

Run Rhino, load a picture of chosen bird to the background, run Grasshopper. make a poit [tvar ptaka], set multiple points and retrace the bird.



Do the same with inner points [vnitrni body], create a list item, choose any point and by decompose get its (z). then fill the bird's silhouette with voronoi diagram. I used the script from Dimitrie Stefanescu (www.improved.ro/blog).



Geometry on output C are straight cells, it can help you control the final shape of your bird box. The output D gives us most known form of voronoi diagram. We'll use it for two faces of our object. So make a list of items [bocni steny] and numeric slider [vyber oblasti].



Divide [bocni steny] to 15 segments and make an interpolated curve from it [bocni stena_CNC], copy voronoi script and connect with [bocni stena] and [vnitrek noveho voronoi] made by the same process as [vnitrni body] before. On output D you've got [vnitrni otvory_CNC] = set of inner cutouts. Now you need only third face of a bird box. It's a simple rectangle with fly-in hole. You can make it with commands 'rectangle' [podlaha-strop_CNC], 'planar surface' [pomocna plane], 'evaluate box' [stredovy bod] and a 'circle' [vletovy otvor_CNC]. Now just bake all objects called _CNC and you've got all necessary lines for CNC cutting machine.



CAD IV 2010, František Gattermayer



