

Testing properties with QuickCheck

“Choose your own adventure”

Lightning talk, Brisbane Software Testers

@steshaw

Quick overview

- Test properties of your programs.
- Randomised test inputs.

Appeal to authority

- Better than unit tests, Michael Nygard (2013)

- Choose your own adventure.
- randomised user actions.

Testing Concurrent Systems

... or ...

- Concurrent
- Testing
- Systems

:P

Concurrent systems (2)

- Google for Erlang QuviQ to find reports and talks.
- Distributed Systems are Concurrency Systems that span multiple nodes.
 - i.e. these ideas apply to Distributed Systems.
 - i.e. web

- Original QuickCheck paper (2000), Koen Claessen and John Hughes (PDF)
- QuickCheck homepage
- QuickCheck Manual
- Testing and quality assurance—Chapter 11 of Real World Haskell
- Introduction to QuickCheck (Haskell Wiki)

Testing Concurrent Systems

- Erlang QuickCheck
- Testing Erlang Concurrency with QuickCheck (PDF)
- Finding Race Conditions in Erlang with QuickCheck and PULSE (PDF)

Testing Distributed Systems

- Testing Telecoms Software with Quviq QuickCheck (PDF)
- Modeling eventually consistent databases with QuickCheck (Video), Jon Meredith, Basho.

- SmallCheck for exhaustive checking of your properties (rather than QuickCheck style random samples)
- Comparison of QuickCheck and SmallCheck