Rose-Hulman Institute of Technology
Computer Science and Software Engineering
Prof. Archana Chidanandan

Term Project Milestone 3 Evaluation
(Datapath and Control Specifications) Team __2-3__ Points earned_~~28~~_/~~40~~

Evaluation Criteria Categories	Specific Criteria	Comments	Score
Consistency with higher level specifications	❑ State elements that are assigned or referenced in Register Transfer Language (RTL) statements appear in datapath ❑ Operations that are required to implement RTL statements have corresponding components ❑ Inputs, outputs, and control signals of components in datapath are consistent with RTL specification ❑ Connections between components in datapath are consistent with RTL specification ❑ The control signals specified for each state (or microstep) produce the register transfers specified in the corresponding cycle of the RTL description	The state elements are assigned in the datapath which was an image file in their folder. The necessary operations seem to be handled. The inputs, outputs, and control signals seem to be of correct size and number. The connections look correct. ~~The FSM/microsteps is not provided. -2~~	(6/8)
Self-consistency	❑ Input signals that have multiple sources have associated multiplexers ❑ Multiplexers have appropriately sized control signals ❑ Datapath includes one or more control units that generate the necessary control signals and have the appropriate input signals ❑ The value of each control signal is defined for every state (or microstep)	Mux's are used where needed. The control signals should be of proper size. The control unit is there and generates the necessary signals. ~~There is no FSM/microstep. -2~~	(6/8)

Demonstration of design principles 1. Simplicity favors regularity 2. Smaller is faster 3. Good design demands good compromises 4. Make the common case fast	❑ Components are kept as simple as possible ❑ Similar components used by multiple instructions or in multiple cycles are combined where possible ❑ Tradeoffs between the preceding criteria favor the common case, not the special case ❑ Regularity in the machine language format is exploited by using combinational logic where feasible ❑ Identical states (or microsteps) are combined	The components are simple as possible and their number is minimized. ~~The FSM/microsteps are not given. -2~~	(6/8)
Documentation (see below) ❑ Organization ❑ Completeness ❑ Conciseness ❑ Grammar and style	❑ Datapath diagram ❑ Clear English specifications o Effects of control signals ❑ Datapath tests ❑ State transition diagram or microprogram specifying the finite state machine ❑ Truth tables or Boolean equations specifying any combinational units ❑ Clear English specifications as necessary ❑ Control unit tests	Your memo is good, but contains minor grammar errors. Your journal is good. I see no serious problems. Your design document is um….not up to date. It has no ~~datapath nor FSM~~ nor tests…-6	(10/16)

Required Documents

- Memo
  - Objective assessment of design and status
- Design Documentation
  - Demonstration of conceptual understanding
  - Highlights interesting features
- Design Process Journal
  - Alternatives considered
  - Tradeoffs
  - Decisions
- Website

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