Occupant distribution detection in residential buildings

Jakub Dziedzic

Norwegian University of Science and Technology

Backgound

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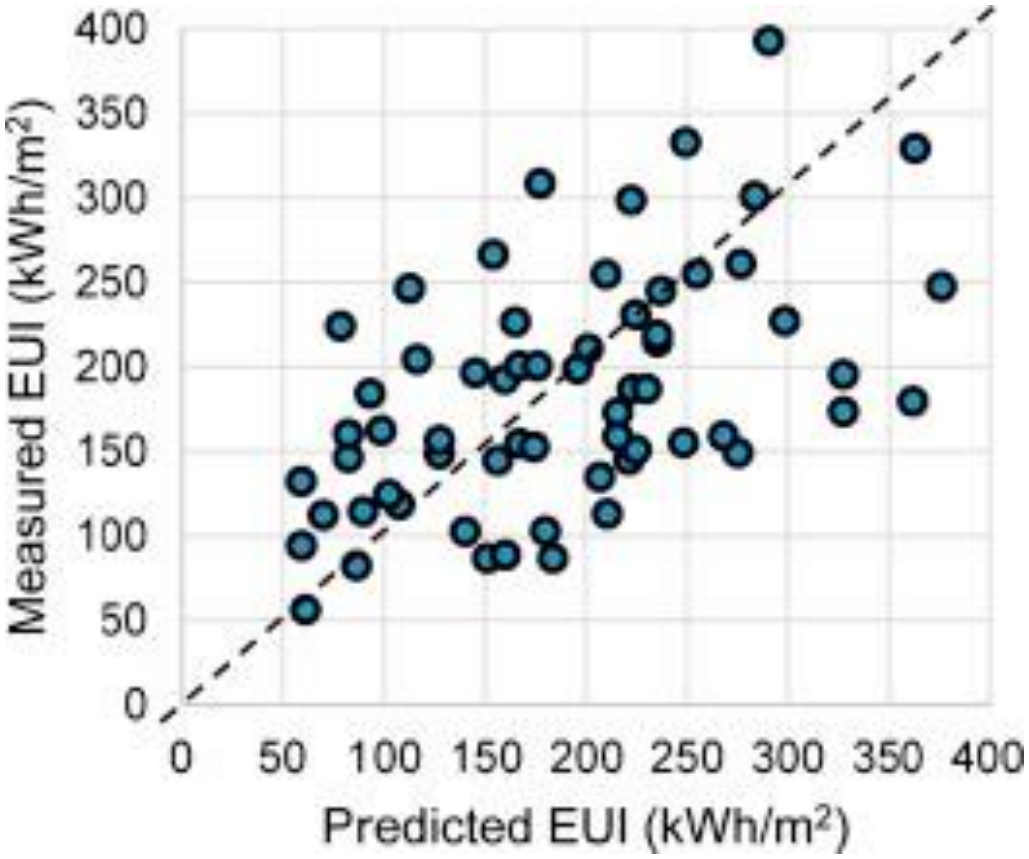
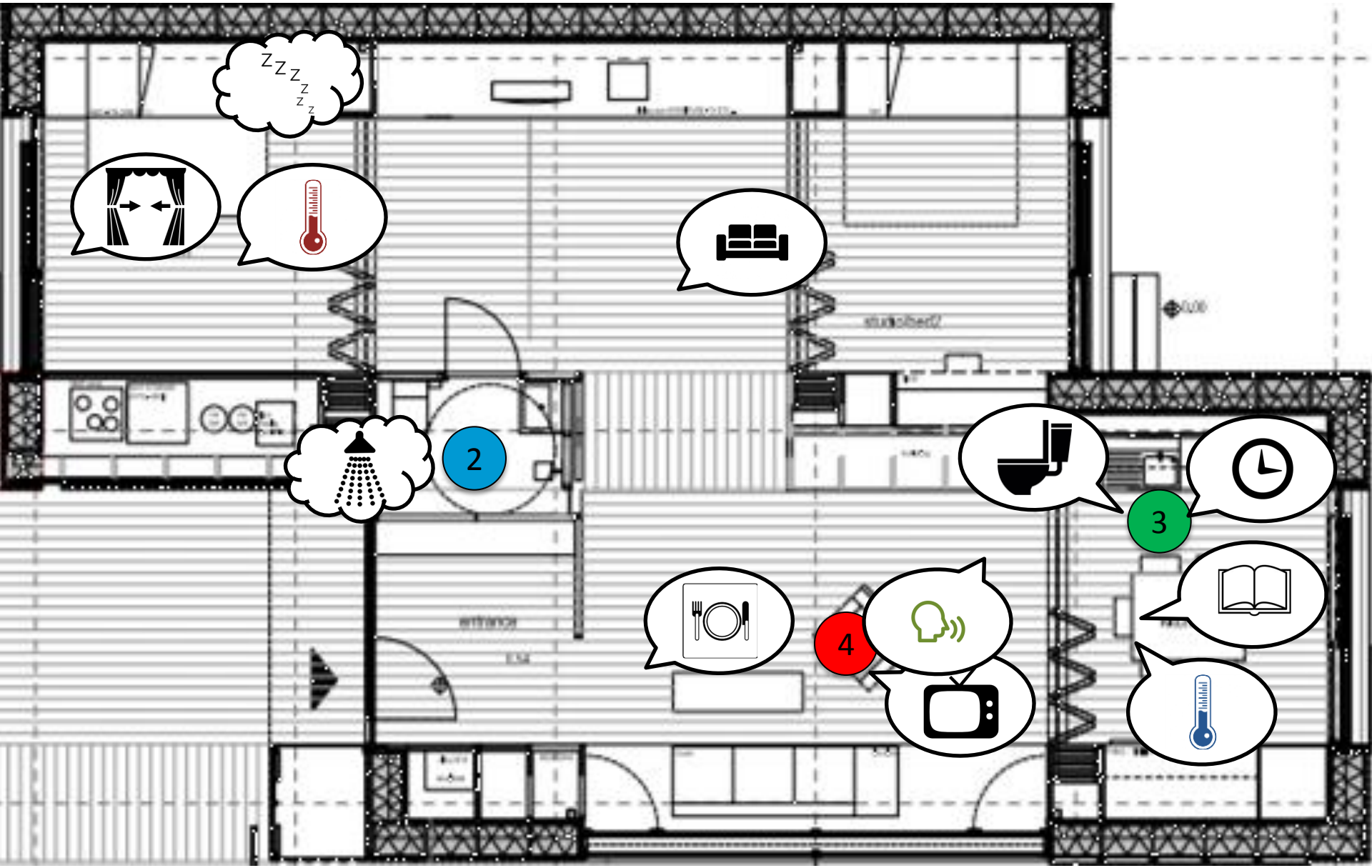


C. Turner, M. Frankel, U.G.B. Council
Energy Performance of LEED for New Construction Buildings

OBJECTIVES

bedroom
entrance
kitchen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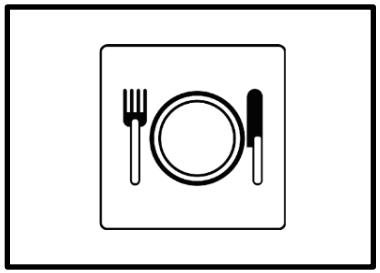

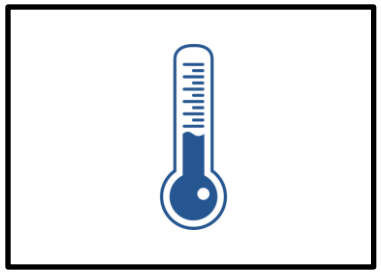

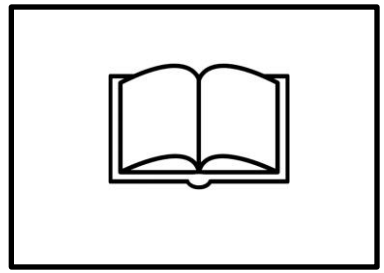

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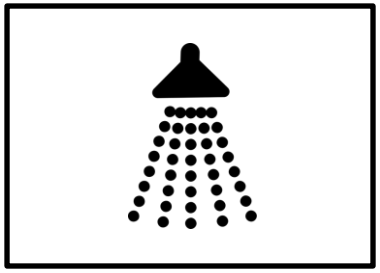

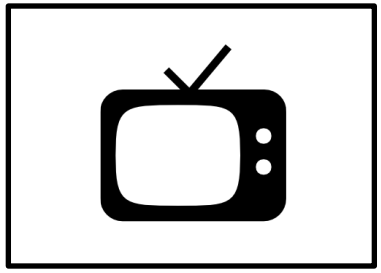

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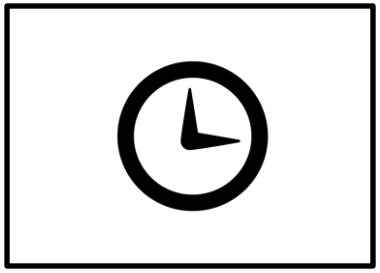

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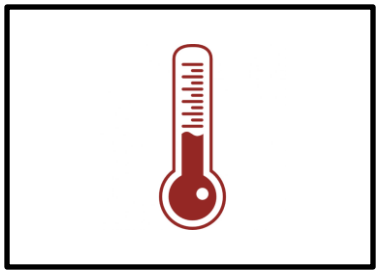

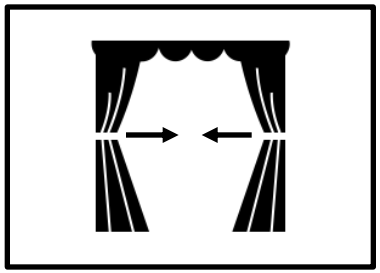

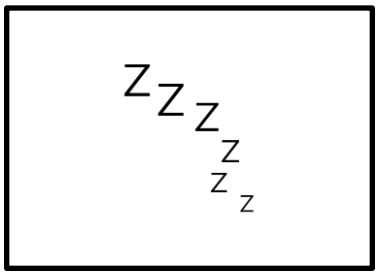

6
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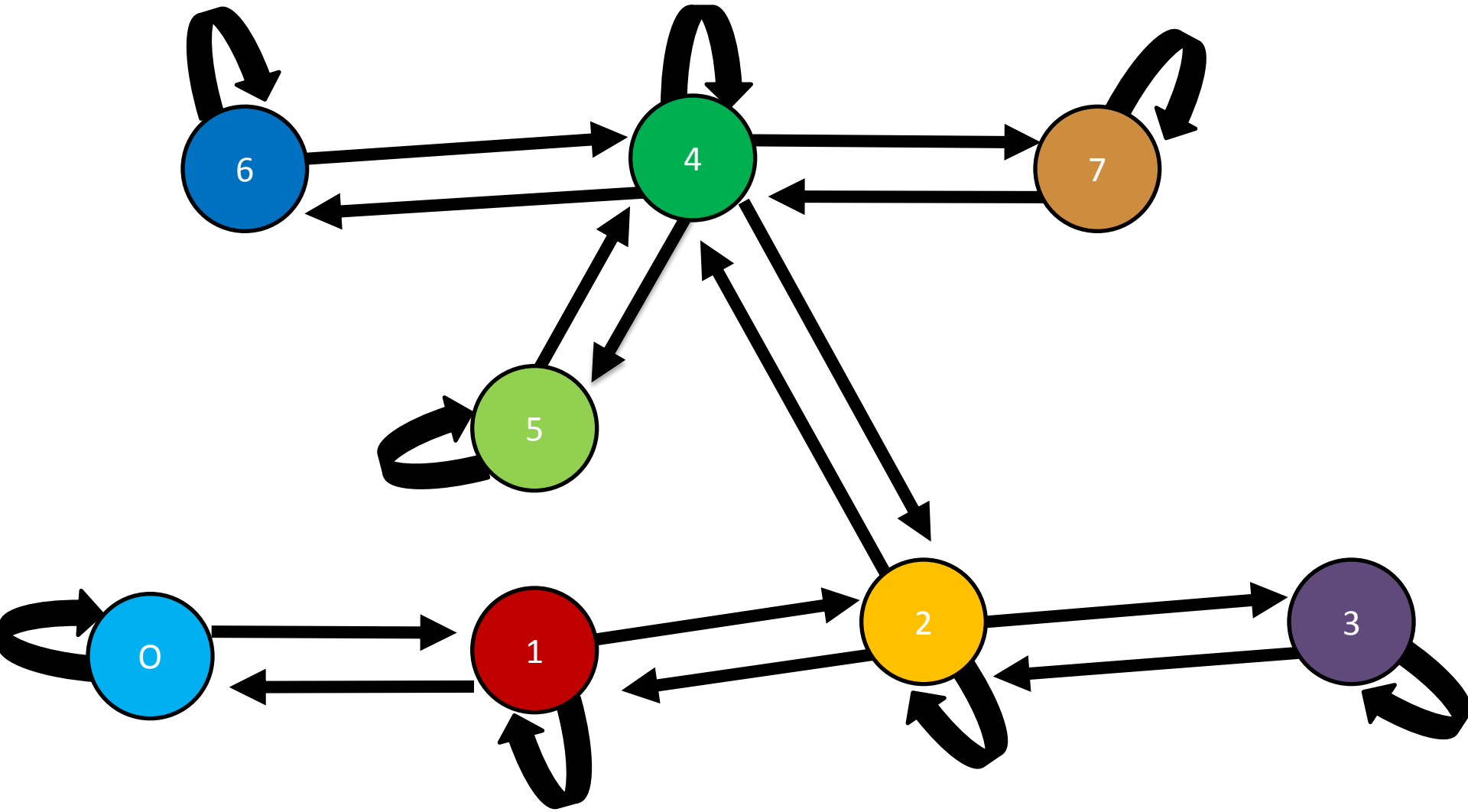
Outside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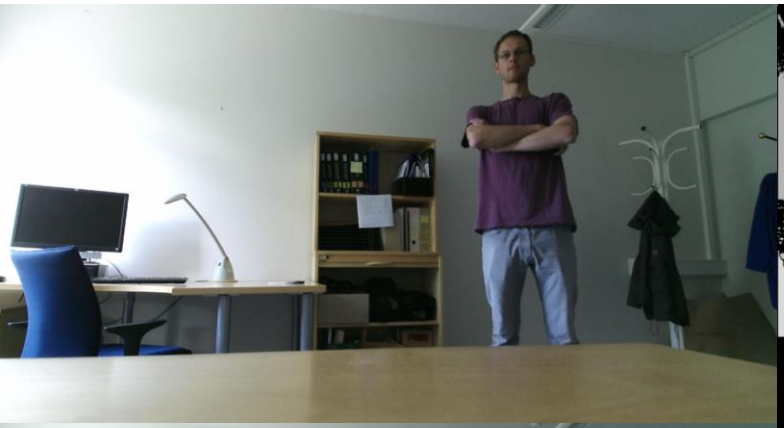
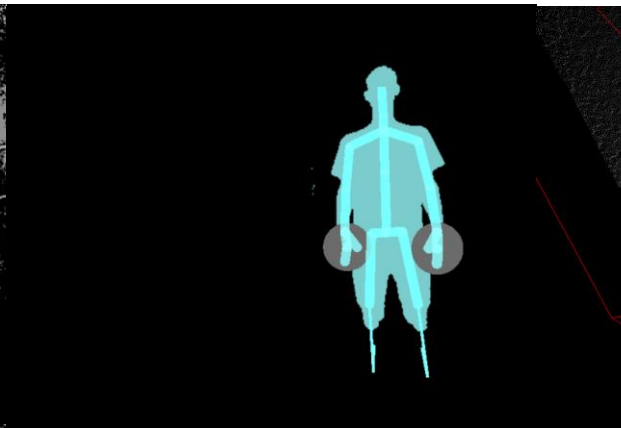
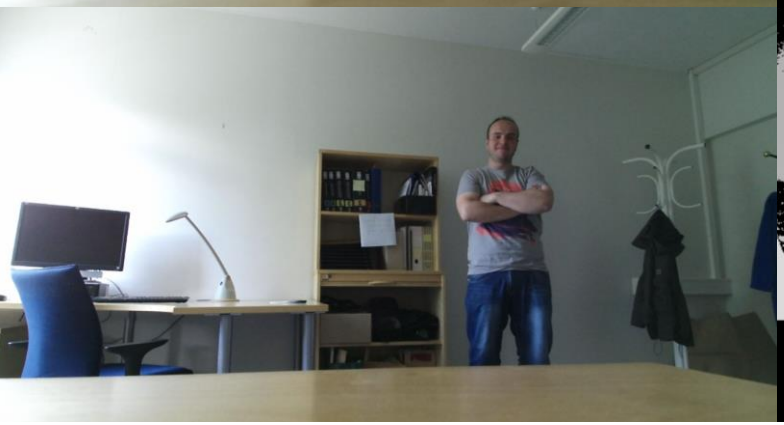
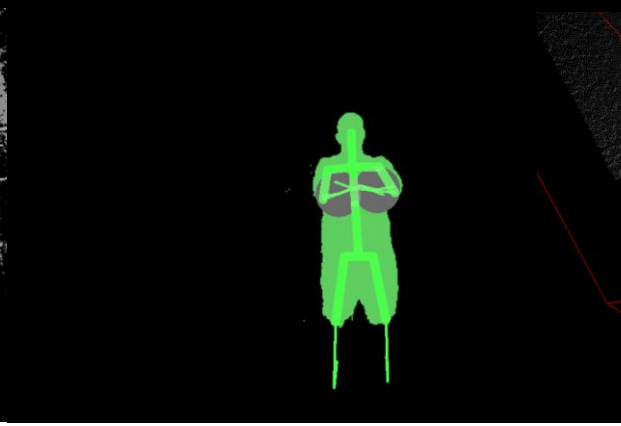
METHODS









THIS VIDEO WAS CAPTURED WITH
ACTION!
WWW.MIRILLIS.COM
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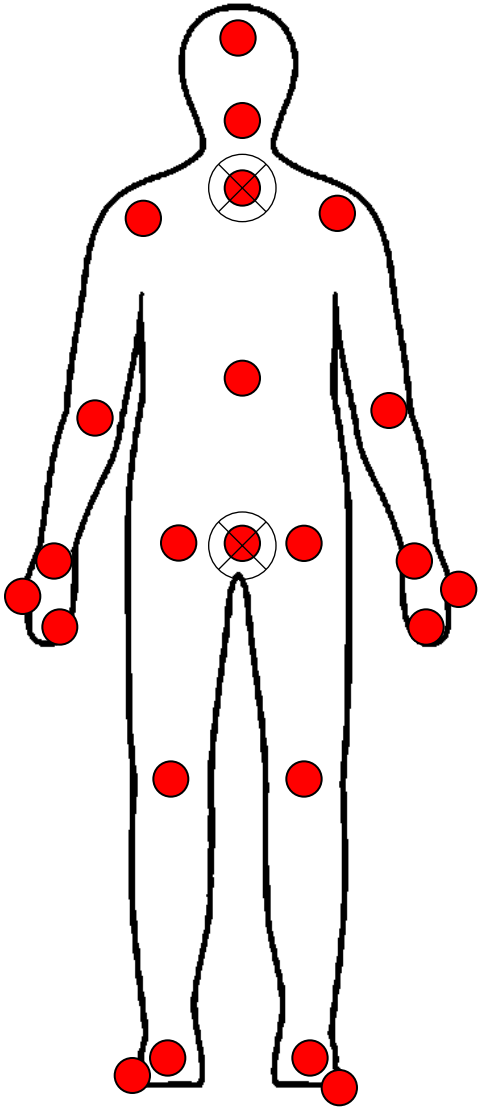
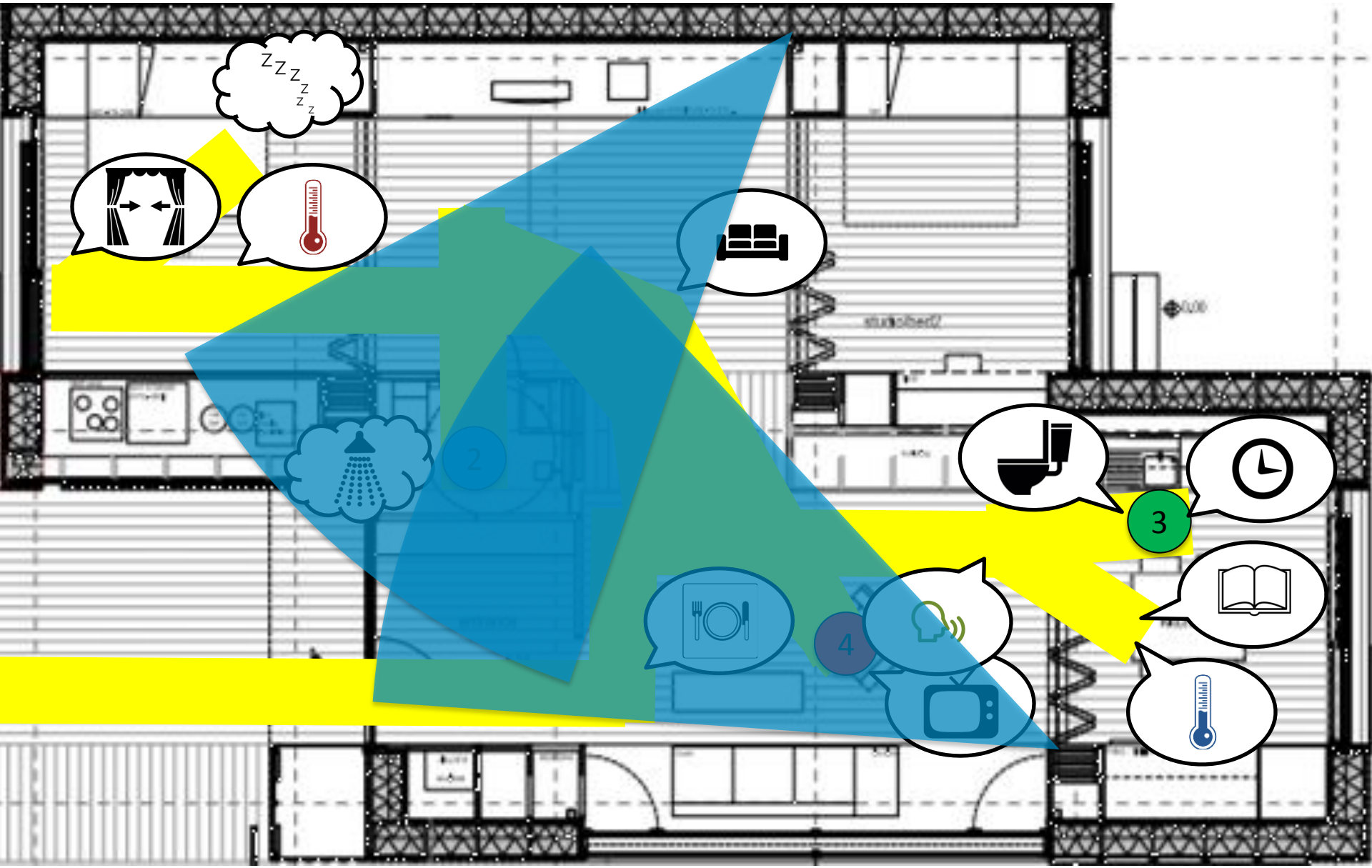


SpineBase = 1;	0.1066	-0.2272	2.3211
SpineMid = 2;	0.0990	0.0792	2.3576
Neck = 3;	0.0903	0.3762	2.3800
Head = 4;	0.0832	0.5278	2.3588
ShoulderLeft = 5;	-0.0939	0.2785	2.3739
ElbowLeft = 6;	-0.2182	0.0450	2.3635
WristLeft = 7;	-0.3324	-0.1487	2.3171
HandLeft = 8;	-0.3879	-0.1982	2.2953
ShoulderRight = 9;	0.2749	0.2756	2.3563
ElbowRight = 10;	0.4278	0.0628	2.3095
WristRight = 11;	0.5774	-0.0988	2.2356
HandRight = 12;	0.6207	-0.1409	2.2146
HipLeft = 13;	0.0210	-0.2271	2.2906
KneeLeft = 14;	-0.0017	-0.5919	2.2254
AnkleLeft = 15;	-0.0485	-0.8850	2.1211
FootLeft = 16;	-0.0264	-0.7374	2.1179
HipRight = 17;	0.1888	-0.2196	2.2758
KneeRight = 18;	0.2266	-0.5835	2.2297
AnkleRight = 19;	0.2552	-0.8882	2.1656
FootRight = 20;	0.2160	-0.7434	2.1606
SpineShoulder = 21;	0.0926	0.3032	2.3768
HandTipLeft = 22;	-0.4402	-0.2368	2.2771
ThumbLeft = 23;	-0.3892	-0.1488	2.2181
HandTipRight = 24;	0.6720	-0.1895	2.1962
ThumbRight = 25;	0.6357	-0.0864	2.1534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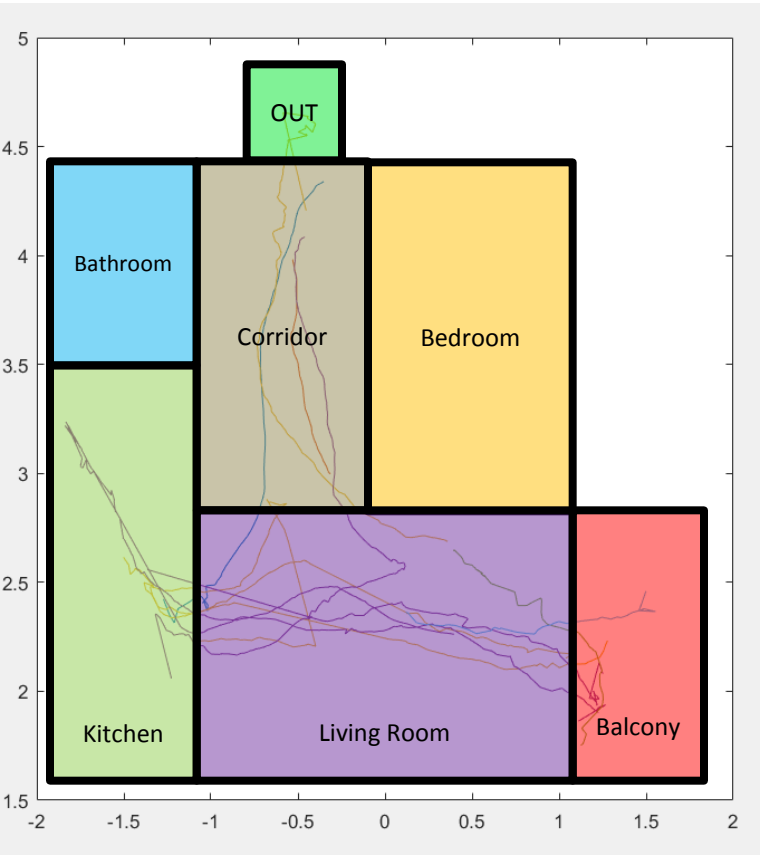
RESULTS


OUT
Bathroom
Corridor
Bedroom
Kitchen
Living Room
Balcony
5
4.5
4
3.5
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2.5
2
1.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
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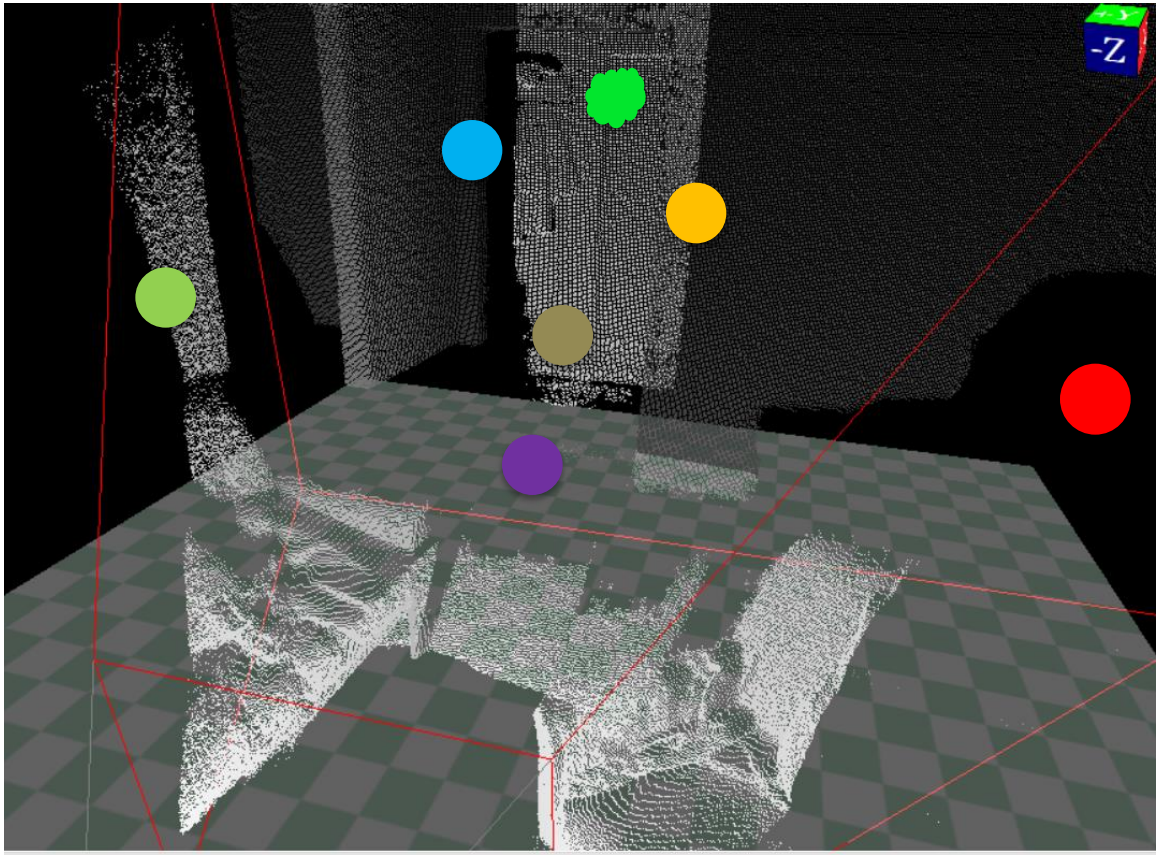
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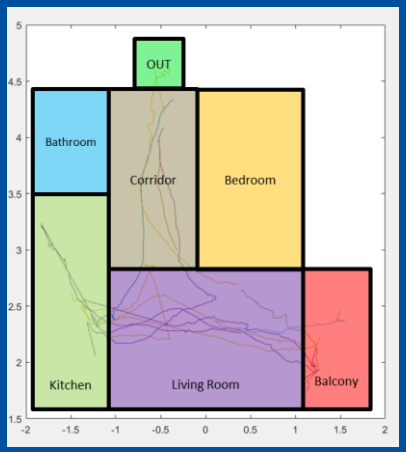
One Day measurement exposition



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Daily energy consumption

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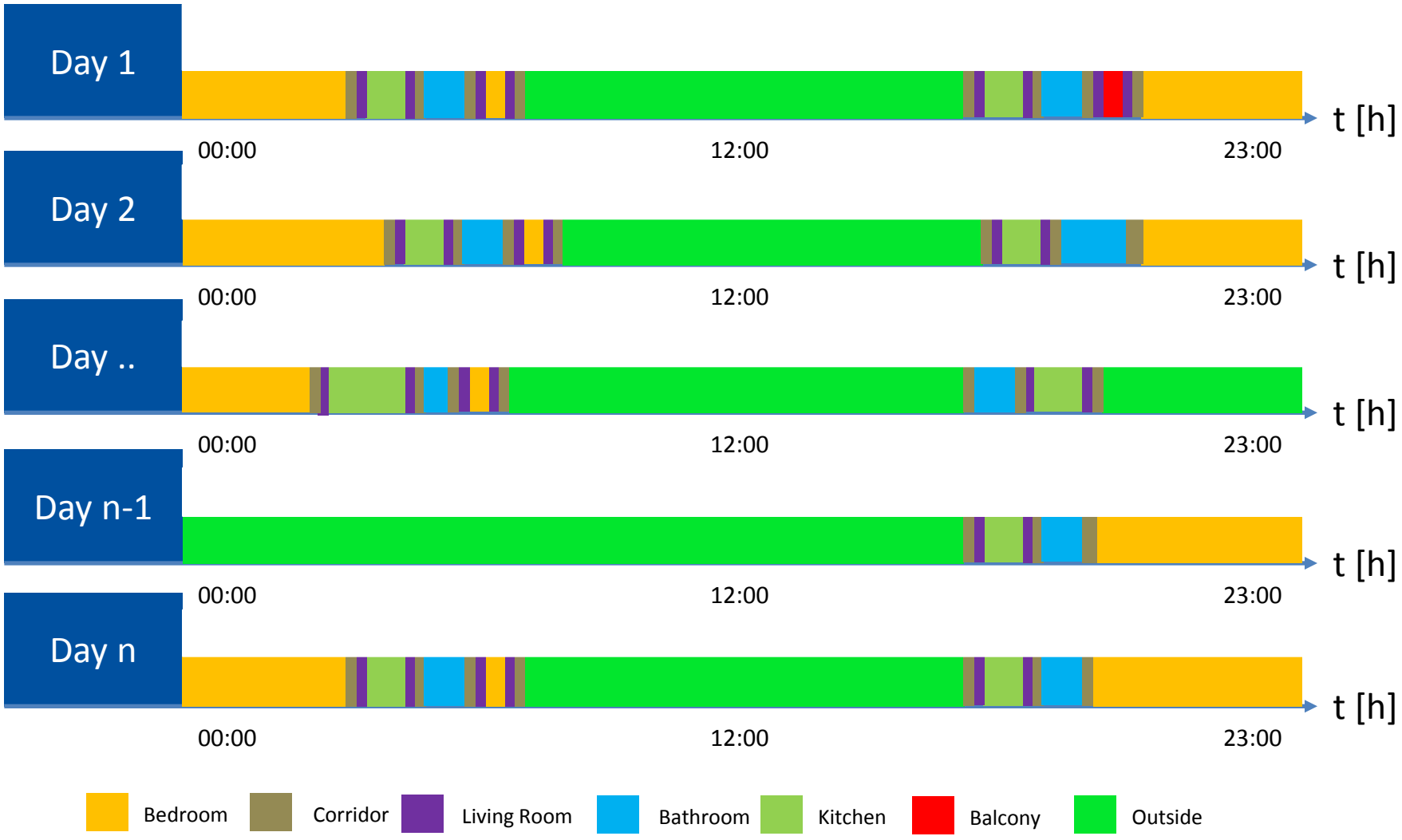
Daily weather information


Day 1
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Day 2
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12:00
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Bedroom
Corridor
Living Room
Bathroom
Kitchen
Balcony
Outside

CONCLUSIONS

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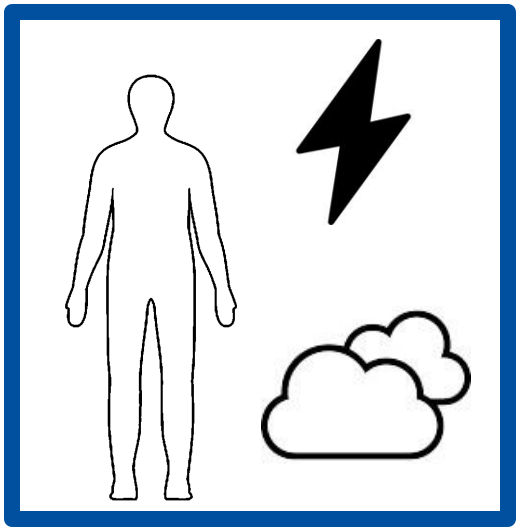

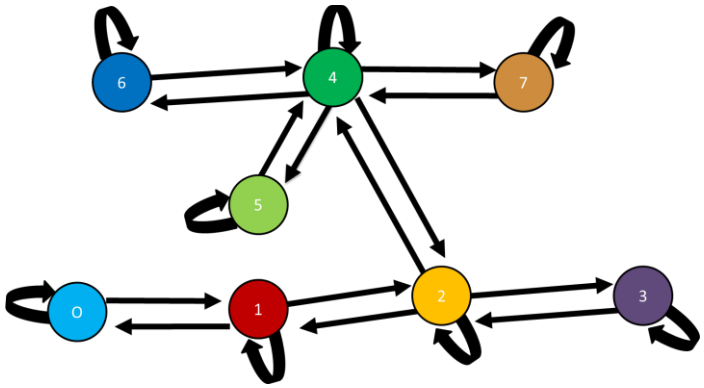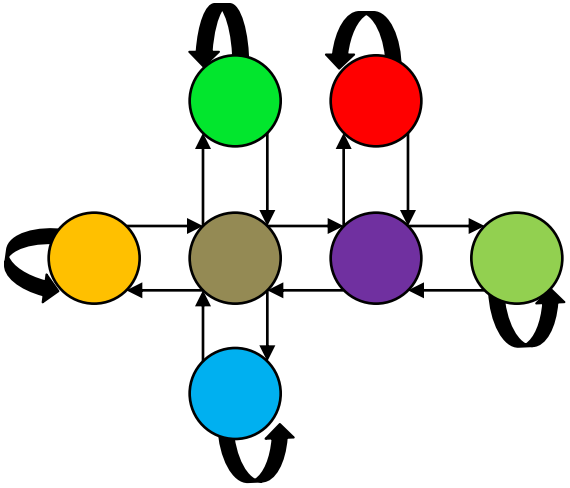
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