Autonomous Reconfiguration of Heterogenous Robots
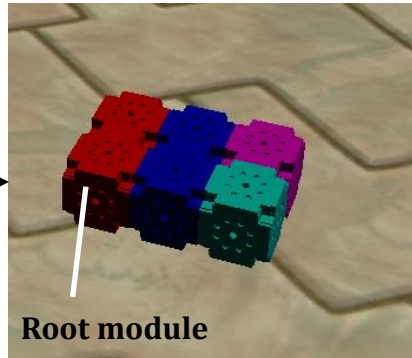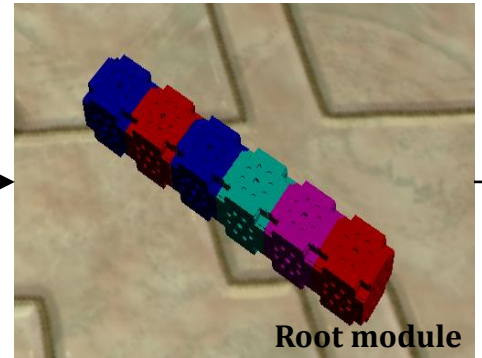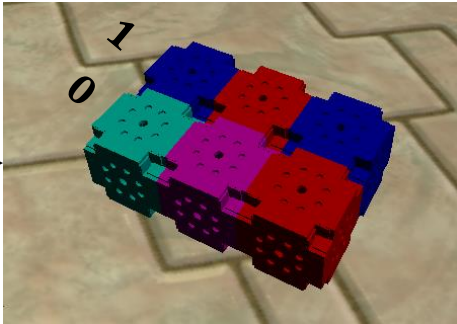
Grouping
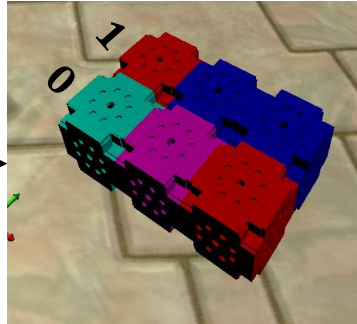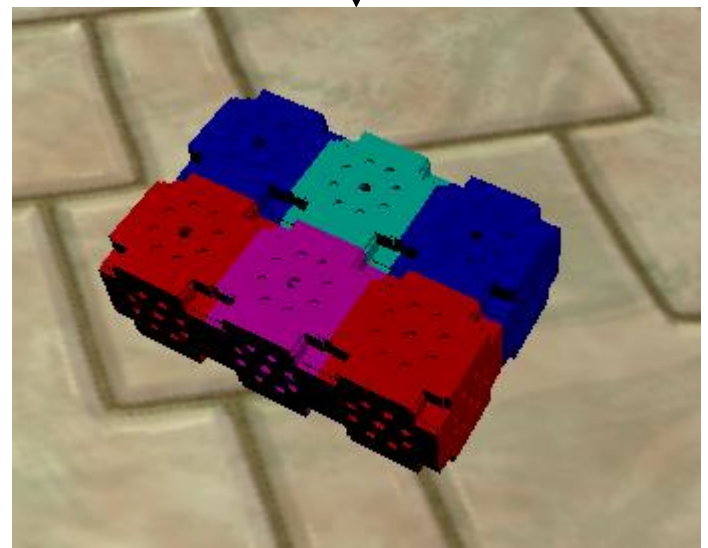
Melt

Root module

Root module

Split in 2

Bubble Sort

Insertion Sort

Modules treated as nodes in graph
A root module is chosen
BFS is used to find **isolated modules** in the structure and the path to them from root
Path is converted into a series of coordinates outside the structure
Chain is sorted by splitting in 2, bubble sorting each row, then insertion sorting the rows back together
Grow the takes sorted chain into goal structure, performing the inverse of melt

Preserves module orientation
Could be adapted to work with different sized modules

Grow