Roadmap for Outel CP2

Qingyi Wang (qwang83)

Mingyuan Han (mh24)

Shitao Liu (sl53)

The second Checkpoint for our MP4 will be April 14th, by which we need to finish the integration of L1 caches, arbiter, hazard detection & forwarding, and the static branch predictor. Specifically, we are planning to finish the second checkpoint based on the following timeline:

By the end of this week (April 4th), we shall finish the separate D-Cache and I-Cache (1-cycle-hit) as well as the arbiter. To test it, we are planning to replace the magic memory with the normal memory and running the CP1 test code. Shitao would take charge of the cache modification and the arbiter design and testing.

Before the second midterm (April 8th), we shall finish debugging the cache and the arbiter and the integrating the Harvard detector, forwarding logic, and the static branch predictor to our circuit. Qingyi would take charge of the control hazard detection and branch prediction. Mingyuan would take charge of the data hazard detection and the forwarding logic.

The remaining days will be used for debugging. Some potential issues might be the timing issues caused by the forwarding logic and some corner cases in the data hazard detection. We will test each component thoroughly, then integrate them and run multiple testcases. We also plan to run the timing analysis for our design and solve potential timing issues by shorting the critical path with better design.