

*“From idee to
2D drawing, forged piece,
2D plasma/laser/water
marking/cutting
3D modeling /3D printing
Workflows in random order”*

Some metalwork disciplines/processes:

*Forging, forming, rolling, bending.....
iron, steel, copper, bronze....*

Cad: Computer Aided Design

*3d: freeform, parametric, sheetmetal,
(3d files: Step, Iges, Stl....*

2d: drawing

(2d files: Pdf, dxf.....

G-code

Cam: Computer Aided Manufacturing

*2d: Acytilene, Plasma, laser, water
cutting/marking, punching.....*

*3d: CNC bending, turning, milling,
printing....*

Reverse Engineering

2 Presentation For IFGS Jungschmieden Mechanix 13/04/2021

2 Overview Presentation

3 Vandewielegroup carrier

4 Ypres 2016 International blacksmithing event

5 Pannel Shona Johnson - to explain some workflows

6 Stemens: Different methodes of the forging proces, you-tube film: method

Petals: Idee, 2d drawing scaled on paper, forged part, PDF-file(print), DXF file(lasercut), you-tube film: method

Stemens + Petals = Poppys: Assembling+protect+powdercoat.

7 Pannels: Idee, 2d drawing scaled on paper, forged part, ASS,

taking size-notes (R.E.), F360 parametric modelling 1/1, sheduling 1/10, saving part as STL-File.

8 Start slicer, enter part by STL-File, positioning part+multi, Slicing(G-code),save file G-code,

G-code on M-stick, M-stick to printer, set up printer, print part 1/10, assembling parts to the railing ass 1/10.

9 The pannel of the Finighan brothers: Idee, 2d drawing sheduled on paper,drawing 1/1,making tools, forging testing part.

10 Anvil: 1st 3DP: 2d Drawing 1/1, shaping hot material, assembling parts into pannel assembly.

11 Horizontal bars:

Copy the model 1/1 pen-paper, disches/flowerpots=dimention R, Mesuring the dimention and taking note, (=RE by Scanning),

12 Links

13 Questions/ Fragen

-- Demolished trees and walkingboards on the batlefield:

Copy the model 1/1 pen-paper, Scanning to JPG(combine 2 x A4 home), Translate JPG to SVG online,(=R.E. by Scanning) Enter SVG in sketch F360

-- The tenement houses of home, Edingburgh Idee.....pattern.....Part.....mirroring

-- Making of the 8+1spare 1,5Ton concrete blocs

Parametric design of the separable moults, lasercut prt, weld with concave forming by the lasercut parts, with lifting atachements to manipulate everry 1,2 Ton concrete block.

Poor the 6+1 spare concrete blocks 1 by 1 upside down. Provide recesses with wood blocs in some concrete blocks for the steel plate and fixing bolds of the plate. R.E. by taking.....

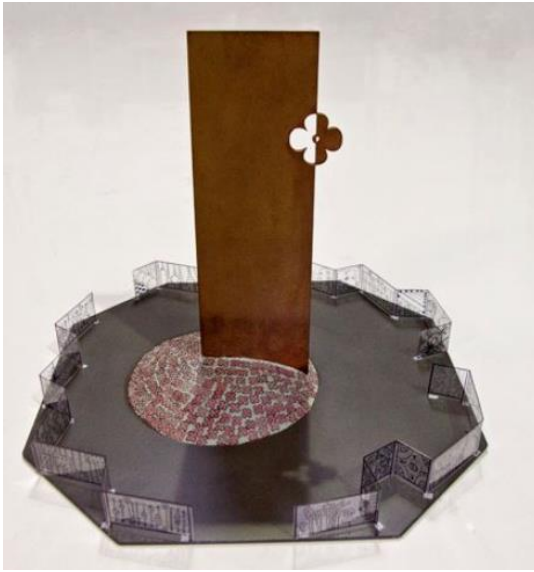


3 Vandewielegroup

- 40j technical service
- Mechanical maintenance
- Geometrie CNC machines
- Drawings Hand, chalk
- 2D Medusa, 3D Pro-E, Creo
- Internal automatisisation for production
- Credit Student Guiding studentprojects
- Fusion360

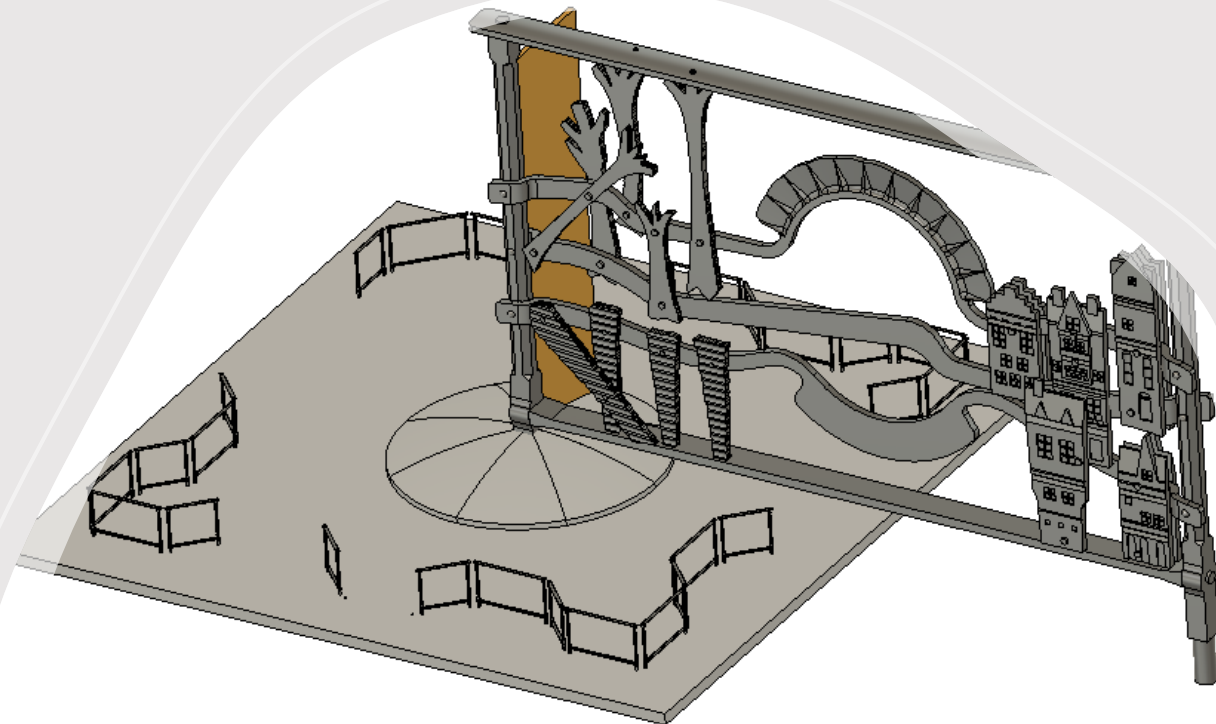


4 Ypres 2016 International blacksmithing event



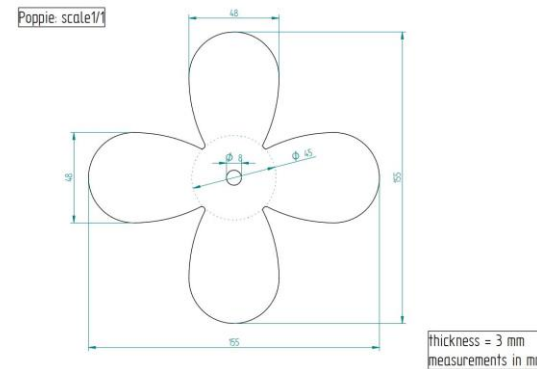
5 Pannel Shona Johnson – to explain some workflows

- Steelplate 100 mm thickness x 2m large x 7m high weight +10T
- 8 concrete blocs
- 2015 brown+1 white poppy
- 26 railing pannels 26 telling stories
- Peacemonument Langemark
 - 1 st use of chemical weapon against humanity
 - Langemark mythe (warr propaganda)
 - Start formation full-fledged catalonian gnome
- Jimmy and Jonny Finnegan Edinburgh (1/26)
 - Shona Johnson, Pete Hill, assistants
 - Scheduled model for larger education propose



6 Forging stems and petals for the poppys

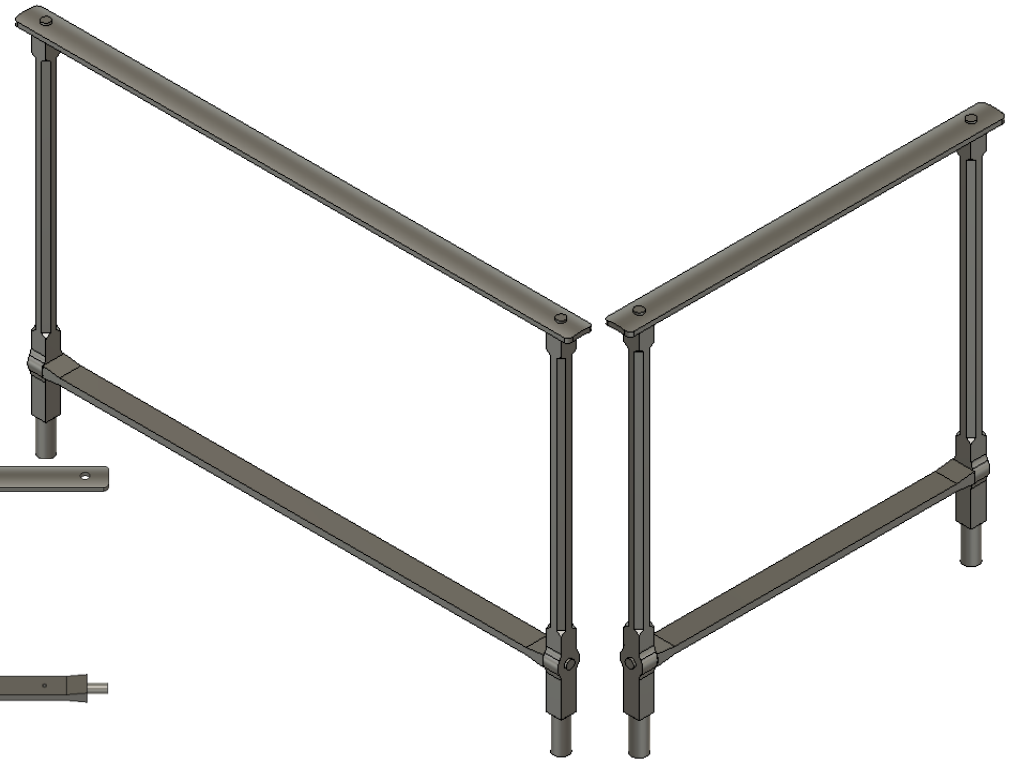
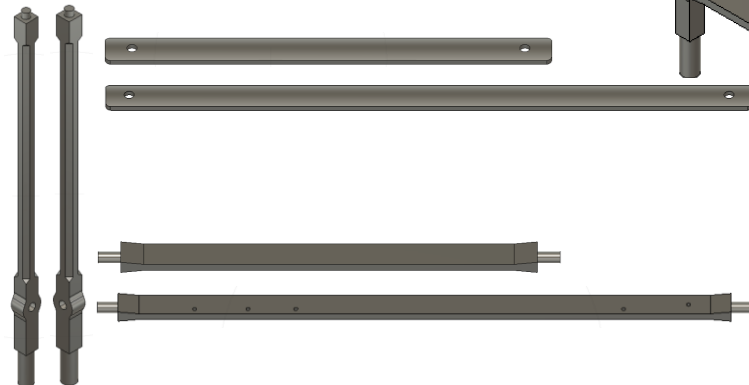
- 1- 16 mm 75L to 8 mm 1 by1 + stems, You tube film
- 2- Double stems in the middle + forging out 2x8mm
- 3- Welding on the stems + final form on big flypress
- Petals: PDF-file(print) and DXF-file(lasercut), You tube film powerhammer/hand



7 Modelling the frames on scale

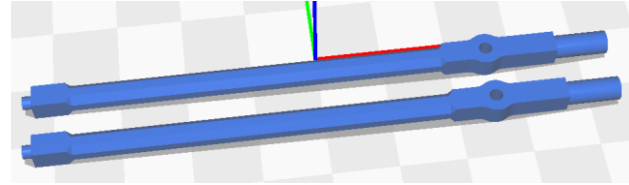
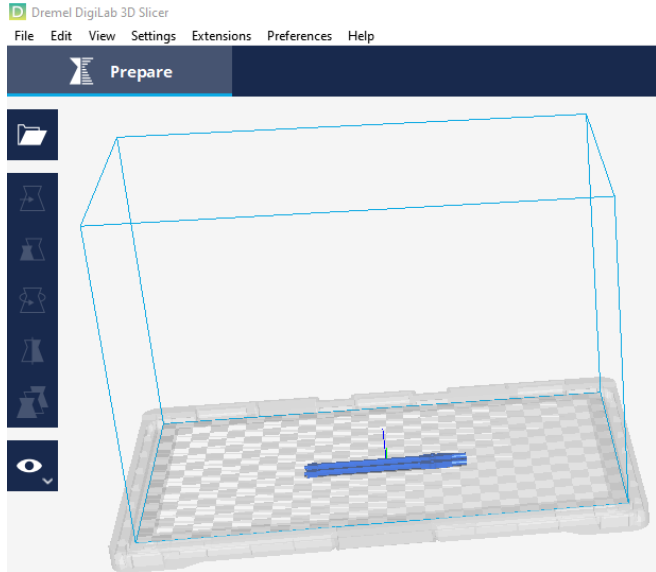
Idee, 2d drawing, forged part, ASS, Measuring the dimensions and taking note (start R.E. by taking dimensions),
In Fusion360 parametric modeling the parts 1/1, scaling the parts 1/10, saving the parts as STL file, (SurfaceTessellationLanguage)

- Forging parts-preparing 13long and a 13schort pannel-frames
- Schort/long part dig out/trench
- 26 Standard pannels made, to be filled in by the 26 chosen themes from the +100 entrys



8 Making G-code and 3D-printing first pannels

Opening Slicer, enter part by STL-file, positioning part+multi, printer setup, slicing(G-code),save file G-code, put G-code on M-stick, go to 3D printer with M-stick, set up printer, print part 1/10 assembling the parts to present the railing1/10



D3_Vertival pannel YP2016 Mod1_10

88.5 x 13.6 x 3.5 mm

00h 28min 0.98 m / ~ 2 g

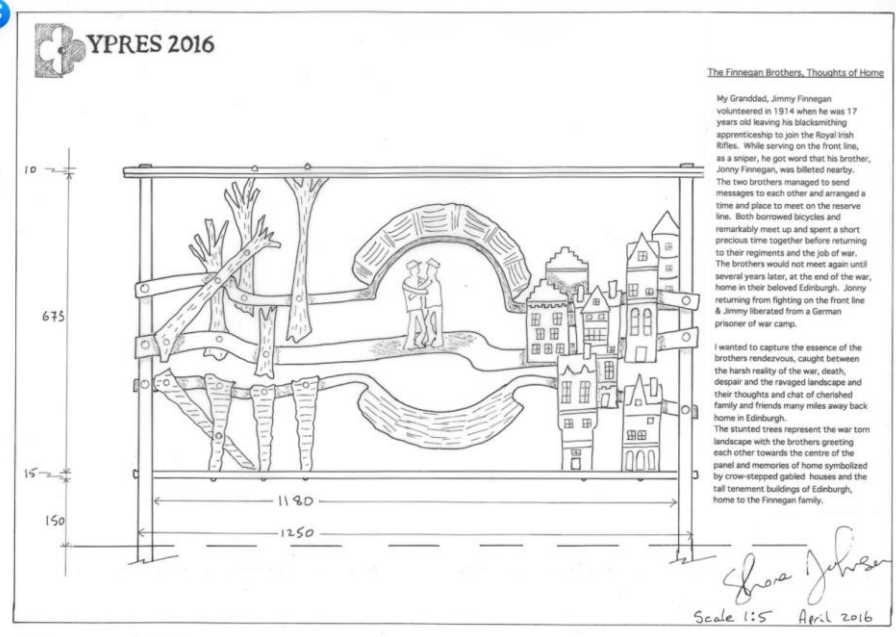
Ready to Save to File

Naam	Gewijzigd op	Type	Grootte
D3_Horizontal low schort pannel.gcode	16/02/2021 16:53	GCODE-bestand	326 kB
D3_Top handbar long.gcode	16/02/2021 13:28	GCODE-bestand	598 kB
D3_Top handbar schort.gcode	16/02/2021 12:27	GCODE-bestand	517 kB
D3_Vertival pannel YP2016 Mod1_10.gcode	16/02/2021 18:12	GCODE-bestand	1.237 kB

9 Finighan brothers, different devisions, Sent message, arranged to meet on reserve lines, after war reunion at beloved Edingburgh

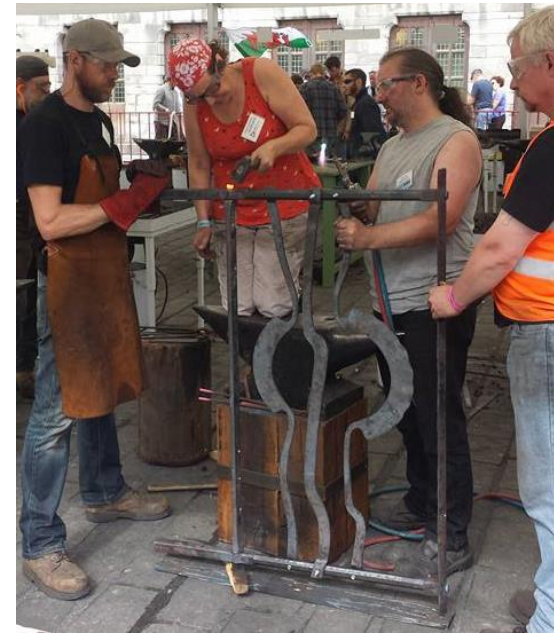
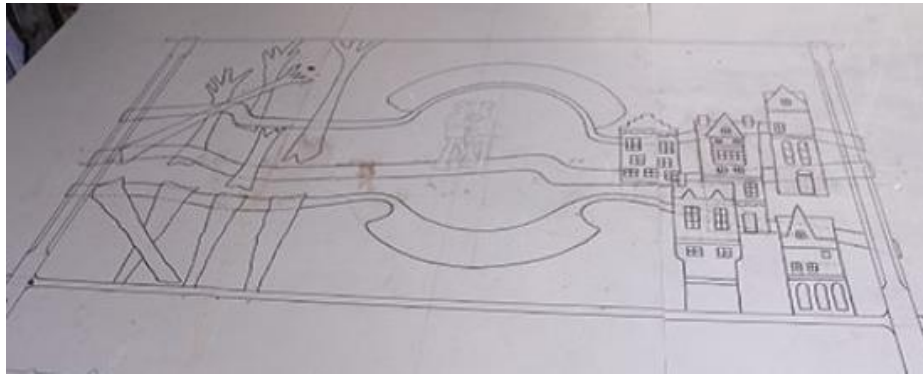
Harsh reality of war the brothers rendezvous crow stepped gebeled houses home city

Idee, 2d drawing sheduled on paper, 2d drawing 1/1, preparing tools, forging testing parts



10 The Anvil as the first 3D printer

Starting from a 2d drawing bringing shapes in to the hot matter, assembling parts into the pannel



12 Lincks

Vandewiele: <https://www.vandewiele.com/en> <https://www.vandewiele.be/en/vandewiele-academy>

Vdw1980: <https://youtu.be/kOsntEhRGUc> (Flemisch)

Ypres 2016: <http://www.yprespeacemonument.com/>

<https://www.facebook.com/poppycenotaph>

popys making by powerhammer: https://youtu.be/tL2gup_BuFI

petals by hand: <http://www.yprespeacemonument.com/design/making-the-poppies/>

The pannels: <https://www.yprespeacemonument.com/design/masters-panel-designs>

Online file converter: <https://www.online-convert.com/>

Fusion360: <https://www.autodesk.com/products/fusion-360/personal-download>

P Johnson Co: <https://www.rathobyresforge.co.uk/>

Sigma GmbH: <https://www.facebook.com/SigmaGmbH>

Titans of CNC: <https://titansofcnc.com/about/>



13 Questions/ Fragen?

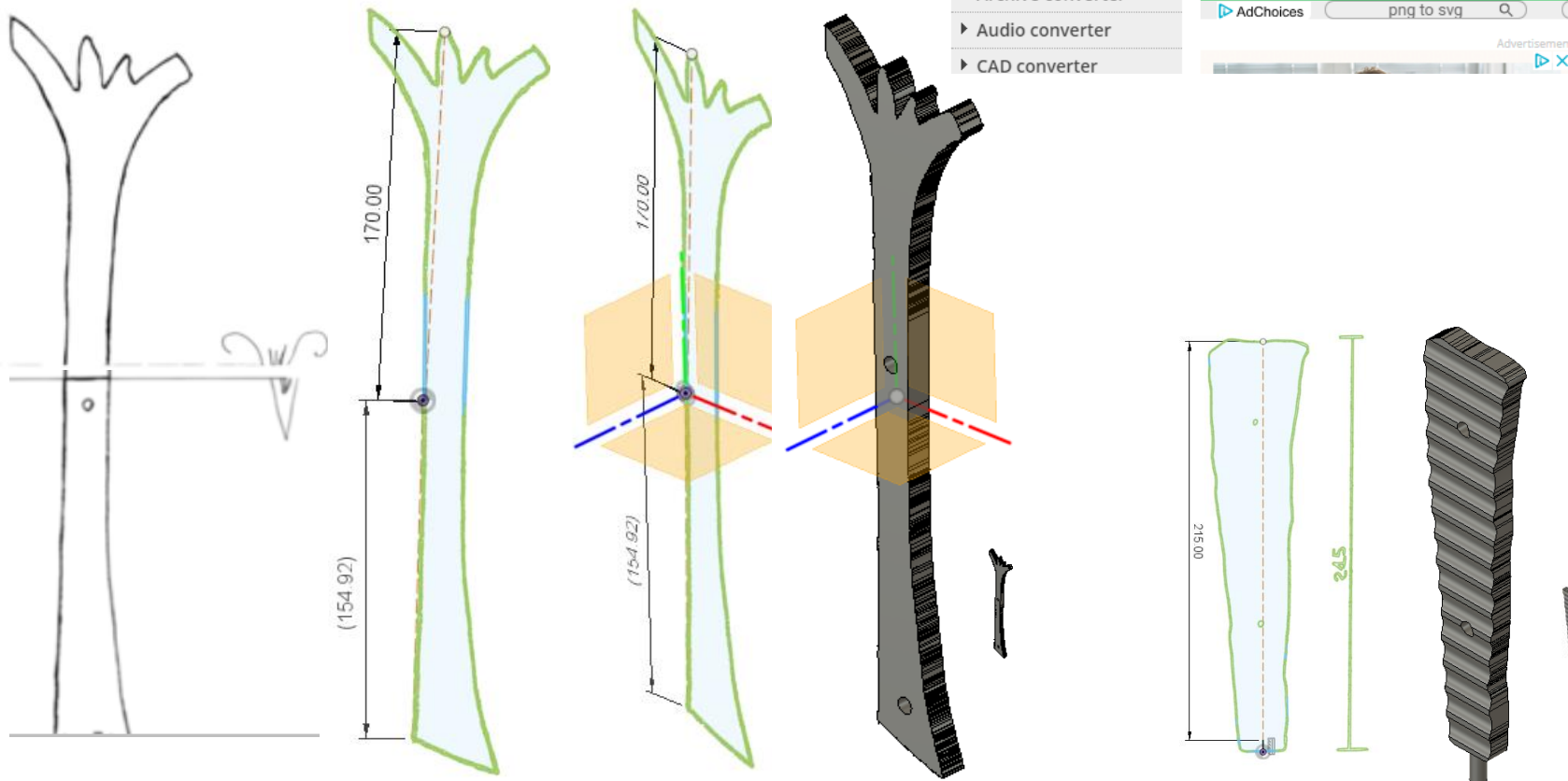
Demolished trees and walkingboards on the battlefield

Blacksmithing, Handsketch (pen and paper) (=start hand R.e.)

Scanning to JPG(combine2xA4home), Translate JPG to SVG online, Enter SVG in sketch F360, giving thicknes and adding holes in F360 parrametric modeling,

scaling the part 1/10, save as STL file F360, save STL file scaled part,

Open slicer software, enter scaled part by entering STL file, positoning part+multi, printer set up, slicing (G-code),save file Gcode
Put g-code on Mstick, go to printer wit Gcode, set up printer, print part 1/10

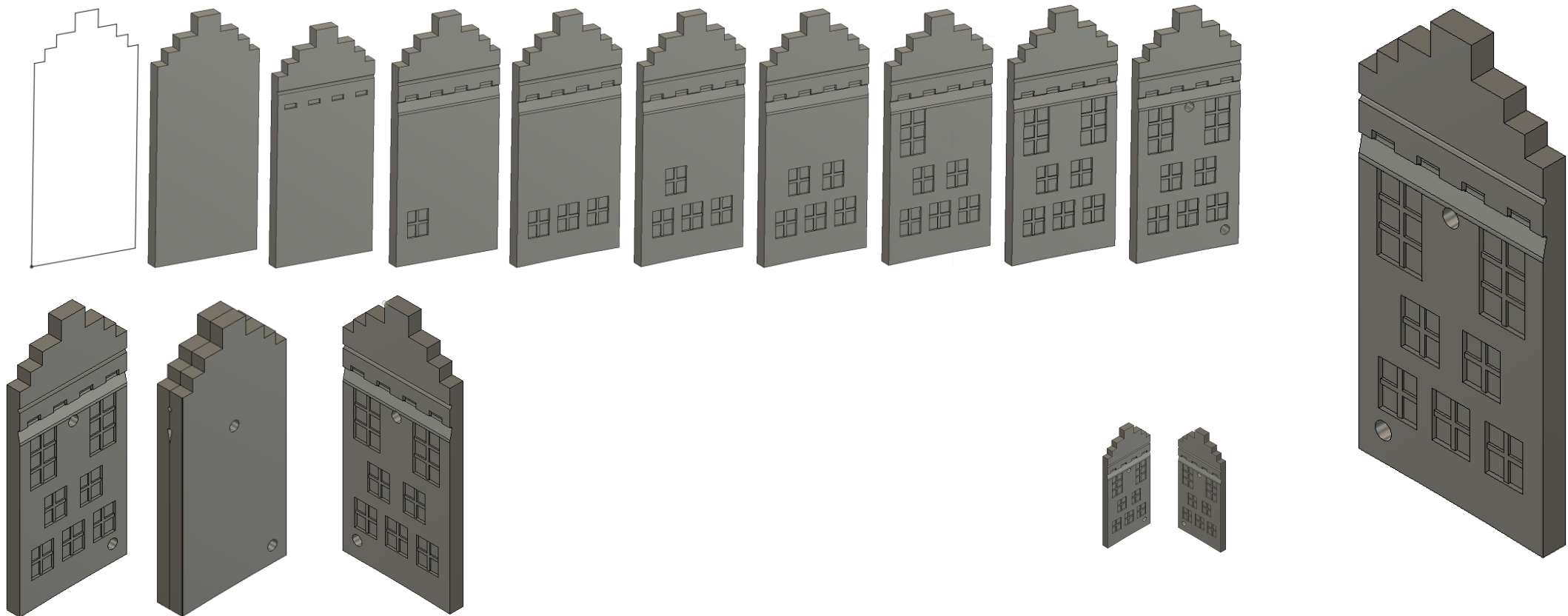


A screenshot of the ONLINE-CONVERT.COM website. The header includes the logo and the text "Convert media free, fast and online. No software installation needed." Below the header are navigation links for Home, File formats, Blog, and Developers. A "Converter" menu is visible with options for Archive converter, Audio converter, and CAD converter. The main content area shows a search for "Convert JPEG to SVG" with a search bar containing "png to svg" and "convert mp3". An advertisement for "Online image converter" is also present.

The tenement houses of home, Edingburgh

Idea, 2d drawing, forged part, ASS, Measuring the dimensions and taking note (start R.E. by taking dimensions), In Fusion360 parametric modelling the parts 1/1, scaling the parts 1/10, saving the parts as STL file, Opening Slicer, enter part by STL-file, positioning part+multi, printer setup, slicing(G-code), save file G-code, put G-code on M-stick, go to 3Dprinter with M-stick, set up printer, print part 1/10 assembling the parts to present them in the panel 1/10

pattern mirror



Making of the concrete blocks

Parametric drawing of the separable mould in sheetmetal, lasercut, welded with concave forming of the sheetmetal parts, with lifting attachments to manipulate every 1,2 Ton concrete block.

Pour the 8+1 spare blocks 1 by 1 upside down

Provide recesses with wood blocs in some concrete blocks for the steel panel and the fixing bolts of the plate.

R.E. by taking dimensions (thanks to the cat), 3D modelling te different blocs scale 1to1. Save to Dwg format scaling 1to10, save as dwg, assembling the different blocs in Fusion360 to see if the good form of spacing is provided in every concrete block. Save the different blocs to STL file, slicing, printing.....

