Revisiting Blockchain Grammars

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The paper revisits Blockchain Grammars and provides various scenarios that validate the Decentralised Autonomous Organisation (DAO) Mechanism as a platform for design collaboration. Blockchain Grammars are shape grammars running on a DAO, where multiple shape grammarists design one or more grammars, using the underlying blockchain technology of the DAO to incentivise participants but also to structure the governance system of the DAO.

We have set up a (DAO) as part of the paper and we have designed various shape grammars for the design of residential towers in China. The grammars presented have as a target to optimise density of housing, maximise lighting conditions for rooms through the day, optimise structural performance of the structural system of the tower.

We have validated the process of decision making in decision via the governance system DAOs permit, and at the same time present the connection between a shape grammar system on parametric software and the smart contracts on a DAO. The paper presents in sequence the DAO we have set up, its governance system, the design and application of the grammars through the DAO, and the connection between the parametric system and the DAO. The paper considers further the implications of decentralisation of Architectural Design as an activity, with blockchain as an underlying technology.