

# THE OPEN WATERLILY



JOHN HOPE GATEWAY CENTER

# TEAM PAPAVER



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# FLOWERY IDEA

- The building was presented this morning as providing thermal and physical comfort in the summer largely by shielding patrons from the wind and the rain. Our hypothesis is based on our impression that in a building with so much glass, potential thermal bridging, infiltration (intentional in the entry, and circumstantial due to open doors in the main exhibition, restaurant, and other areas), and deliberate ventilation, the interior temperature will remain close to the exterior temperature.

# HYPOTHESIS

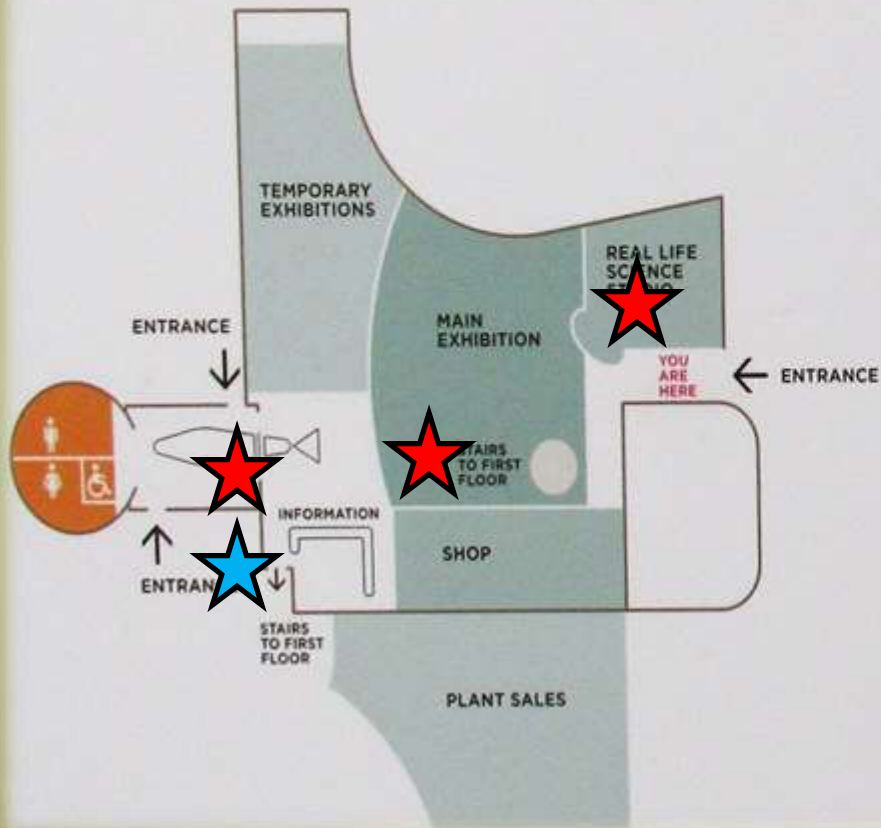
- IN EDINBURGH, SCOTLAND, BETWEEN THE HOURS OF 1:30 TO 2:30PM ON 2-7-17, IN A VERY POROUS BUILDING THAT IS NATURALLY VENTILATED (JOHN HOPE GATEWAY CENTER); THE INTERIOR TEMPERATURE OF 4 ROOMS WILL REMAIN WITHIN 1 DEGREE C OF THE EXTERIOR TEMPERATURE.

# EQUIPMENT

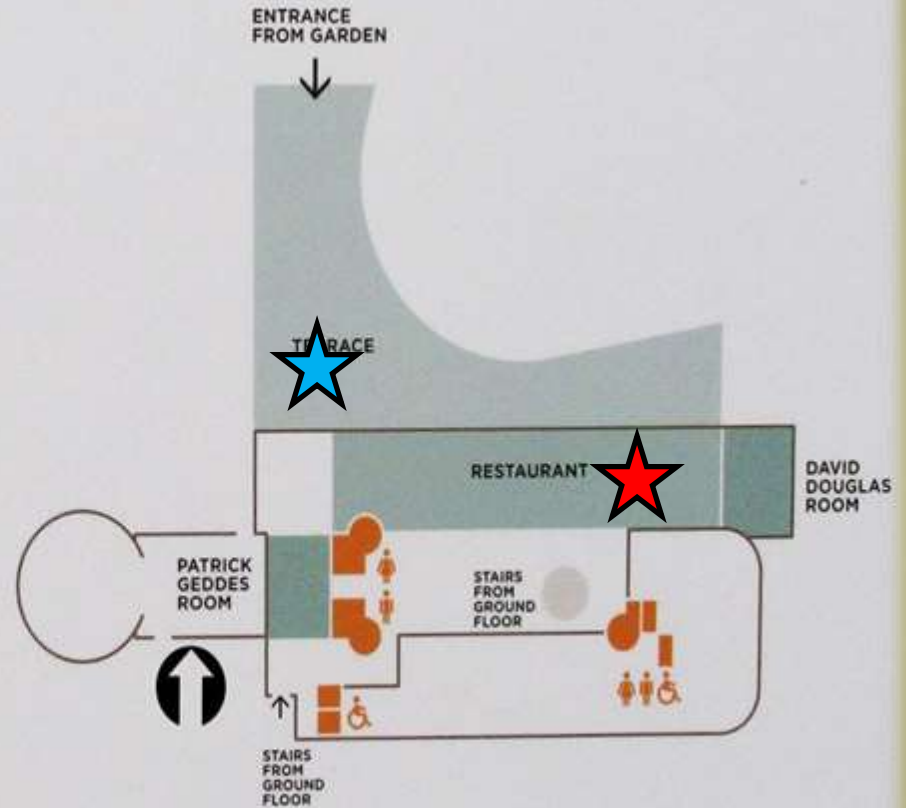
- 6 HOBO DATA LOGGERS
  - 4 PLACED INSIDE THE BUILDING
  - 2 PLACED OUTSIDE ON DIFFERENT SIDES OF THE BUILDING

# METHODOLOGY

## GROUND FLOOR



## FIRST FLOOR

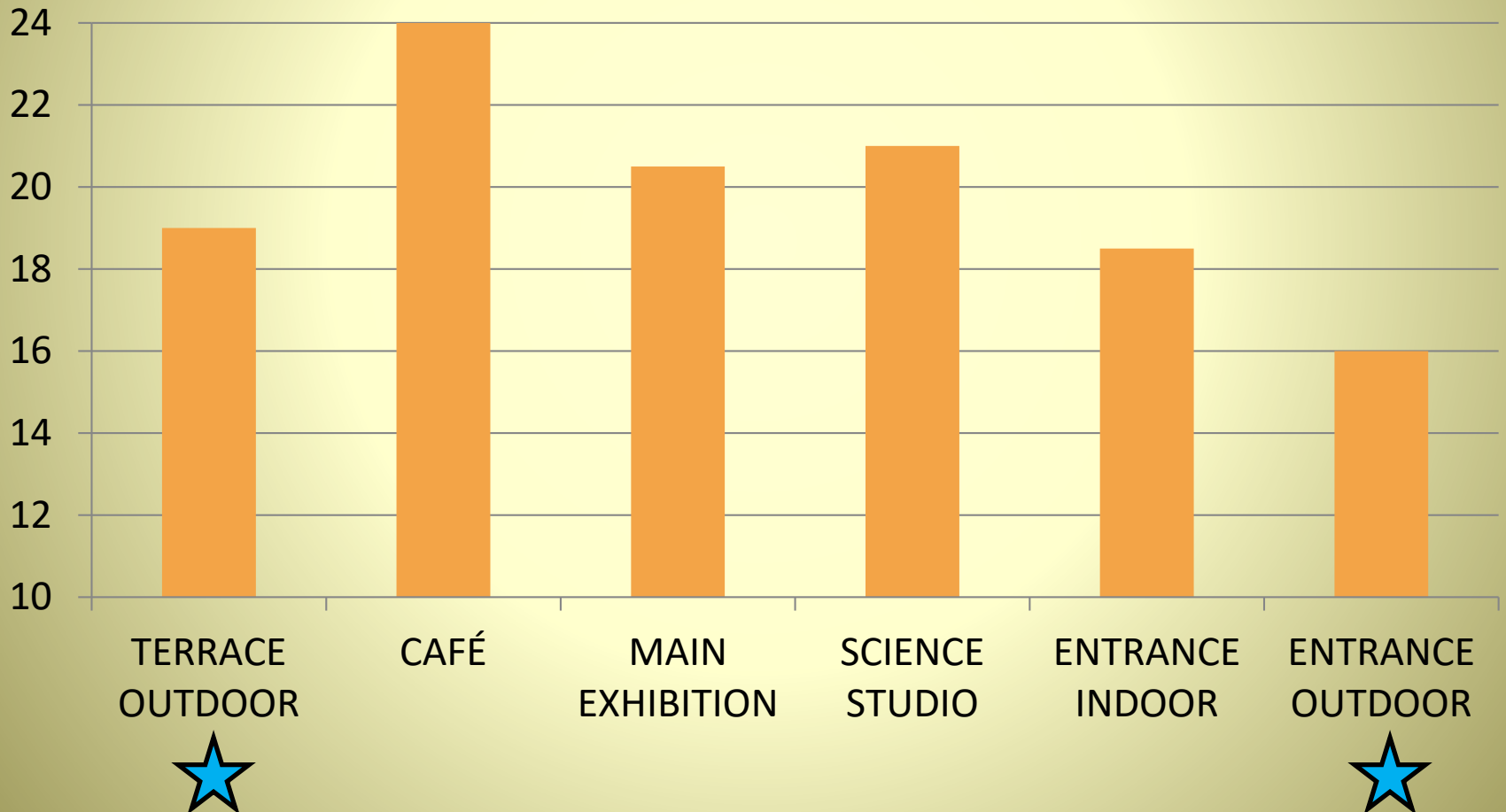


★ OUTSIDE HOBO

★ INSIDE HOBO

# RESULTS

## TEMP AVERAGES



# CONCLUSION

- HYPOTHESIS DISPROVEN. OOPS.
- INTERNAL HEAT GAINS AND VENTILATION RATES LARGELY DETERMINED INTERIOR TEMPERATURES.
- EXTERNAL TEMPERATURES WERE INFLUENCED BY LOCATIONS OF HOBO UNITS (ROCKS, WOOD LEDGE)
- NEEDED A BETTER PROTOCOL FOR CONSISTENCY OF MEASUREMENTS (E.G., SAME HEIGHT).