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Our capstone is not a catch all solution for translating generative designs into reality.

We are intending to develop a library of open source hardware components which solve two problems:

-The ability to make a generative design able to be produced by "normal" means by combining basic elements into complex structures.

-An instruction set/descriptive language which prescribes how these elements are combined and potentially recombined.

Considerations:

-Our current thinking relies on recombinatory three dimensional triads of various scales and angles of incidence.

-This project necessitates the development of suitable joinery methods.

-The ability to have temporary versus permanent relations will need to be established.

-Surface continuity will be critical to maintain due to aesthetic considerations

-The feedback that these elements introduce into the generative design development cycle may introduce "limitations" or bottlenecks in flexibility/options.

-The end result should be able to be analyzed and optimized through the lens of a product life cycle.

This tradeoff should be mitigated but accepted if necessary since this is just a step in the right direction.

-If possible our library of components should be able to be utilized by a computer to understand the boundaries of what it may use to generate a proposed solution.

-If the computer can use the standard library 99% of the project and needs one specialized part we must decide if this acceptable or if this is a no go for this project. (AKA should we allow cludges?)

-What structural stability standards can we meet?+ how do our optimizations change the structural integrity?

-Can a manufacturer combine sets in factory (maybe permanently) to make a leg, a seat and back to later be combined by a consumer?

-What materials can our components be made from?

-Do our designs necessitate the use of adhesives? Is there a way we can design these out?

-What materials/processes are we optimizing for? What defines "normal" means?

Benchmarks:

Does our project expand the possible actionable design vocabulary?

Does our project meet or exceed similar environmental soundness use cases?

Does a community outside of our interest group utilize and improve upon our research?

Can the average individual understand a provided instruction set and construct a basic design?

Do manufacturers see the validity of this as workflow implementation for new product development?