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Revolutionizing Gaming Setup Design: Utilizing Generative and Iterative Methods to Prop and Environment Design, Transforming the Landscape of Game Development Through Automation and Innovation

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Abstract : The practice of generative design has become a transformative approach for an efficient way of generating multiple iterations for any design project. The conventional way of modeling the game elements is very time-consuming and requires skilled artists to design. A 3D modeling tool like 3D S Max, Blender, etc., is used traditionally to create the game library, which will take its stipulated time to model. The study is focused on using the generative design tool to increase the efficiency in game development at the stage of prop and environment generation. This will involve procedural level and customized regulated or randomized assets generation. The paper will present the system design approach using generative tools like Grasshopper (visual scripting) and other scripting tools to automate the process of game library modeling. The script will enable the generation of multiple products from the single script, thus creating a system that lets designers /artists customize props and environments. The main goal is to measure the efficacy of the automated system generated to create a wide variety of game elements, further reducing the need for manual content creation and integrating it into the workflow of AAA and Indie Games.

Keywords : iterative game design, generative design, gaming asset automation, generative game design
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