FLIP-FLOP:
Fast pLan & Implementation of Project, Fast Layout & Optimization of Paper

Hardware Design Techniques for Fast Paper Output

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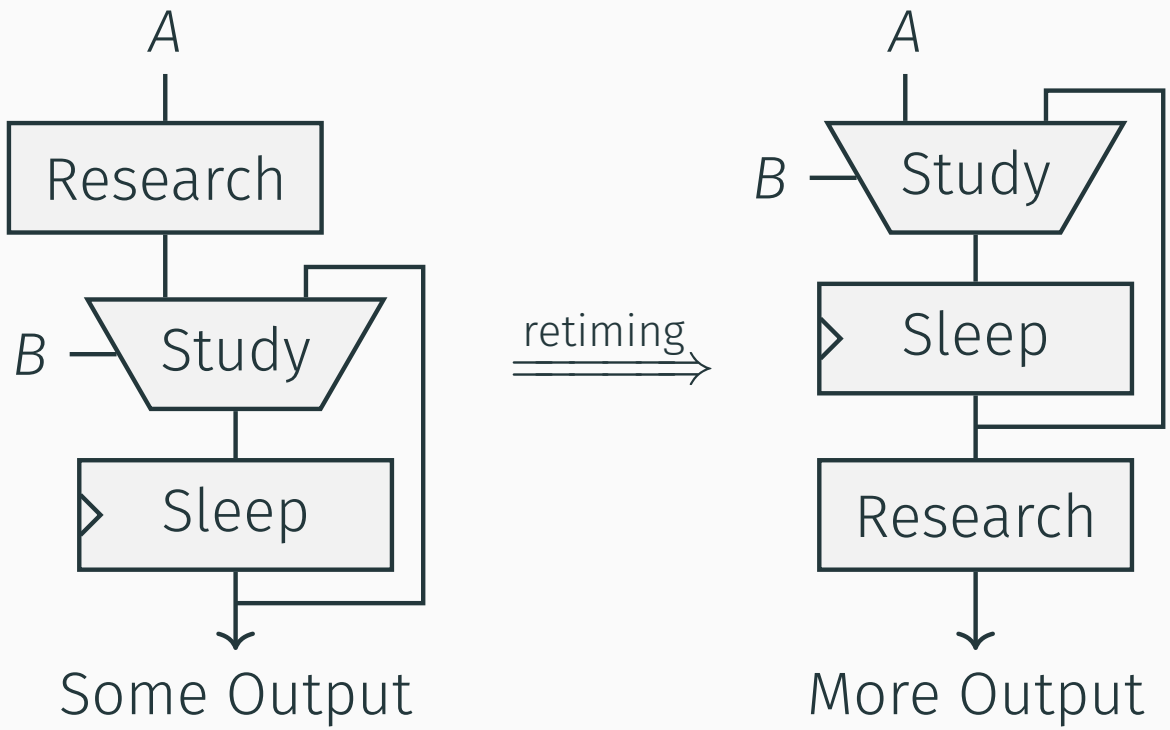
~~Designing~~ Project Techniques

Technique 1: Retiming

To put is simple, spending more time on research should help a lot. Balancing our critical path is the key.



The above figure is adapted from `https://cseweb.ucsd.edu/groups/tatami/bobj/hw.html`.

Technique 2: Lookahead

Find interesting topics that are popular or will be popular (and useful) in the near future.

- **New inventions** (like R...)
- **New algorithms** (recently it should be ML/AI and large generative models)
- **Core area of LEADS** (towards design automation)

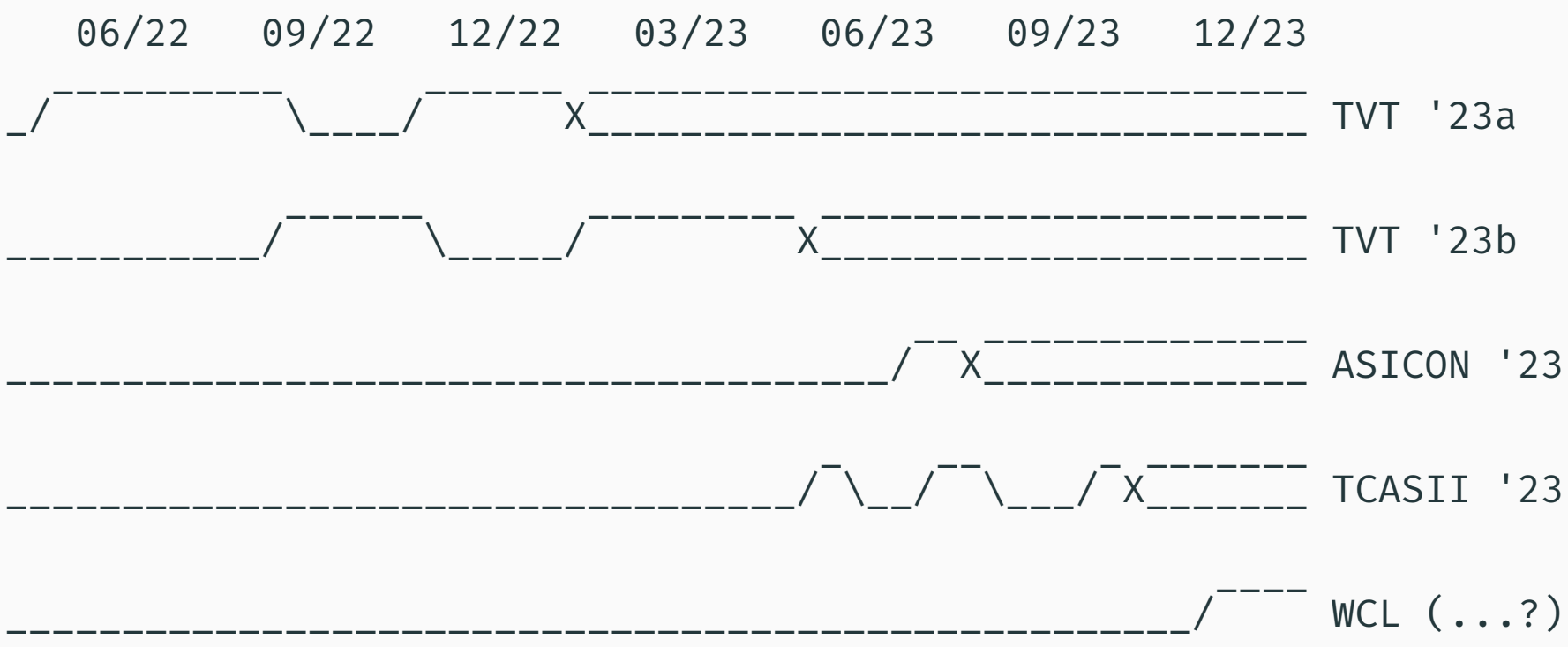
Technique 3: Unfolding

One project can produce more than one paper. The next project can be partially based on previous ones, *e.g.*, a long journal paper after a fast work.

Even if working on a different topic, experience from previous projects can be unfolded to help.

Technique 4: Pipelining

Projects/papers can be better pipelined to increase *throughput*. Thus, higher frequency is not the sole criterion!



~~Building~~ Paper Techniques

Technique 5: Incremental Build

We do not complete the whole paper with only one shot.

Papers can be updated and optimized though iteration with constructive feedbacks. Others' proofreading and your own re-reading are both important.

Tip: Use version control tools like Git to keep track of changes.

Technique 6: Optimized Build

Here is the TCL command for your reference!

```
opt_paper -directive { \
  Structure, \
  Language, \
  Figure, \
  Citation, \
  OtherRemainingDetails \
}
```

I strongly recommend using TikZ from LaTeX to draw elegant, consistent and portable figures.

Conclusion

Key Takeaways

FLIP-FLOP: Fast pLan & Implementation of Project,
Fast Layout & Optimization of Paper

- ~~Designing~~ Project Techniques:
  - Retiming
  - Lookahead
  - Unfolding
  - Pipelining
- ~~Building~~ Paper Techniques:
  - Incremental Build
  - Optimized Build