

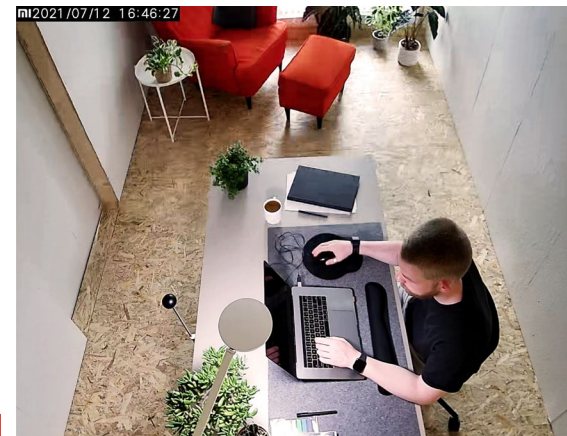
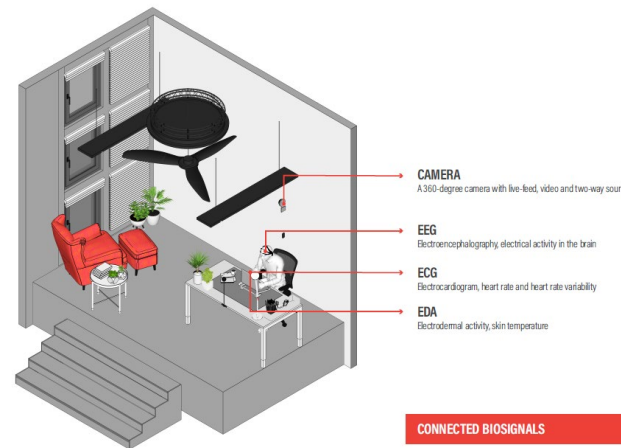
SenseLab: Quantifying comfort and well-being by biosignals

Task

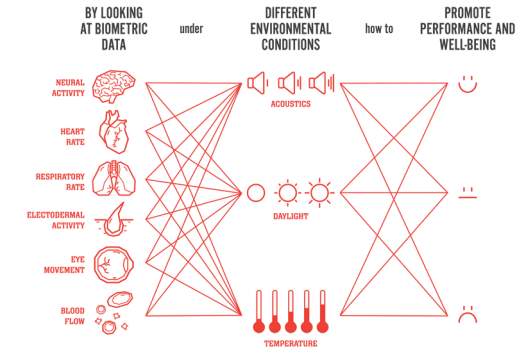
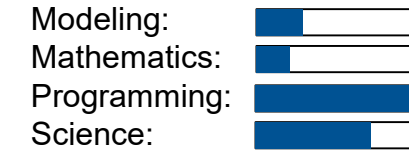
SenseLab, a laboratory placed in the Faculty of Architecture, is a testbed where we look at the physiological responses of people under different environmental conditions. Through controlled experiments real physiological data (ie. electrodermal activity, cardiovascular data, neural activity) from people are collected and compared against the indoor environment variables.

The tasks expected from the students are;

- to be a part of upcoming experiments,
- create an automated pipeline connecting data acquisition nodes,
- running preliminary filtering and normalising algorithms,
- establishing a robust AI model to correlate the variables and
- proposing a workflow to integrate the AI model using energy simulation tools.



Project Characteristics



- [1] Kobas, B.; Koth, S.C.; Nkurikiyeyezu, K.; Giannakakis, G.; Auer, T. Effect of Exposure Time on Thermal Behaviour: A Psychophysiological Approach. *Signals* **2021**, *2*, 863-885. <https://doi.org/10.3390/signals2040050>
- [2] Persiani, S.G.L.; Kobas, B.; Koth, S.C.; Auer, T. Biometric Data as Real-Time Measure of Physiological Reactions to Environmental Stimuli in the Built Environment. *Energies* **2021**, *14*, 232. <https://doi.org/10.3390/en14010232>