Rose-Hulman Institute of Technology
Computer Science and Software Engineering
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Term Project Milestone 4 Evaluation (Components Specification)

Evaluation Criteria Categories	Specific Criteria	Comments	Score
Consistency with higher level specifications	❑ Components have interfaces (inputs, outputs, and control signals) that are consistent with the datapath specification, including signal widths. ❑ Components produce behaviors that are consistent with the assembly language and register transfer language levels of the design specification. ❑ Components implement their behaviors within the timing constraints imposed by the RTL specification.	Almost all components are defined. Exception: concatanator (yes, it is trivial). Stateful components need a clock signal input (you may leave it out for clarity, but it should be so noted). Component behavior appears consistent.	3/3
Self-consistency	❑ Example: Specification of 1-bit ALU is consistent with specification of 16-bit ALU. ❑ Example: Specification of bi-directional variable-displacement shifter is consistent with specifications of unidirectional variable-displacement shifters.	Component specifications at lower levels could have been more explicit, but are acceptable.	3/3
Demonstration of design principles 1. Simplicity favors regularity 2. Smaller is faster 3. Good design demands good compromises 4. Make the common case fast	❑ Component specifications are as simple as reasonably possible (e.g. variable-displacement shifters are composed of multiple fixed-displacement shifters). ❑ Component specifications are as small as reasonably possible (e.g. variable-displacement shifters use as few fixed-displacement shifters as possible). ❑ Conflicts between the preceding criteria are resolved by considering overall performance (e.g. design of variable displacement shifters considers how often shifts of various displacements actually are used)	Component complexity appears reasonable. Did you intend to call it a “Registry File?”	3/3
Documentation (see below) ❑ Organization ❑ Completeness ❑ Conciseness ❑ Grammar and style	❑ All design decisions necessary to implement Xilinx model are documented (components may be implemented by core generated objects or built-in symbols, which include gates and some higher-level entities) ❑ Clear English specifications as necessary ❑ Component tests	Memo is acceptable, would benefit from assessment of progress. Journal is good, would benefit from more rationale behind design decisions. Webpage doesn’t link to milestone 4 memo. Design Documentation defines components; abstract block diagrams would be helpful.	14/16

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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