

Term Project Milestone 3 Evaluation (Datapath and Control Specifications) Team <u>1-1</u> Points earned <u>29</u> /40
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Evaluation Criteria Categories	Specific Criteria	Comments	Score
Consistency with higher level specifications	<ul style="list-style-type: none"> <input type="checkbox"/> State elements that are assigned or referenced in Register Transfer Language (RTL) statements appear in datapath <input type="checkbox"/> Operations that are required to implement RTL statements have corresponding components <input type="checkbox"/> Inputs, outputs, and control signals of components in datapath are consistent with RTL specification <input type="checkbox"/> Connections between components in datapath are consistent with RTL specification <input type="checkbox"/> The control signals specified for each state (or microstep) produce the register transfers specified in the corresponding cycle of the RTL description 	<p>ALUOut is missing, could be inside of ALU???</p> <p>All necessary components for operations are present.</p> <p>The signals seem to be correct.</p> <p>The connections seem to be correct.</p> <p>No state machine or Microsteps given. -2</p> <p>Where's the interrupt handling.</p>	(6/8)
Self-consistency	<ul style="list-style-type: none"> <input type="checkbox"/> Input signals that have multiple sources have associated multiplexers <input type="checkbox"/> Multiplexers have appropriately sized control signals <input type="checkbox"/> Datapath includes one or more control units that generate the necessary control signals and have the appropriate input signals <input type="checkbox"/> The value of each control signal is defined for every state (or microstep) 	<p>Mux's are present where needed.</p> <p>I would assume so, no FSM given. Control units are present. ALU and normal.</p> <p>No FSM or microstep given. -2</p>	(6/8)

<p>Demonstration of design principles</p> <ol style="list-style-type: none"> 1. Simplicity favors regularity 2. Smaller is faster 3. Good design demands good compromises 4. Make the common case fast 	<ul style="list-style-type: none"> <input type="checkbox"/> Components are kept as simple as possible <input type="checkbox"/> Similar components used by multiple instructions or in multiple cycles are combined where possible <input type="checkbox"/> Tradeoffs between the preceding criteria favor the common case, not the special case <input type="checkbox"/> Regularity in the machine language format is exploited by using combinational logic where feasible <input type="checkbox"/> Identical states (or microsteps) are combined 	<p>The components are very simple, no problems there. Component count is minimal. No FSM given. -1</p>	<p>(7/8)</p>
<p>Documentation (see below)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Organization <input type="checkbox"/> Completeness <input type="checkbox"/> Conciseness <input type="checkbox"/> Grammar and style 	<ul style="list-style-type: none"> <input type="checkbox"/> Datapath diagram <input type="checkbox"/> Clear English specifications <ul style="list-style-type: none"> o Effects of control signals <input type="checkbox"/> Datapath tests <input type="checkbox"/> State transition diagram or microprogram specifying the finite state machine <input type="checkbox"/> Truth tables or Boolean equations specifying any combinational units <input type="checkbox"/> Clear English specifications as necessary <input type="checkbox"/> Control unit tests 	<p>The datapath is given in picture format.</p> <p>The signals are not described and no FSM was given.</p> <p>The memo and journal seem fine.</p> <p>The design document is lacking. There are no tests, alternatives, nor is the FSM there. Signals are not specified as to their affect on each component. -6</p>	<p>(10/16)</p>

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