

Figure S1. Interaction with plotted Pareto solutions to visualise the corresponding geometry in the main viewport (Conti et al. 2015).

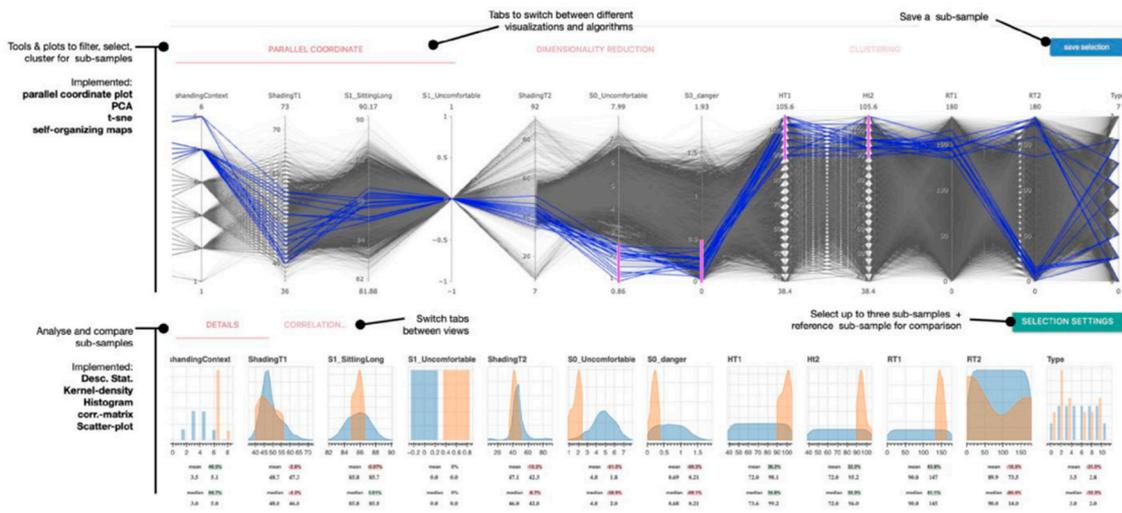


Figure S2. Interactive dashboard for design exploration. The upper section offers multiple ways to define sub-samples in combination with manual selections on plots: parallel coordinate plot, principal-component analysis, t-sne, self-organizing maps and k-means clustering. The lower section shows key statistics and visualizations of selected sub-samples including histograms, kernel-density plots, correlation-matrices and scatter plots (Duering et al., 2022).

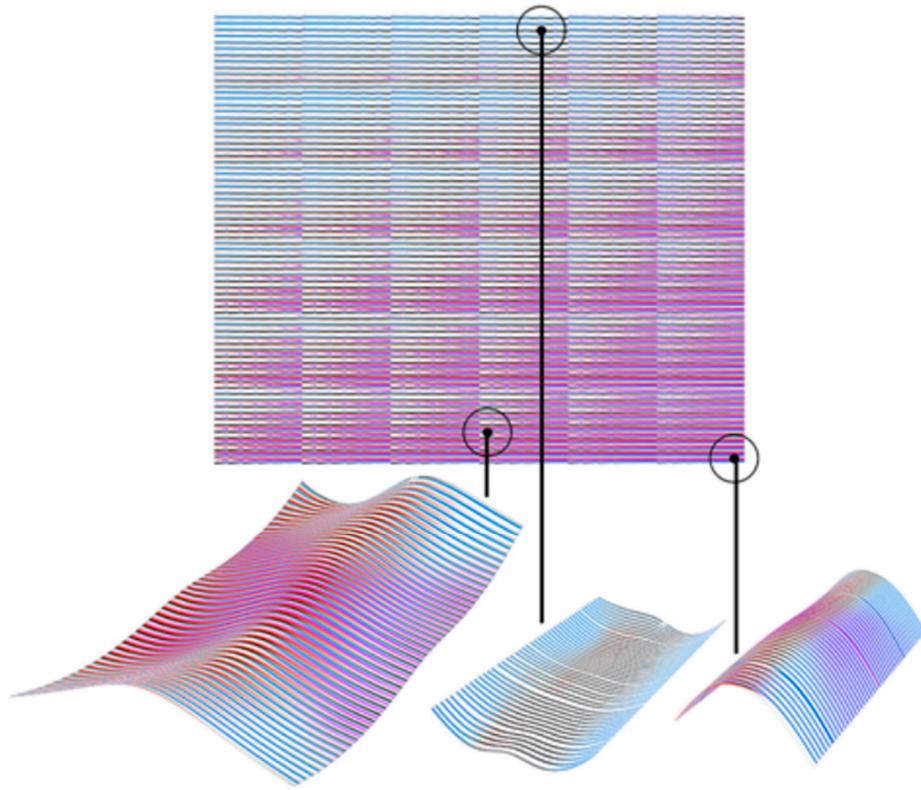


Figure S3. Solutions' treemap locations and topologically mapped evaluations (Heinrich and Ayres 2016).

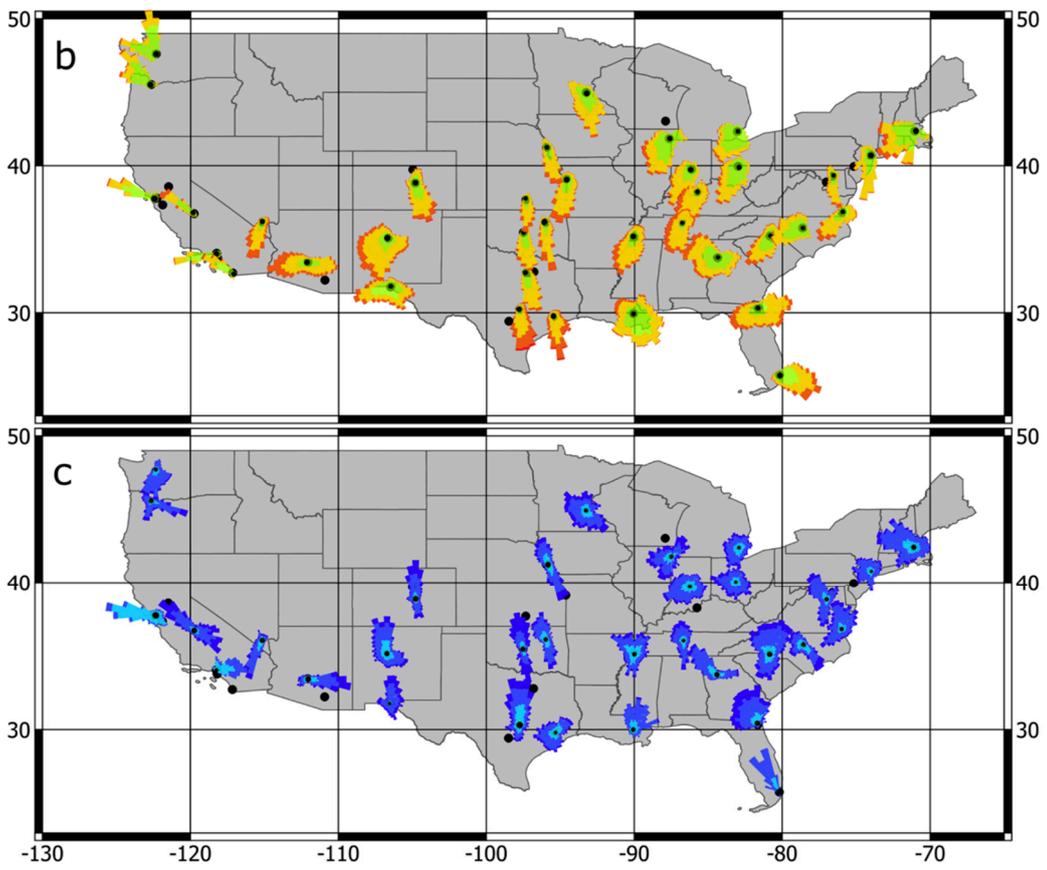


Figure S4. Studies heat (b) and cold (c) roses of I.S. cities (Heusinger and Sailor 2019).

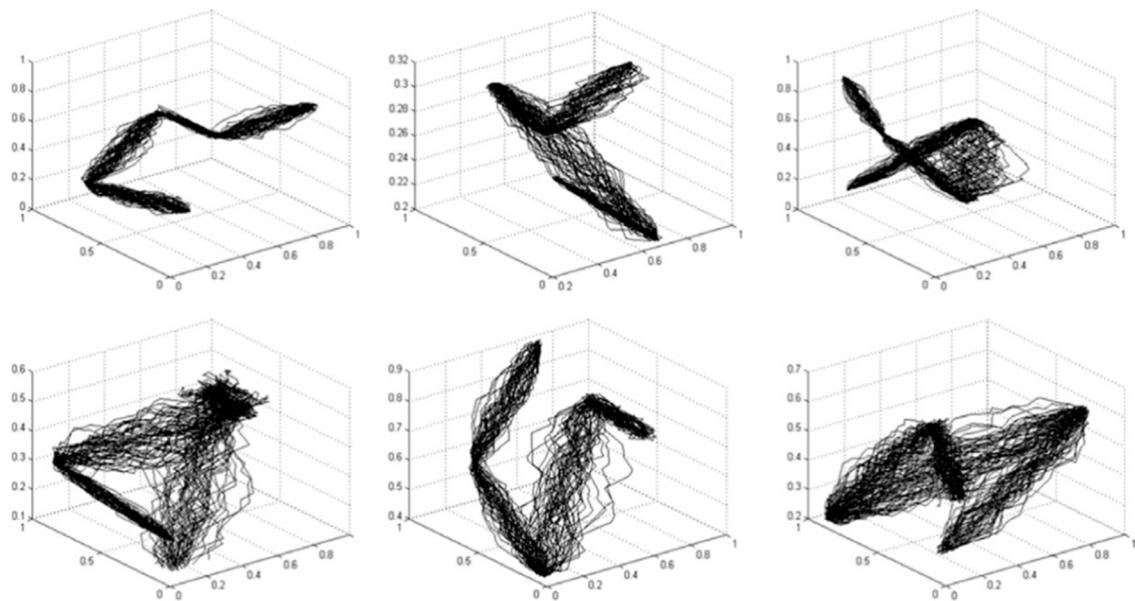


Figure S5. Generated classes from clustering (Izakian et al., 2016).

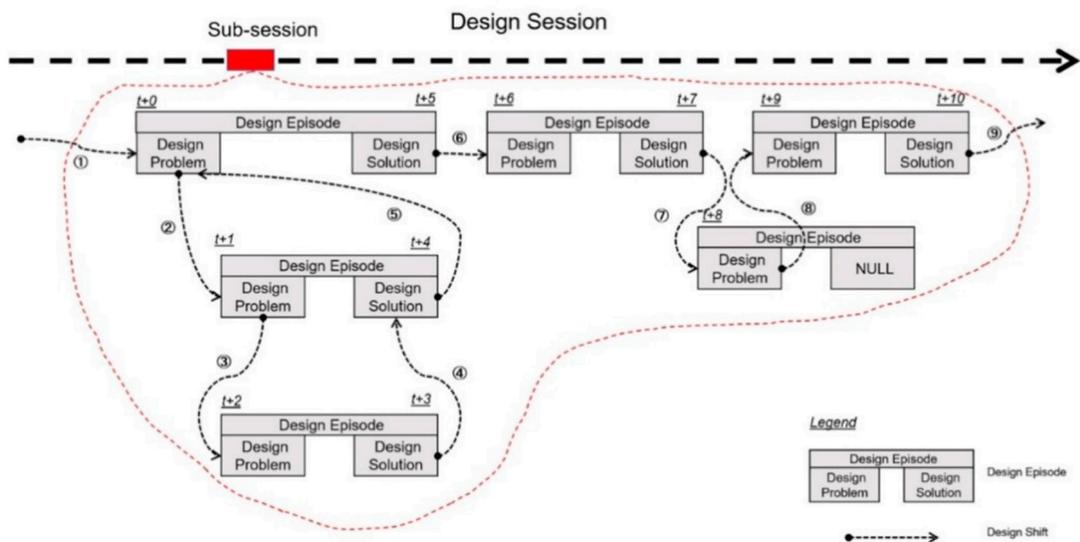
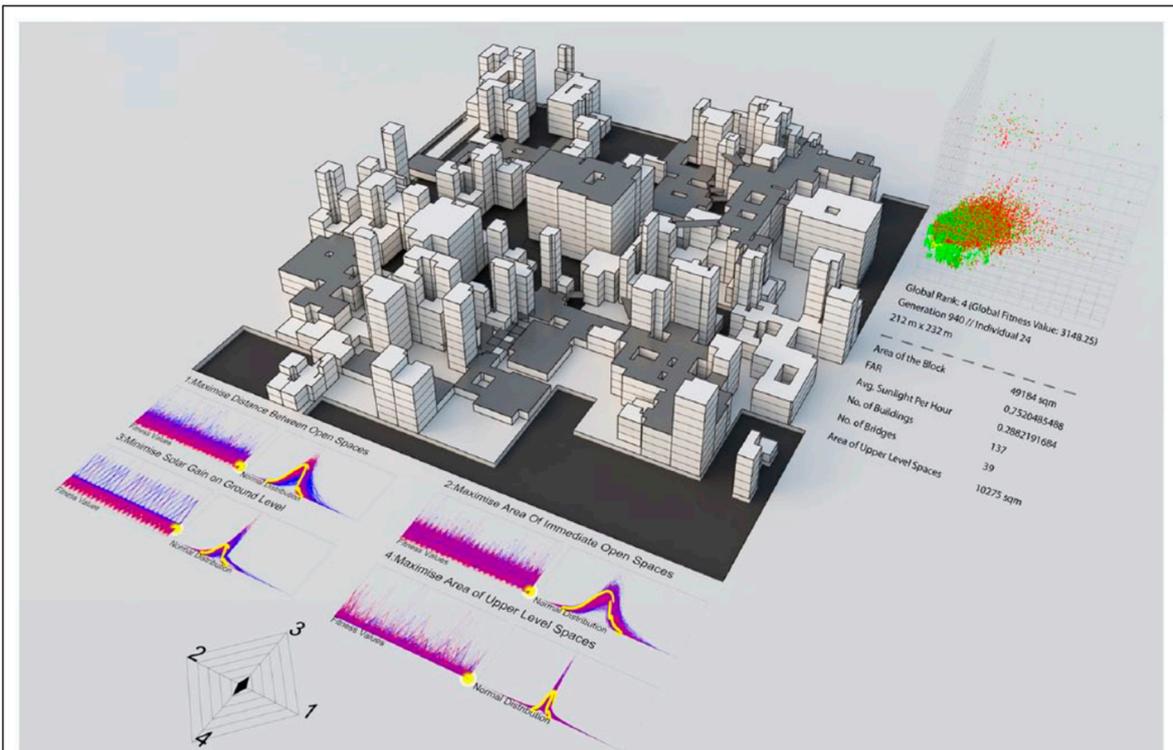
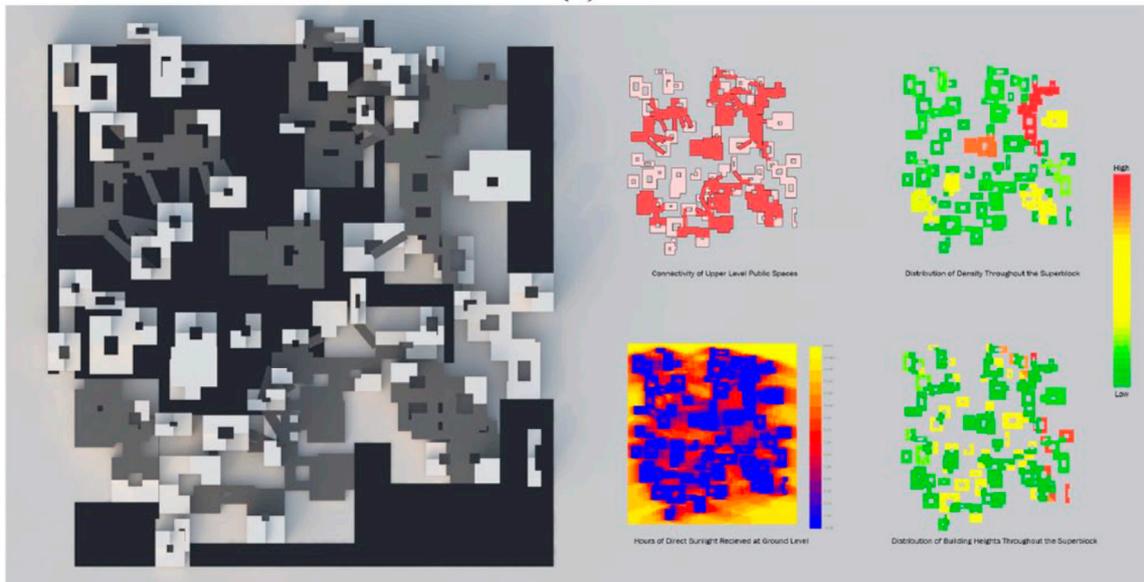


Figure S6. A conceptual representation of design episodes during a design sub-session. The sub-session is a sequence of design episode. By using the design history management module, it is possible to navigate any design sessions/design episodes and use them to generate new design variants (Lee et al., 2019).



(e)



(e_plan)

Figure S7. 5th highest ranked solution in perspective (e) and plan (e_plan) view. The normal distribution graphs present the distribution of all generations within the population, going from blue (earliest generation) to red (latest generation). The generation that each solution lies within is highlighted in yellow (Makki et al., 2018).

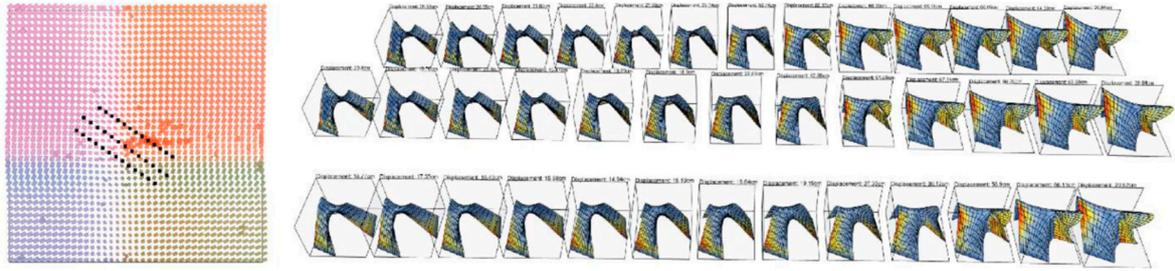


Figure S8. Evaluating the interpolation by reconstructing the parametric model from the input latent space (Petrov and Wortmann, 2021).

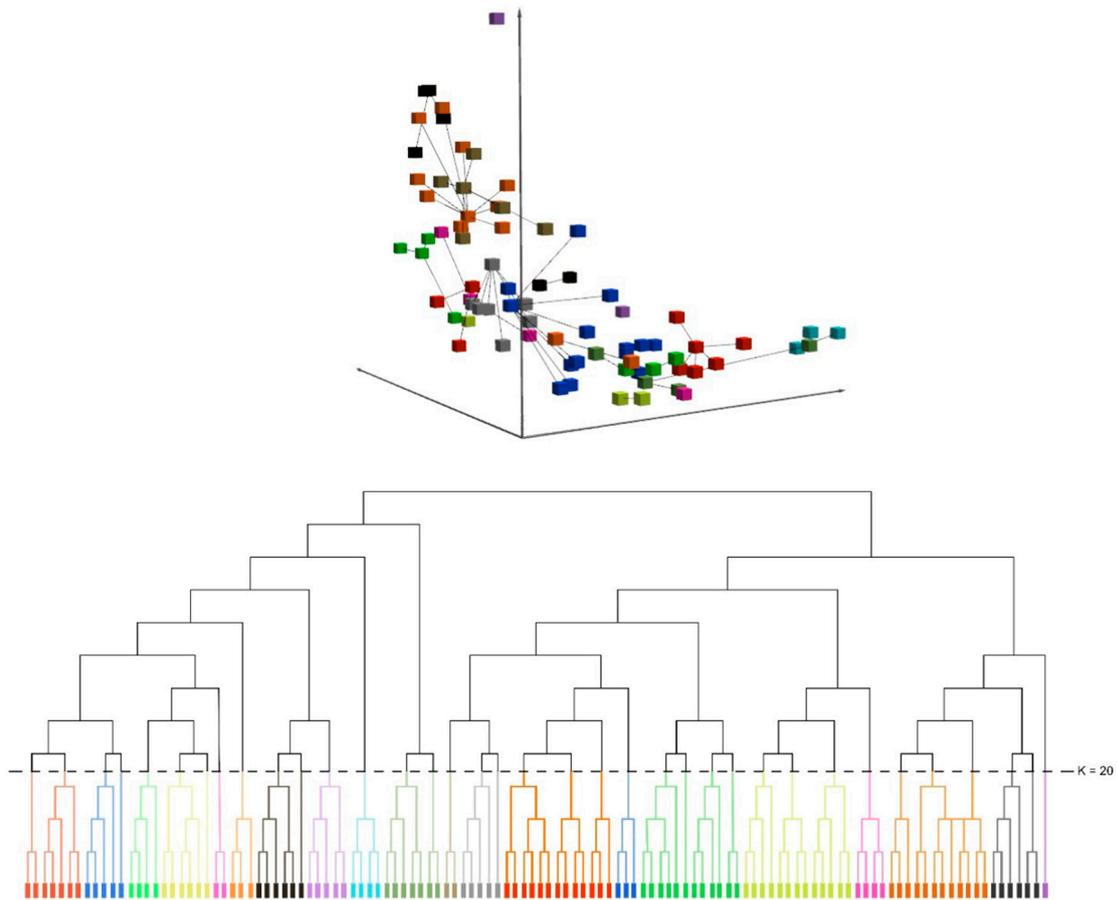


Figure S9. The hierarchical clustering of the pareto front solutions with a K-value of 20, presented through the objective space and dendrogram (Showkatbakhsh et al., 2022).

Figure 3
The Performance Map represents the design space in terms of the estimated performance values of unexplored design variants and indicates explored variants. Note the groupings of well-performing variants in the upper left corner and near the origin.

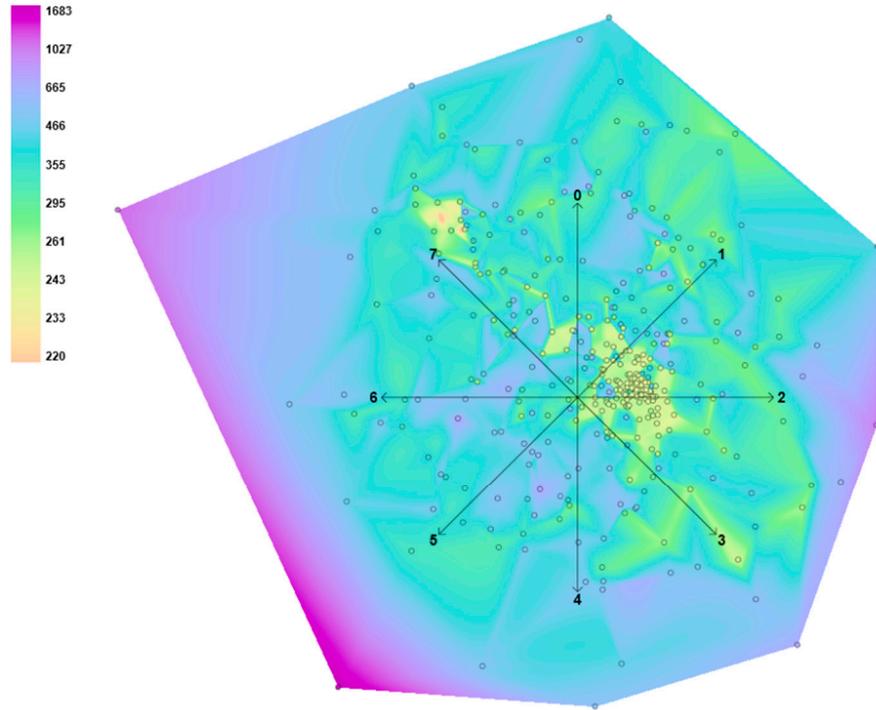


Figure S10. The Performance Map represents the design space in terms of the estimated performance values of the unexplored design variants and indicates explored variants (Wortmann 2016).

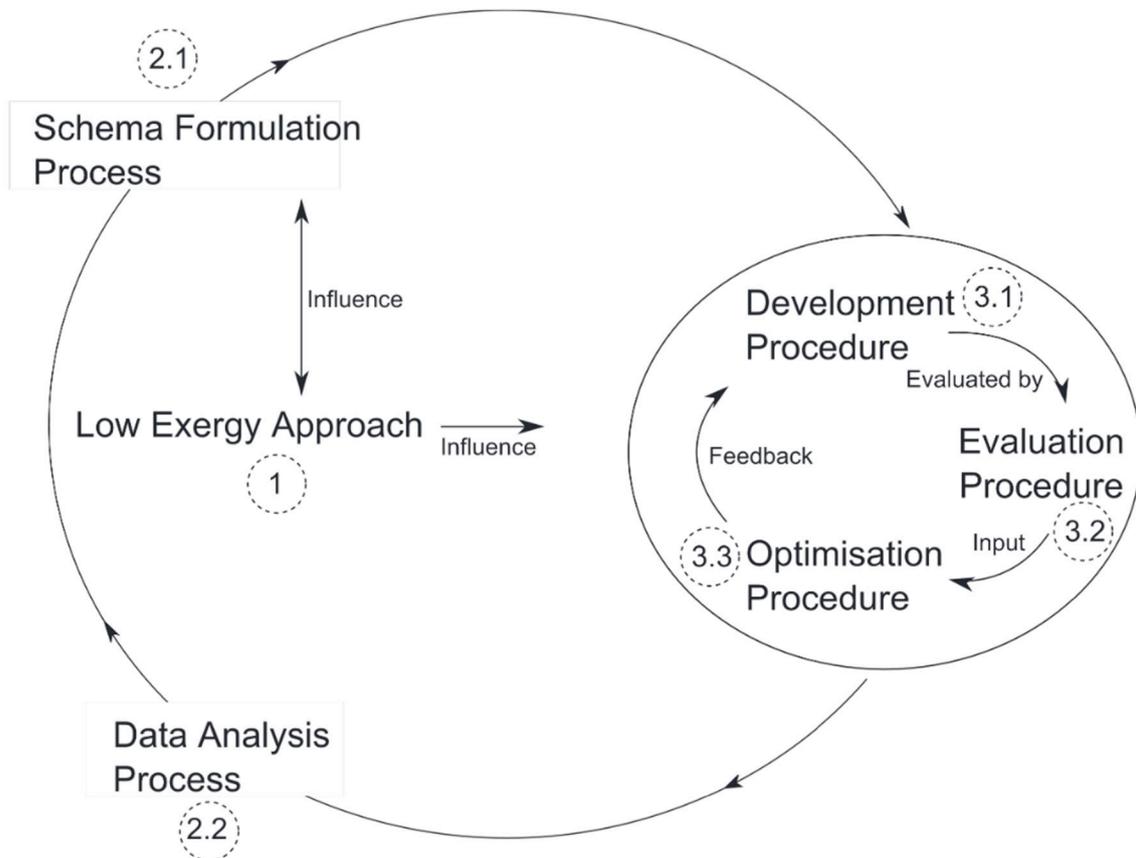


Figure S11. Integrated design process framework for low exergy architecture (Chen et al., 2013).

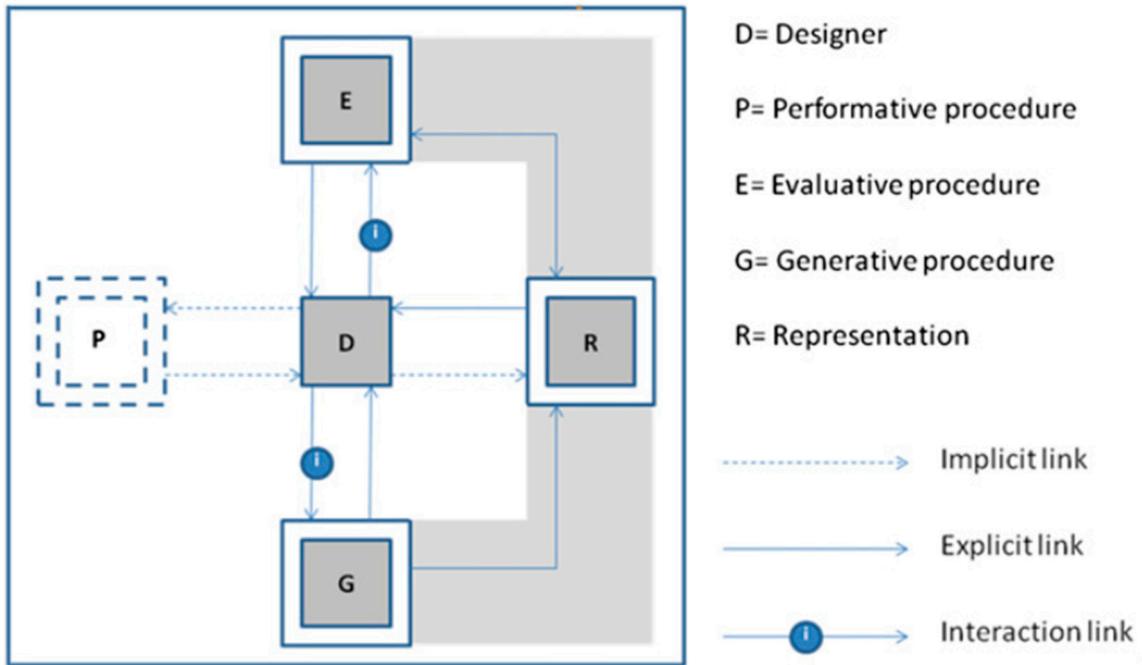


Figure S12. Schematic representation of proposed integrated Generative Design system (Singh and Gu, 2012).

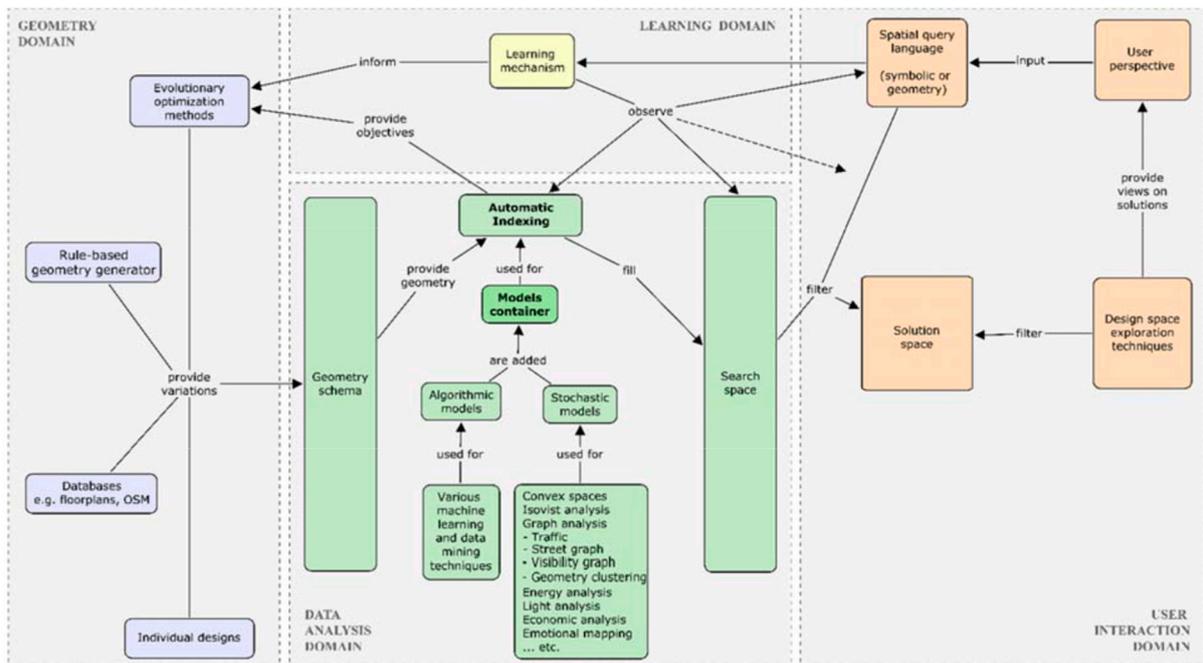


Figure S13. Cognitive Design Computing Framework. The main domains are data analysis, user interaction, learning, and geometry (Koenig and Schmitt, 2016).

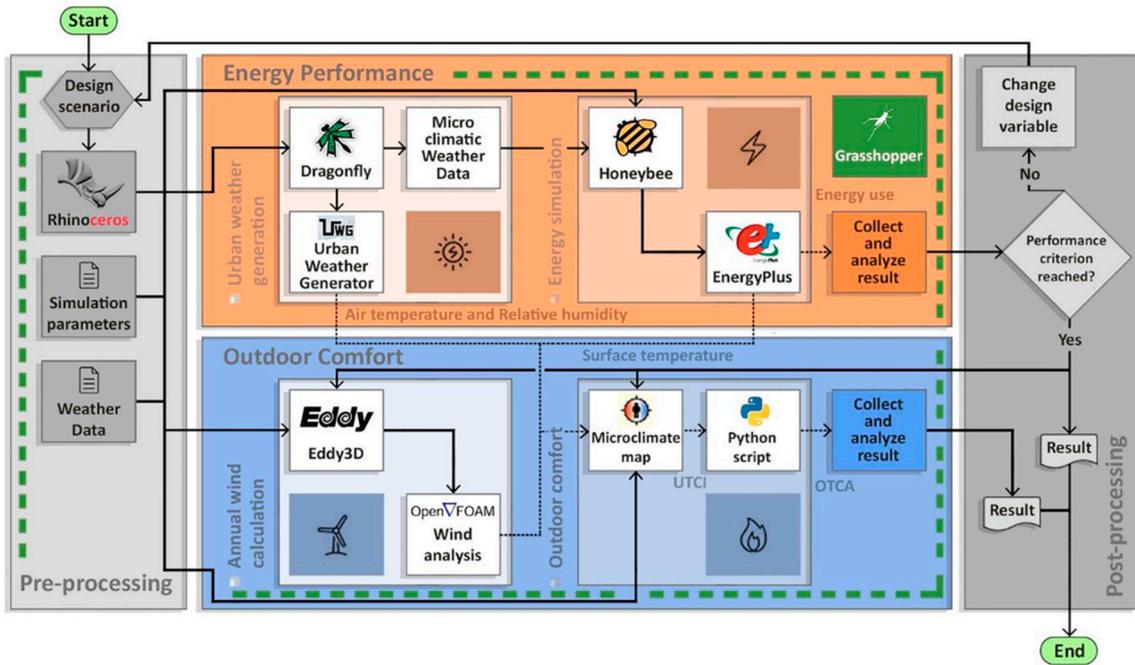


Figure S14. Analytical workflow of multi-phase optimization framework (Mirzabeigi and Razkenari, 2022).

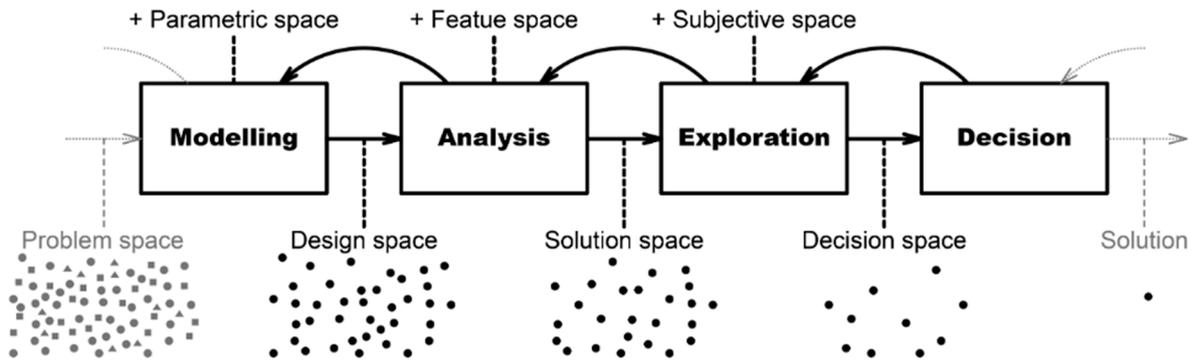


Figure S15. The relation of the exploration stage to the other stages in the parametric design process (Fuchkina et al., 2018).

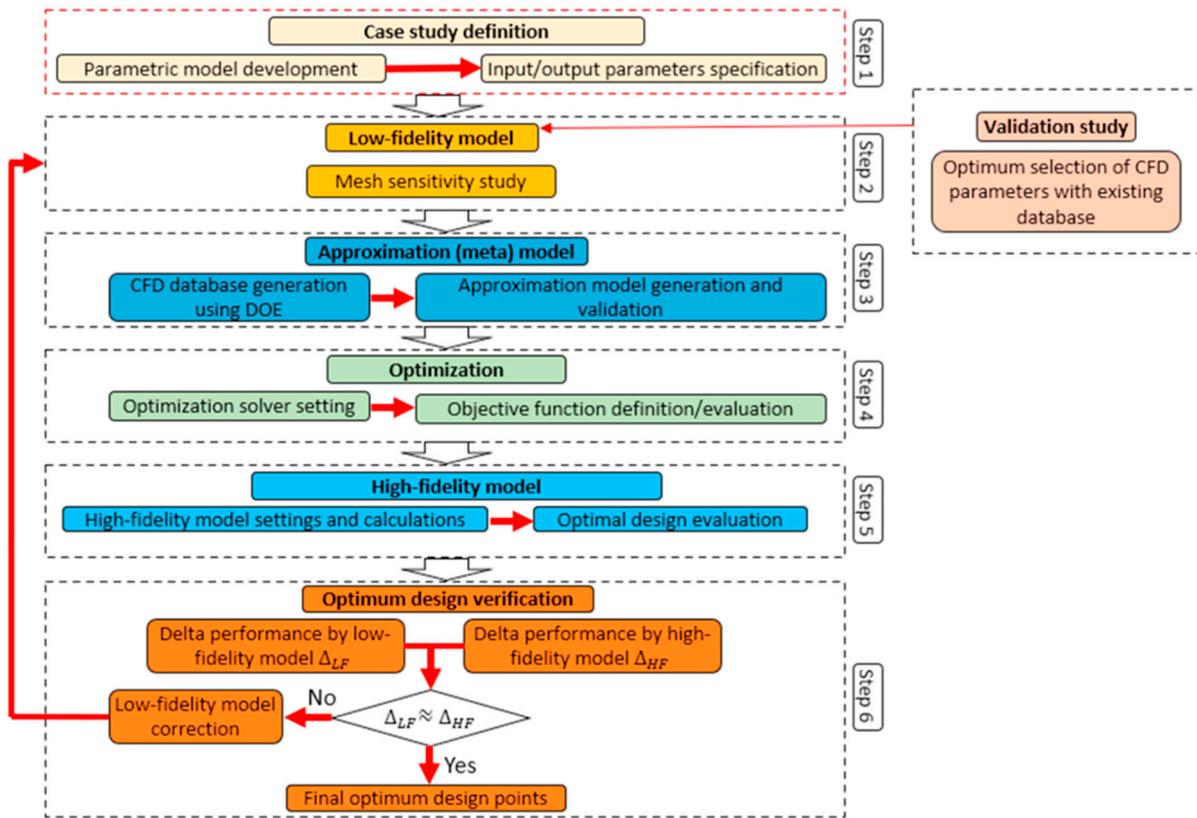


Figure S16. The relation of the exploration stage to the other stages in the parametric design process (Shirzadi and Tominaga, 2021).

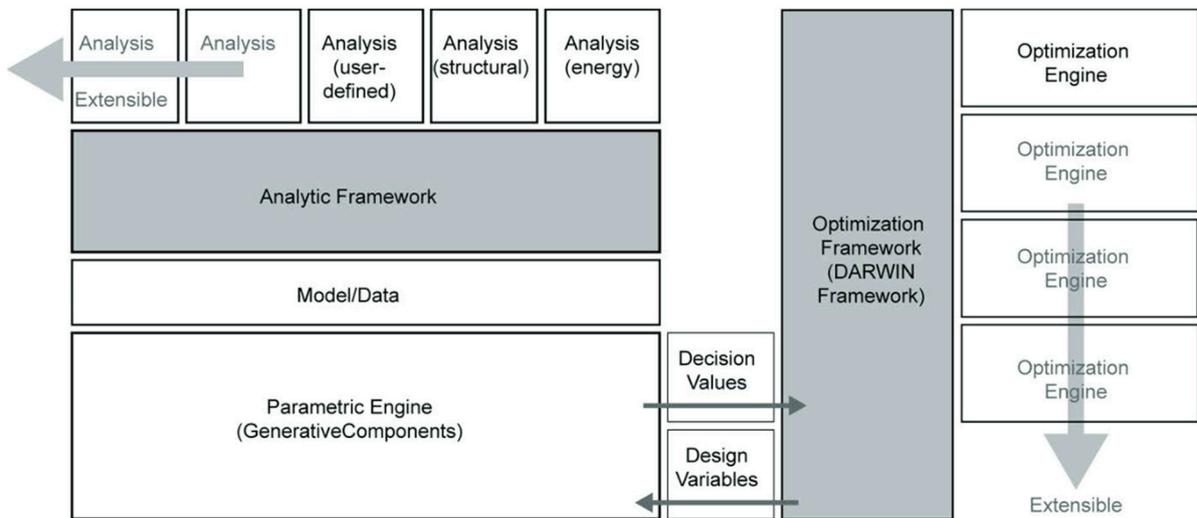


Figure S17. Conceptual sketch of cloud services architecture (Mueller et al., 2013).