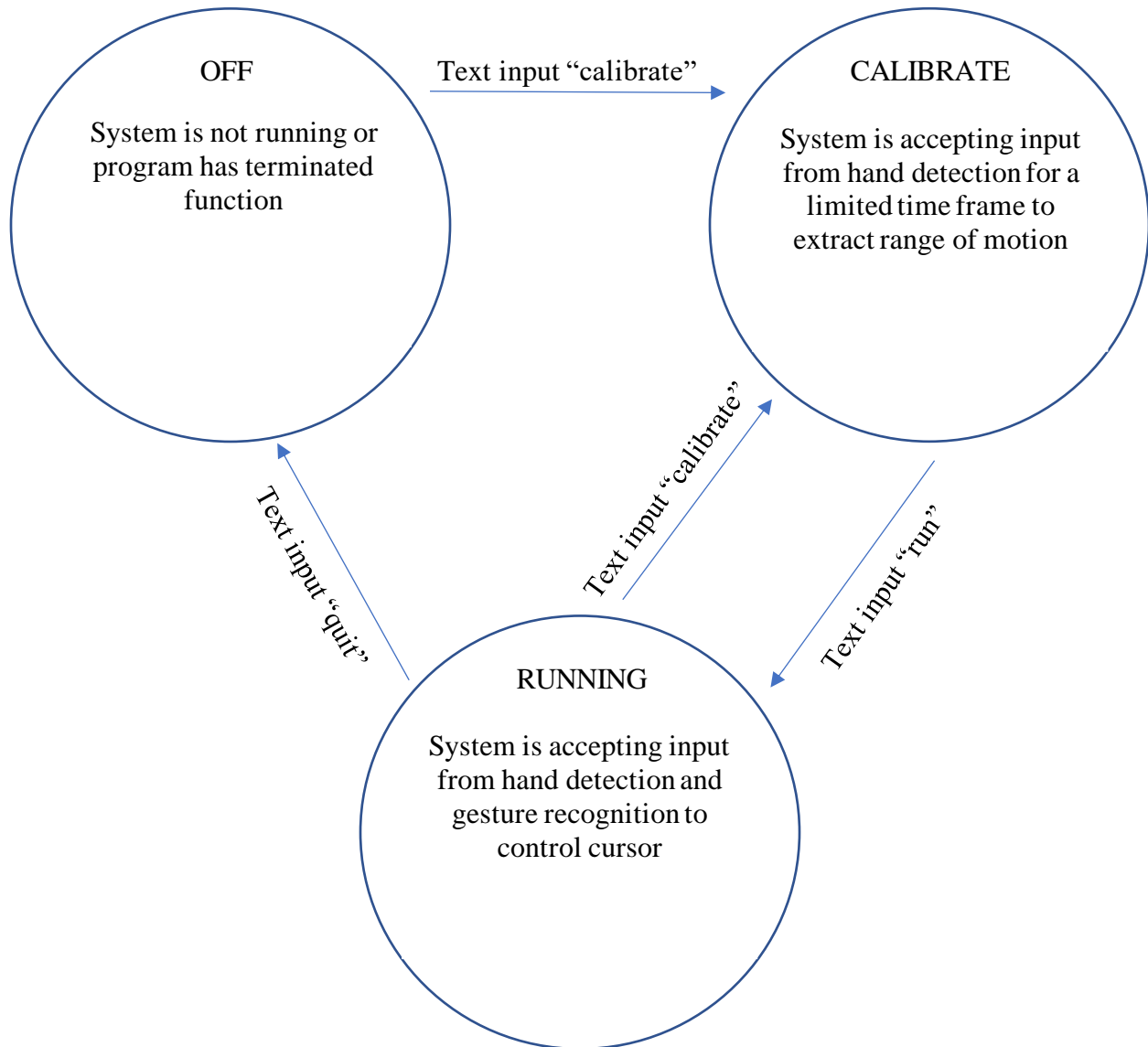


Alan Song – A2

OS Interface

State Machine:



Modules:

Calibration module

Inputs (x, y)

Outputs (xScale, yScale)

Takes continuous x, y hand coordinate inputs and keeps track of xMax, yMax, xMin, yMin, to create a bounding box of coordinates

Also gets screen resolution through ctypes library with `GetSystemMetrics()`

$xScale = xRes / (xMax - xMin)$

$yScale = yRes / (yMax - yMin)$

Mouse control module

Inputs (x, y, xScale, yScale, gesture)

No outputs (or possibly coordinate outputs)

Takes continuous x, y hand coordinate inputs and gesture inputs, as well as xScale and yScale

Saves x, y input from previous time

Calculates $(x - xPrev) * xScale * 0.75$ and $(y - yPrev) * yScale * 0.75$

These go into the x and y inputs of `mouse.move()` respectively

`Mouse.move()` used with relative input

Case on gesture input to determine if `mouse.move()` should be active

Case on gesture input and call `mouse.press()`, `mouse.release()`, or `mouse.scroll()`

If `mouse.scroll()` active, `mouse.move()` is stopped and `mouse.scroll` is activated based on relative y coordinate movement

System

Inputs (userInput)

Outputs (state)

The whole system takes in user text input to transition between off, calibration, and running states

After each transition the current state is outputted