Delta Wi-Fi Positioning System

github.com/tonysln/delta-wifi-pos

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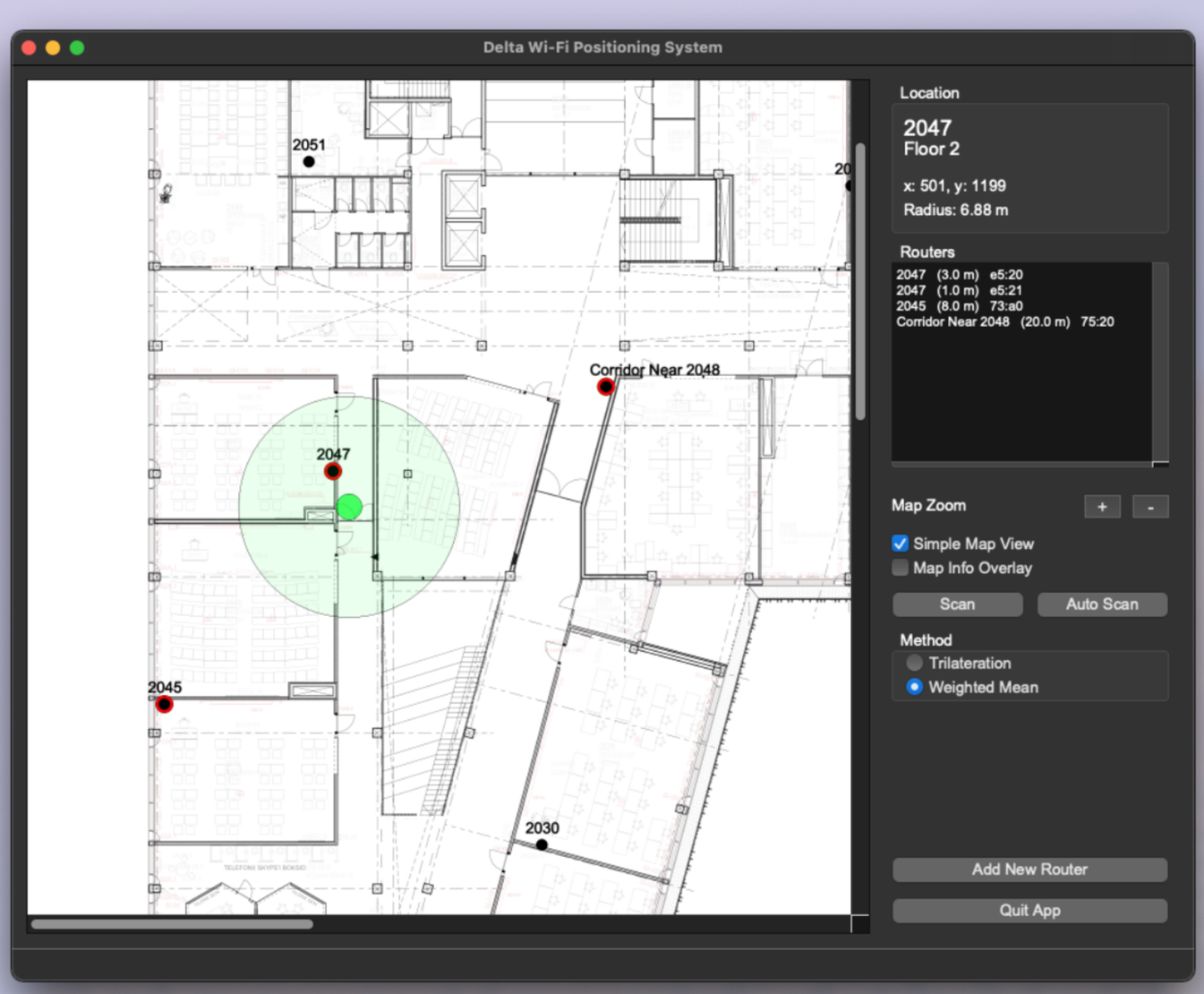


A positioning solution for the Delta building using weighted mean and trilateration algorithms, based on nearby Wi-Fi network scanning.

Includes multiple features, such as convenient Auto-Scan and "Add New Router" mode.

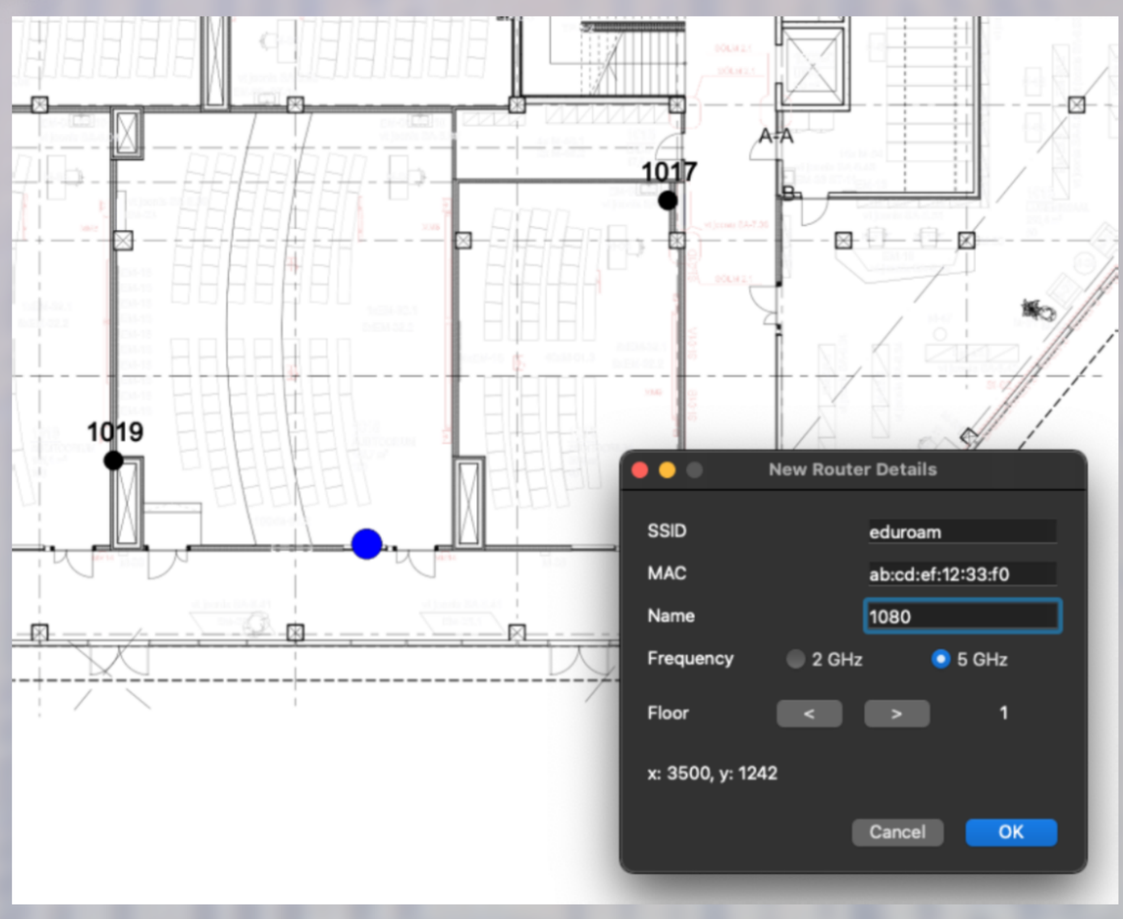
Routers Database

All routers stored in a CSV file for easy editing and viewing.

420 lines (333 sloc) | 16.1 KB

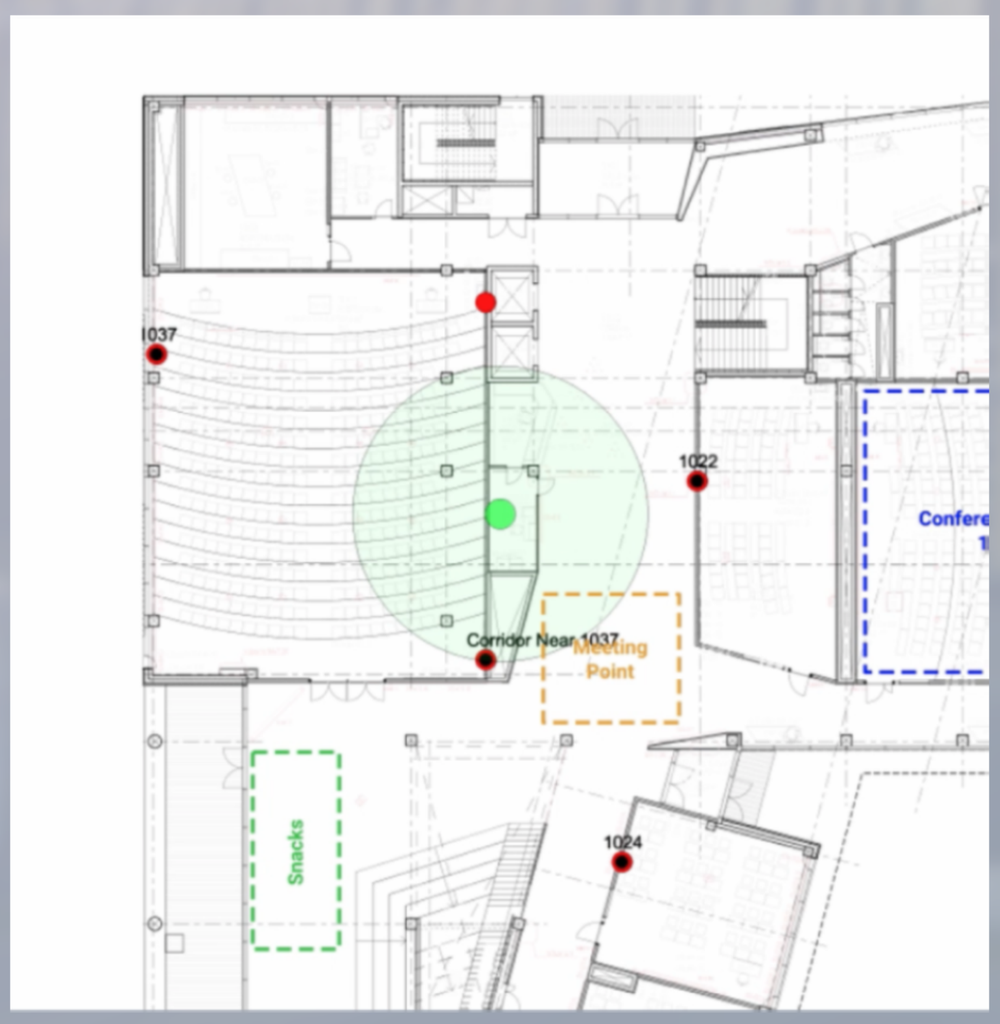
Search this file...

	x	y	mac	ssid	floor	frequency	name
2	730	440	7c:21:0d:2e:d4:40	eduroam	0	2	Corridor Near 1037
3	730	440	7c:21:0d:2e:d4:4f	eduroam	0	5	Corridor Near 1037
4	730	440	7c:21:0d:2e:d4:41	ut-public	0	2	Corridor Near 1037
5	730	440	7c:21:0d:2e:d4:4e	ut-public	0	5	Corridor Near 1037
6	2020	160	7c:21:0d:2f:56:80	eduroam	1	2	1004
7	2020	160	7c:21:0d:2f:56:8f	eduroam	1	5	1004
8	2020	160	7c:21:0d:2f:56:81	ut-public	1	2	1004



Detailed Floor Maps

Simple and advanced modes, support for custom overlays and map image files.



Technical Details

Built using Python and PySide, multi-platform, easy to add custom features.

Configurable

Multiple configuration variables and support for various adapters for high flexibility.

17 lines (17 sloc) | 357 Bytes

```
{
    "ADAPTER": "",
    "UI_FILE_PATH": "ui/app_main.ui",
    "ROUTERS_FILE_PATH": "data/routers.csv",
    "IMG_W": 5300,
    "IMG_H": 5553,
    "DIST_THRESHOLD": 300,
    "RAD_THRESHOLD": 14,
    "RAD_NORM": 0.4,
    "PX_SCALE": 40,
    "POWER": 1.68,
    "PATH_LOSS": 2.25,
    "RSSI_MIN": -77,
    "AUTO_SEC": 4,
    "MIN_FLOOR": 1,
    "MAX_FLOOR": 4
}
```