# smartest-addendum

## smartest-HW.pdf

1. The X/M\_B register was renamed to X/M\_A, and the D/X\_A register now connects to X/M\_A instead of the X/M\_B register, when passing down to the next pipeline stage.

## smartest-HW\_and\_CU.docx

1. In the “Register Transfer Language” section, subtraction (SUB) was added and set-less-than (SLT) was removed. SLT was removed as it was unnecessary without a branch-less-than (BLT) instruction. It added up to five more cycles since the Smartest pipeline does not support forwarding.
2. The "Registers" section was removed, as there are no physical registers used by the Branch Prediction Table. The control unit has all values stored "within" itself in the code, in the form of arrays and control flag variables.
3. The “Operation” section and all sub-sections were dramatically simplified to reflect the simplifications to the branch prediction control logic. Since the majority of the physical hardware was removed and moved into the code, only the high-level algorithm for the branch prediction is documented.

## smartest-ISA.docx

1. In the “List of Instructions” section, subtraction (SUB) was added and set-less-than (SLT) was removed. SLT was removed as it was unnecessary without a branch-less-than (BLT) instruction. It added up to five more cycles since our pipeline does not support forwarding.
2. The "Areas for Improvement" section was removed, as all the changes were implemented.
3. The format for R-type instructions was modified so that the RS register is first, the RT is second, and the RD is third. The change was to allow easier processing of selected registers.