PropErty Based Testing

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spilgames

- Underestanding *DOs* and *DON'Ts* of PBT
- Formulating your own properties for pure functions
- Designing and generating test data sets on the fly
- **And making you eager for more!**

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- github.com/spilgames/PBT-ErlangDCRB13
    - *README.md*
    - *Makefile + rebar*
    - *src/* with source and properties
    - *test/*_eunit.erl* as test controllers

- What properties should hold?
- Properties document your code
- Properties generate the testcases
- Shrinking towards the smallest input that crashes

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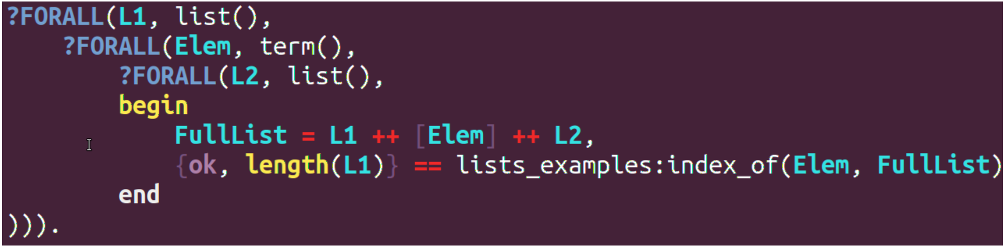
PropEr

A QuickCheck-Inspired Property-Based Testing Tool for Erlang

- Open Source
- Plenty of documentation
- Using & contributing via Github

- Available for multiple languages
- Trainings and support (at a price)
- *Pulse* for concurrency issues

QuviQ



```
?FORALL(L1, list(),
    ?FORALL(Elem, term(),
        ?FORALL(L2, list(),
        begin
            FullList = L1 ++ [Elem] ++ L2,
            {ok, length(L1)} == lists_examples:index_of(Elem, FullList)
        end
))).
```

- Start with simple tests
- Think properties
- *Always* test your generators first
- Test a reasonable success/error rate

- Property Driven Development is **not** a thing
  - Thinking properties is hard
  - Refactoring properties is hard
  - Manual basic testcases help you think
- Naming is essential
- Avoid reimplementating + comparing
- **PBT finds stuff you'd never think of**

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- PropEr @github
- PropEr Docs
- Quickcheck For Erlang
- Concuerror @github
- Concuerror Presentation

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