

GRASSHOPPER SCRIPT

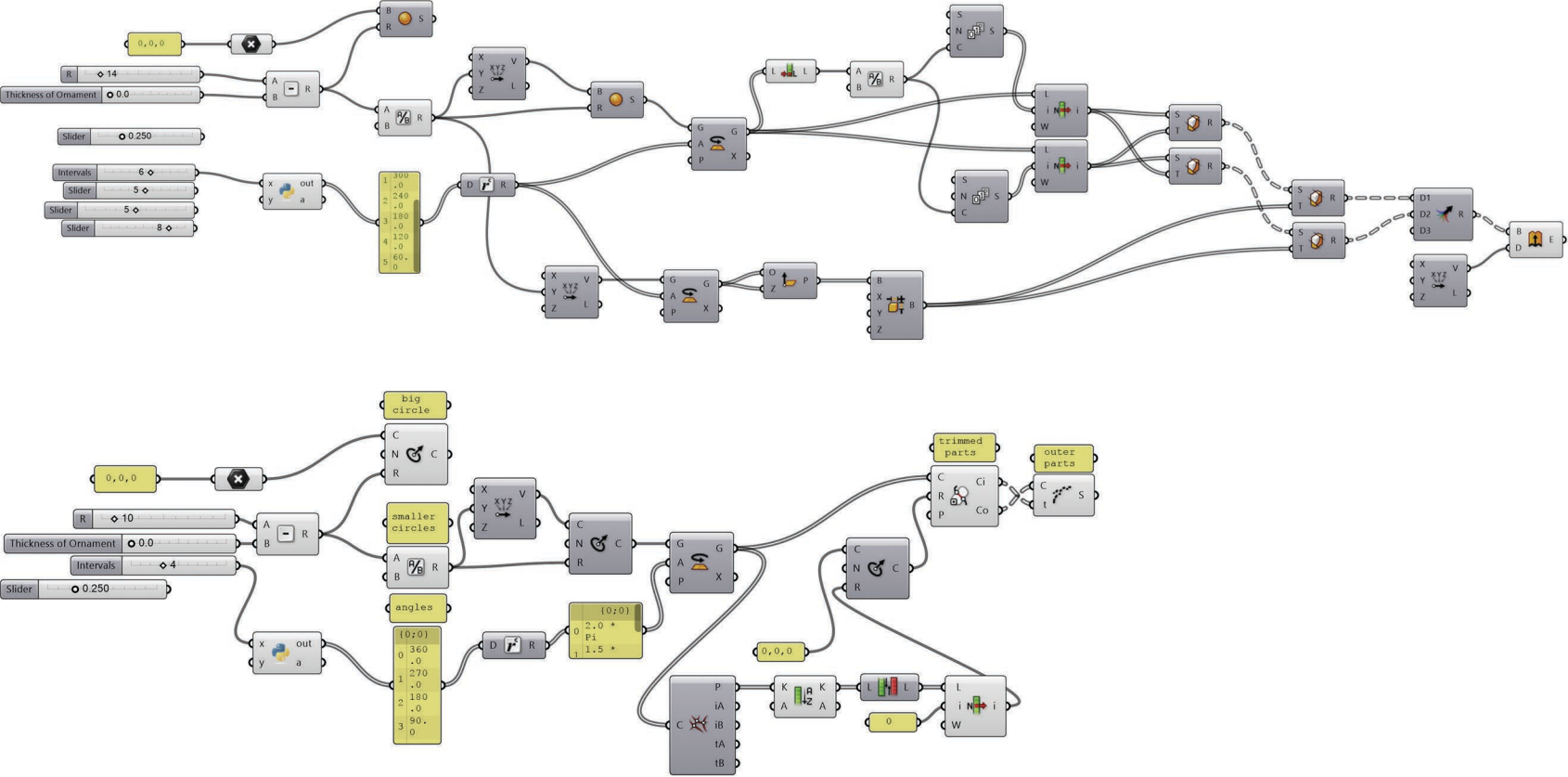
THE AIM OF THE SCRIPT WAS TO CREATE A **PARAMETRIC REPRESENTATION** OF A GOTHIC GEOMETRY. DERIVING FROM GEOMETRY OF **ROSE WINDOWS**, THE PROCESS STARTED WITH WRITING A SCRIPT TO CREATE INTERSECTING CIRCLES. MIMICING GOTHIC VAULTS, THE SCRIPT PRODUCES SPHERES THAT INTERSECT WITH EACH OTHER CREATING A **VAULT ELEMENT**.

FOLLOWING THE CONCEPT OF INTRODUCING **RIBS** FOR EASIER AND MORE EFFICIENT CONSTRUCTION, THE SCRIPT ALLOWS FOR DIVISION OF THE VAULT ELEMENTS INTO RIBS WITH PREDEFINED **GOthic CIRCULAR LOGIC**.

THE OUTPUTS OF THE SCRIPT ALLOW FOR **EXTRACTION OF ELEMENTS** FOR LASER CUTTING AS WELL AS A 3D REPRESENTATION OF THE STRUCTURE BOTH WITH AND WITHOUT RIBS. ADDITIONALLY, THE OUTPUTS INCLUDE A SOLID VAULT MODULE, AND AN ORNAMENT PROJECTED ONTO A SPHERE.

THE SCRIPT’S **FUNCTIONALITY FOLLOWS**: - CREATING A **SET OF CIRCLES**/SPHERES BY ROTATING A SINGLE ELEMENT - INTERSECTION OF THE SPHERICAL ELEMENTS TO CREATE **VAULT ELEMENTS** - EXTRACTION OF **RIBS AND CURVES** FROM THE VAULT ELEMENT - PROJECTION OF GOTHIC ORNAMENT ONTO THE VAULT ELEMENT - CREATION OF **RIBS AND EXTRUSIONS** FOR VARIOUS OUTPUTS.

PROCESS SCRIPTS



MAIN SCRIPT

