

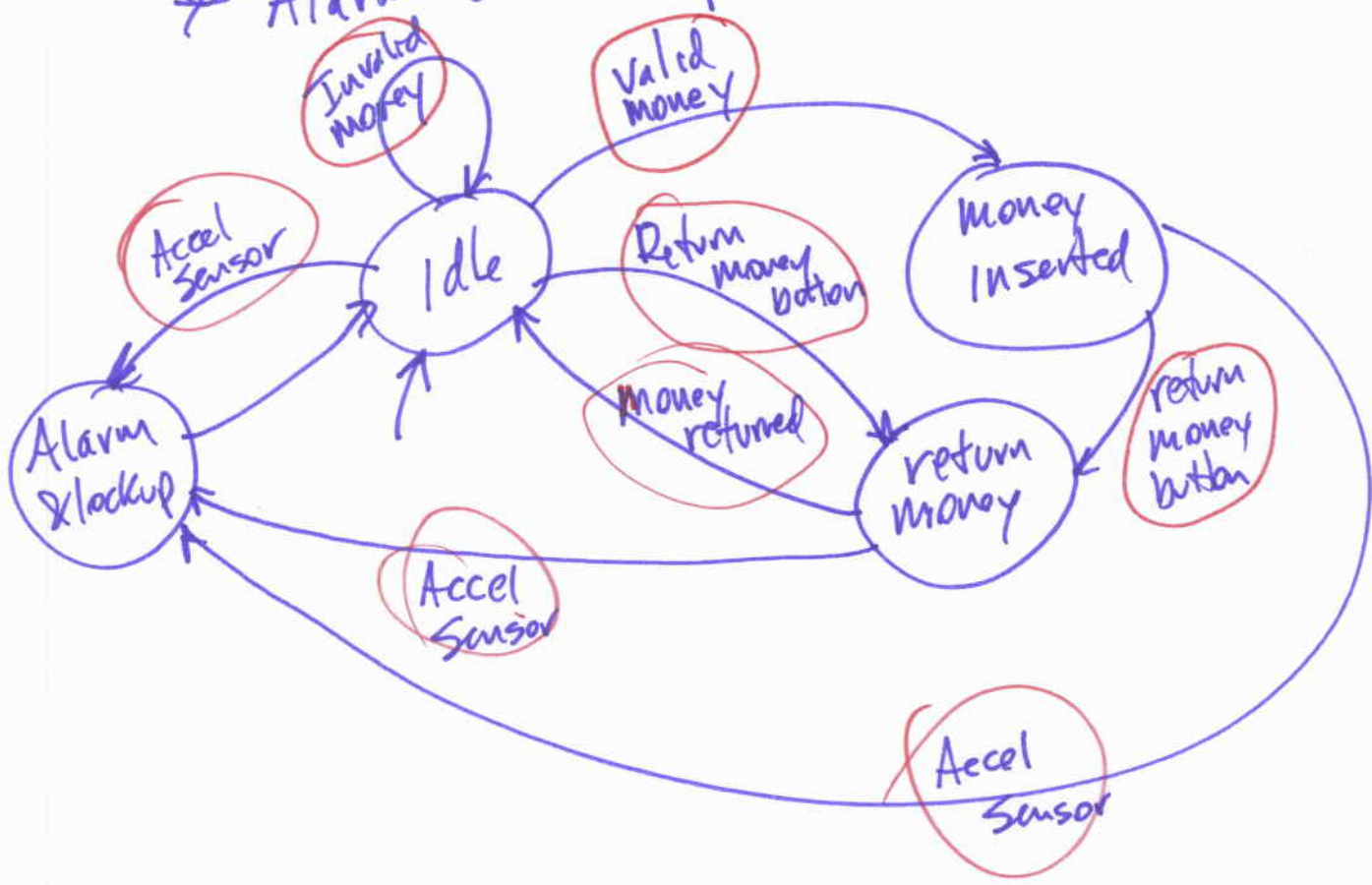
Candy (Snack food machine)

The snack food machine must

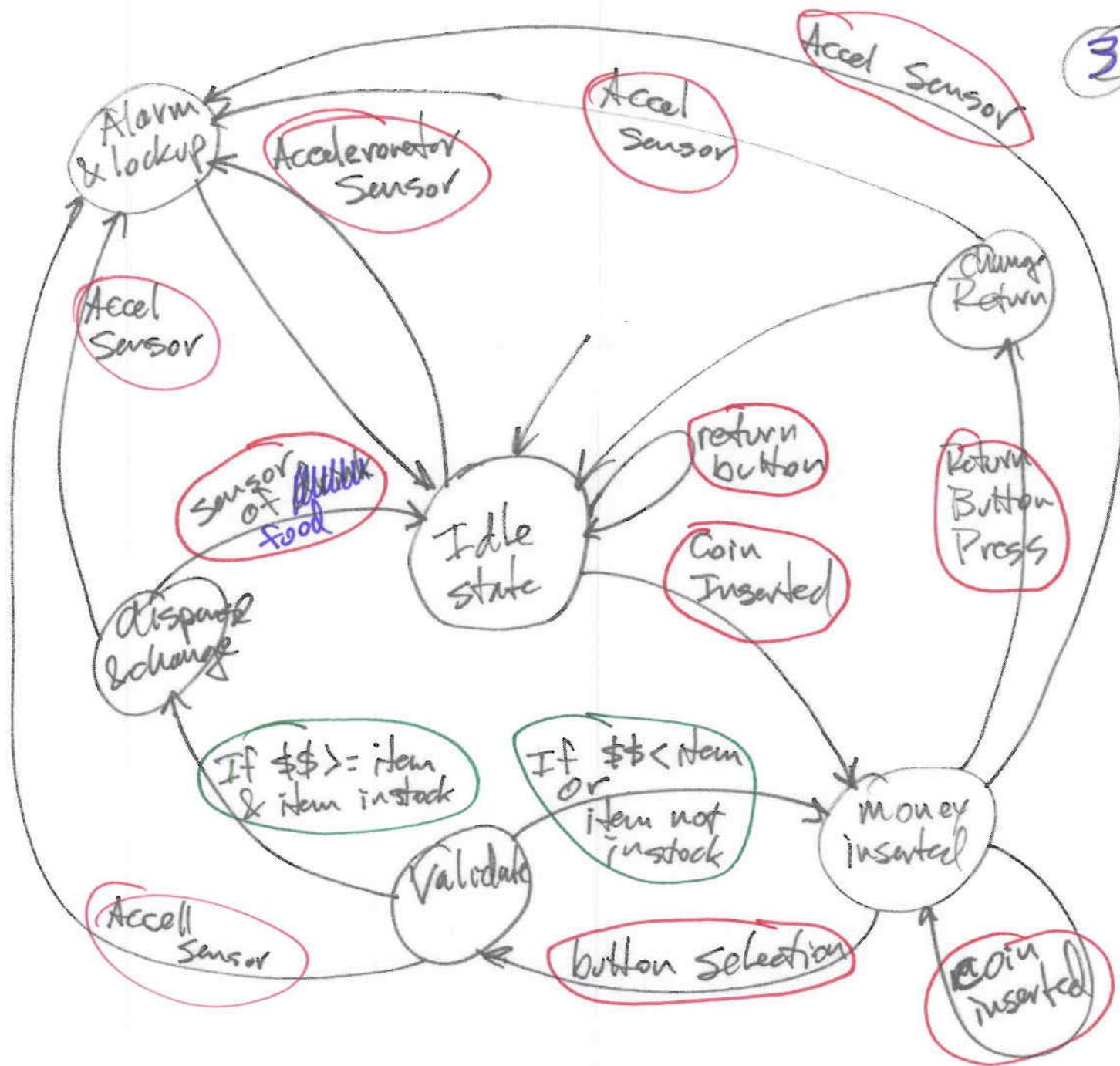
- 1) Accept dollar bills
- 2) Accept coins (5¢, 10¢, 25¢, \$1)
- 3) Reject foreign coins
- 4) Reject "slugs" and other non-coins
- 5) Keep an accurate count of money inserted
- 6) Dispense food when # entered correct
- 7) Dispense food when correct amount of money inserted
- 8) Returns excess money in the change ~~slot~~ ^{slot}
- 9) Returns all money if "change returned" button pressed
- 10) Indicates when an item is sold out
- 11) Have a theft/damage/shake/level detector.

Machine states:

- * Idle
- * Money inserted
- * Dispense Food & return change
- * Return money inserted
- * Validate money vs. item
- * Alarm & lockup



3



Embedded Systems

11/6/13

(4)

Sensor

- * Accelerometer
- * Coin insert & checker
- * Coin return button
- * Food sensor
- * Selection button
- * Stock level (x n)

Interrupt?

- Yes - digital
- Yes - digital
- Yes - digital
- Yes - digital
- Yes - digital
- no

while (1) {

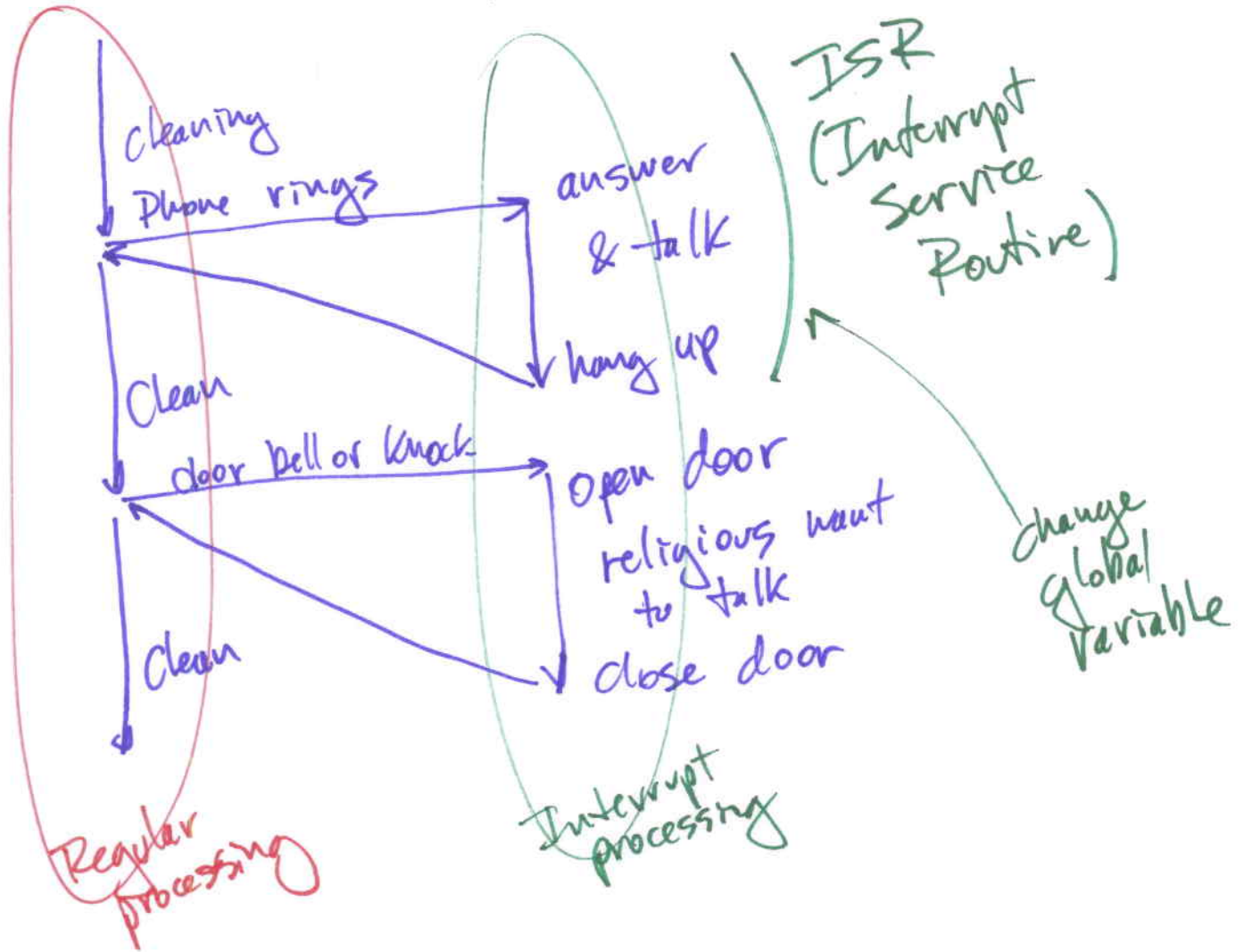
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}

Interrupt Concepts

5

Vacuum the floors



The main reason for ISRs
is to change global variables
i.e. for smart food machine
Accumulated_money is a global variable