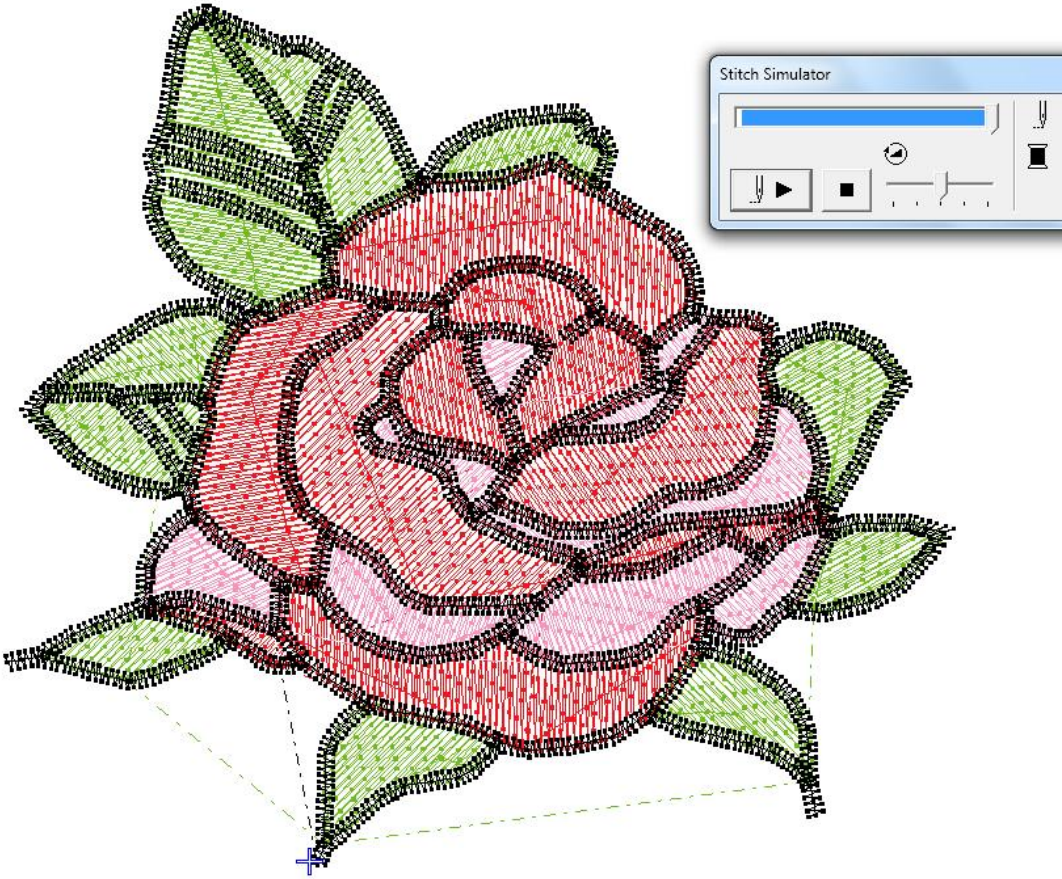



Model, prototype and develop for manufacturing

Digital Tools for Textiles Fashion

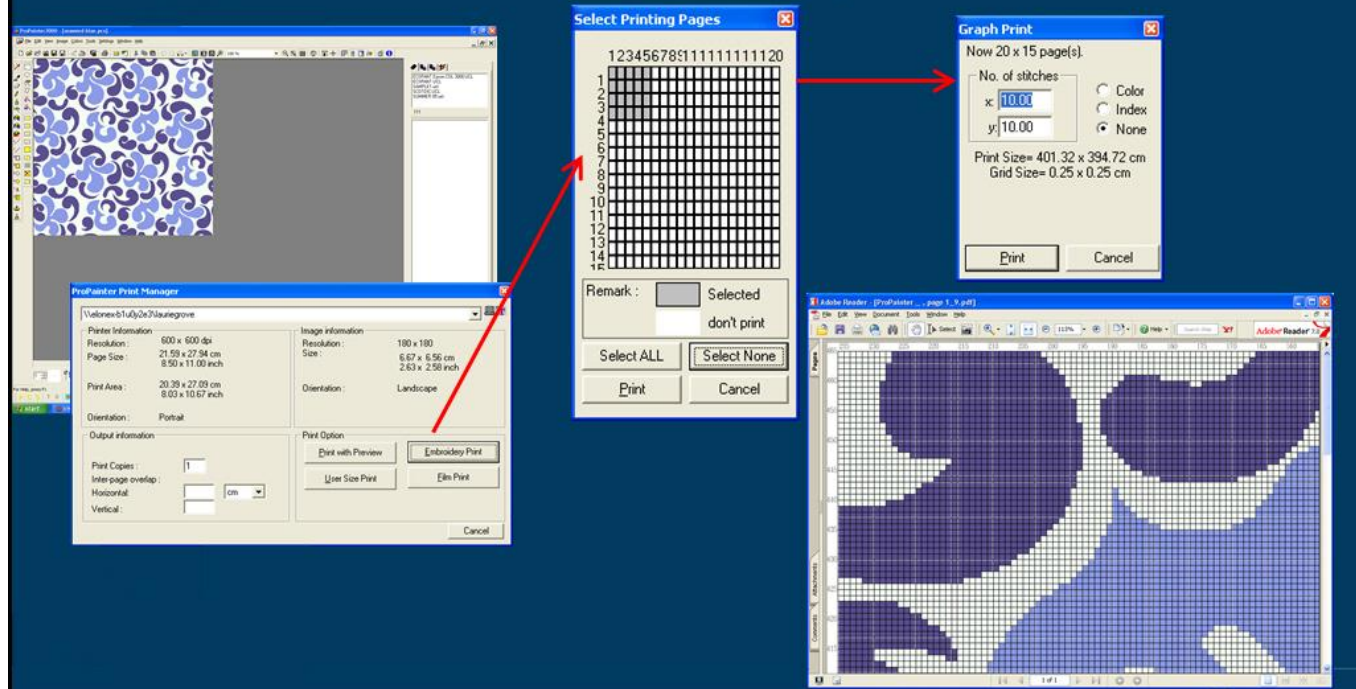
Design Feature	<p>Embroider on fabrics from CAD design using an embroidery machine. Software allows choice of stitch types and methods of fill by visualisation on-screen before manufacture.</p>
	
Suggested software with links to sources	<p>Brother PE Design Software free demo download available.</p> <ul style="list-style-type: none"> • http://www.brother.com/common/hsm/pednext/pednext_trial.html <p>SophieSew is an integrated design program that can be used in the digitizing and editing of machine embroidery. This software is at an early stage of development and currently remains free to download and use.</p> <p>Version 2 due soon. There are Tutorials and designs to download.</p> <ul style="list-style-type: none"> • http://sophiesew.com/SS2/designs-showcase/

Design Feature	Create knitting designs from images and graphics and download to the knitting machine
	
Suggested software with links to sources	<p>DesignaKnit</p> <p>This software is from Soft Byte Ltd. A free demo version is available.</p> <ul style="list-style-type: none"> • http://softbyte.co.uk/designaknit.htm

Design Feature

Print directly on textiles or by transfer paper before making the product from a textile material

Embroidery print

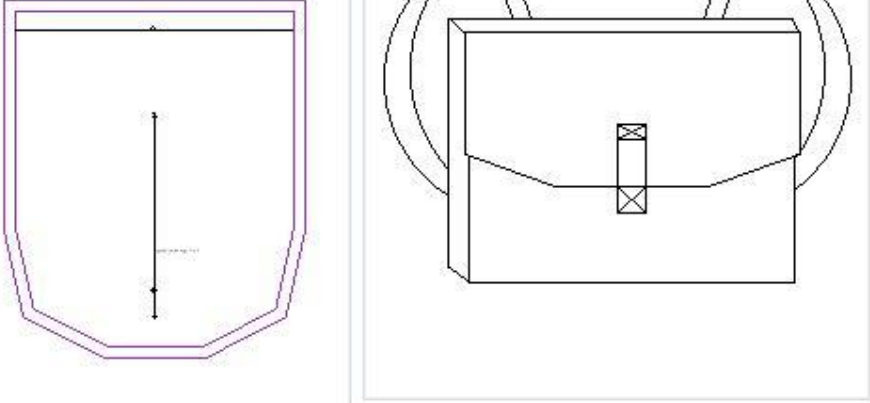


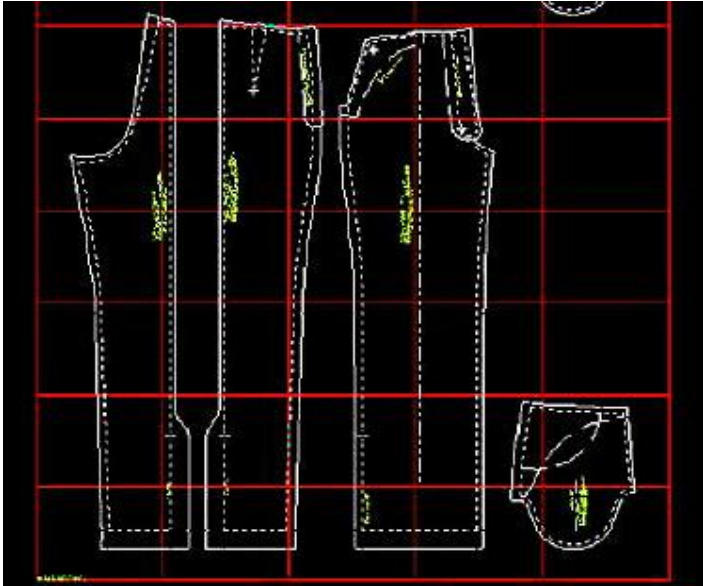
Suggested software with links to sources

SpeedStep Painter

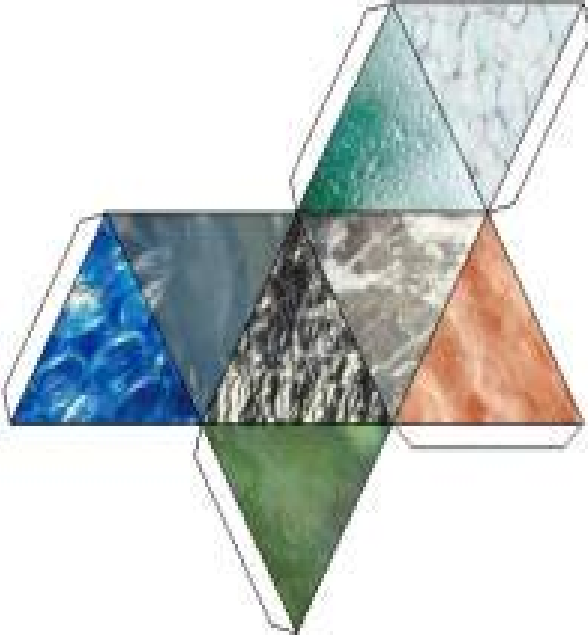
This software will print an embroidery guide from a colour design. It will also print directly onto fabric using a sublimation printer or onto transfer paper using a standard ink-jet printer.

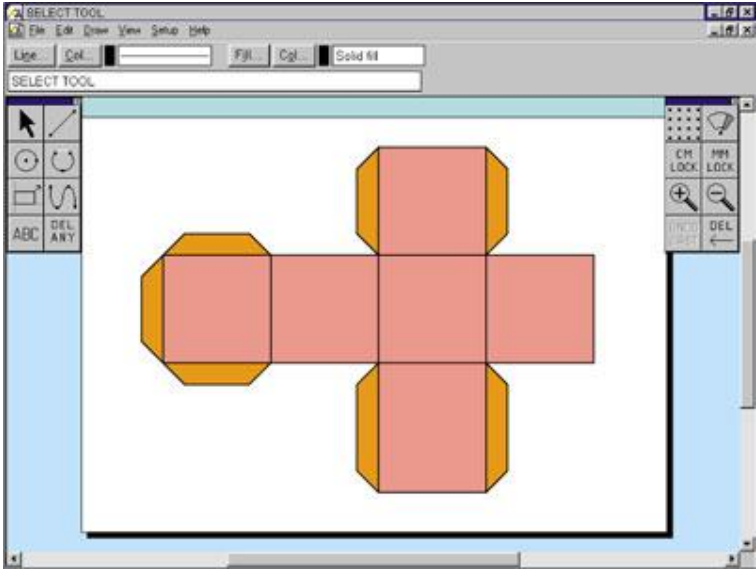
- http://www.speedstep-schools.com/index.php?option=com_content&task=view&id=320&Itemid=504

Design Feature	Print directly on textiles or by transfer paper before making the product from a textile material
	
Suggested software with links to sources	<p>Wild Things</p> <p>Wild Things is a fully functional FREE program for drafting patterns for hats, bags, wraps, footwear, and other accessories. All of the patterns in Wild Things print to the dimensions you specify. It even has embroidery design planning tools to aid you in creating unique accessories for yourself and others.</p> <ul style="list-style-type: none"> • http://www.wildginger.com/products/wildthings.htm

Design Feature	Make paper patterns to transfer design to fabric
	
Suggested software with links to sources	<p>ProPattern allows you to do the following:</p> <ul style="list-style-type: none"> - Choose your style - Input body measurement - Create automatic patterns in the full size <p>After the patterns have been created they are displayed to create an optimized nesting/lay plan for the required fabrics. You can then print the pattern on a normal laser printer or print on a professional plotter system, these are available direct from Speed Step.</p> <ul style="list-style-type: none"> • http://www.speedstep-schools.com/index.php?option=com_content&view=article&id=455&Itemid=649

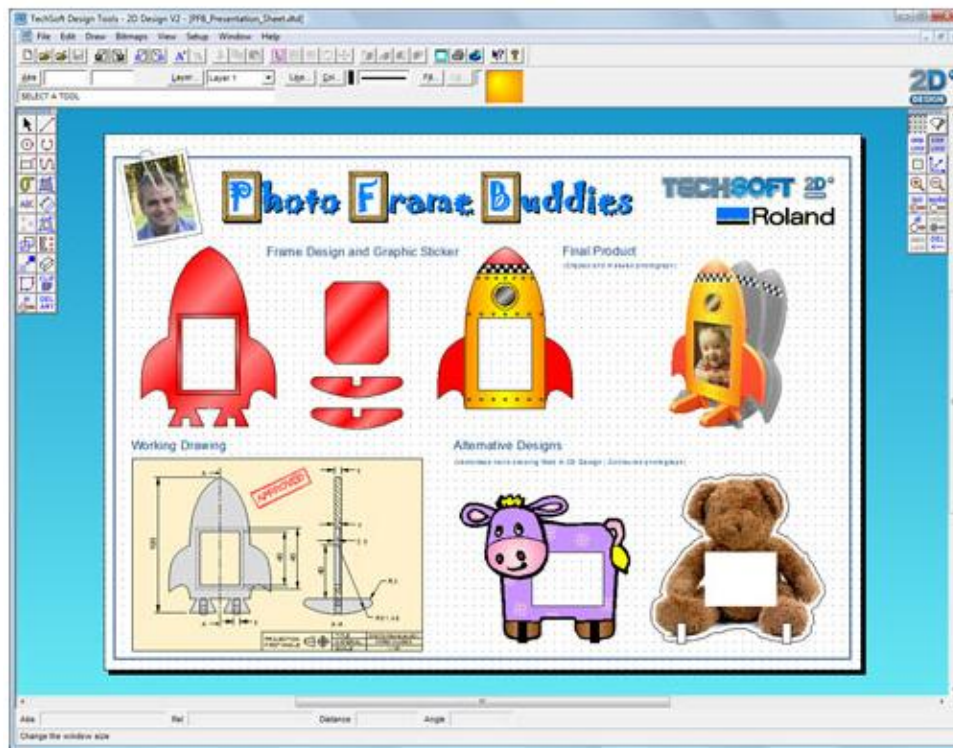
Digital Tools for Product Design

Design Feature	Produce full size patterns or templates in thin sheet material from a 3D model
	
Suggested software with links to sources	<p>Fablab Modelmaker</p> <p>This is an easy 3D modeling software to make NETS of 3D Shapes. NETS of 3D Shapes are what you get when you take 3D shapes like a cube, a cone or a prism, then unfold the shape and flatten it out. The flattened shape, or NET, can then be copied, folded and glued to make the original 3D shape.</p> <ul style="list-style-type: none"> • http://www.aspexsoftware.com/model_maker_nets_of_shapes.htm

Design Feature	Produce full size patterns or templates in thin sheet material from a 3D model
	
Suggested software with links to sources	<p>Creo 2.0 Sheet Metal Module</p> <p>Autodesk Inventor Sheet Metal Solidworks Sheet Metal SpaceClaim Sheet Metal</p> <p>All the above Sheet Metal software allow 3D object creation followed by flat patterns for export to laser cutters etc.</p> <ul style="list-style-type: none"> • http://www.ptc.com/company/community/schools/creo.htm

Design Feature

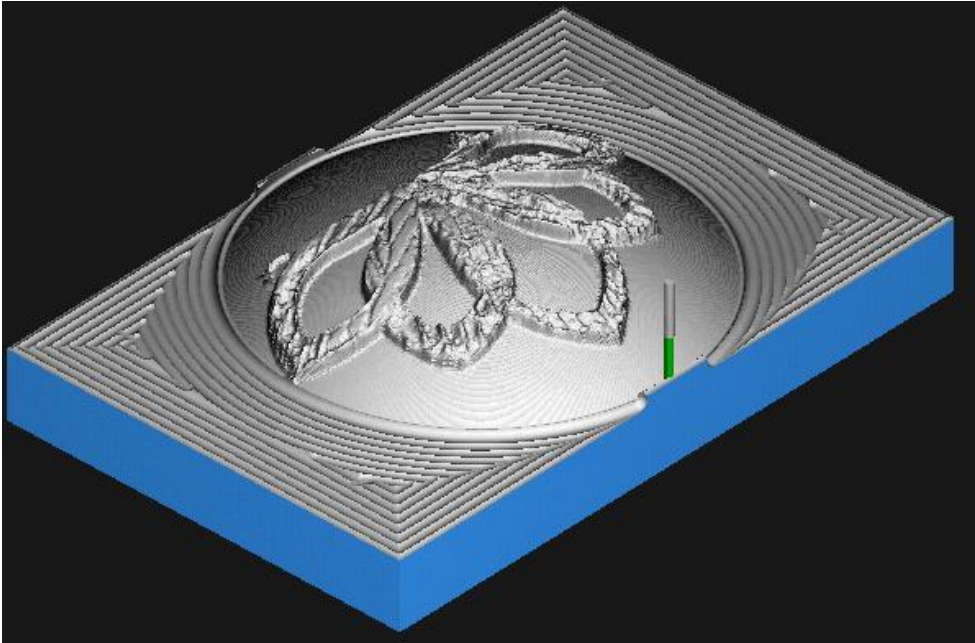
Produce full size patterns or templates in thin sheet material from a 3D model

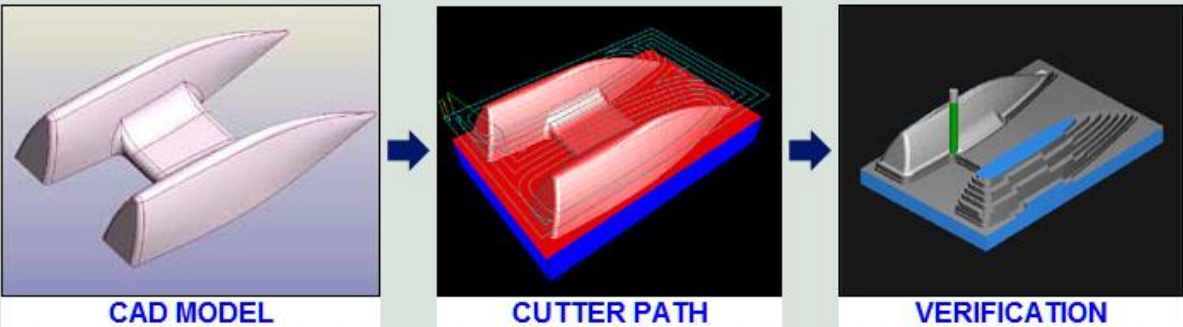


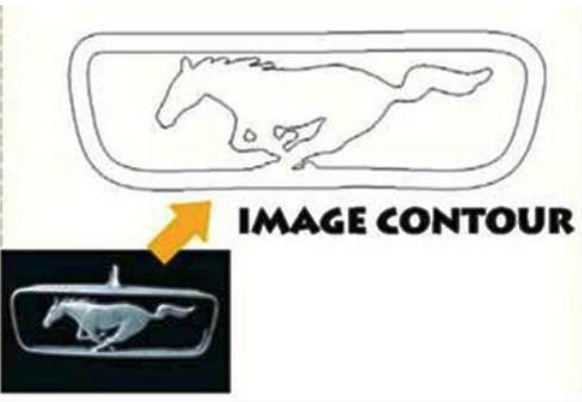
Suggested software with links to sources

TechSoft 2D Design Tools

- http://www.techsoft.co.uk/products/software/2D_Design_V2.asp

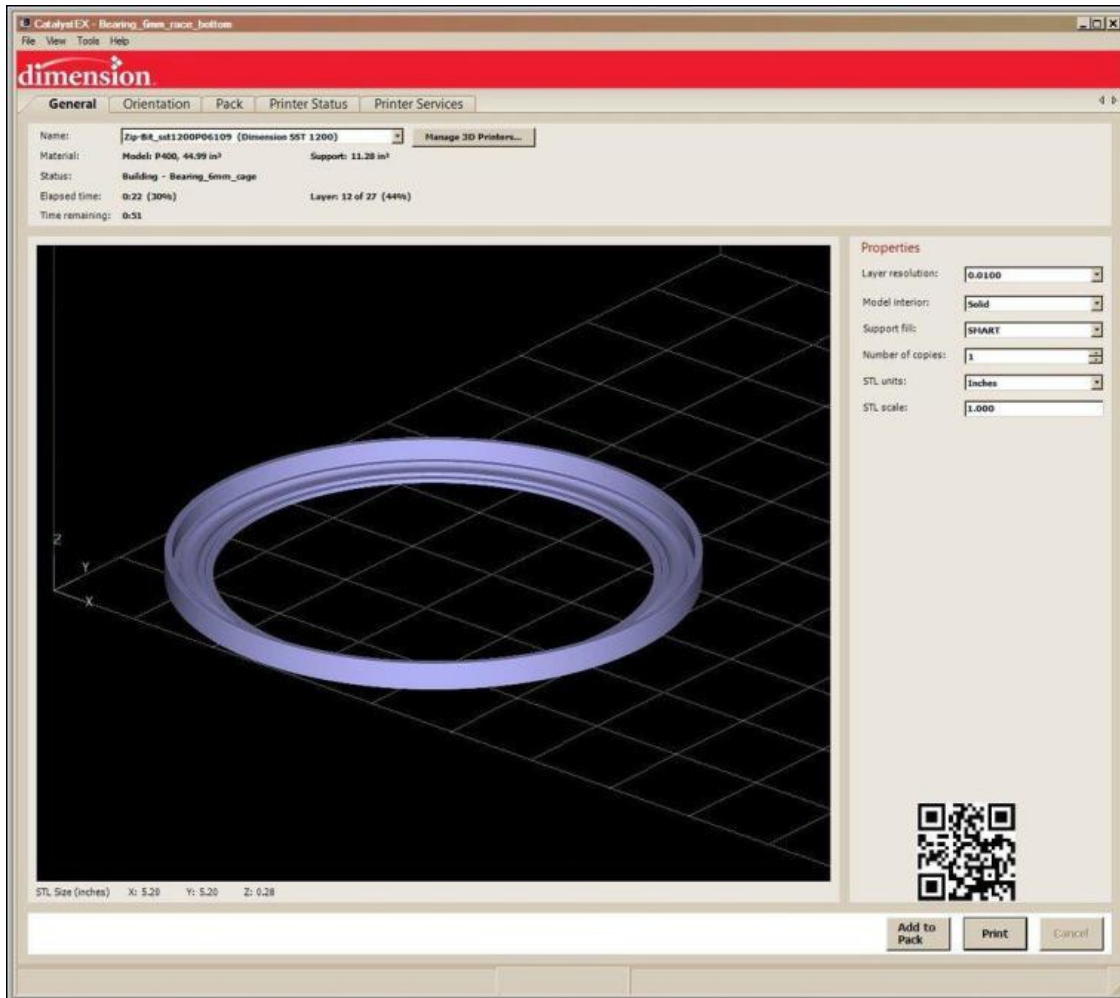
Design Feature	Cut from 3D by milling or routing
	
Suggested software with links to sources	<p>MODELA</p> <p>Modela Player is a numeric control software application that allows importing of 3D files from most popular computer graphics and CAD applications. Facilitates uniform 3D scaling, selection of milling direction and automatic generation and display of the tool path. Virtual MODELA provides a quick preview of the entire milling operation. This powerful feature eliminates milling errors, enables simulation of finished shapes and estimates production time.</p>

Design Feature	Cut from 3D by milling or routing
	
Suggested software with links to sources	<p>Boxford GeoCAM</p> <p>Boxford GeoCAM imports a solid model from any CAD system, capable of saving files in .STL format, and, using advanced machining strategies, automatically creates a cutter path suitable for CNC manufacture.</p>

Design Feature	Cut from 3D by milling or routing
	
Suggested software with links to sources	<p>Denford QuickCam 2D</p> <p>This advanced, yet simple to use, wizard based 2D CAD/CAM package. You can create designs quickly and accurately, then run the CAM wizard to create CNC machine toolpaths. It features various import options to allow images, PCB's and designs from other CAD packages to be manufactured. The customisable post processor and advanced printing facilities provide outputs to most desktop CNC and laser machines.</p>

Design Feature

Make a rapid prototype of a 3D plastic deposition



Suggested software with links to sources

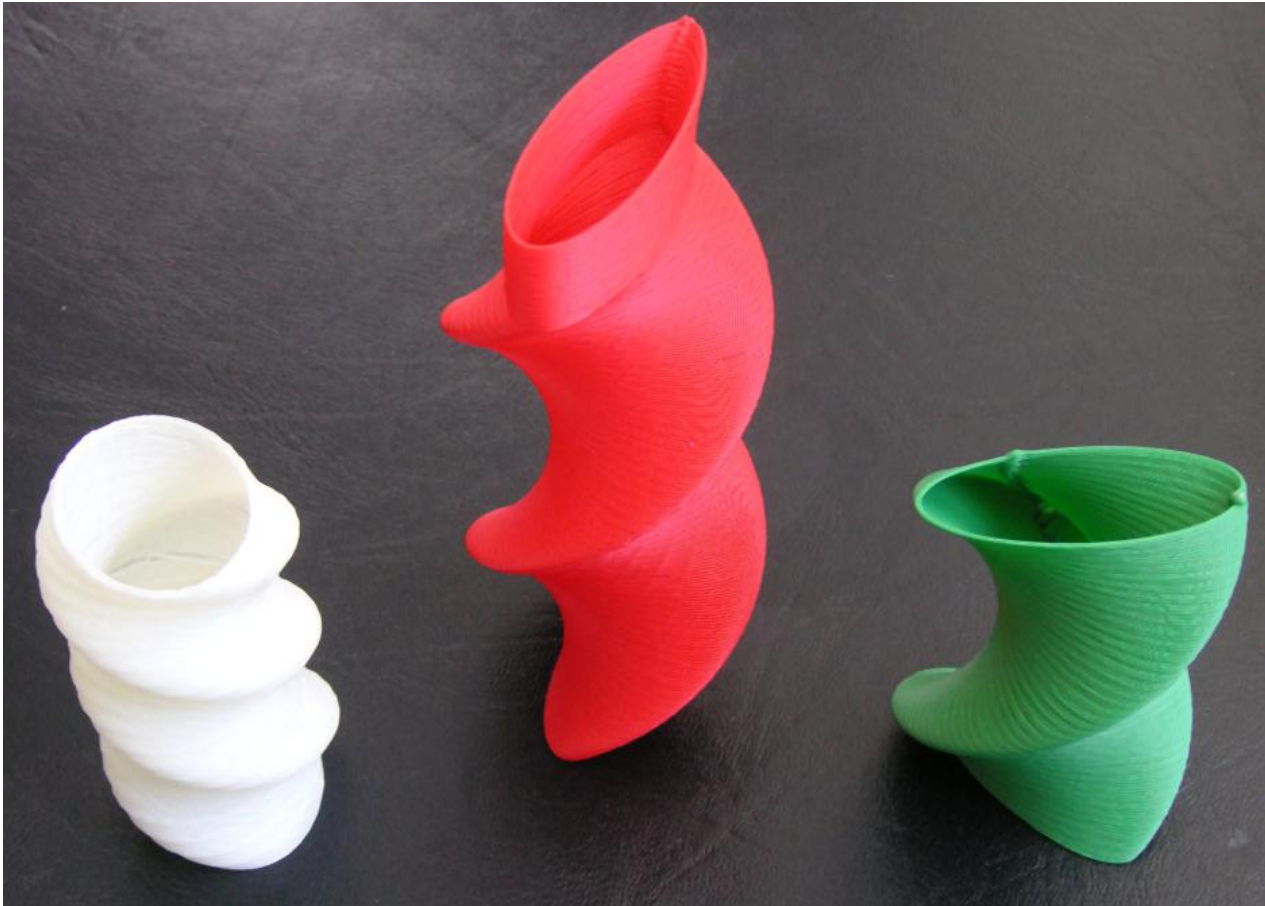
Catalyst EX

Catalyst EX is supplied with all Stratasys 3D printers converts STL files to create layers for ABS deposition.

- <http://www.techsoft.co.uk/products/3d-printing/>

Design Feature

Make a rapid prototype of a 3D plastic deposition



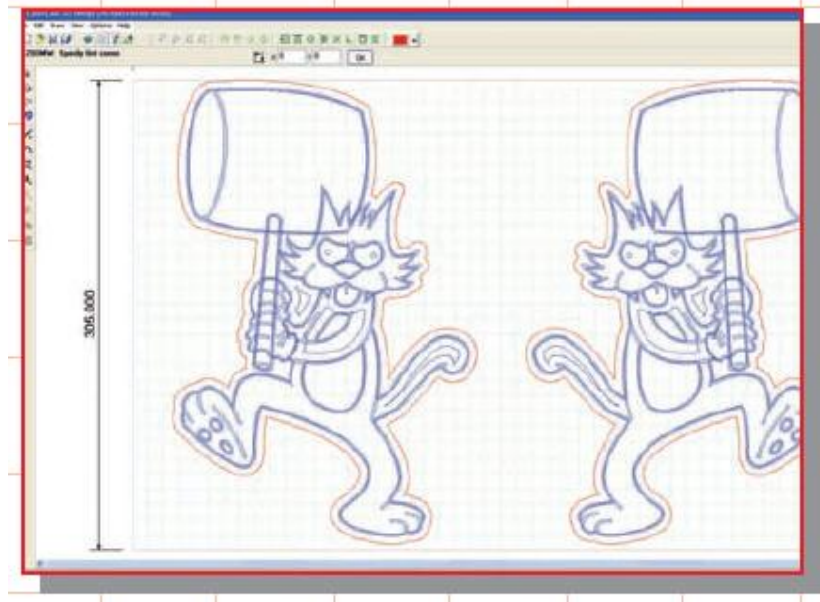
**Suggested
software with
links to sources**

Repetier

This open-source software for a range of small 3D printers.

Design Feature

Cut 2D designs directly or for transfer as a template to other materials




**Suggested
software with
links to sources**

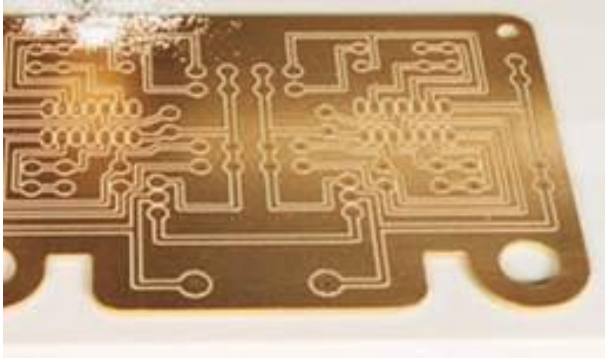
LaserCAM 2D

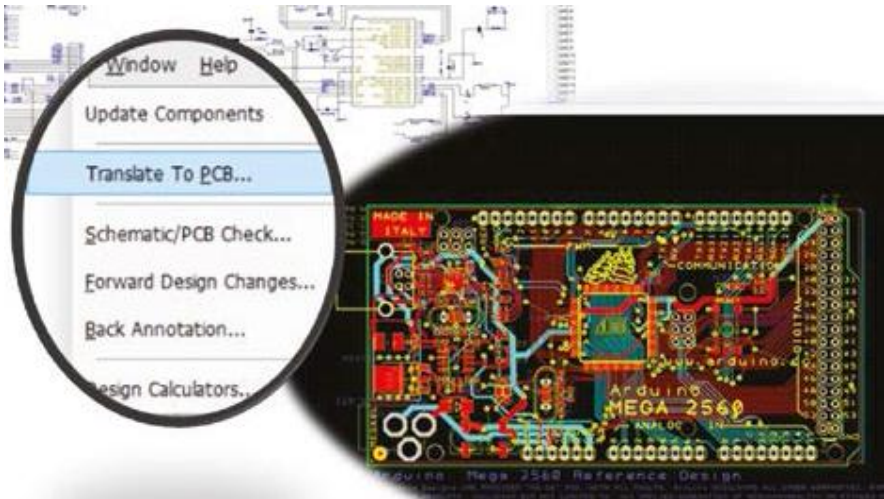
This software allows you to design a 2D CAD solution for use with Laser cutting machines. Simple designs can be created quickly and accurately and output to a laser with minimum effort. A host of import options make it the ideal way to manufacture logos, designs and projects on most types of Laser cutter & engraver


- <http://website.denford.ltd.uk/software-menu>


Design Feature	Cut 2D designs directly or for transfer as a template to other materials
	
Suggested software with links to sources	<p>123D Make</p> <p>Create 3D objects by slicing CAD models and assembling by slicing or slotting together. Slices the model in any thickness pieces. Output to EPS or PDF.</p> <ul style="list-style-type: none"> • http://www.123dapp.com/make

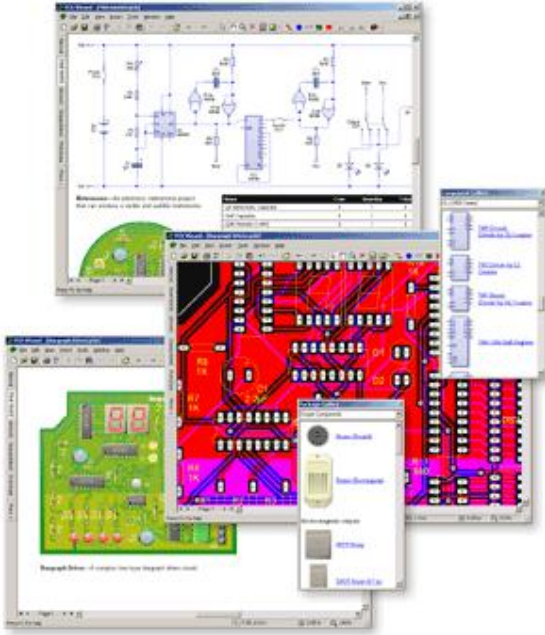
Digital Tools for Electronics

Design Feature	Make a PCB from an electronic circuit in order to populate it with components and test.
	
Suggested software with links to sources	<p>TechSoft 2D PCB</p> <p>A simple to use PCB design package and a PCB manufacturing system. The system allows the use of a STIKA, CAMM 1, or ColorCAMM to cut out the tracks in sticky backed copper foil, or the use of a RotoCAMM, EGX-350E, MODELA, or CAMM 2, etc., to engrave around the tracks, drill the holes and cut out the board, for a completely finished PCB.</p> <ul style="list-style-type: none"> • http://www.techsoft.co.uk/products/software/2D_PCB.asp

Design Feature	Make a PCB from an electronic circuit in order to populate it with components and test.
	
Suggested software with links to sources	<p>DesignSpark</p> <p>This is offered completely Free of Charge by RS components. This is not a cut down version of an expensive product or one with a time limitation on license. (There are no intentional restrictions on designs). There are unlimited schematic sheets per project, up to 1m squared of board size and no limits on layers, which allow you to get your creativity flowing without restraints. DesignSpark PCB circuit design software can be used for schematic capture, PCB board design & layout, generating impressive 3D View to visualise your design in real time, and generating manufacturing files.</p> <ul style="list-style-type: none"> • http://www.designspark.com/page/designspark-pcb-home-page

Design Feature	Make a PCB from an electronic circuit in order to populate it with components and test.
	
Suggested software with links to sources	<p>Yenka PCB</p> <p>Yenka PCB lets you take the electronic circuits you design and convert them automatically to PCB designs. You can simulate the PCB in 3D, add 3D cases and export the layout for manufacture.</p> <ul style="list-style-type: none"> http://www.yenka.com/en/Yenka_PCBs/

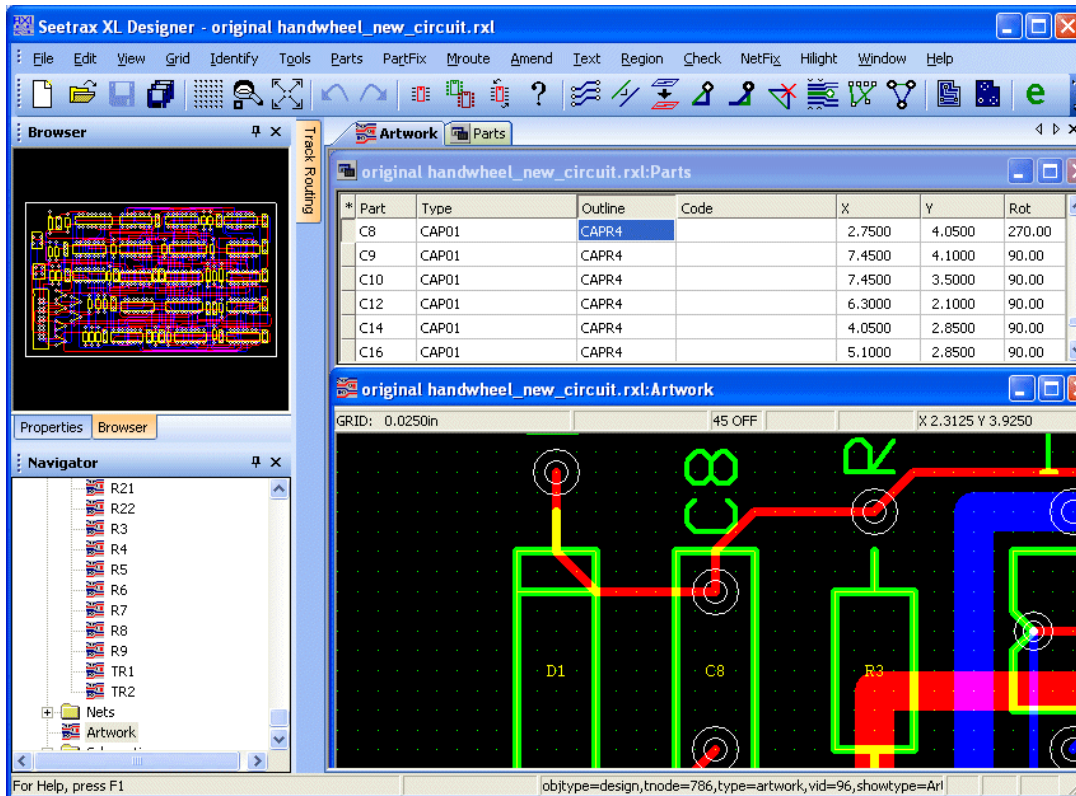
Design Feature	Make a PCB from an electronic circuit in order to populate it with components and test.
	
Suggested software with links to sources	<p>PCB Wizard</p> <p>PCB Wizard is a powerful package for designing single-sided and double-sided printed circuit boards (PCBs). It provides a comprehensive range of tools covering all the traditional steps in PCB production, including schematic drawing, schematic capture, component placement, automatic routing, Bill of Materials reporting and file generation for manufacturing.</p> <ul style="list-style-type: none"> http://www.new-wave-concepts.com/ed/wizard.html

Design Feature	Make a PCB from an electronic circuit in order to populate it with components and test.
	
Suggested software with links to sources	<p>Circuit Wizard</p> <p>This is a revolutionary new system that combines circuit design, PCB design, simulation and CAD/CAM manufacture in one complete package. By integrating the entire design process, Circuit Wizard provides you with all the tools necessary to produce an electronics project from start to finish . even including on-screen testing of the PCB prior to construction!</p> <ul style="list-style-type: none"> • http://www.new-wave-concepts.com/ed/circuit.html

Digital Tools for Digital Manufacture

Design Feature

Make a PCB from an electronic circuit in order to populate it with components and test.



Suggested software with links to sources

Seetrix

A site license for Ranger2 XL for up to 100 seats within the campus is available for £250-00. Also included if required, is an annual "homework" license so that students can complete their project work at home.

XL Designer Lite is a free version of the professional PCB design software package. It contains many of the major features of the full commercial product, but is restricted in design capacity. Designs created with the free version are fully forward compatible with the commercial product.

- <http://www.seetrix.com/ticklist.htm>

Hardware for digital manufacture

Follow the link for more information:

<http://data.org.uk/for-education/digital-dt/3d-printing/>