Alpha Presentation
Live Platform CAD Ingestion

The Capstone Experience

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Project Overview

• Herman Miller is a globally recognized provider of furnishings and related services and technologies
• Live Platform allows users to visualize and analyze their workspaces
• Implement ability to ingest CAD files into mapping system instead of images
• Create a standalone web application to allow administrators to view and modify floorplans
System Architecture
Navigator Page

![Navigator Page Screenshot]

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Team Herman Miller Alpha Presentation

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Navigator Page Edit Window
Viewer Page
Conversion Page

Visual Ontology

File Conversion Demonstration

This page is a demonstration of the working functionality for converting AutoCAD files into GeoJSON and will not be in the final product.

The conversion from AutoCAD files into a form our graphics engine (Mapbox) understands (GeoJSON) is complete, but the application doesn’t yet use it in its current state. All of our risks involved the process of this conversion, so all effort on this side of the back end was put into making sure it was working properly. Our next steps include developing the connections (editing/creating floorplans) that will make use of this functionality.

DXF File
0441a.dxf

Included Layers (Group "main")
WALLS

Run Conversion

GeoJSON Output:

```json
{
  "main": {
    "type": "FeatureCollection",
    "name": "SELECT",
    "features": [
      {
        "type": "Feature",
        "properties": {},
        "geometry": {"type": "LineString"}
      }
    ]
  }
}
```
What’s left to do?

• Add and edit individual floorplans through the navigator page
• Add and edit sensors, zones and gateways on a selected floorplan in the viewer page
• Download source CAD files from floorplans
• Implement algorithm to enforce sensor hardware constraints
• Add more advanced error and state handling
Questions?