

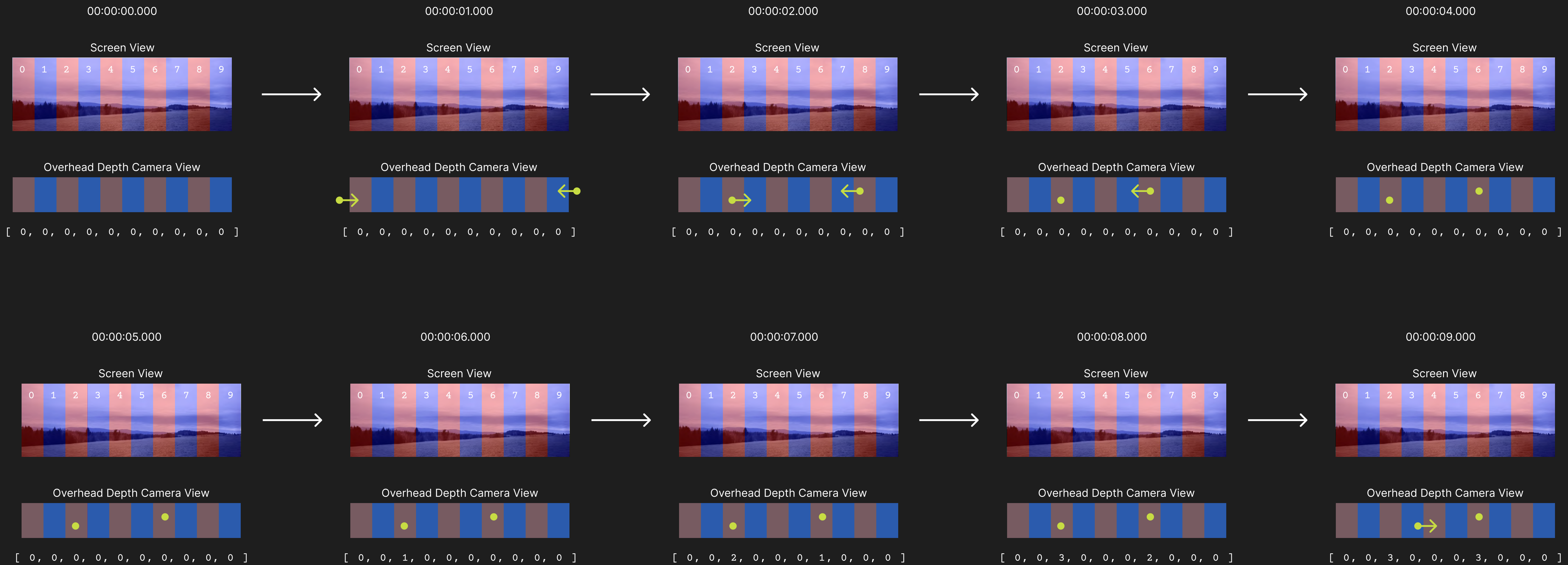
## Viewer Position Tracking

Real-time viewer position tracking  
using OAK-D cameras





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The application logs state changes to `tmpl.log` file.  
Each line contains an array of counters representing sustained presence in each column.

A counter for a specific area (e.g., a column) increments by 1 when an object remains in that area for at least 3 seconds.

Initial Log Lines (All Zeros)

```
[ 0, 0, 0, 0, 0, 0, 0, 0, 0, 0 ]    00:00:00.000
[ 0, 0, 0, 0, 0, 0, 0, 0, 0, 0 ]    00:00:01.000
[ 0, 0, 0, 0, 0, 0, 0, 0, 0, 0 ]    00:00:02.000
[ 0, 0, 0, 0, 0, 0, 0, 0, 0, 0 ]    00:00:03.000    (object in column 2)
[ 0, 0, 0, 0, 0, 0, 0, 0, 0, 0 ]    00:00:04.000    (object in column 2 and 6)
[ 0, 0, 0, 0, 0, 0, 0, 0, 0, 0 ]    00:00:05.000    (object in column 2 and 6)
```

- **00:00:03.000** → An object appears in column 2. However, the counter does not increment immediately because the object needs to remain there for at least 3 seconds.
- **00:00:04.000 & 00:00:05.000** → The object is still in column 2 and now also in column 6, but again, counters do not increment yet since we are still counting toward that 3-second threshold for each column.

First Counter Increment (00:00:06.000)

```
[ 0, 0, 1, 0, 0, 0, 0, 0, 0, 0 ]    00:00:06.000    (object in column 2 (start count) and 6)
```

- By **00:00:06.000**, the object has been in column 2 since 00:00:03.000—that's 3 seconds of sustained presence.
- **Column 2 counter increments from 0 to 1.**
- Column 6 has only been occupied since 00:00:04.000, so at 00:00:06.000, it has only seen 2 seconds of presence. Thus, **column 6 does not increment yet.**

Continuing Presence (00:00:07.000)

```
[ 0, 0, 2, 0, 0, 0, 1, 0, 0, 0 ]    00:00:07.000    (object in column 2 (count +1) and 6 (start count))
```

- **Column 2:** The object has now been continuously there from 00:00:03 → 00:00:07. That is another 3-second window.
- **Column 2 increments from 1 to 2.**
- **Column 6:** The object has been there since 00:00:04 → 00:00:07 (3 seconds).
- **Column 6 increments from 0 to 1.**

Further Increments (00:00:08.000)

```
[ 0, 0, 3, 0, 0, 0, 2, 0, 0, 0 ]    00:00:08.000    (object in column 2 (count +1) and 6 (count +1))
```

- **Column 2:** 3 more seconds of continuous presence trigger another increment (from 2 to 3).
- **Column 6:** Also gets another increment (from 1 to 2).

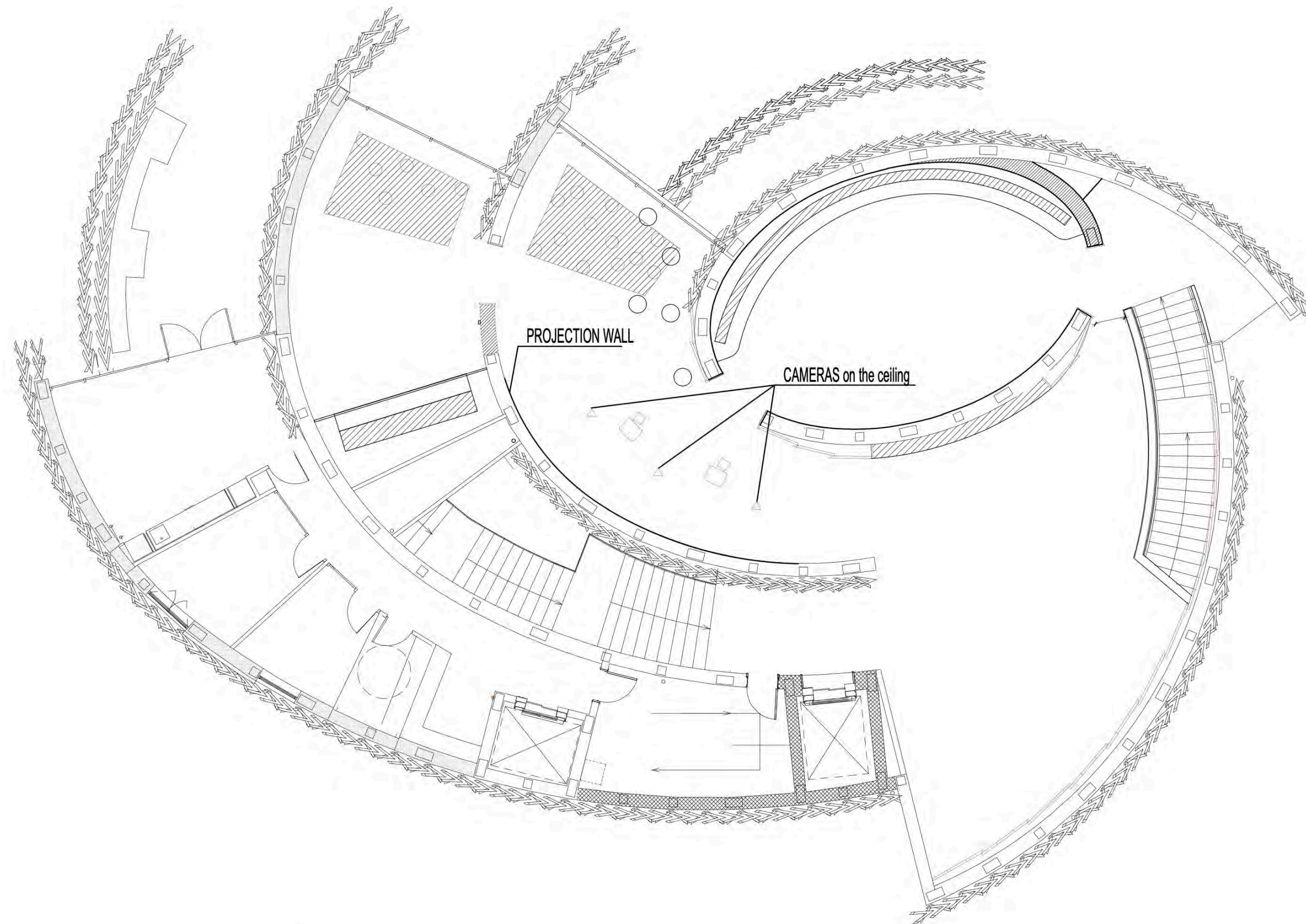
Final Line in the Log (00:00:09.000)

```
[ 0, 0, 3, 0, 0, 0, 3, 0, 0, 0 ]    00:00:09.000    (object in column 6 (count +1))
```

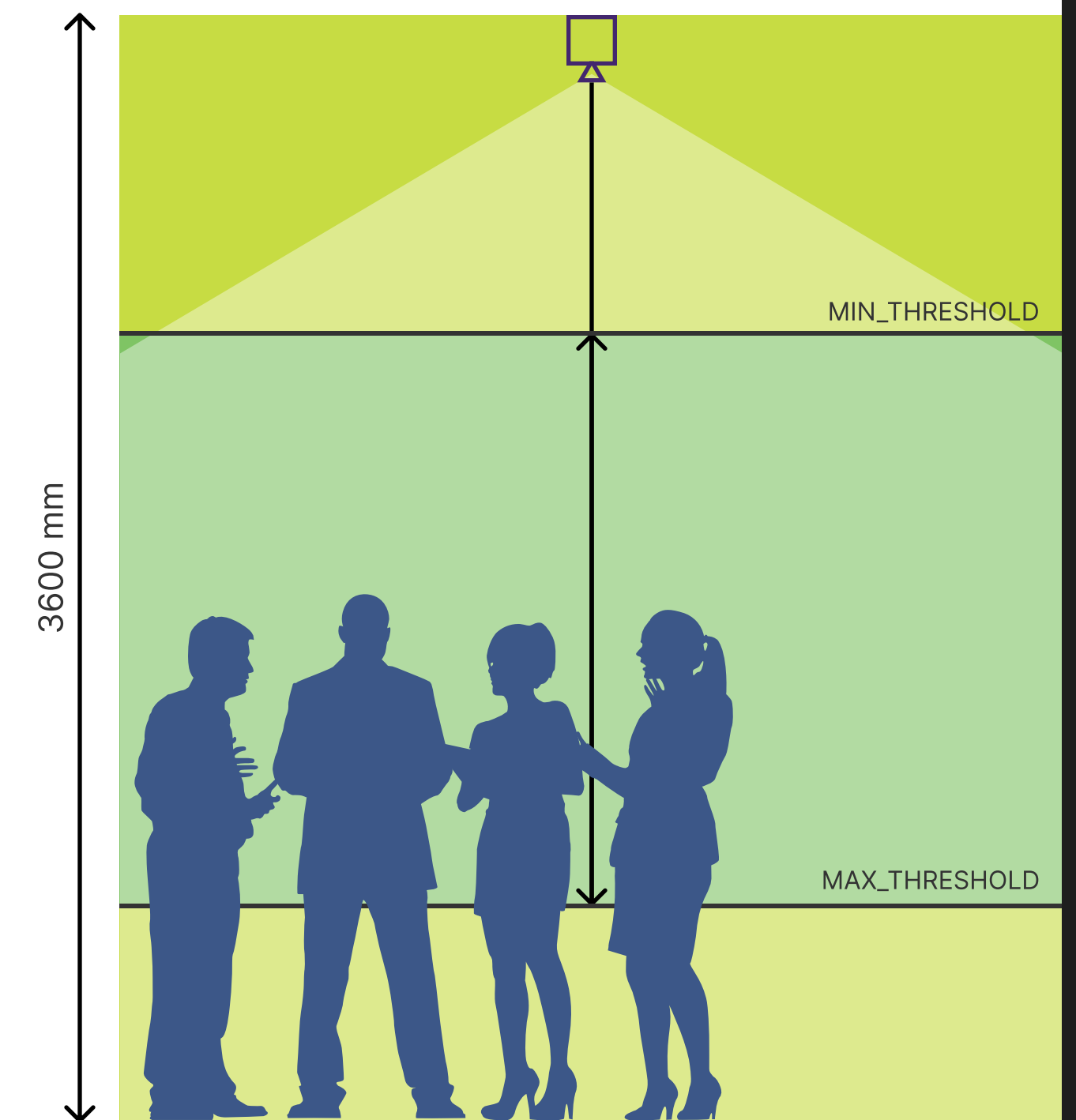
- The object in **column 2** is apparently no longer there, so its counter stays at 3.
- The object remains in **column 6** long enough (another 3-second window) to increment again, from 2 to 3.

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Front View



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### Config

- **MIN\_THRESHOLD:** Minimum detection distance (0.4m default)
- **MAX\_THRESHOLD:** Maximum detection distance (1.8m default)
- **COUNTER\_INCREMENT\_INTERVAL:** Counter update interval (1000ms default)

### Terminal View



Range: 0.4m to 1.8m

Controls:

- 'q' - Exit
- 'w' - Toggle window
- 's' - Toggle stats
- 'm' - Toggle mirror mode

### Heat Map

