

CHANGIBLES: ANALYZING AND DESIGNING SHAPE CHANGING CONSTRUCTIVE ASSEMBLY

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Advances in shape changing assemblies have been made in reconfiguration algorithms, hardware designs and interaction techniques. However no tools exist for guiding designers in building those modular devices and especially for choosing the shape of the units. The task becomes even more complex when the units themselves can change their shapes to animate the entire assembly.

We present the first analysis tool which helps the designer to choose the right subset of forms for the units and to create an assembly with maximum accuracy from the set of given objects. We introduce the concept of Changibles that are interactive wireless units that can reshape themselves and be attached together to create an animated assembly. We validate our tool with six Changibles used to construct a pulsing heart assembly.

