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

Team ___1-2_____ **Milestone 1 (Assembly Language and Machine Language Specifications)** Total points ___23.5___

Evaluation Criteria Categories	Specific Criteria	Comments	Score
Consistency with higher level specifications	❑ Given the semantics of the Assembly Language (AL) specification, the sample program can be implemented ❑ Every instruction allowed by the assembly language (AL) specification has a unique machine language (ML) representation o Each instruction type includes enough fields to represent the information specified in the corresponding AL statements o Each field is allocated enough bits to represent all values allowed by the AL specification o For each instruction type, the total number of bits allocated to fields is not greater than the number of bits available ❑ Sample programs are translated into binary as described in ML specification	It is possible to write the GCD and the language is versatile. ML is unique. 5-bit op-codes and the useless three on register types is cool. Perhaps variable length instructions would suit you, but I think that is harder. Sample program is in binary and in decimal. Specify that @rs must be a register between 0 and 7 due to ML restrictions. This should be in your AL specifications not just your journal. -0.5	(3.5/4)
Self-consistency	❑ Sample program uses the syntax described in AL specification ❑ Sample program uses the registers described in AL specification (number and type) ❑ Sample program uses the representation given in the ML specification, including correct values for fields specifying branch and jump targets	The syntax appears to be correct. The registers are used correctly, from what I can tell. The code is translated correctly into ML. Sample program is confusing with inserts and replaces. Save as separate versions if you wish to retain legacy code. -1	(3/4)
Demonstration of design principles 1. Simplicity favors regularity 2. Smaller is faster 3. Good design demands good compromises 4. Make the common case fast	❑ AL instructions are easy to understand and are not overly specialized ❑ Number of instructions is minimized ❑ Number of registers is minimized ❑ Where the above criteria conflict, good compromises are made (to make the common case fast) ❑ Number of instruction types is small ❑ Instruction types have regularity	There are many useful instructions. The instruction set is made for versatility while remaining useful in a 16 bit environment. There are the standard 16 general purpose registers. Three types it appears, which are consistent.	(4/4)

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Documentation
❑ Organization
❑ Completeness
❑ Conciseness
❑ Grammar and style
• Memo
  • Objective assessment of design and status
• Design Documentation
  • Demonstration of conceptual understanding
  • Highlights interesting features
• Design Process Journal
  • Alternatives considered
  • Tradeoffs
  • Decisions
• Website
	❑ Clear English specifications
	  o Instruction set (incl. prototypical AL statements)
	  o Registers
	  ▪ Number of general purpose registers
	  ▪ Specification of special purpose registers (if applicable)
	  ▪ Naming conventions
	  ▪ Usage conventions
	  o Instruction types
	  o Representation of each instruction
		Register specification and other specifications are rather simple to understand.
		
		The memo is short and doesn't include information about basic decisions made during the preparation for this milestone. Status is given.
		
		The design process journal is good so far. It highlights the interesting aspect of the three bits extra and its use in instructions.
		
		The design document is missing. Note that this document is required by the website. -2
		
		Your website, although up, is not allowing me to access any files. The links appear to be dead; they lead me to the page I was on when I clicked them. -2
		
		Special purpose registers missing from explanation. (PC, EPC, etc) -1
		
		You've put in a lot of work on the actual project. The documentation is only lacking a little. Please fix this by next time.
			(13/18)