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

Term Project Milestone 3 Evaluation
(Datapath and Control Specifications) Team __2-1__ Points earned_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	State elements are in the datapath and seem to be connected properly. The operations necessary are present. The inputs, outputs, and control signals are proper length. The FSM/microsteps appear correct.	(8/8)
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 with correct signals. Control unit is present. The control signals are defined in the microsteps. Initial values are not given, so I do not know the non-listed values in cycle 0. -	(7/8)

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 as simple as possible and minimized. Identical steps are not combined where possible everywhere. See bubble 2 and 7. -1	(7/8)
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 could use some work. It is missing a brief description of decisions recently made and why. -2 Your journal isn't bad, minor grammar issues but not enough for deduction. Your design document is lacking a table of contents. -2 It has the datapath and the microprogram with FSM type image to clarify. Your tests seem to say we will finish the project and if it works then that is good. -2	(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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