Memo

TO: Micah Taylor, Project Lead

FROM: Jeffery Humphrey, Benjamin Efron, Josh Gayso, Thomas Bonatti, Designers

DATE: February 5, 2015

SUBJECT: Milestone IV – Control Unit Design

We have finished constructing all of the components besides control for our datapath, including the ALU, the ALU control, the register file, the sign extender, the memory unit, the PC adder, and the test benches for all of them. We updated our control list to include the most recently added control signals, we have overshot on the number of signals needed, so that we can cut out signals that are unneeded instead of having to add new ones as needed. We cleaned up our RTL so that it is much easier to follow, along with upgraded to a more concise integration plan. We have also come across the fact that we have been referencing our branch if equal to zero and branch if not equal to zero commands as the wrong type, and they will need to be tweaked slightly to regain functionality. Our slti command will now be a pseudo-instruction due to the otherwise need for another controller path. These problems will be fixed before the next milestone. We have also began working on extras, including an RTL test simulator and an assembler/compiler, the latter of which is still in early development. As a whole, we feel as if we are running ahead of schedule, and we plan on remaining that way all the way through the end of the project. Staying 1-2 weeks ahead on everything seems to help catch errors and bugs sooner and fix them in plenty of time.