

# A Partial-Multiverse Model of Time Travel for Debugging

RubyConf 2014

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## ABSTRACT:

Ever type 'next' into your debugger and then realize you should have used 'step'? Or perhaps invoked a method that you wish you could take back? Regret no more! Just turn the clock back a few ticks and begin again! With only a few restrictions and side-effects we will learn how to construct and use a time machine.

WARNING: Time travel may cause zombies.

Debuggers

Byebug  
(demo)

How does THAT work?  
(demo)

Sweet

OK. What could be better?

MAD SCIENCE



# The Idea

fork() the universe during 'next'

Suspend the child fork

Keep track of all created child forks

Upon 'prev', grab the most recent child fork

Resume (time-travel!) the previous child fork

# Unix Processes & Forks (demo)

So... "fork" byebug!  
(demo)



# Limitations

Can only travel back to checkpoints

"Partial" time-travel

Zombies

Might crash the multiverse through  
memory exhaustion, I guess

## References

<https://github.com/TomOnTime/timetravelpdb>

THE END