A new perspective on Perspective

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Abstract:

This work consists in the development and computational implementation of a new formulation for perspective: the Extended Perspective System (EPS), regarding its applicability on architectural design drawing procedures. The EPS is a systemic theoretical frame that assembles and amplifies the existing perspective systems (including the renaissance formulation) and, therefore, significantly increases the variety of possible perspective depictions of architectural spaces. It is conceptually based on three paradigms: 1st, dissociation of Projection Surface from Representation Surface; 2nd, parametric mutability of the Projection Surface; and, 3rd, the selection of suitable mapping methods, required for the transfer from the curved projection surfaces to a planar Representation Surface.

At the current stage, a first prototype of the EPS is accomplished, after preliminary tasks of algebraic translation and programming, so graphical outputs are already feasible. The implementation strategies are being chosen towards a final fully functional prototype that can interact, as a plug-in, with diverse 3D vectorial CAD software.

This research is being done by an interdisciplinary team of architects, mathematicians and programmers, at the R&D project which title is "A new approach on architectural drawings integrating computer descriptions" (NAADIR)* hosted by the Lisbon Faculty of Architecture / UTL and funded by the Portuguese Foundation for Science and Technology (FCT).

* http://www.naadir-research.blogspot.com/

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