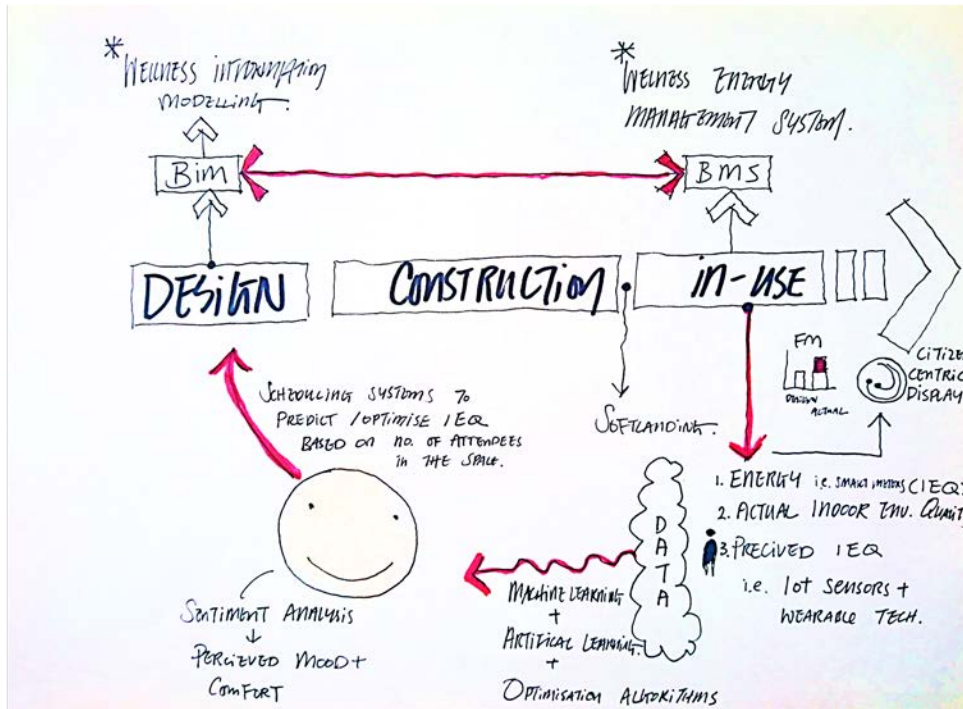


Wellness Building Information Modelling (WBim): Wellness as a building performance metric

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Brief summary of research

The aim of this research is to investigate the potential of using the level of 'wellness/happiness' of occupants to evaluate building performance along with other environmental factors. Wellness is thought to be a subjective feeling of health [4]. It considers individual's general functioning as a whole, including the environmental but also social and physical aspect [5]. There are many tools on the market to assist designers on efficient Building Performance Simulation (BPS) and solutions [1], and yet, designers do not have enough information about how human behaviour and occupant satisfaction is influencing our building design and energy consumption.

There are increasing needs to bridge the knowledge gap of occupants and building operators by enabling the building management system (BMS) to consider occupancy profiles independently [2]. Smart technologies is transforming the future of cities and buildings. In 2008, there were officially more devices connected to the internet than there were human beings, it is predicted that our world will have 50 billion devices by 2020 [6]. These internet of things (IoT) will allow building operators to move away from reactive and preventative approach of building management towards a more predictive and proactive mindset [3].

Can we create a 'Wellness information' layer in the in-use stage to assist a more dynamic building automation solution? The occupancy data can then be used to inform a more realistic profile in our early stage of design? Through BPS, how can we research, measure and predict wellness of occupants in our evidence-based design approach?

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