Datapath Conclusion

3-28-2003

Opening Discussion

- What did we talk about last class?
- Have you seen anything interesting in the news?

Designing Datapaths and Control

- Complex instructions are not always faster.
- Increasing number of transistors, faster computers, and better design tools have drastically changed the way that datapaths and controls are done.
- Fig 5.51
Chapter Review

What we are going to do now is go back over the main things that we have discussed in this chapter. There is a bit of a twist to this though. You will be doing most of the talking.

The Single Cycle Datapath

The Multicycle Datapath
Complete Controller FSM

Our Microprogram

<table>
<thead>
<tr>
<th>Label</th>
<th>Add</th>
<th>Op</th>
<th>Src1</th>
<th>Src2</th>
<th>Reg</th>
<th>Writing</th>
<th>R/W/W</th>
<th>Sel</th>
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<td>Read</td>
<td>ALU</td>
<td>Dispatch 1</td>
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<td>LW2</td>
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<td>Dispatch 2</td>
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<td>lit</td>
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<td>ALU</td>
<td>Patch</td>
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<tr>
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<td>Write ALU</td>
<td>ALUOut-</td>
<td>Patch</td>
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</table>

Minute Essay

- Next class we will be starting to talk about pipelining with Chapter 6. That chapter further elaborates on datapaths, adding more complexities that are used in modern implementations. What questions do you have from this chapter that you need answered before that?
- Remember that there will be a quiz at the beginning of next class.