

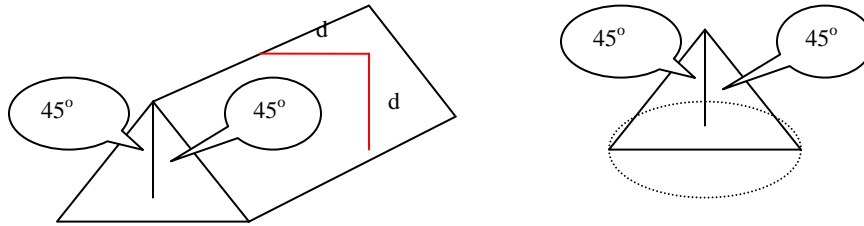
Notes for April. 6, CS7491

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1. The discussion about how to put circles in a 2D polygon without intersections

Consider the following two base cases:



For any give polygons, grows the edge and the point to form solid triangle columns and cones. The intersections form the “voronoi edges”.

The proposed algorithm to solve the growing circle problem:

- (1). Buffer the edges and vertex till they touch by using the above mentioned solid triangle columns and cones;
- (2). Get the deepest point by using the buffer frame in rendering from the “top view”
- (3). Substitute the point by cone upward
- (4). Treat the intersection circle between the cone and the polygon surface as forbidden area
- (5). Repeat (1) till the generated circle’s radius is greater than threshold.

The above method:

The non-intersection between circles are guarantied

The main cost lies in accessing the z-buffer frame!

2. Visibility and occlusion culling

This part is demonstrated by slides at the course webpage!