**Pseudocode for Washing Wash Cycle**

**Intro:**

The purpose of this document is not to be rigorous or specific, but rather generally outline what the goals of this code is to do:

Key goals:

* Control hardware to carry out a wash cycle based on user input
* Outline limits of machinery and set code to stop if reached

**Code:**

Const Interrupt Condition that remains the same regardless of phase (Measurements that read at or above safe limits of equipment and remain constant throughout process) =

* Encoder Value is too large or too small (Acting Piston is at limits of allowable location)
* Linear actuator reads too far above or below capacity, Pressure in chamber is too high, Current in 12V circuit is too high or too low
* Abs value of load cell reading too high
* Chamber pressure too high or low

Phase Dependent Interrupt Conditions (Stopping conditions altered by phase) =

* Time between start of phase and present while no condition to move to the next phase is met
* Encoder value doesn't change to match expected (reverse vs normal & speed)

Manual E-Stop

**Full Process Loop (**

Initial Input Loop(

User Input to start Cycle

Initialize Variables

//User Inputs clothing and tells machine to start loop

User Wash Cycle Select/Modifier Input (State Machine with condition to run cycle or exit)

Create new file on SD card to write data to

Signal begin wash loop

)

**Wash Loop (**

Phase ( //State Multiple states with substates for each wash phase and subphase

OnFirst Phase Cycle(

Set Start Time of Phase

Set expected values to compare for Interrupt Conditions

Take and record readings

Set phase age variable to not new

)

Each Cycle of Code(

Check interrupt conditions

Set pinout (control hardware)

Note time, if time is at desired interval between last reading, record sensor values with timestamp

Check for end phase condition

)

At end of Phase(

Set phase age variable to new (for moving onto next phase)

)

**)**

End Program(

Set all pinouts to off

Set state to idle/reset loop (to wait for next start input)

)

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