Urban puzzle - Digital manufacturing of learning resources for a game-centred approach to urban design and regional planning

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Abstract:

The scale of urbanization of vast areas of the earth's surface, such as the Guangdong-Hong Kong-Macau Greater Bay Area of China, poses insurmountable difficulties in applying conventional research and educational instruments in their study, design and planning. This project confronts the necessity to develop innovative tools, useable by various stakeholders, for tackling the complexity of such vastly urbanized territories. Specifically, the project builds on the notion of elementarism to disassemble the urban morphology of the megalopolis into constitutive parts for digitally manufacturing the pieces of a three-dimensional puzzle. This game-centred approach will allow students to investigate the territory's essential elements and develop scenarios through innumerable spatial re-configurations. Furthermore, the tool will allow participatory exercises in urban design and regional planning, owning to the interactive and user-friendliness nature of the three-dimensional puzzle. As such, the application of this game-centred approach is expected to go beyond its original disciplinary and regional fields of initial development and to be adopted by various institutions worldwide. Moreover, the project envisages a broad spectrum of outputs for the scientific advancement and societal impacts of urban design and regional planning disciplines.