Integrating the Building Information Modeling (BIM) with ArcGIS for Indoor Navigation

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Method - Mesh
Use a standard sized grid graph as the referencing network. Generate a fishnet network for each floor, map the movement on a 2D plane to the movement along grid edges.

Method - TIN
Generate a TIN network from doors and critical points in each floor, map the movement on a 2D plane to the movement along TIN edges.

Processing
Build up 3D network dataset for each floor, merge them with the staircases after finish processing all the floors.

Results
With the 3D network dataset, choose 2 locations in the building, find out the shortest path between these 2 locations. (ArcTutor/3D Routing)

Indoor Routing
This project provides 2 ways to generate network datasets semi-automatically for BIMs in ArcGIS, integrating BIM and GIS effectively for indoor navigation.

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