Spatial Analytics: Improved Building Design

Measuring spatial properties and modelling human interactions in space are crucial to the design of health care facilities. Advanced computational methods support the design of buildings that are efficient and safe, and respond to the needs of people with physical, visual or cognitive impairments.

Competitive advantage

- Multidisciplinary team experienced in integration of advanced computational and mathematical methods to improve the design of major buildings
- Responsible for developing multiple world-leading methods for measuring architectural planning, wayfinding and assessment
- Advanced skills for modelling and predicting human behavioural responses to spaces and buildings

Impact

- Assessing and improving 'senior's living' villages and residential aged care developments for social cohesion, privacy and wayfinding
- Collaborating to produce next-generation designs with best practice standards for dementia design, visual impairment and physical impairment

Successful outcomes

- Analysis and assessment of more than 100 residential buildings to identify spatial properties and human behavioural or emotional responses
- Measurement of wayfinding capacity, spatial intelligibility and directionality in health care and aged care infrastructure

Capabilities and facilities

- Use of advanced computational methods (Space Syntax, Isovists, Fractal Dimensions, Shape Grammars, Machine Learning and Artificial Intelligence) for design analysis
- Model and predict responses to architectural space using computational simulations (AR, VR, CAD)

More Information

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