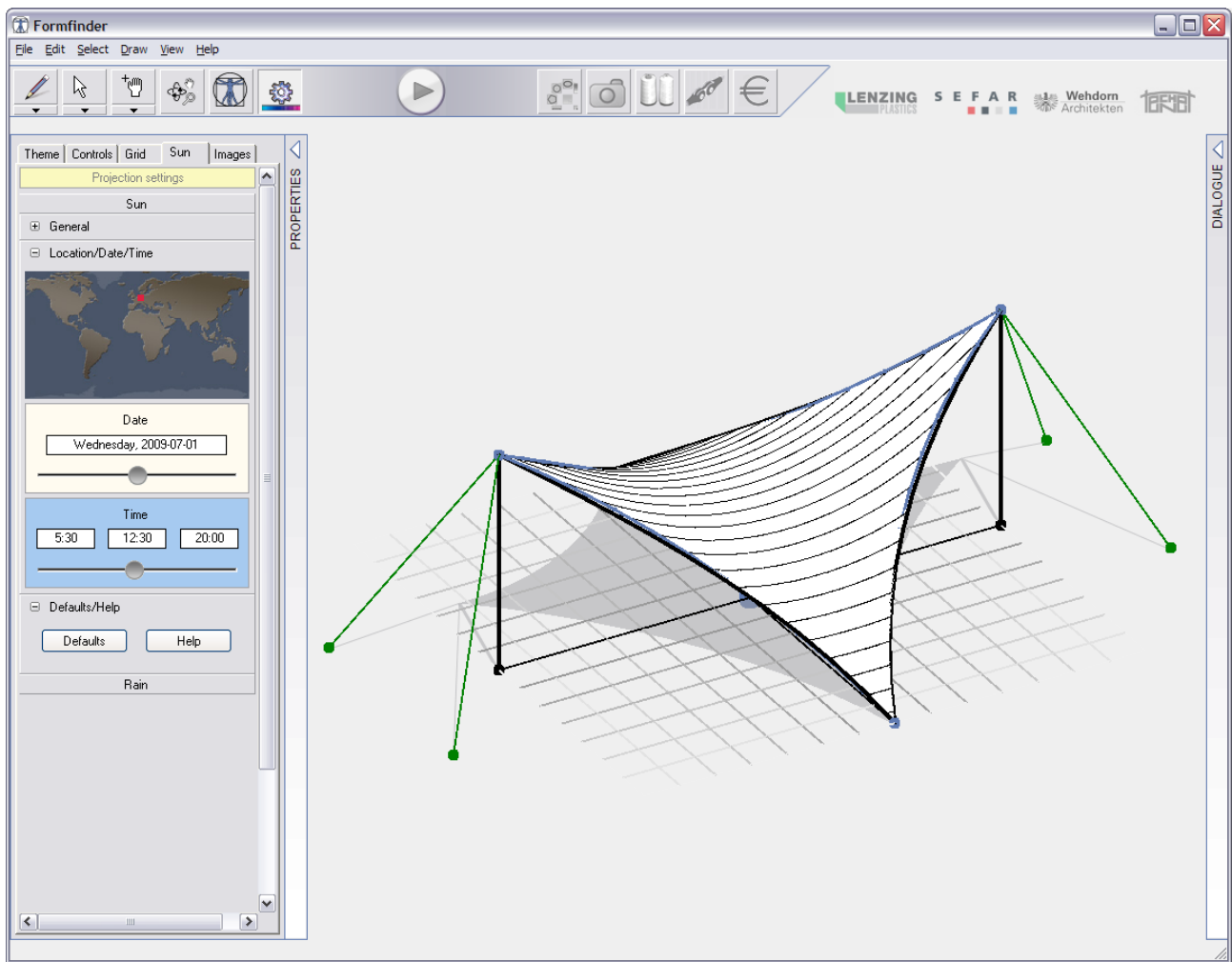
Notes:

Your settings (like colours, grid or snap...) are stored in the *Formfinder.ini* and it won't be reset during a reinstallation. If you do wish to reset all settings please delete the file from the user profile folder (...*technet-gmbh*\Formfinder). Please remember to back up your data.

System Requirements:

Microsoft Windows XP SP2 or later.

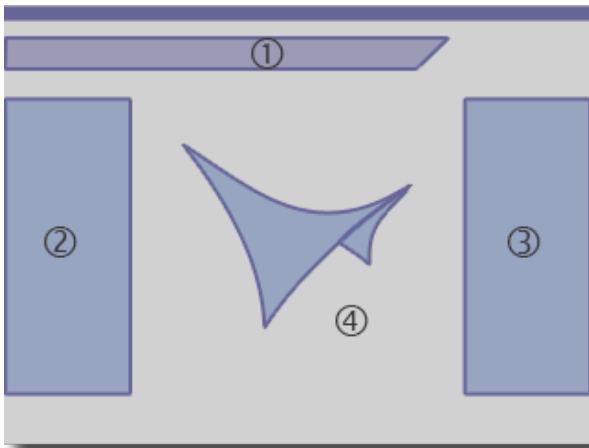
THE USER INTERFACE



Formfinder is the ideal tool to transform your design ideas into a 3d model – quickly and with ease.

The user interface is kept simple and just a few clicks are needed to draw a basic sketch. The further you go refining your design the further takes you *Formfinder* offering advanced features to tweak model properties or to analyse your design and compare it to a database of typologies and projects.

General layout:



The four major parts of the application.

The *Formfinder* application is divided into four major components:

- ① **Tool Bar:** Access to major tools and actions as well as control over automatic or manual formfinding calculation.
- ② **Properties Panel:** Access to all parameters which affect the shape of your model to tweak points, lines, nets or the proportions of the whole model. In addition the *Options* like the theme settings can be accessed in this panel.
- ③ **Dialogue Panel:** An integrated web browser which analyses your design and compares it to a catalogue of idealised prototypes (*Typology*) or provides additional research and analyse tools such as the *Project Finder*, information about *Materials* or *Details* and the *Value Finder*.
- ④ **Viewport:** A three dimensional working area where you can sketch up, manipulate and explore your model using mouse and keyboard.

Viewport navigation:

	Explore Mode ④	Passive Mode	Keyboard
Rotate			+ [ALT] [ARROW KEYS]
Pan			[ARROW KEYS] + [CTRL]
Zoom			[ARROW KEYS] + [SHIFT]

Viewport navigation - mouse and keyboard table.

Formfinder offers three ways to navigate the *Viewport*:

- **Explore Mode:** using the designated tool *Navigate*
- **Passive Mode:** using mouse and keyboard together while any tool is selected.
- **Keyboard:** using the arrow keys of the keyboard.

Design tools:

The application provides a basic tool set to create form-active models in the *Viewport*. The *Properties Panel* (click on the vertical bar to expand it) provides access to essential numerical parameters.

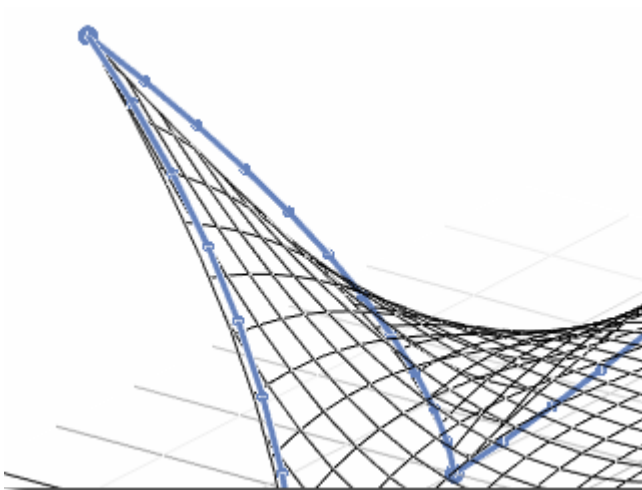


Tool Bar (left): design tools.

- **1 Draw:** Draw a closed polygon by clicking on the *Viewport*. Exit the polygon at any time with the right mouse button or press [Esc]. The model can be refined by adding or splitting lines (context menu: *Split Curve*). From the pull-down menu choose *Construction Line* to outline, for instance, surrounding elements or *Rigid Element* to indicate the support structure.
- **2 Select:** Points, lines and nets can be selected for editing. Keep [Shift] pressed to select multiple elements or drag a selection window. The selection masks from the pull-down menu help to select the desired element types only.
- **3 Move / Lift:** Points can be moved or lifted. Press the [Ctrl] key to switch between moving elements parallel to the x-y-plane or to lift along the z-axis. Edges change sag or elevation.
- **4 Navigation:** This tool combines all navigation operations like rotation, panning and zooming of the *Viewport*.
- **5 Proportions:** Allows to control the proportions of the whole model or only selected elements. Explore the results as you drag the sliders to change, for instance, the edge curvature, the plan shape or the height of your model.
- **6 Options:** Change the settings for *Theme*, *Controls*, *Sun / Rain* and *Background Images*.

Formfinding:

This is the central aspect of the application. The design of form-active structures requires a different mathematical calculation than provided by traditional 3D applications.



Difference between sketched edges (Edge Controller in blue) and form-active net (black).

The user sketches edge lines, changes fixity and tweaks net parameter. The algorithm calculates a net which approximately matches the blue lines (sketched with the *Edge Controller*) but relaxes in a position where all internal forces are equal. This is the preferred state of a form-active net in textile roofs, textile façades, cable net structures, pneumatic systems and minimal surfaces.

First Steps:

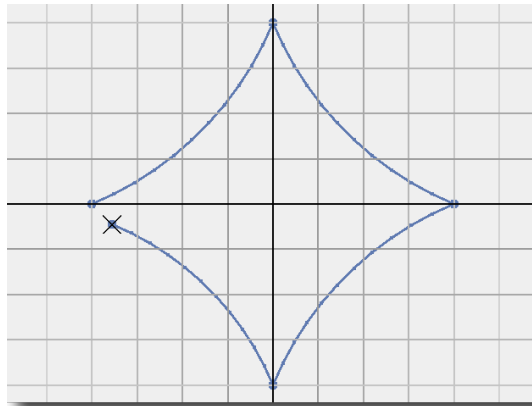
Steps

1. Plan shape

Tool: ① *Edge Controller* 

Draw a closed polygon of the plan shape.

How it's done



Tools

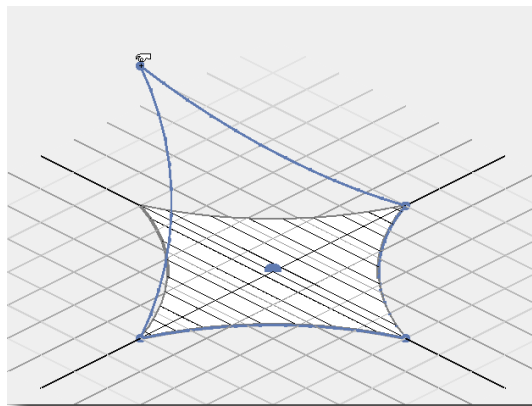


Draw

2. Move or lift

Tool: ③ *Move / Lift* 

Move or lift points.
Press [Ctrl] to switch between horizontal or vertical direction.

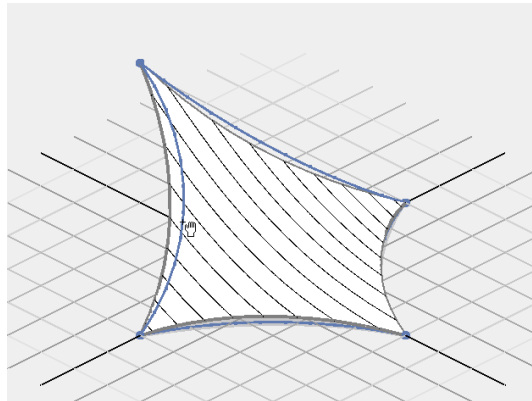


Move / Lift

3. Adjust Edges

Tool: ③ *Move / Lift* 

Drag the *Edge Controller* to adjust its radius which will result in a recalculation of the net to match your input.
Press [Ctrl] to switch between radius (sag) or orientaton (elevation).

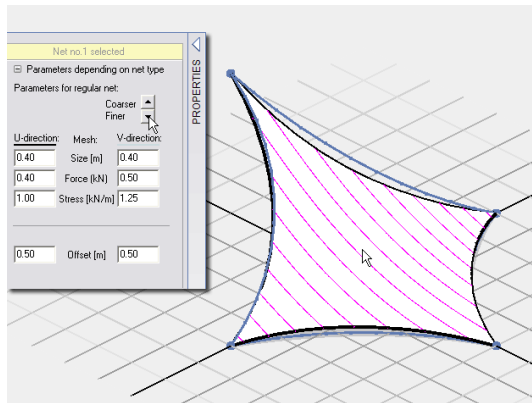


Move / Lift

4. Select and refine


Tool: ② *Select* 

Select, for instance, the net and adjust its properties (click on the vertical *Properties* bar on the left).

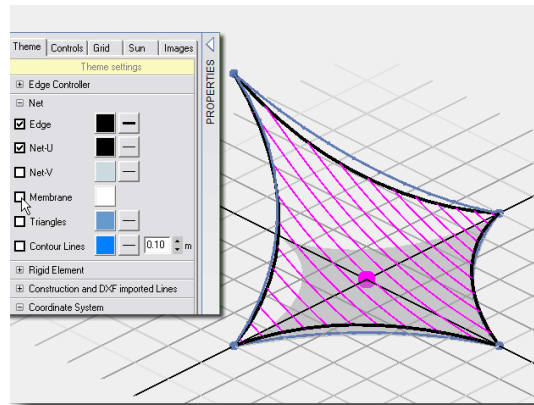


Select

5. Adjust the settings

Tool: **6** *Options* 

Click on *Options* to adjust, for instance, the colours of the model on the *Theme* tab.



Inspirational and efficiency tools:

Formfinder is unique in its approach to establishing a dialogue with a designer during the design process. An integrated web browser offers some off-line and advanced on-line features with a broadband connection.



Tool Bar (right): inspirational and efficiency tools.

- **1 Typology Finder:** By clicking this icon the current user model from the *Viewport* is analysed by the application and aspects are compared to an idealised catalogue of prototypes. The user can preview a prototype and even add it to the *Viewport* to continue working with it. To repeat the analysis cycle click the *Typology* button again.
- **2 Projects Finder:** Access to the *Formfinder Project Database* focusing on form-active structures with intuitive and flexible search options.
- **3 Material Finder:** An initial materials database provides details about important material properties for fibres and membranes.
- **4 Details Finder:** Explore details for selected projects.
- **5 Value Finder:** A tool that provides the user with a rough idea of the estimated costs. This tool is currently under development and basic features are already available.

Further tools:

- **Sun / Rain:** Allows to explore the sun and rain protected areas as projection on the ground plane according to the membrane shape.
- **Analyse:** Analyse crucial sections of your model by using a slice plane. A red intersecting line is projected on the enclosing box.

FURTHER INFORMATION

For further information please visit www.formfinder.at.

A collection of frequently asked questions and answers is available at www.formfinder.at/main/faq.

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LEGEND

[Esc]	Characters in brackets define keystrokes.
<i>Net</i>	Words in italic refer to a term used in the application.