Farmzoids Algorithm Report

The algorithm used in this farmzoids project consists of the assignment of tasks to farmzoids and evaluation of rules. When tasks are first created, they are pushed onto taskList[] which is a javascript array. Rules consist of a series of if statements that are checked against each farmzoid every move.

The taskList[] acts as a queue. New tasks are pushed to the back of the queue while the oldest task is popped off the queue first when a farmzoid requires a new task. The taskList[] will typically not grow larger than the amount of plots initially created. Also, there are no intensive operations on this list, making it negligible when considering the speed of the program.

Farmzoids are kept track of using farmzoids[] which is a javascript array. Each move, all farmzoids in farmzoids[] run the assign-tasks function and evaluate-rules function. These functions consist of DTrees to determine if a task needs to be assigned or a rule needs to be evaluated.

Another notable data structure is plotLocs[] (javascript array) which keeps track of all plots that have been created. During each move, all plots in plotLocs[] are drawn including plants if they have them and water if it is above 0.

All of the mentioned data structures serve as WMEM during the runtime of the program. LISP functions continuously request data from them and also update them based on evaluated rules.