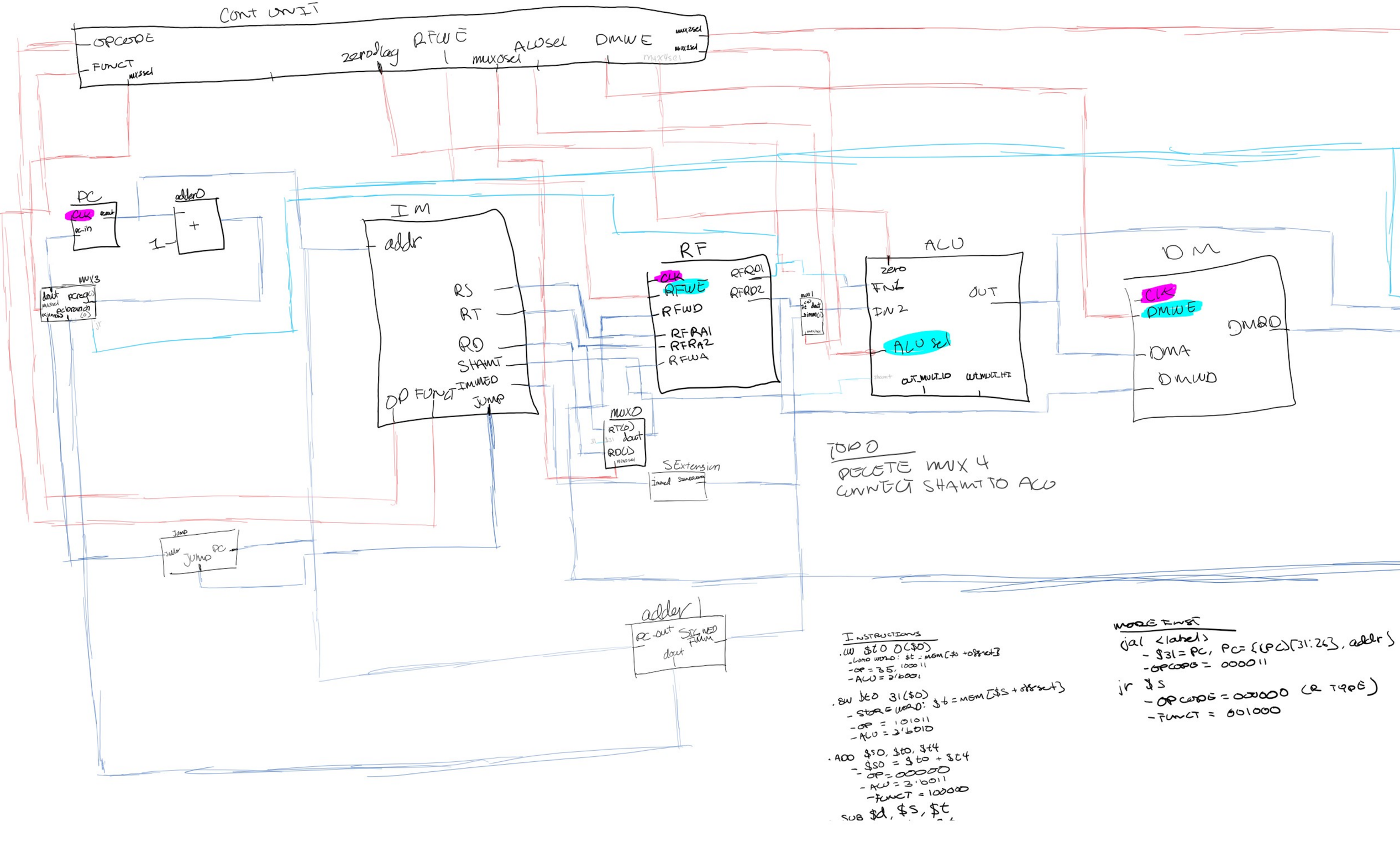
Flow chart

Thursday, September 5, 2019 4:13 PM



TODO

DELETE MUX 4

CONNECT SHAMT TO ALU

INSTRUCTIONS

.LW $t0 0($0)
- Load word: $t = MEM[$0 + offset]
- OP = 35, 100011
- ALU = 2'b001

.SW $t0 31($0)
- Store word: $t = MEM[$S + offset]
- OP = 101011
- ALU = 2'b010

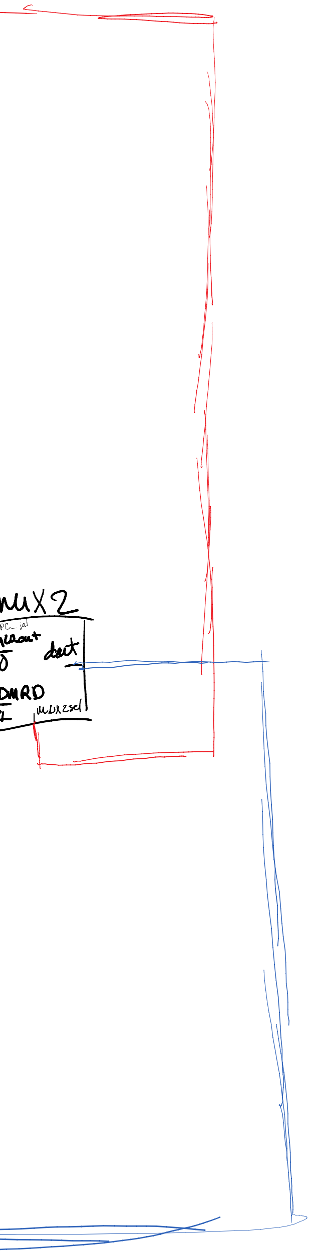
.ADD $S0, $t0, $t4
- $S0 = $t0 + $t4
- OP = 000000
- ALU = 3'b011
- FUNCT = 100000

SUB $d, $S, $t

MORE INST

jal <label>
- $31 = PC, PC = {(PC)[31:26], addr}
- OPCODE = 000011

jr $S
- OPCODE = 000000 (R TYPE)
- FUNCT = 001000


MUX2
PC_jal
dest
DMRD
MUX2sel

- $d = $s - $t
- op = 000000
- FUNCT = 100010

• SLL $d, $t, h
  - $d = $t << h
  - op = 000000
  - FUNCT = 000000

• SRA $d, $t, h
  - $d = $t <<< h
  - op = 000000
  - FUNCT = 000011

• SRL $d, $t, h
  - $d = $ >> h
  - op = 000000
  - FUNCT = 000010

• SLLV $d, $t, $s
  - $d = $t << $s
  - op = 000000
  - FUNCT = 000100

• SRAV $d, $t, $s
  - $d = $t >>> $s
  - op = 000000
  - FUNCT = 000111

• SRLV $d, $t, $s
  - $d = $t >> $s
  - op = 000000
  - FUNCT = 000110

• MULT $s, $t
  - $LO = $s × $t
  - op = 000000
  - FUNCT = 011000

• ADDI $t, $s, imm
  - $t = $s + imm
  - op = 001000
  - FUNCT = 000000

```
loop: BEQ $S0, $S1, done

J loop
done: NOP
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• j loop #goto loop label
  - Jump: PC = {PC[31:28], Jaddr}
  - op = 000010
  - Funct = X

• beq $s, $t, label
  - go to label if $S0 = $S1
  - OP = 000100
  - Funct = X
  - I TYPE