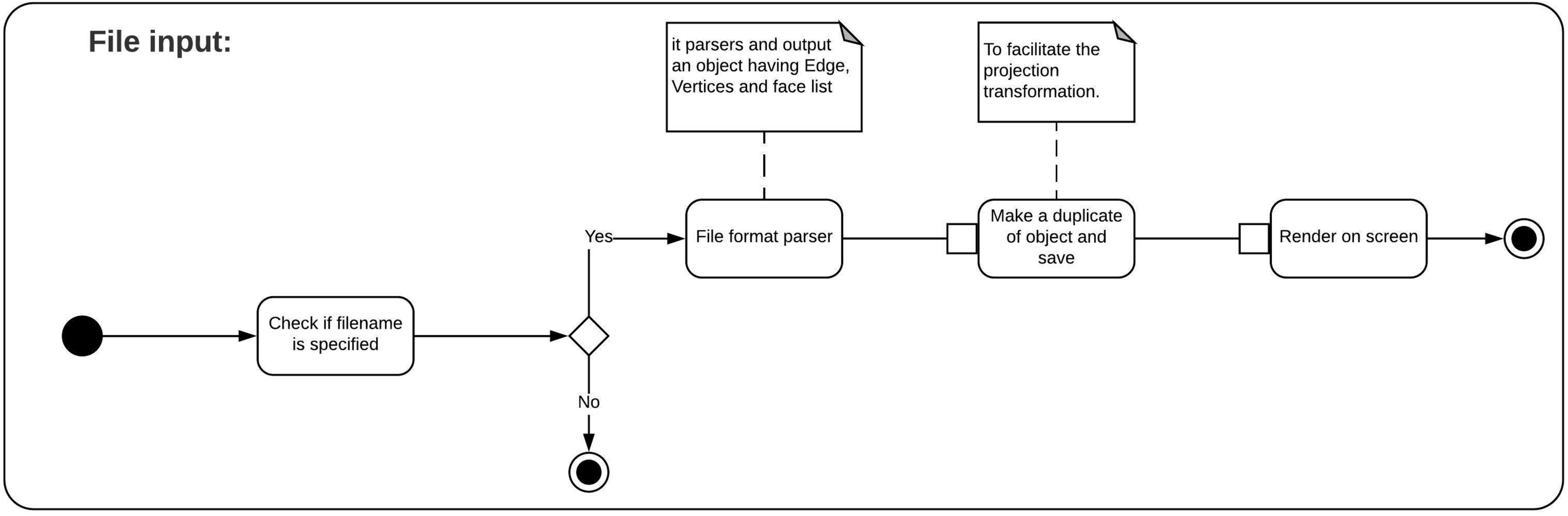
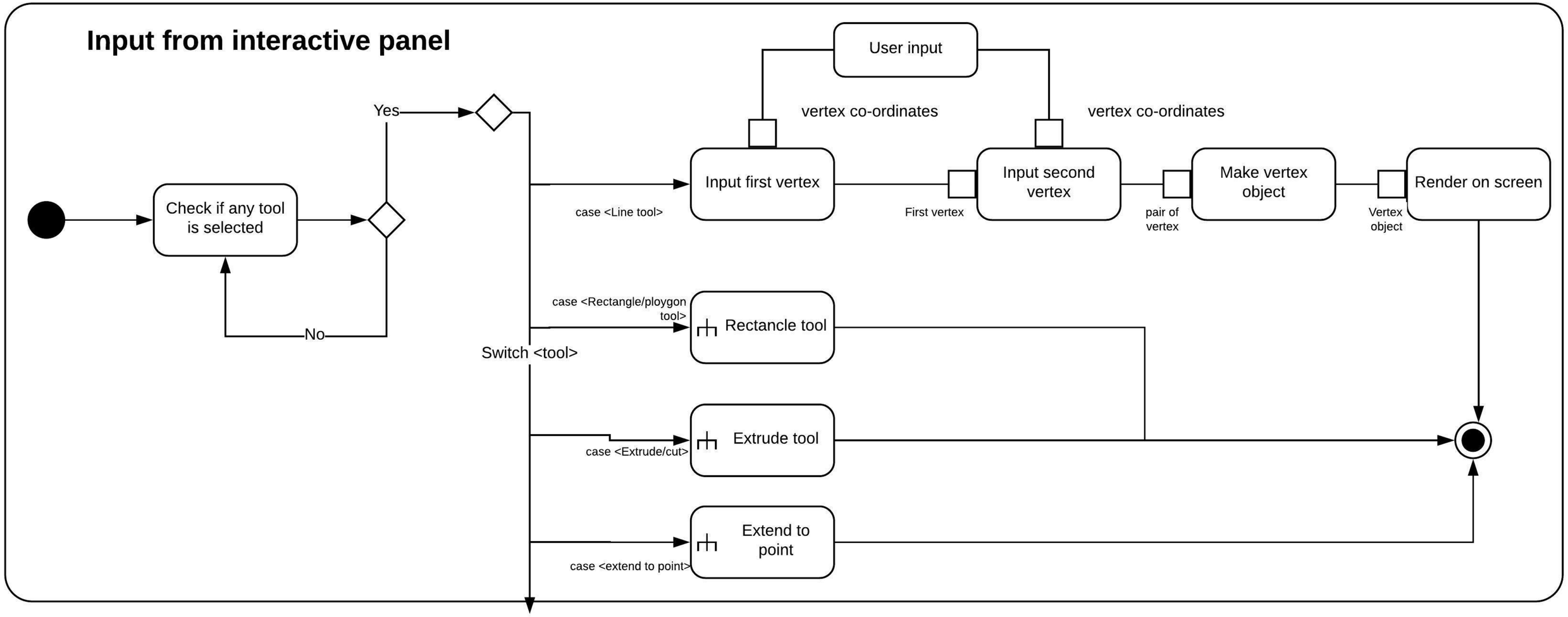
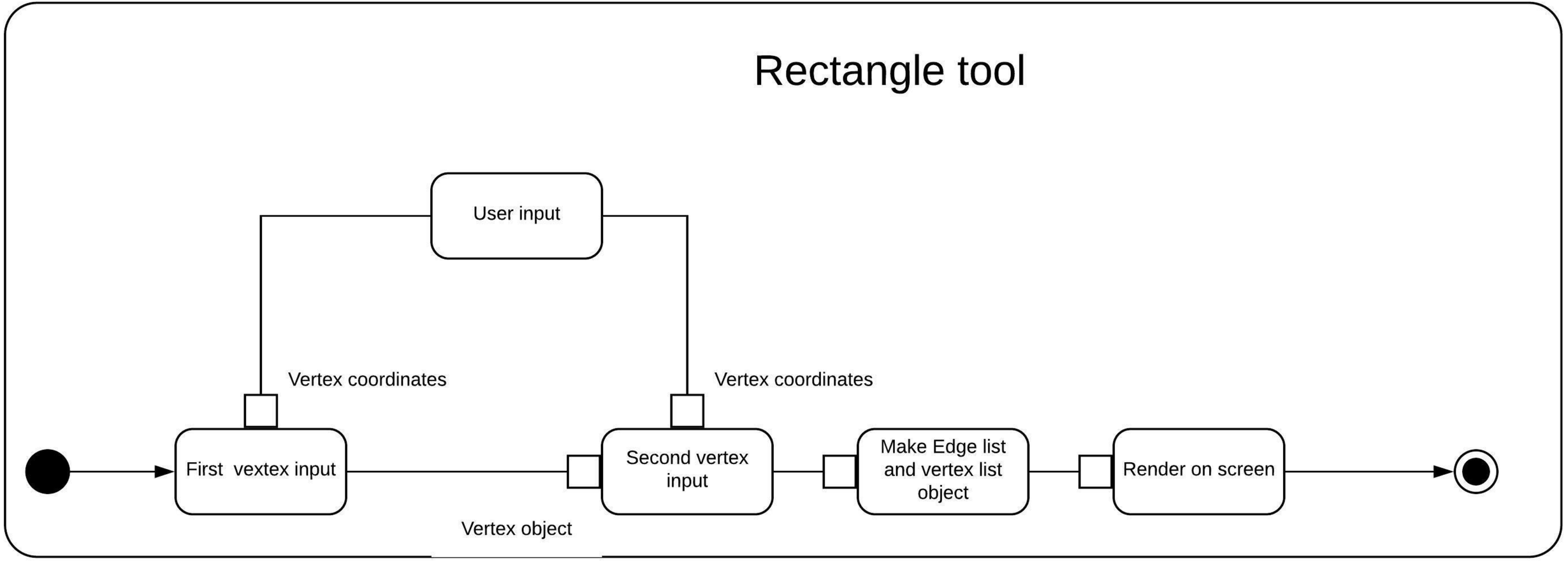
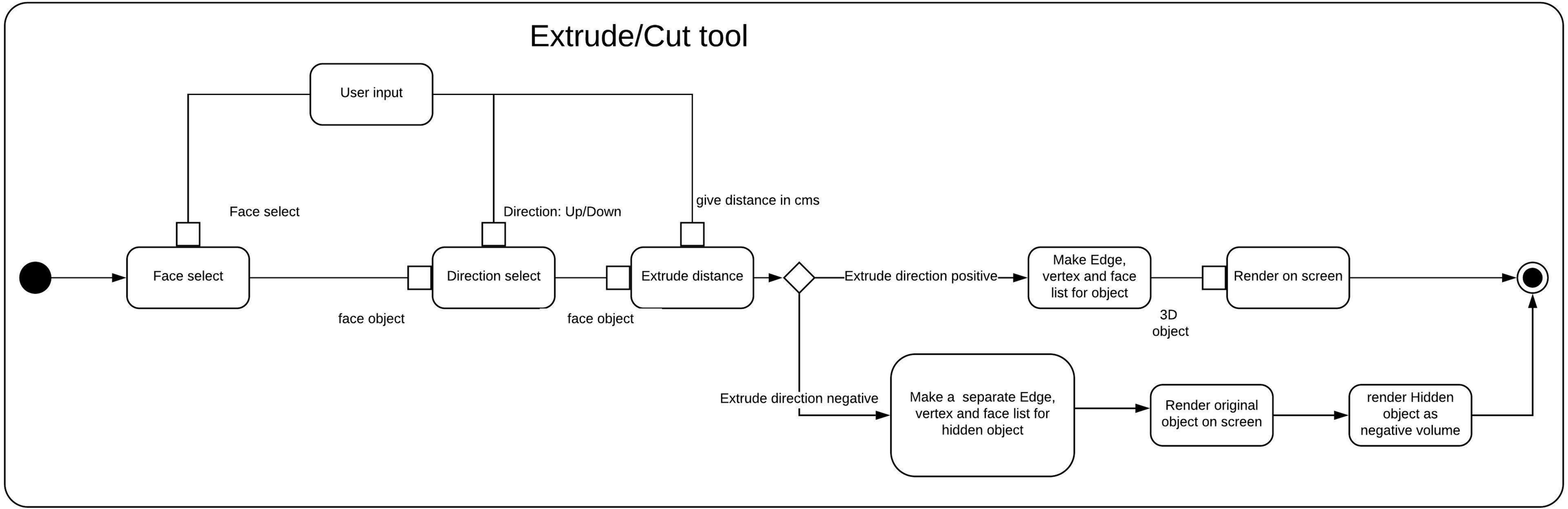
CAD: Feature Specification

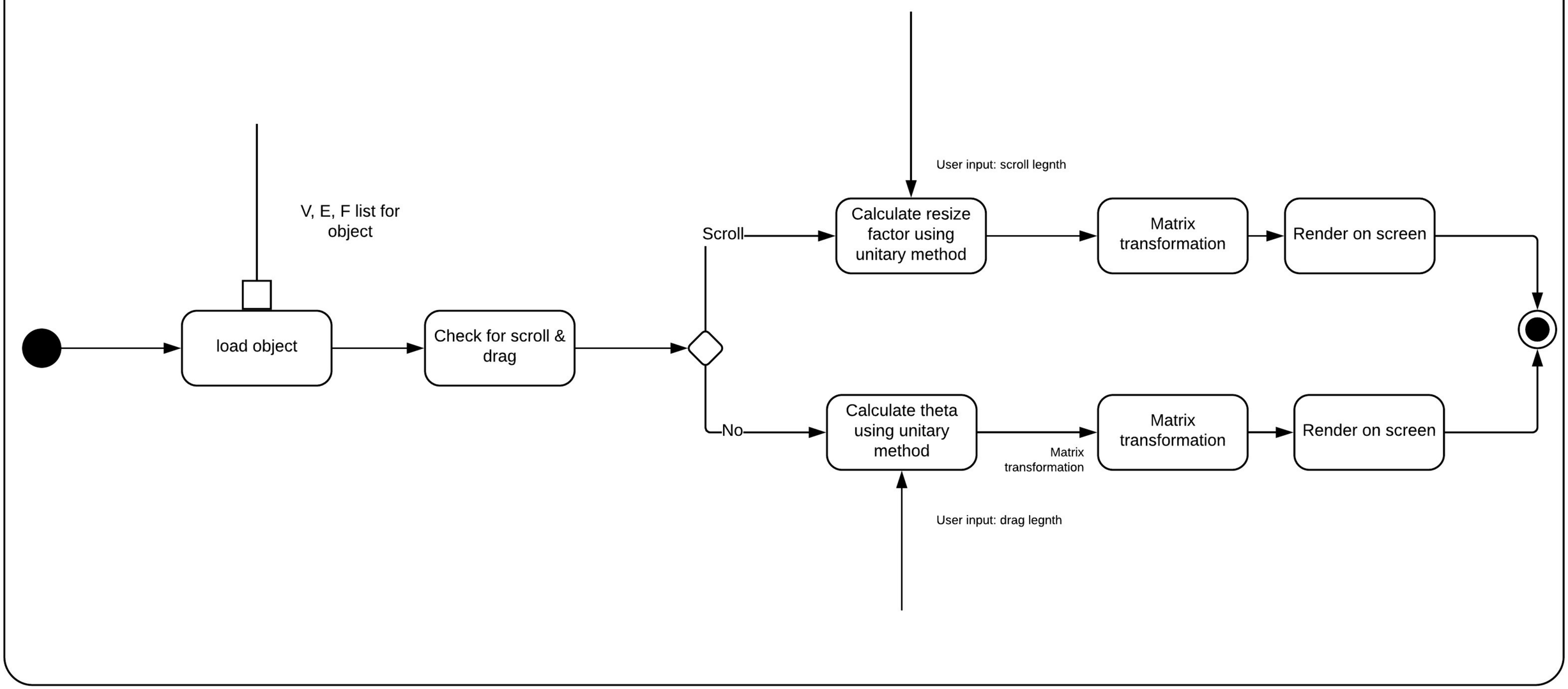

File input:
it parsers and output an object having Edge, Vertices and face list
To facilitate the projection transformation.
Yes
File format parser
Make a duplicate of object and save
Render on screen
Check if filename is specified
No

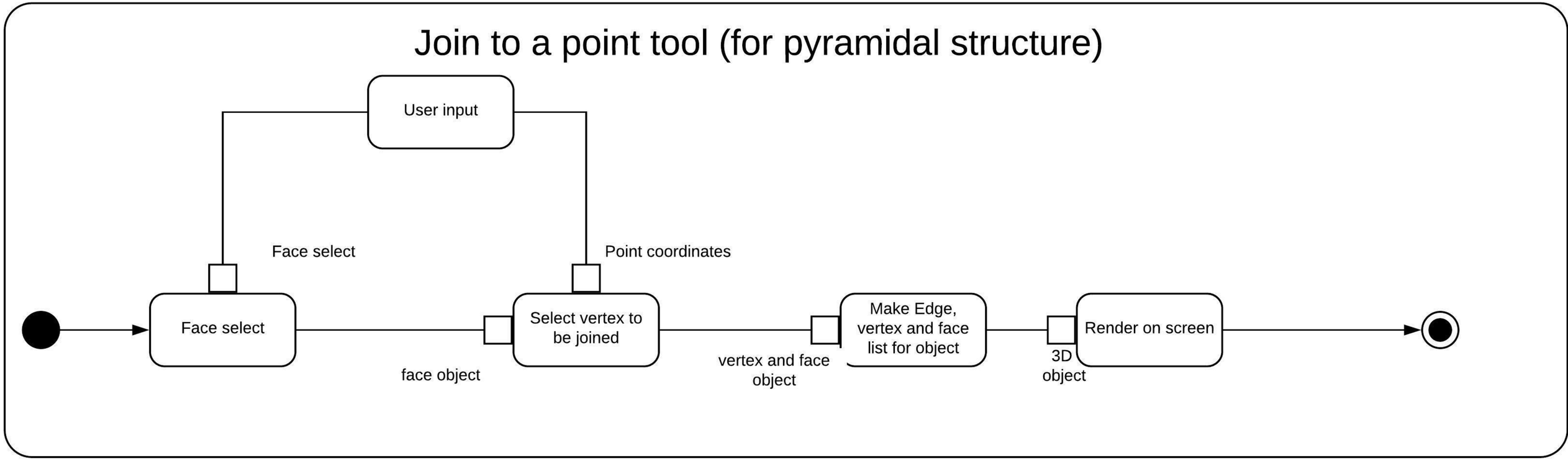

Input from interactive panel
User input
vertex co-ordinates
vertex co-ordinates
Yes
Check if any tool is selected
No
Switch <tool>
case <Line tool>
Input first vertex
First vertex
Input second vertex
pair of vertex
Make vertex object
Vertex object
Render on screen
case <Rectangle/ploygon tool>
Rectancle tool
case <Extrude/cut>
Extrude tool
case <extend to point>
Extend to point


Rectangle tool
User input
Vertex coordinates
Vertex coordinates
First vextex input
Second vertex input
Make Edge list and vertex list object
Render on screen
Vertex object

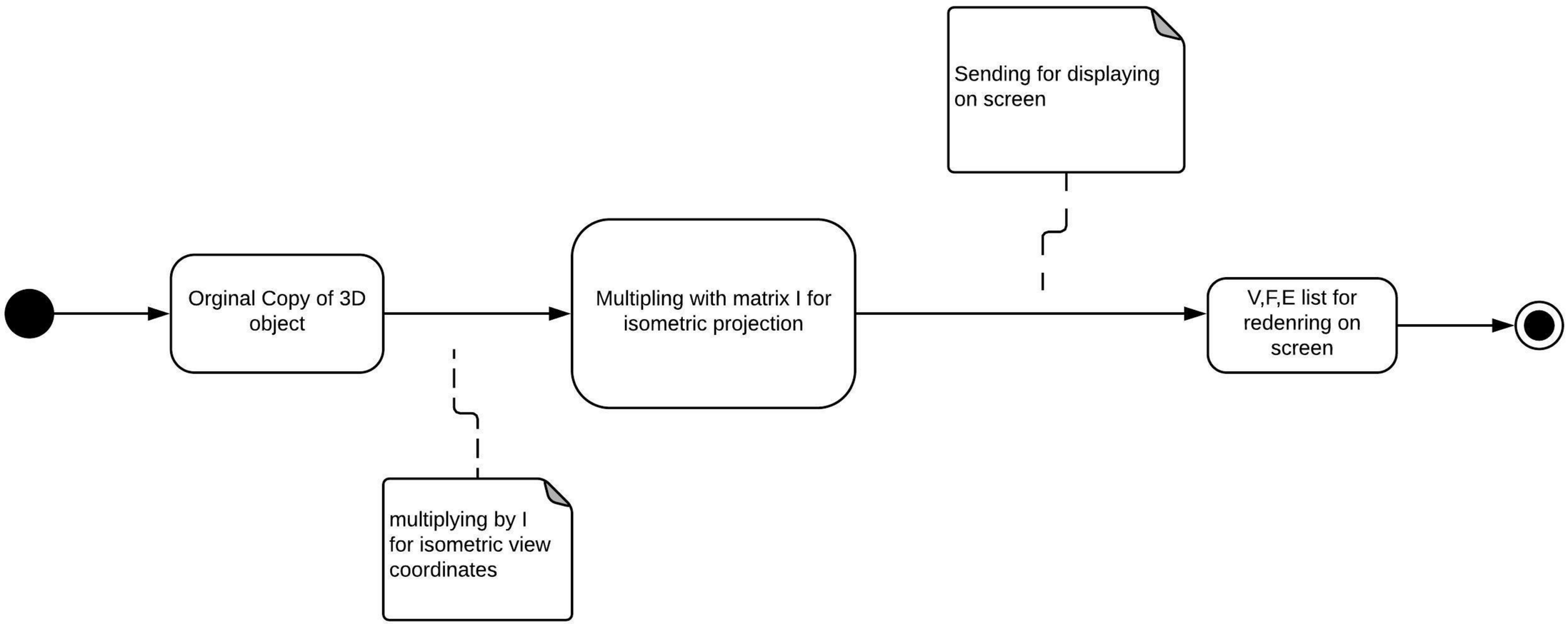

Extrude/Cut tool
User input
Face select
Direction: Up/Down
give distance in cms
Face select
Direction select
Extrude distance
face object
face object
Extrude direction positive
Make Edge, vertex and face list for object
3D object
Render on screen
Extrude direction negative
Make a separate Edge, vertex and face list for hidden object
Render original object on screen
render Hidden object as negative volume

3D object rotate/scale

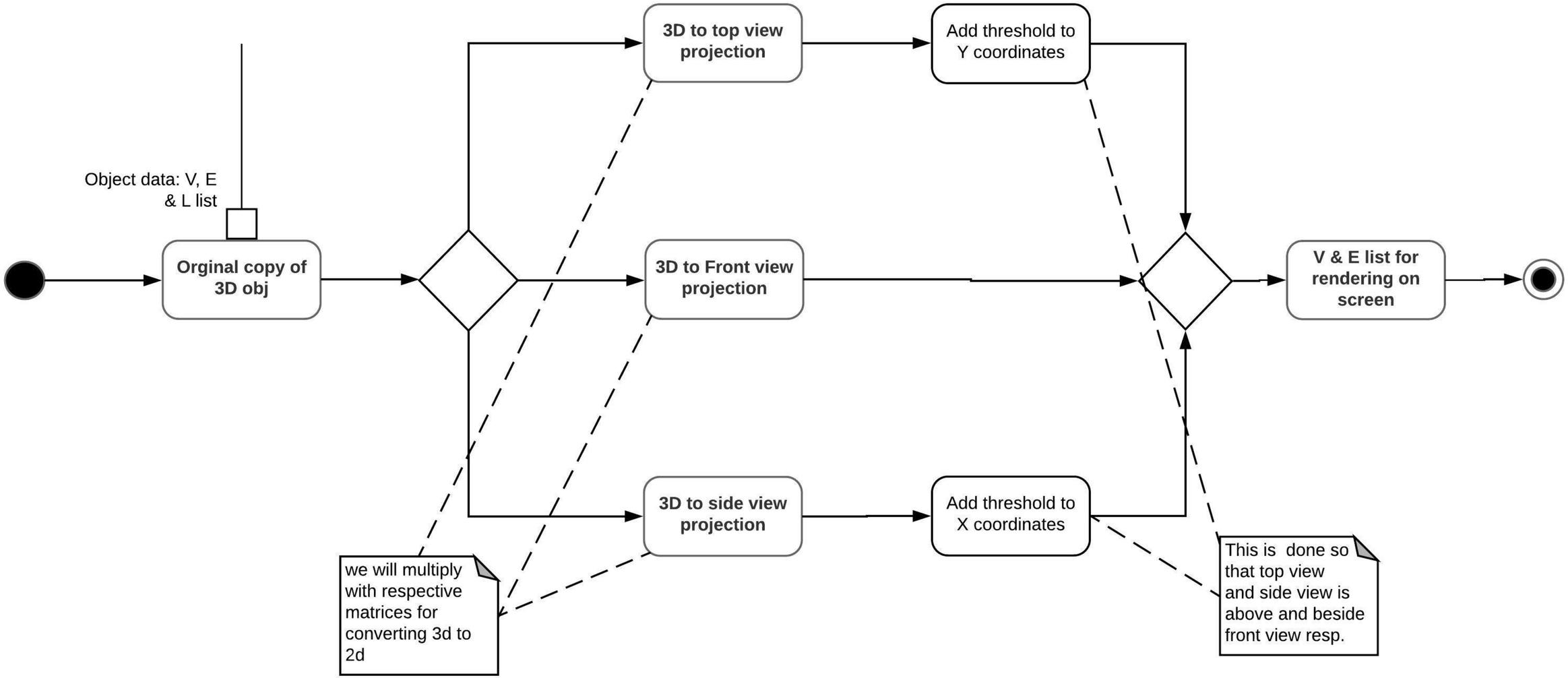



Join to a point tool (for pyramidal structure)
User input
Face select
Point coordinates
Face select
Select vertex to be joined
Make Edge, vertex and face list for object
Render on screen
face object
vertex and face object
3D object

Oblique 3D to isometric projection



Oblique to Orthographic



Orthographic to Standard 3D

Loop{Object; corresponding hidden object

Orthographic data

object; along with hidden object data

verify all the assumptions

sending to find all valid edges list

Pass

Find vertex list

Fail

Converting 2d cordinates to 3d by taking any two views for hidden and normal parts

Vertex object

LOOP (for all vertex)

Eliminate the impossible other edge ends

Form the edge list

Using the argument mentioned in the pdf

Using the theorem mentioned in the pdf

V,F,E data to be rendered on screen

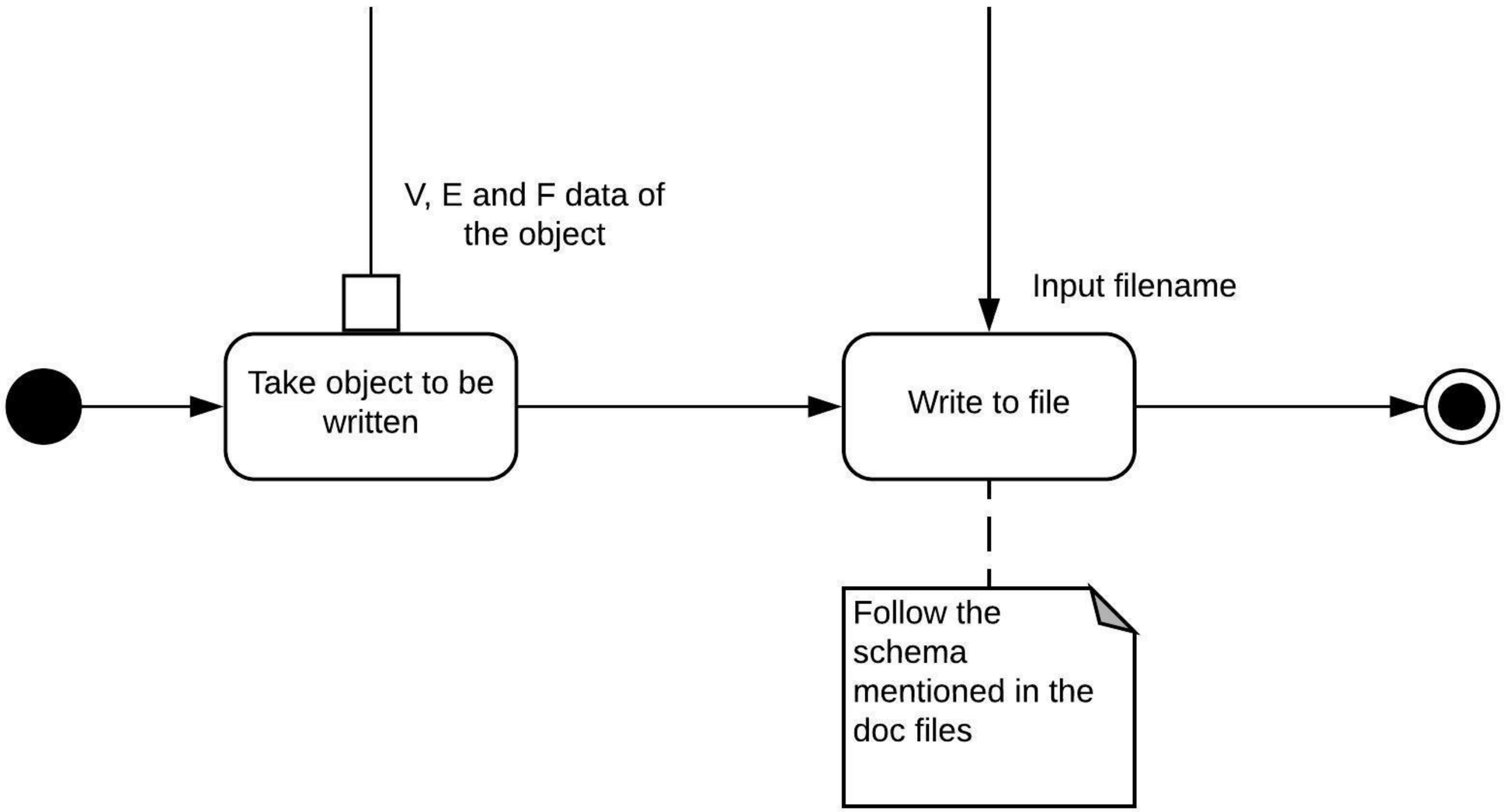
V, E, F data of object

Negative volution in case of hidden figure

Find face list using edge list

This can be done by finding out cylces in the edge list and hence by matrix exponentiation or transitivity

Save to file



Snap