

Block Diagram:

Daniel Mestres, Natanael Santiago, Francisco Rosario

## Base Components

## Pipeline Registers

Control Unit

Enables -

- 1 - ID\_shift\_imm
- 2 - ID\_ALU\_op
- 3 - ID\_load\_instr
- 4 - ID\_RF\_enable
- 5 - EX\_RF\_enable
- 6 - MEM\_RF\_enable
- 7 - WB\_RF\_enable

Data Hazards by Load inst. -

- 8 - Disable PC
- 9 - Nop insertion selection
- 10 - EX\_load\_instr
- 11 - EX\_Rd

### Forwarding Operand - 12 - MEM\_load\_instr

Data Hazards -  
13 - Control\_Hazard  
14 - ID\_B\_instr  
15 - Condition Codes  
16 - Instruction Condition

