

# DRI Code Sessions

- TDD - Test Driven Development

Introduction to TDD, Unit Testing and some short examples in PHP with PHPUnit.

# TDD – What is it?

- Software Development technique
- Short development cycle
- Write tests before any production code
- Write only the minimum amount of code required to pass the tests
- It's great for code documentation

# TDD Cycle

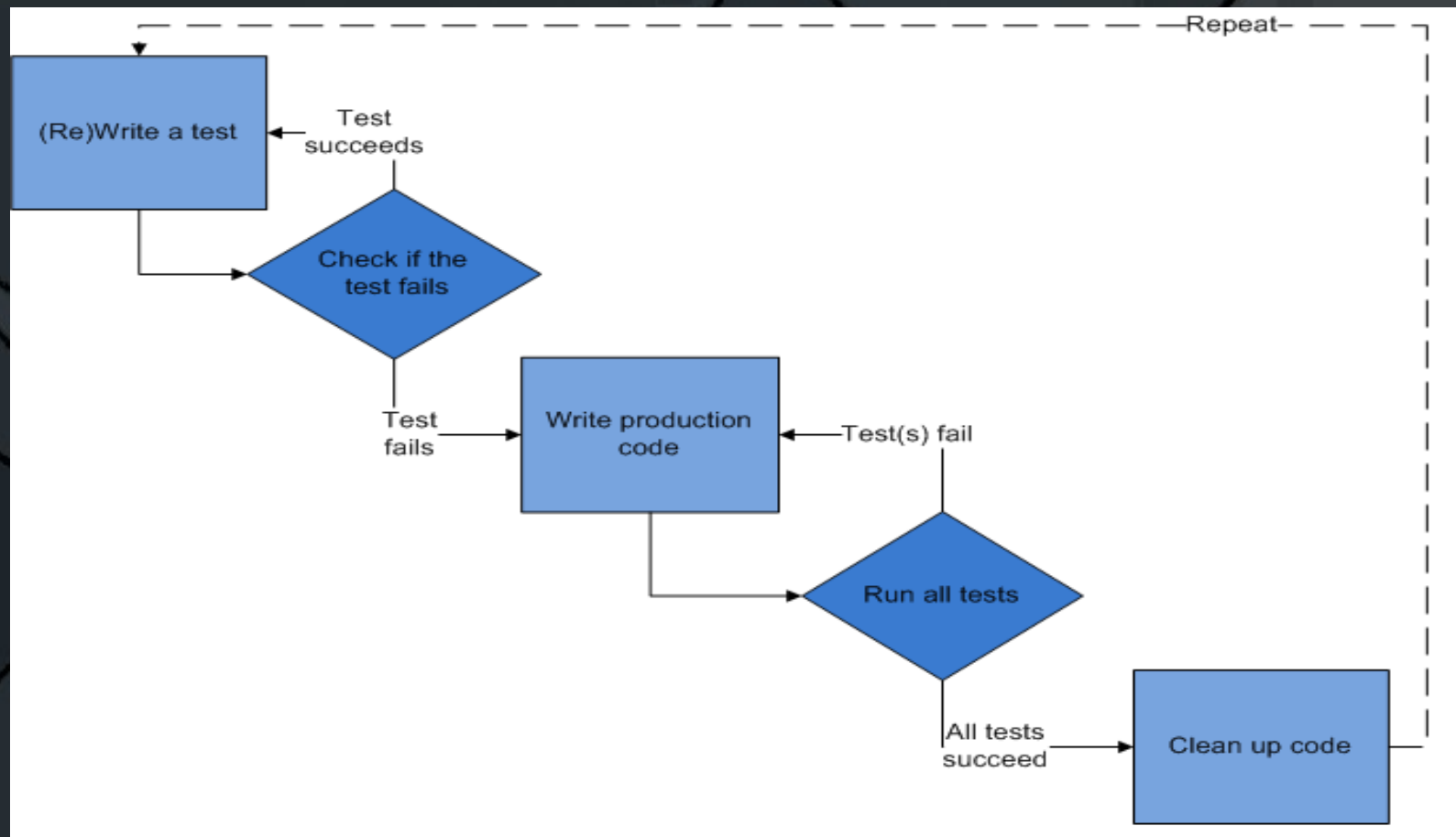


Image from Wikipedia

# Common excuses

- “We have no time to write tests”
- “Testing is boring”
- “My code is good enough”
- “That's not my job, tests are for QA Department”
- “This is just something simple. It's not worth it”

# TDD - Pros

- Some studies conclude that TDD raises productivity – less time spent debugging
- Makes programmers focus on interface before implementation
- Provides greater level of confidence in the code
- Can lead to more modularized, flexible and extensible code
- Tests are a source of documentation



# TDD - Cons

- Difficult to use with GUI's and code that works with databases
- Badly written tests become a burden to maintain
- Specs misinterpretation leads to wrong tests and wrong code
- Management support is crucial

# Unit Testing

- Not TDD
- Part of TDD
- Unit = The smallest testable part of an application

# Unit Testing

*“Whenever you are tempted to type something into a print statement or a debugger expression, write it as a test instead.”*

Martin Fowler



# Unit Testing Frameworks in PHP

- PHPUnit
- SimpleTest

# PHPUnit

- <http://www.phpunit.de>
- PEAR Package
- Created by Sebastian Bergmann
- Port of Junit (Java)
- Regression test framework to implement unit tests in PHP

# SimpleTest

- [http://www.lastcraft.com/simple\\_test.php](http://www.lastcraft.com/simple_test.php)
- Created by Marcus Baker
- Can test web interfaces
- Cute web interface for displaying test results

# Code Examples

Let's see some code, but first...

# Some Cool Game

- Contract:
  - Player life points
    - Is initially 100
    - Cannot become negative
    - Cannot be more than 150
- Interface:
  - `getLife()`
  - `setLife($value)`
  - `gainLife($value)`
  - `loseLife($value)`



# Code Samples

Download available at:

<http://whit.me/dricodesessionstd>

Or fork and improve it:

```
git clone http://github.com/rogeriopvl/dri_codesessions_tdd
```

# References

- [http://en.wikipedia.org/wiki/Test\\_driven\\_development](http://en.wikipedia.org/wiki/Test_driven_development)
- [http://en.wikipedia.org/wiki/Unit\\_testing](http://en.wikipedia.org/wiki/Unit_testing)
- <http://www.viddler.com/explore/RoyOsherove/videos/19/>
- <http://www.slideshare.net/Skud/test-driven-development-tutoria>
- <http://artofunittesting.com/>
- <http://xunitpatterns.com>



# The End

## Questions?