



Intelligent Interactive Indoor Map

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Agenda

Introduction:

Problems/user needs

Current solutions

Building i3m:

Goal

Challenges

Map understanding

User-friendly interface

Architecture

Summary

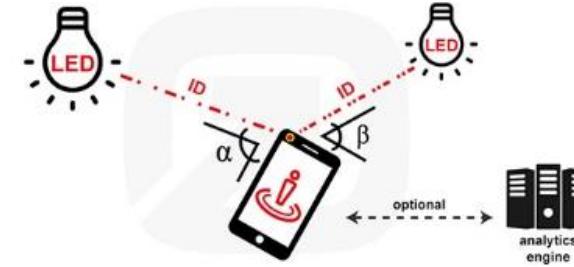
Vision

Problems User Needs



Current Solutions

Technology	Indoor/Outdoor	Accuracy	Range	Cross-Platform	Power Supply
GPS	cloud	5-20 m	worldwide	Android, iOS	battery
WiFi	house, cloud	5-15 m	< 150 m	Android	battery, power plug
Bluetooth	house, cloud	1-3 m	< 30 m	Android, iOS	battery
VLC	house	< 50 cm	< 8 m	Android, iOS	power plug



Goal 3m

We aim to design an intelligent and interactive map that can navigate users indoors and provides users an easy way to label rooms & path information from both user-friendly interface and rich sensor information.



i3m Challenges Intelligent

Interactive

ONE Map

How to understand the map
How to deal with real world data

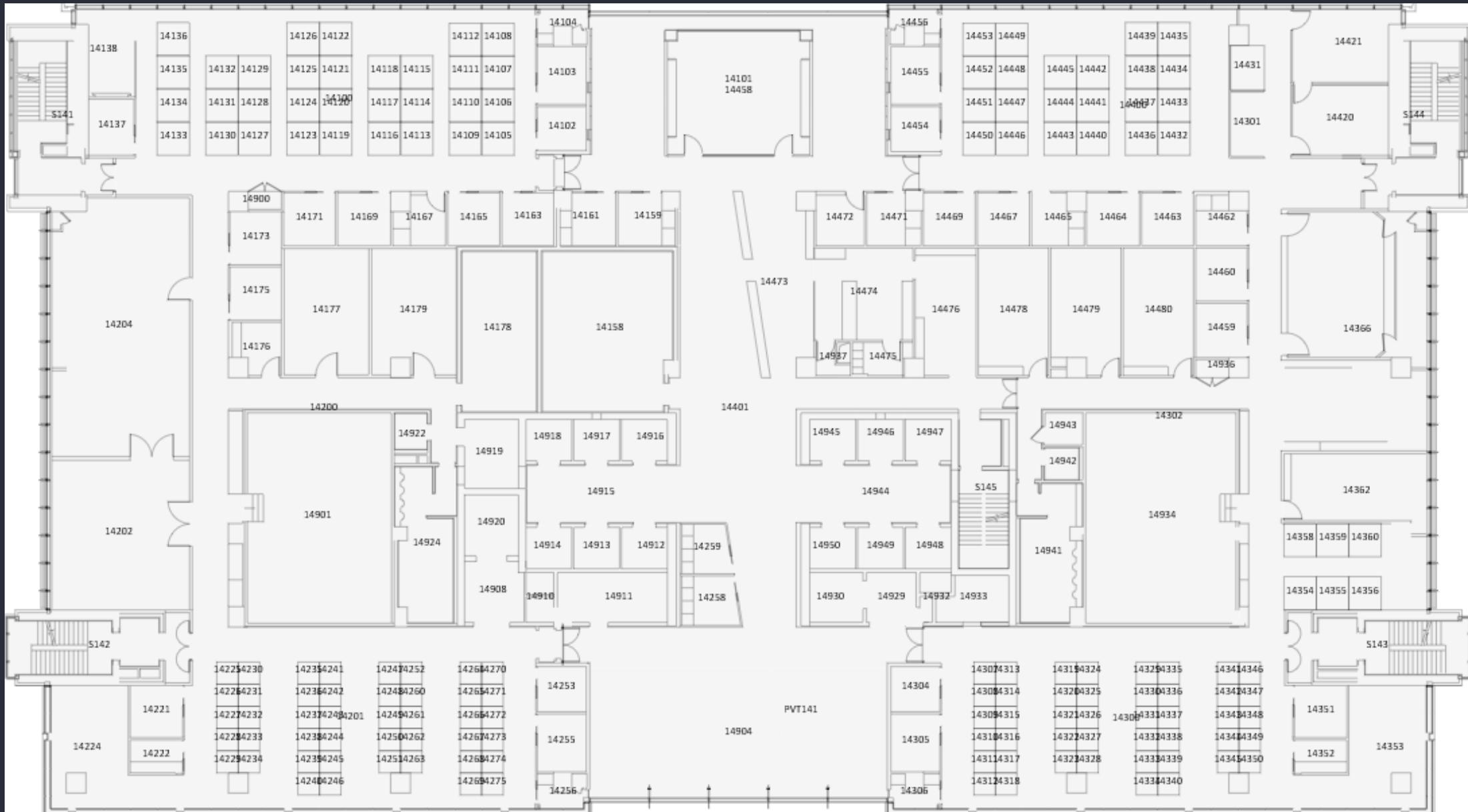


TWO Interface

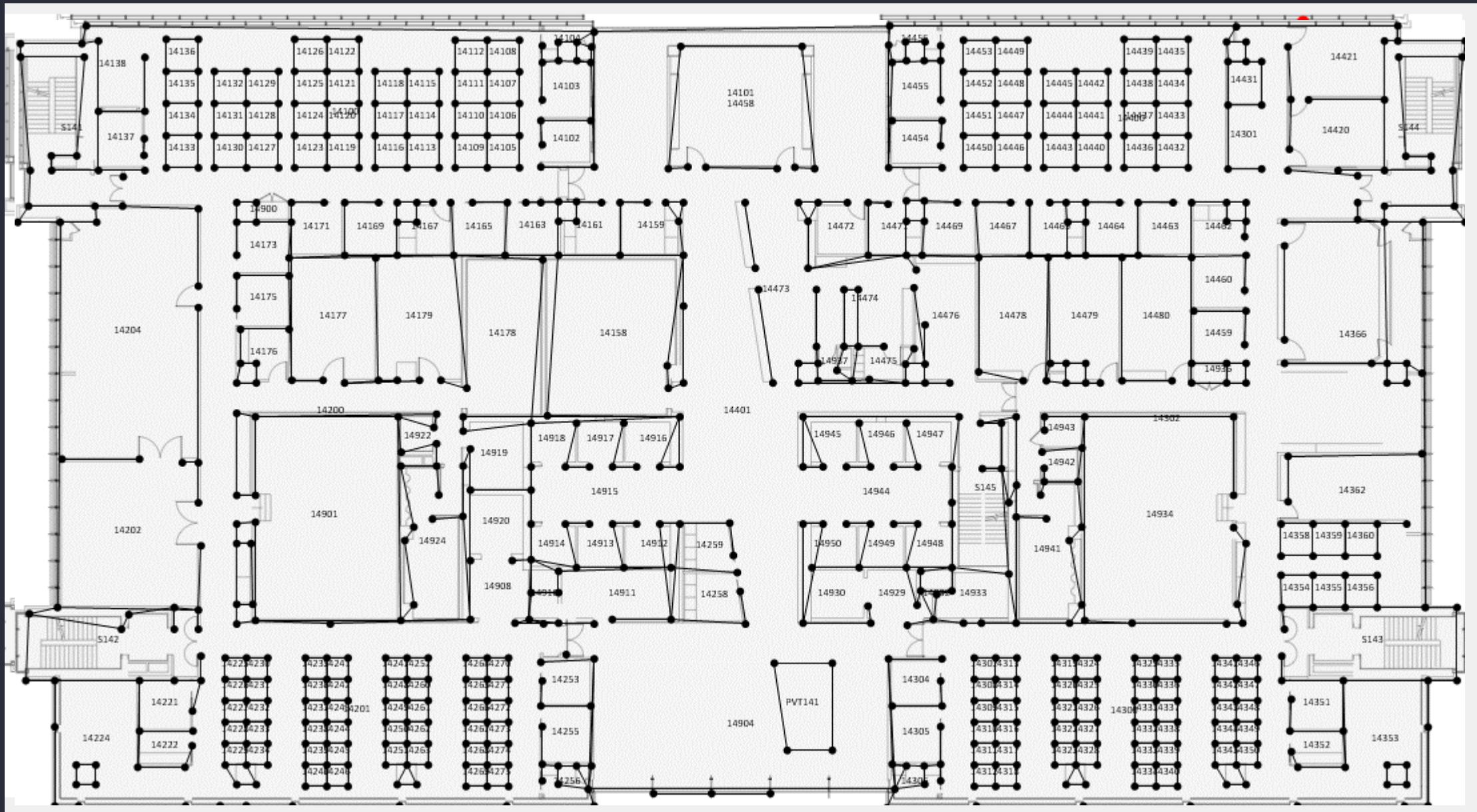
How to make an intuitive map visualization and easy to use interaction



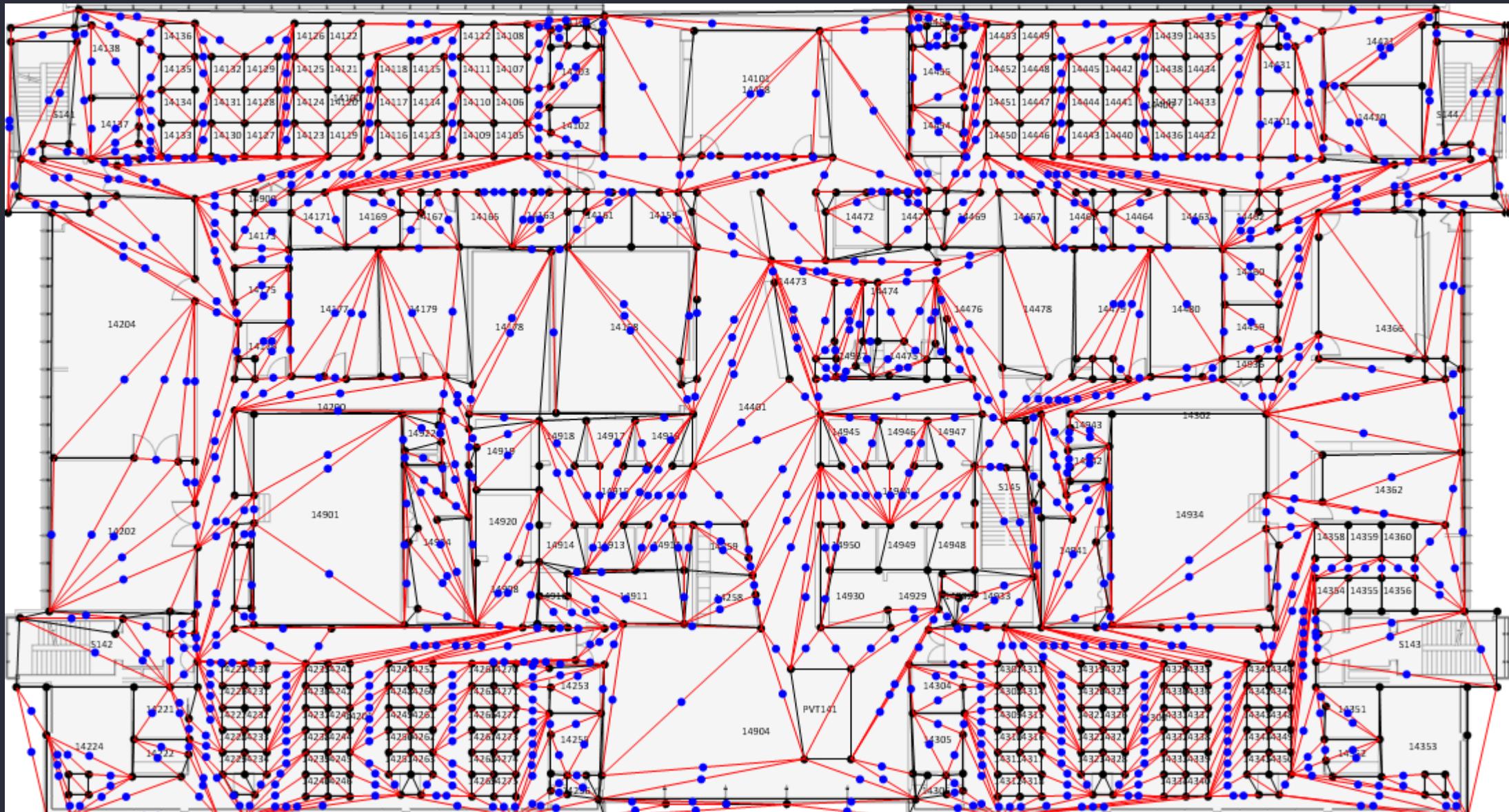
Map understanding



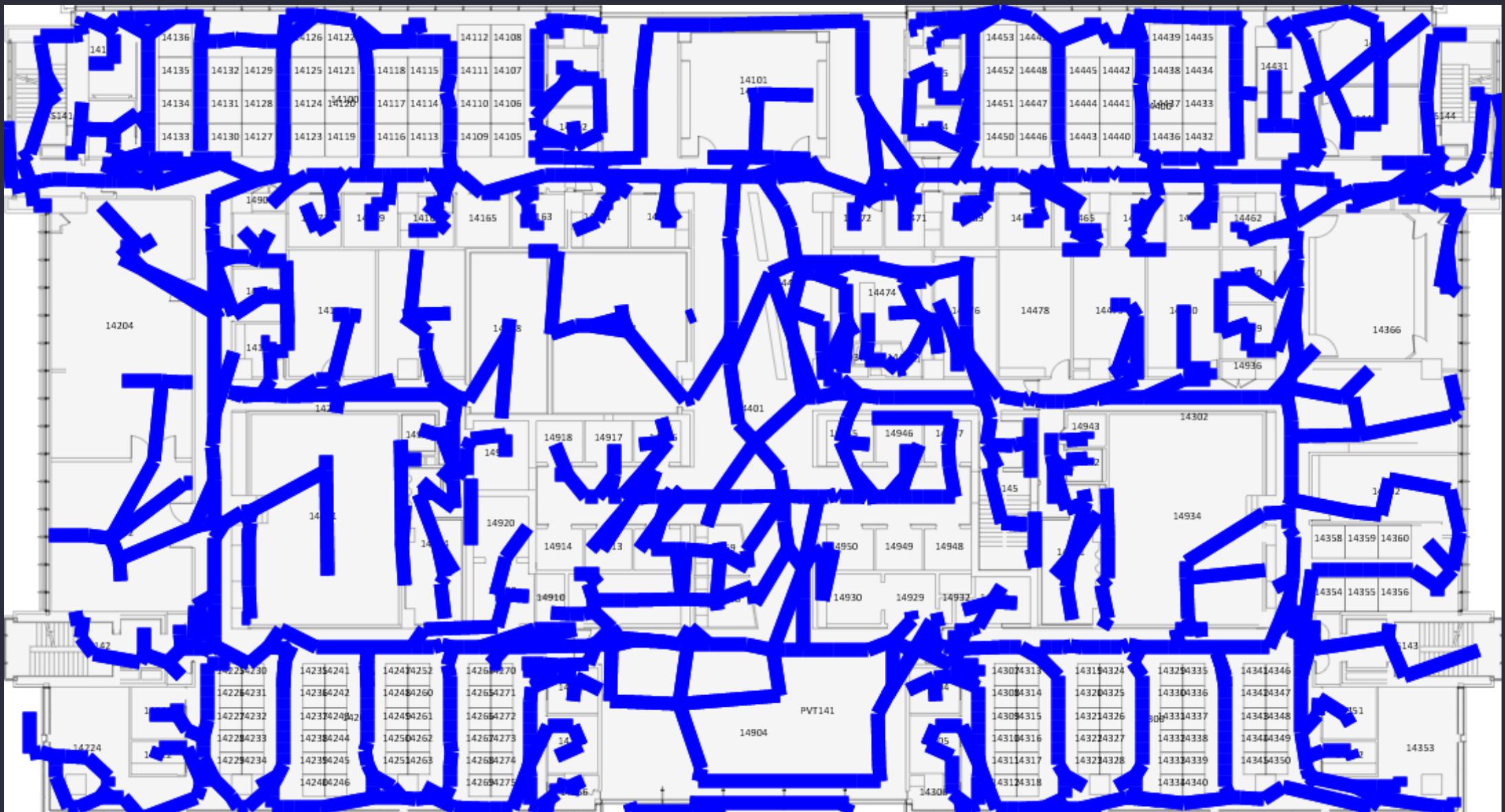
Map understanding



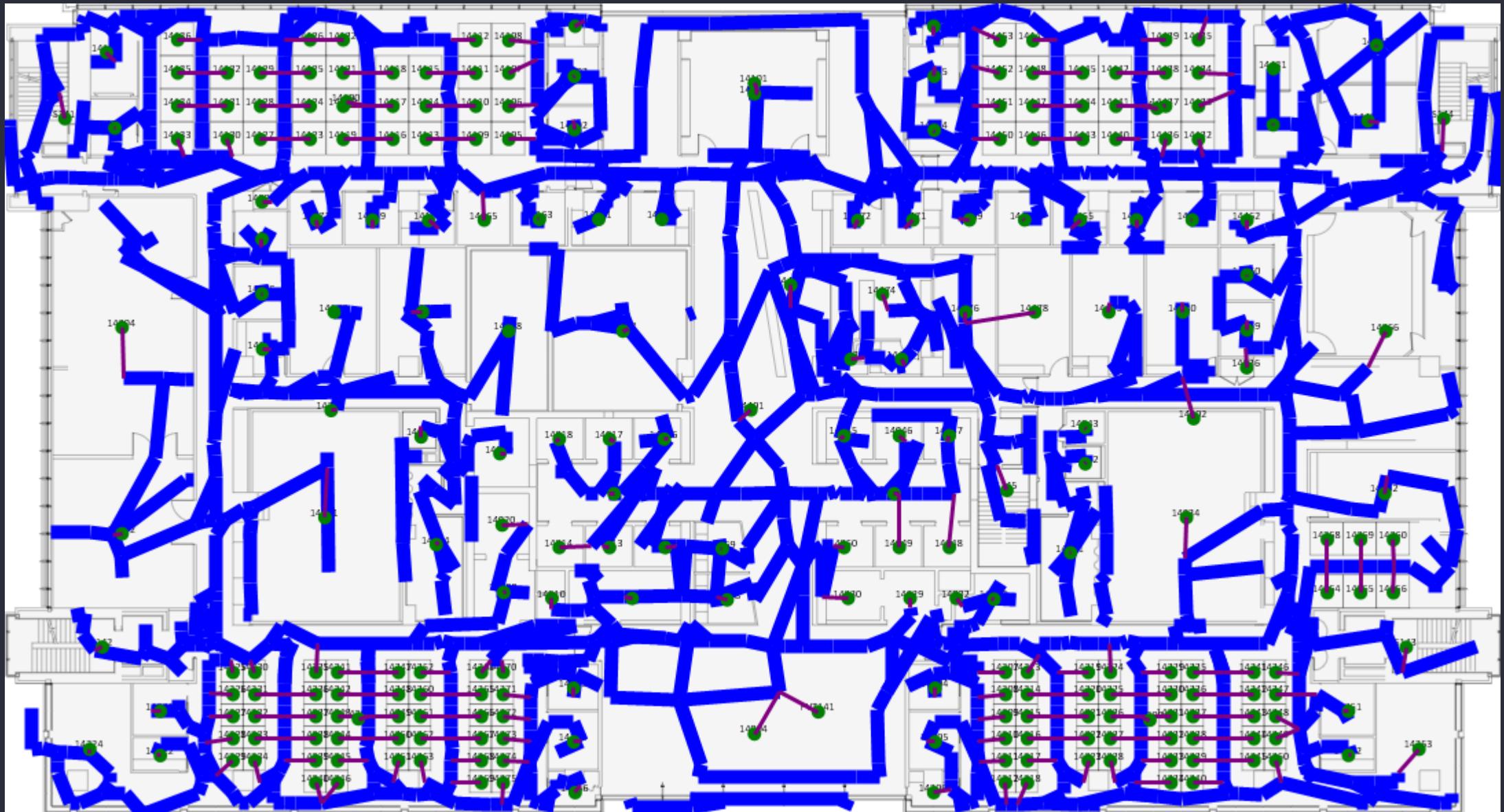
Map understanding



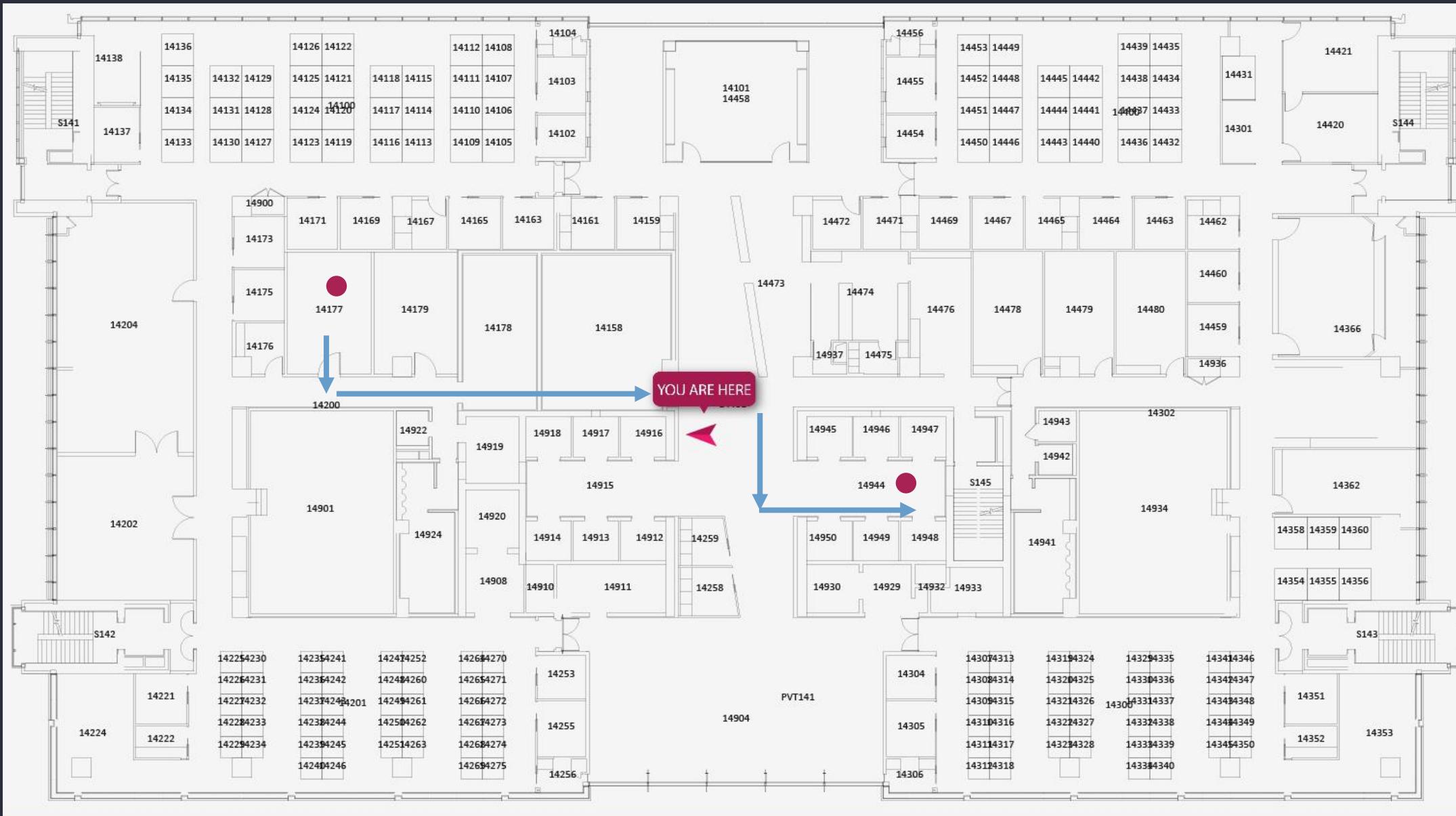
Map understanding



Map understanding



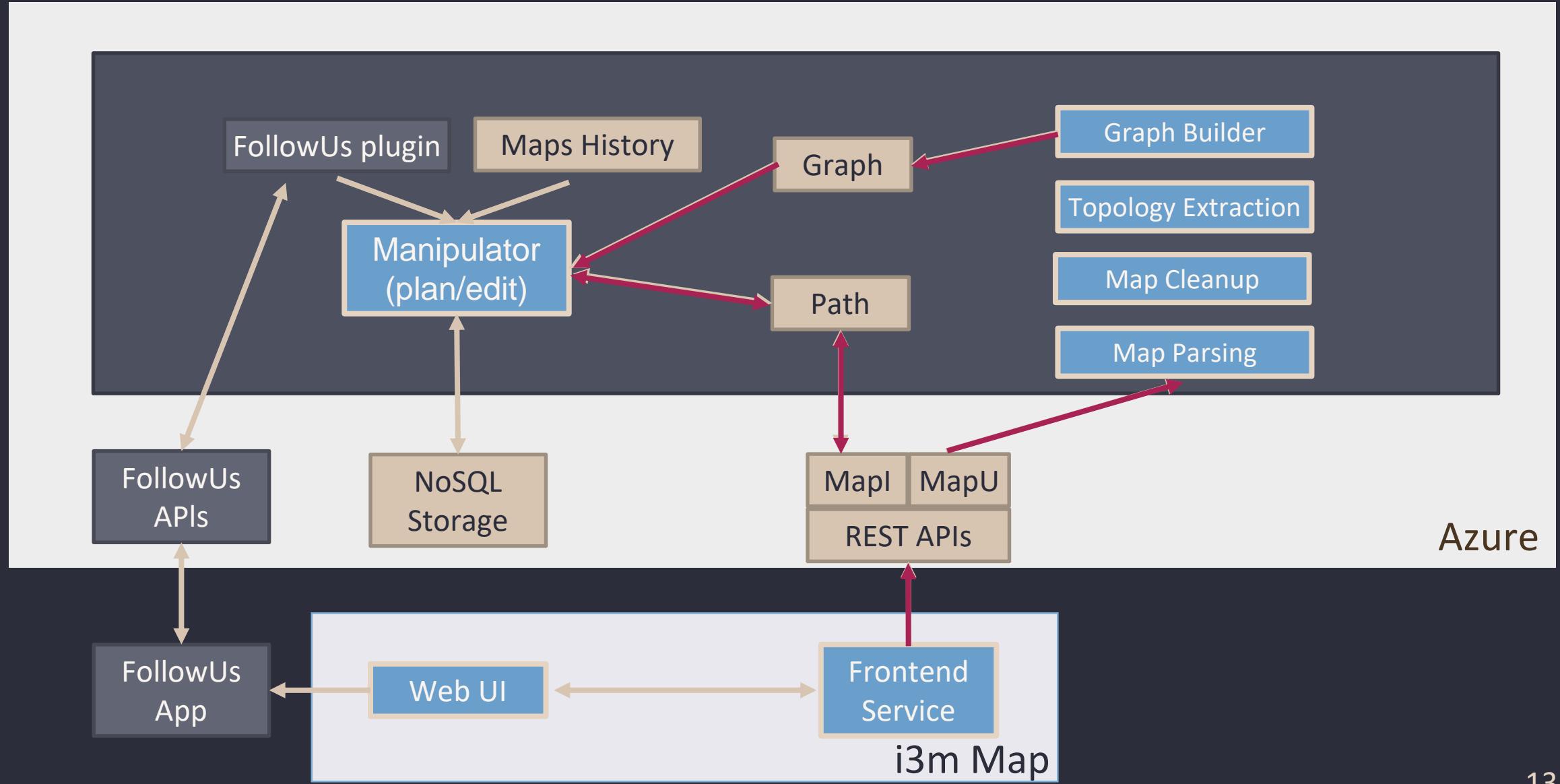
After Intelligent map is built...



User-friendly interface



Architecture



i3m Summary



A cloud service

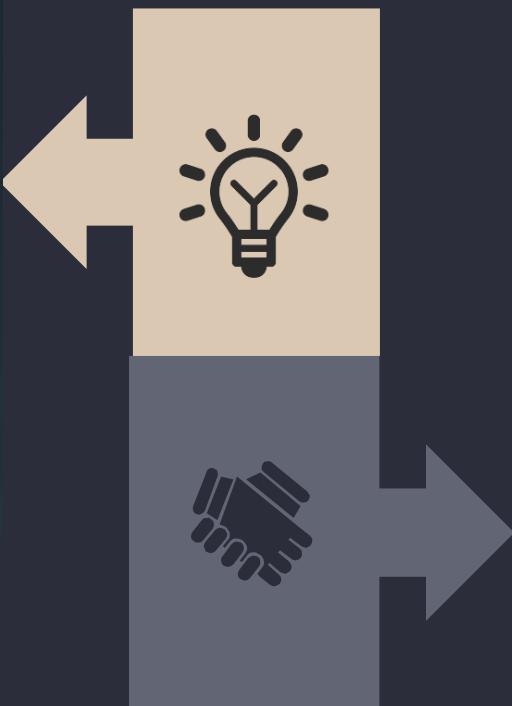
- Receive and parses original maps
- Store and generate paths
- Find a path on map from sensing information



A web interface

- Indoor navigation
- Allows users to add paths and annotate on map

i3m Vision



Thank you!