Frit Pattern Generator

HKS Architects
3.12.2013

by

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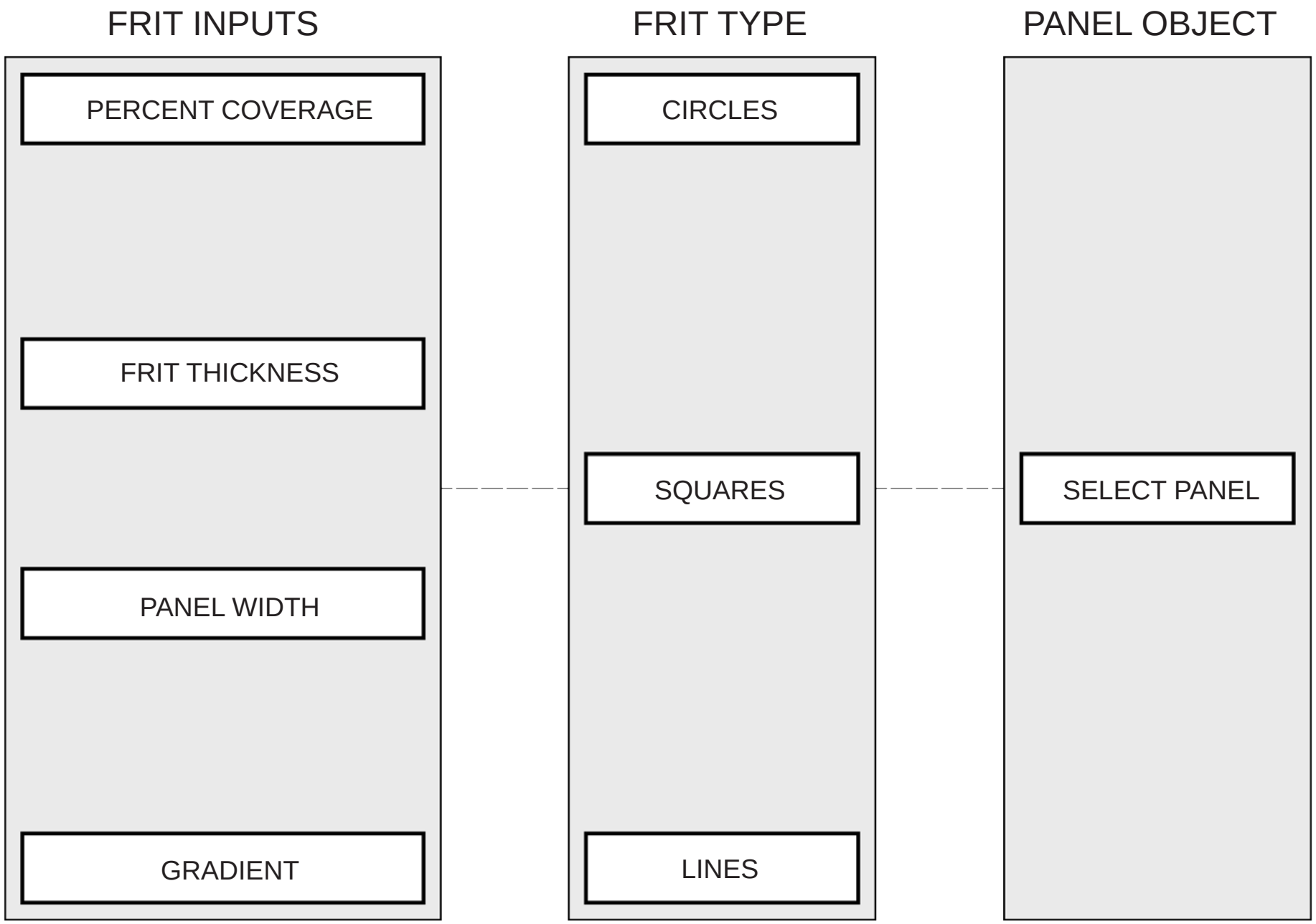
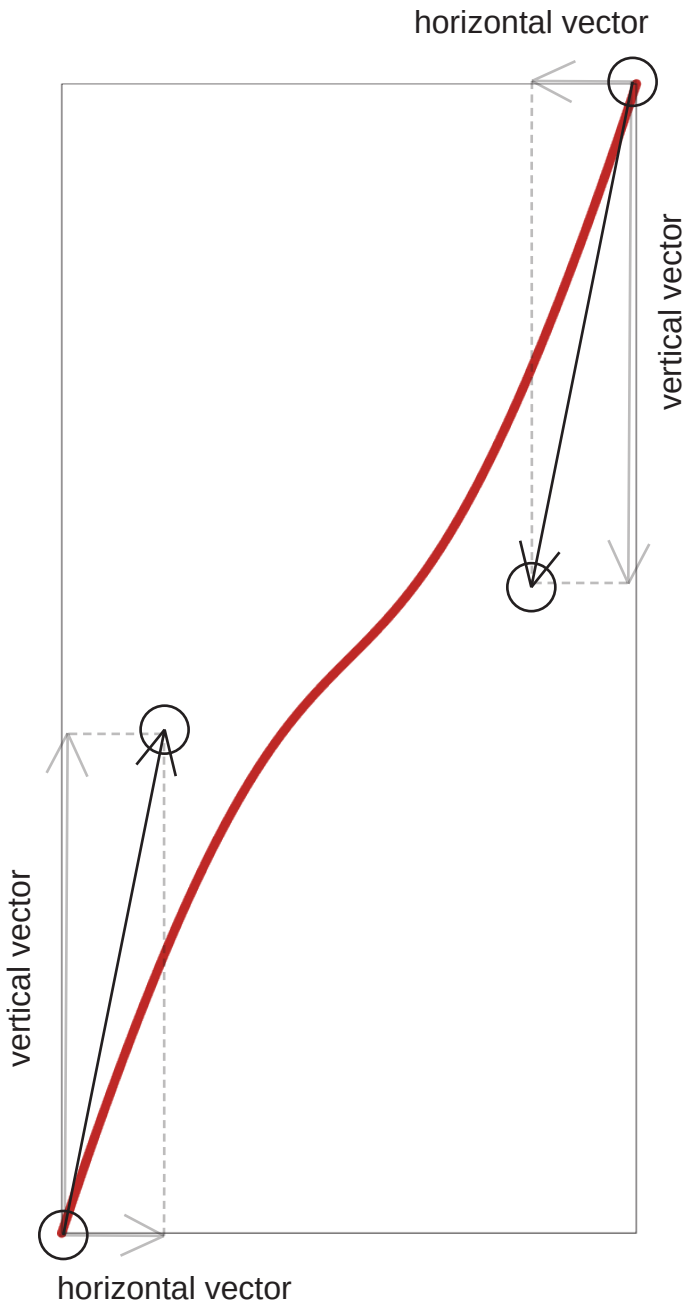
“The building envelope is possibly the oldest and most primitive architectural element. It materializes the separation of the inside and outside, natural and artificial and it demarcates private property and land ownership. When it becomes a façade, the envelope operates also as a representational device in addition to its crucial environmental and territorial roles. The building envelope forms the border, the frontier, the edge, the enclosure and the joint.”

- Alejandro Zaera Polo

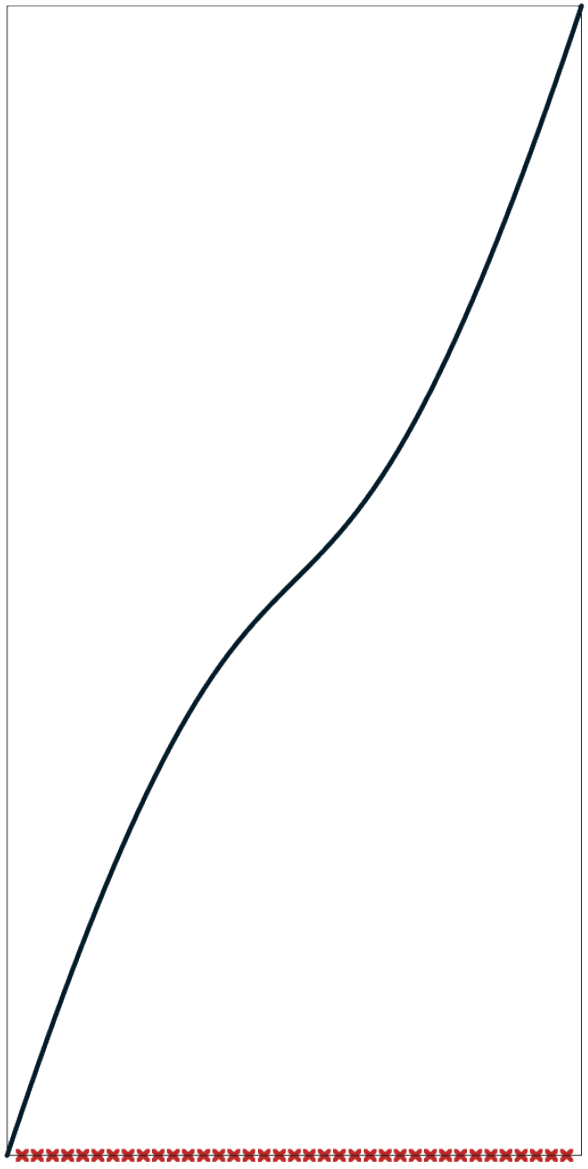

FRIT INPUTS
FRIT TYPE
PANEL OBJECT
PERCENT COVERAGE
FRIT THICKNESS
PANEL WIDTH
GRADIENT
CIRCLES
SQUARES
LINES
SELECT PANEL

GRADIENT CREATION EXPLAINED

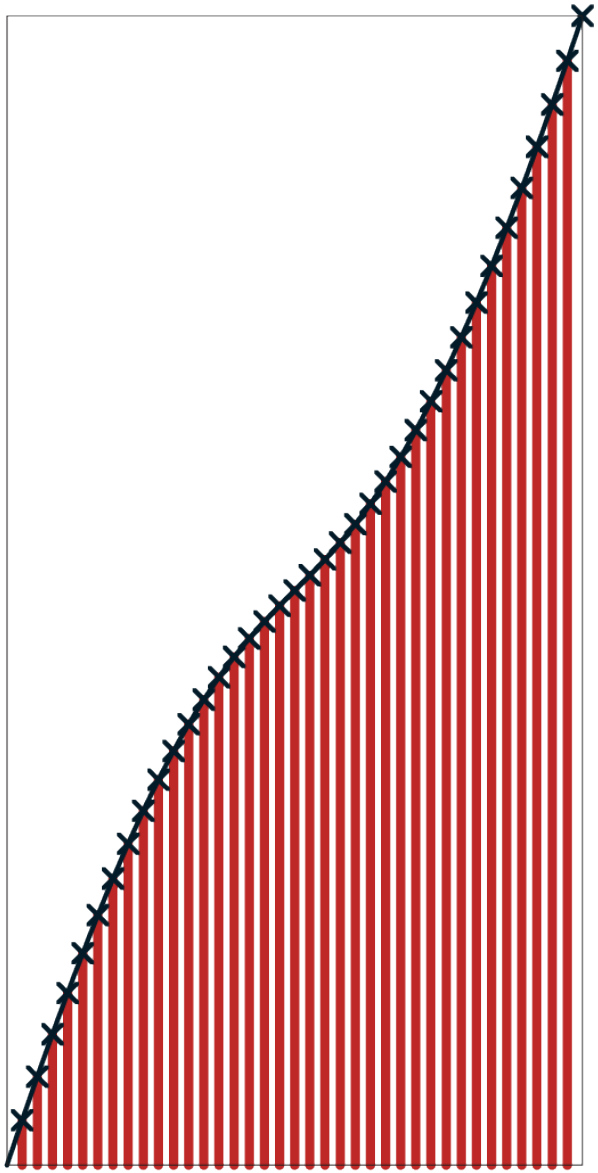


Draw Bezier Curve

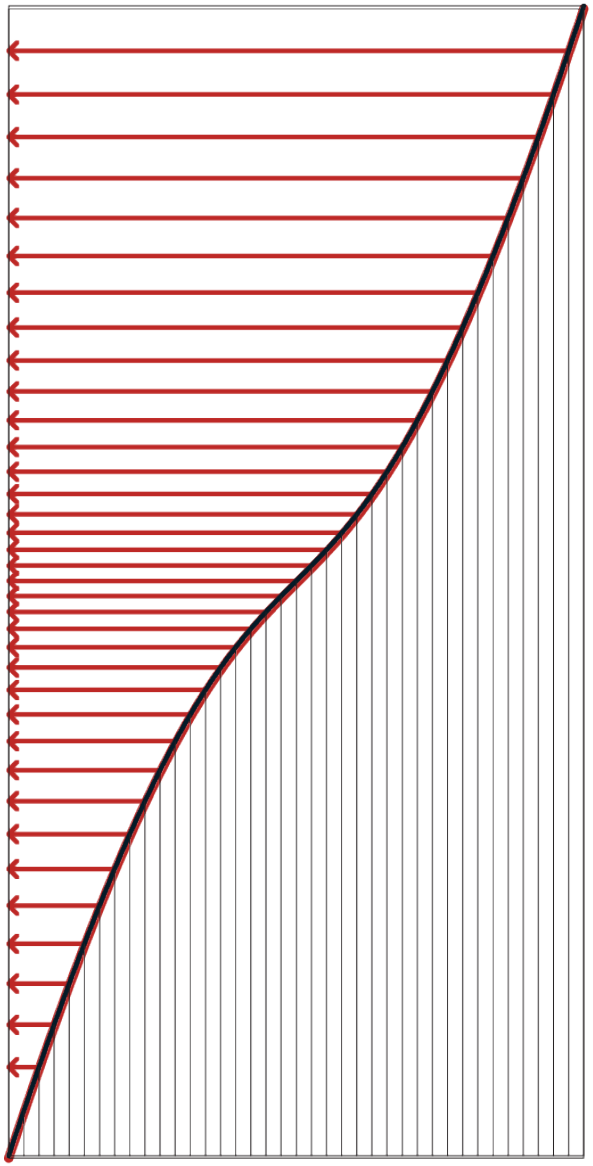
number of frits =
[(area of one panel)
/(area of one frit)] *
percent coverage



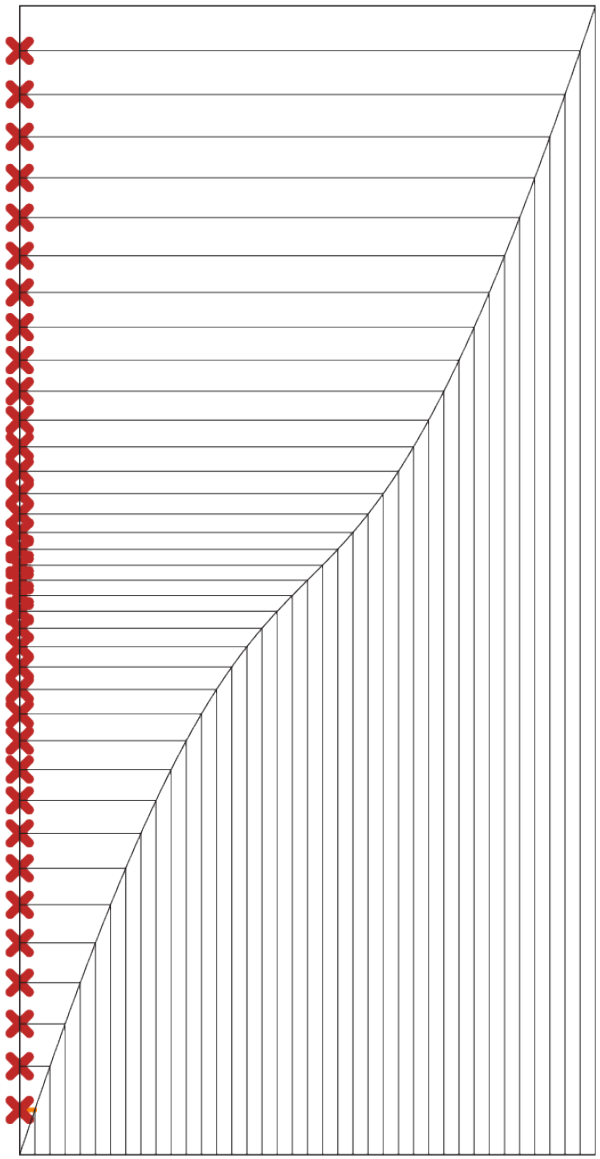
Divide bottom line by
number of frits



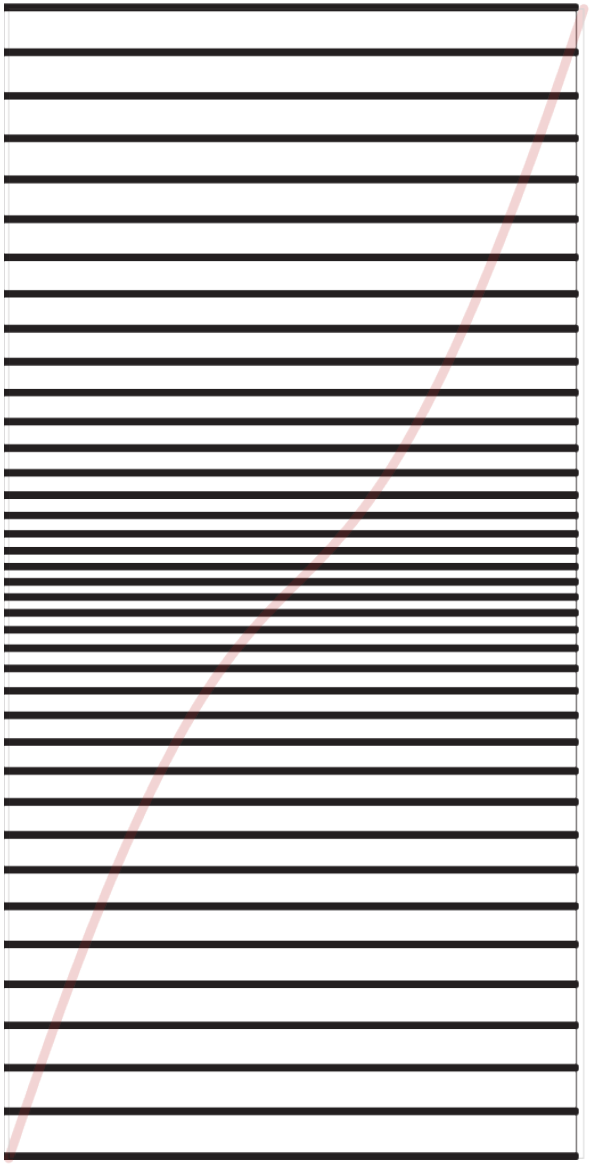
Create vertical lines and
intersect bezier curve



Translate horizontal



vertical location points



Draw Frit

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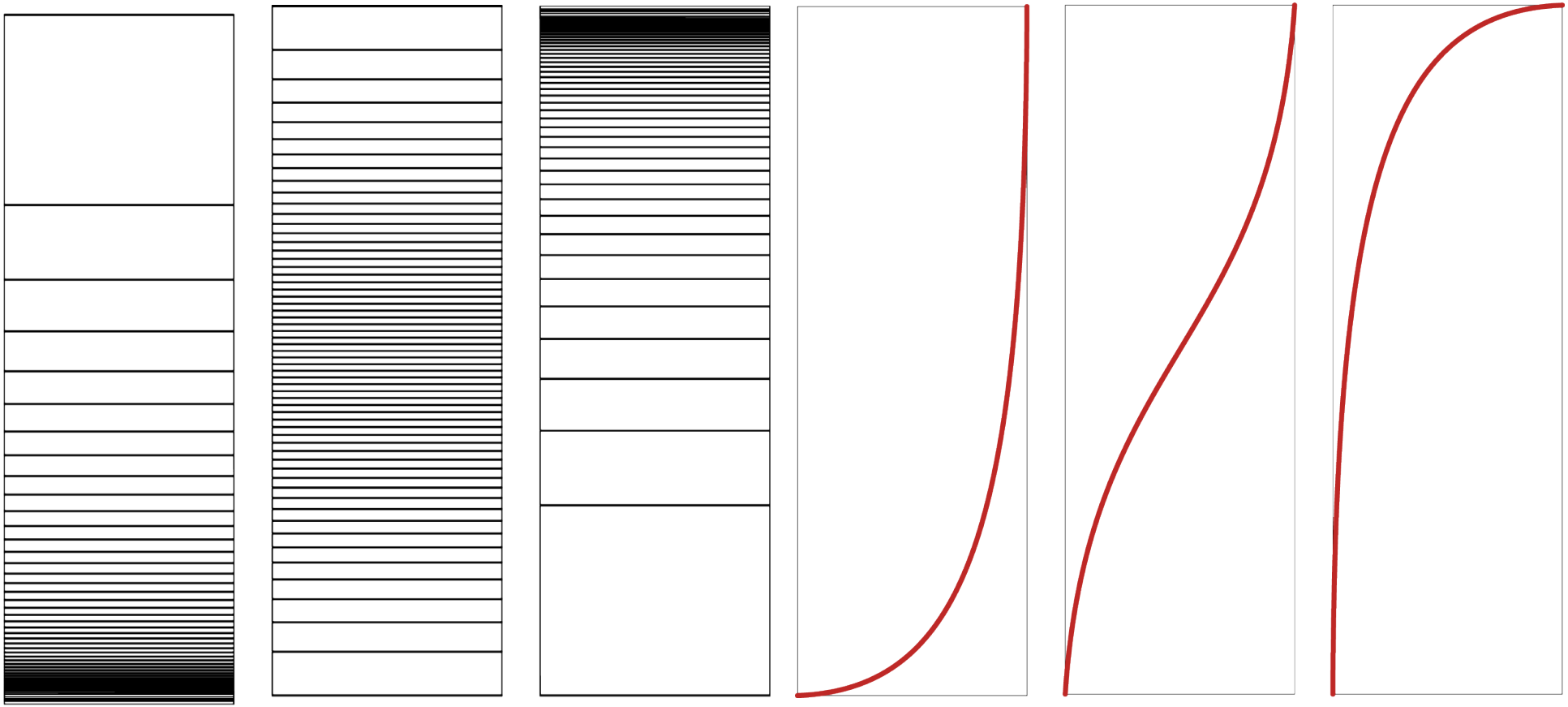
Sample Gradients
and associated Bezier Curves



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Editing the Script

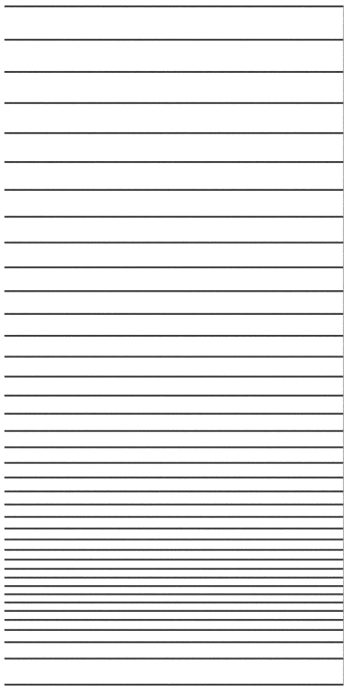
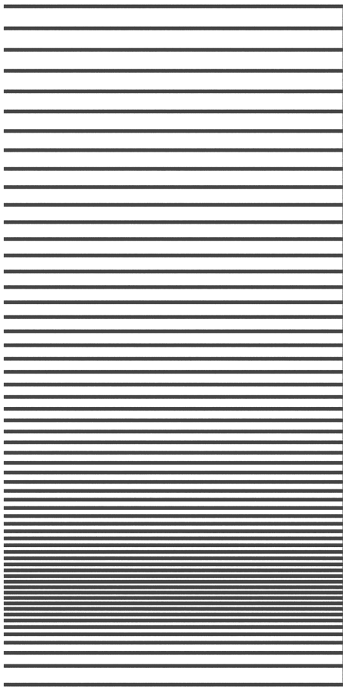
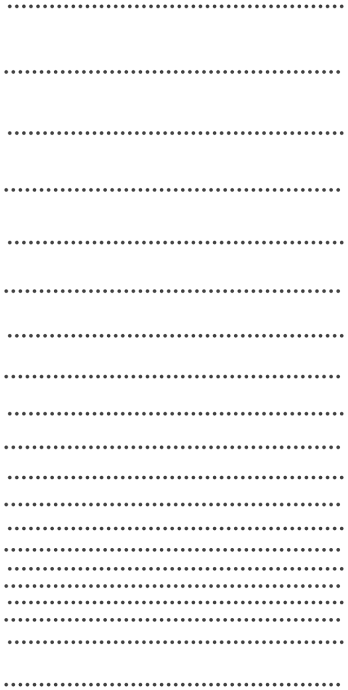
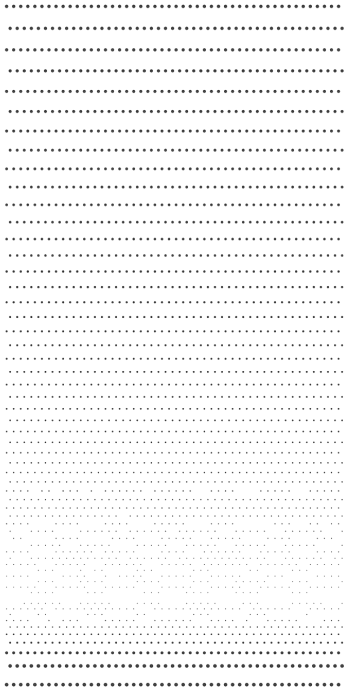
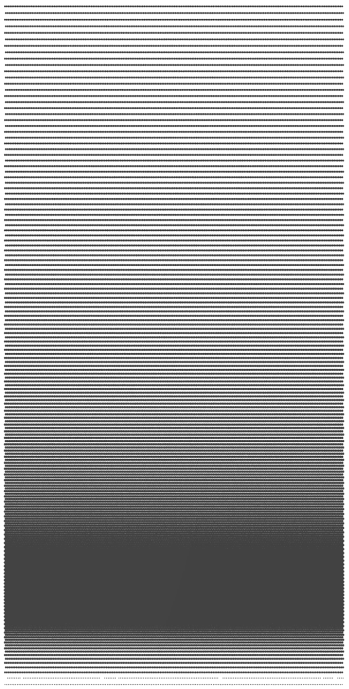
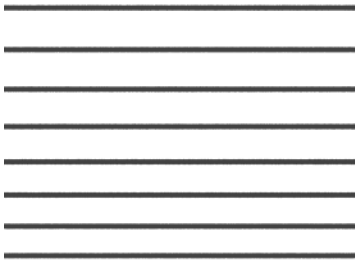
Edit bezPoints to change the gradient

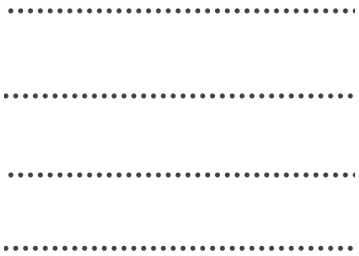
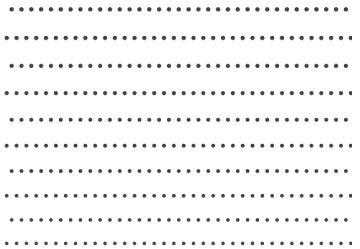
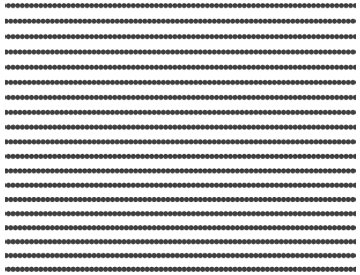
```
#bezPoints that are uncommented (no #)will be used in the script
#panel 1 will use the first bez points, panel 2 will use the second, etc.
bezPoints(.5, .95, .1, .2)
bezPoints(.2, .75, .75, .2)
bezPoints(.1, .95, .1, .3)
bezPoints(.5, .75, .5, .75)
bezPoints(.1, .6, .1, .75)
bezPoints(.1, .5, .1, .5)
bezPoints(.1, .3, .1, .7)
bezPoints(.75, .2, .2, .75)
bezPoints(.75, .01, .01, .75)

#saved points for our frit pattern above the canopy
#bezPoints(.5, .75, .5, .75)
#bezPoints(.5, .75, .5, .75)
#bezPoints(.5, .75, .5, .75)
#bezPoints(.5, .75, .5, .75)
#bezPoints(.5, .75, .5, .75)
#bezPoints(.5, .75, .5, .75)
```

Use booleans and if control flow statements for creating special conditions or unique patterns

```
465                 if (canTog == 1 and ranNum == 1 and j > 0):
466                     rs.DeleteObject(srfLofted)
467                 if (canTog == 1 and ranNum == 1 and j > 2 or canTog == 1 and ranNum == 2 and j > 2):
468                     rs.DeleteObject(srfLofted)
469                 #if our number i even and above a certain z value delete it
470                 if (altDelTog == 1 and 10.5 < ptCenter[2] < 13 and i%2 !=0 and ranNum != 1):
471                     rs.DeleteObject(srfLofted)
```

Sample Frit Patterns

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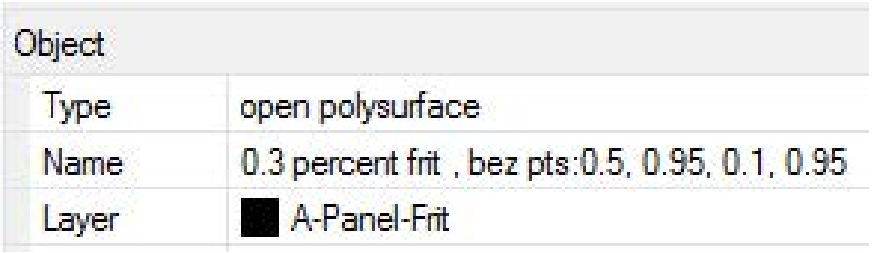
Added features

Name: Labels frit with percent frit and bez curve definition
Layer: Places frit on A-Panel-Frit layer



Hide: Hides panel geometry on A-Panel-Frame layer

Outputs: Outputs actual percent frit as part of group or object name.

Panel Size: Works with any size vertical panel.

Questions or Comments?

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