

CARP Meeting 4

Team Breakout Session

Where are we at?

- ◆ CARP Core → Essentially OTTER without jumps/hazards
- ◆ Need to implement Multiplier and Divider
- ◆ Multiplier done, Divider not started

Two Natural Paths

- ◆ We've just finished the multiplier...but
 - ◆ Prove correctness
 - ◆ Regression testing and changes (add Hazards, signals)
- ◆ Divider design must start
 - ◆ It's the next RV32M instruction set block
 - ◆ We need to finish implementing M

Frontend Team – Saul Rodriguez and Micah Miller

- ◆ Higher level architectural design
- ◆ Must comply to ISA spec
- ◆ Design RTL to be ASIC and ISA compliant
- ◆ **Must simulate with generic testing** to prove basic functionality**before** handing things to the Backend Team
- ◆ **Must report on Design Tradeoffs**

Backend Team – Robert Bloomfield

- ◆ Tweak and test modules
 - ◆ Have the final say on design
 - ◆ Ensure proper testing
 - ◆ Generate analysis reports
 - ◆ Nothing goes to Layout team until it's been verified
 - ◆ **You will end up making the most money out of all of us if you get good at doing this!**

But let's have a 3rd level of checks and balances....

Layout Team – Ryan Cramer and Jarnail Sanghera

- ◆ Responsible for updating top module and various code to be compatible with new modules
- ◆ Responsible for ensuring ASIC correctness, as well as ensuring the RTL makes it all the way through the flow
- ◆ Responsible for converting the memory in RTL into memory macros
- ◆ Responsible for reporting power/area
- ◆ Work closely with Backend and Frontend
- ◆ **Final say on all design decisions, based on metrics**

Find your team and go to the CARP Taskboard!

- ◆ Get familiar with what your team is doing
- ◆ Start working with your team lead and make sure you have the tools and are on the Github
- ◆ Start with research, and a document...so before you do anything, write down your plan.