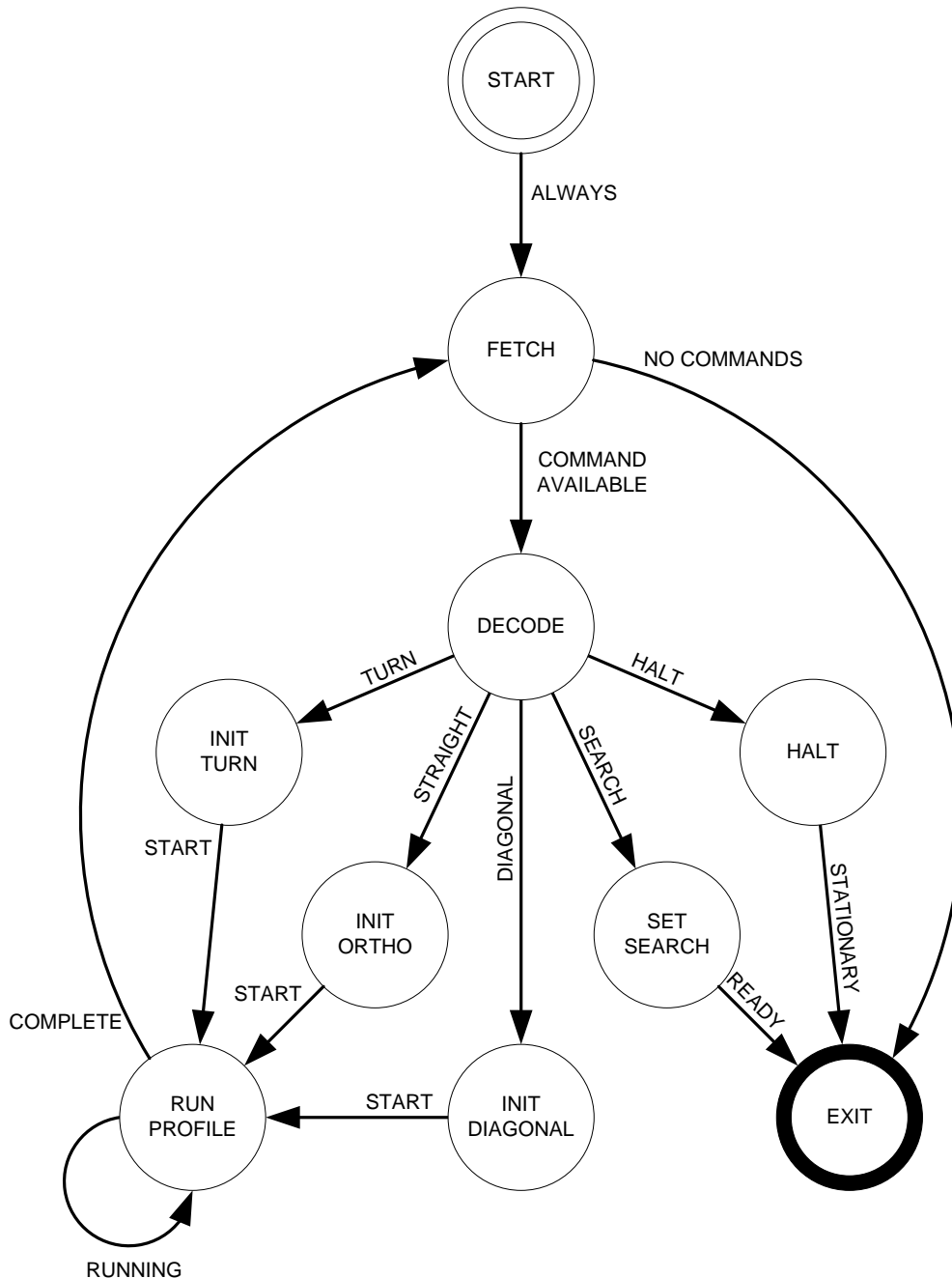


MICROMOUSE COMMAND INTERPRETER



- A simple command interpreter state machine for the micromouse.
- This will run from the top-level loop whenever the mouse needs to run a command list.
- During speed runs, there can be no 'SEARCH' command.
- For clarity, all turn types are rolled into one state even though it is more convenient to treat in-place turns differently to smooth turns.
- Only the HALT command causes the mouse to finish with no forward movement
- Only one motion profiler is active at any instant. If a turn profiler is active, the mouse is running at constant (possibly zero) forward speed.
- During search, commands can be executed to take the mouse through known cells at higher speed and the commands will end in SEARCH to bring the mouse to safe search speed either in the centre of the last known cell or the threshold into the unknown cell that is the current target. A command list is only generated if the current target is not the next cell.
- The interpreter must keep parameters from the previous command to know the current offset, angle etc
- The next command must be available in order to determine the end speed and end offset so that the mouse has the correct posture for that command
- Commands always start and finish with an ortho straight.
- Between two straight moves there must be a turn and between two turns there must be a (possibly zero length) straight.
- There will always be a terminator at the end of the list.
- Commands can be held in a circular list. Is this necessary? Do we ever need to modify a command list while it is running?
- In principal, the worst case command list length is almost as long as twice the number of cells. Think FWD1,IP90,FWD1 etc