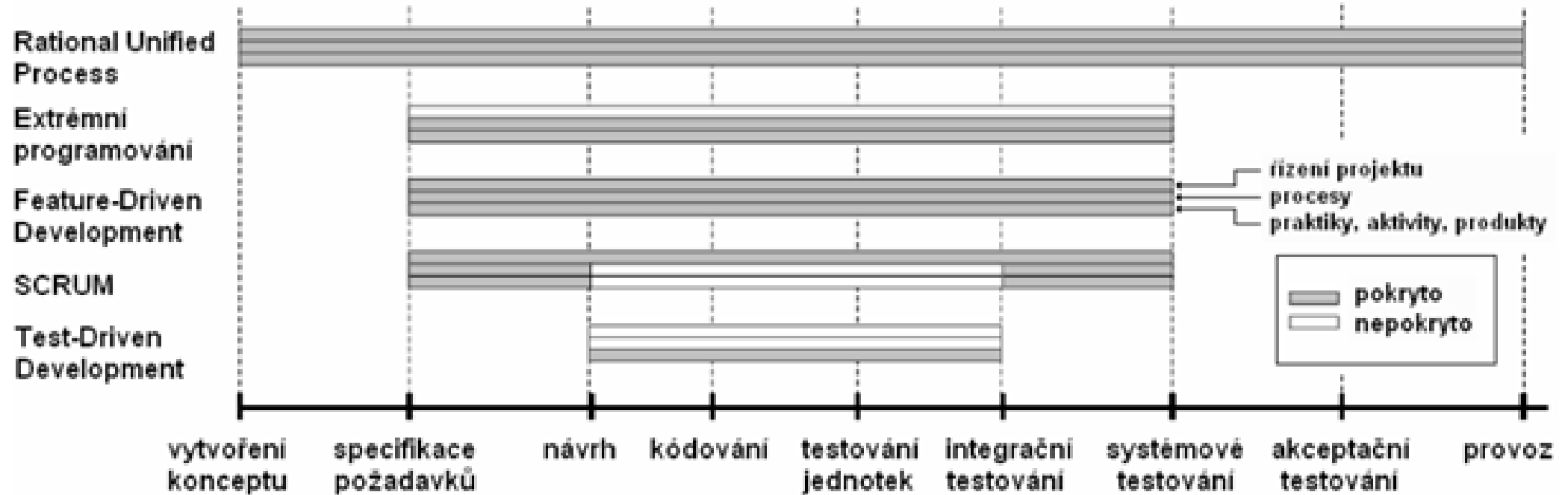


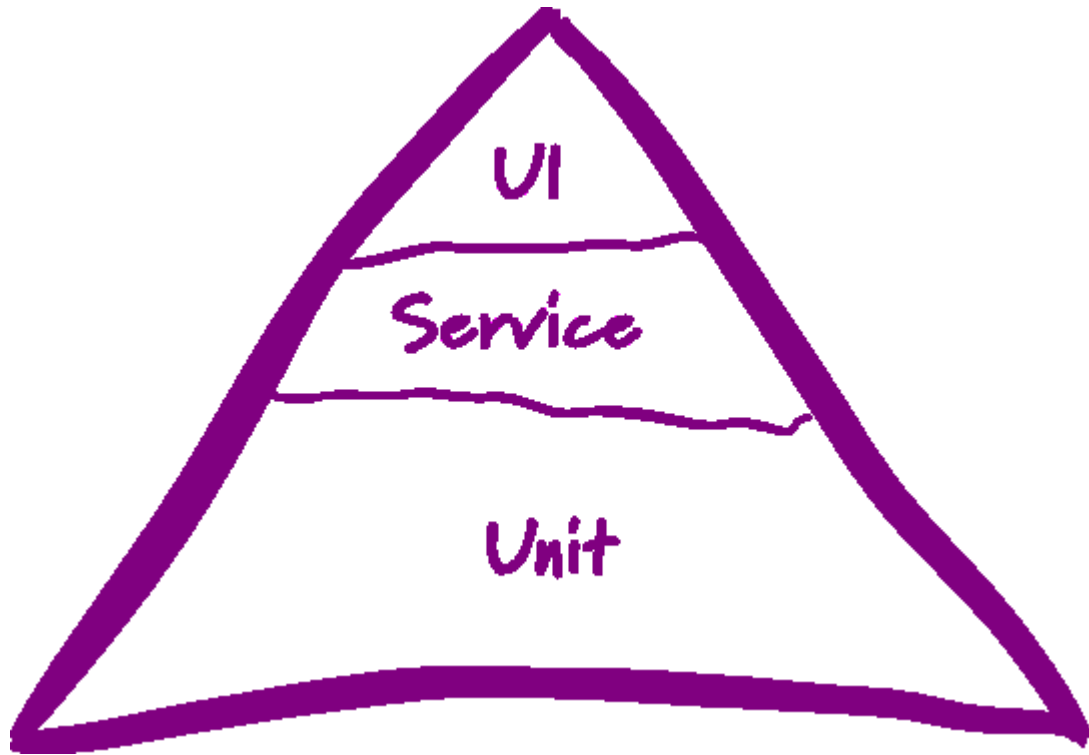
# Test driven development

Radim Göth

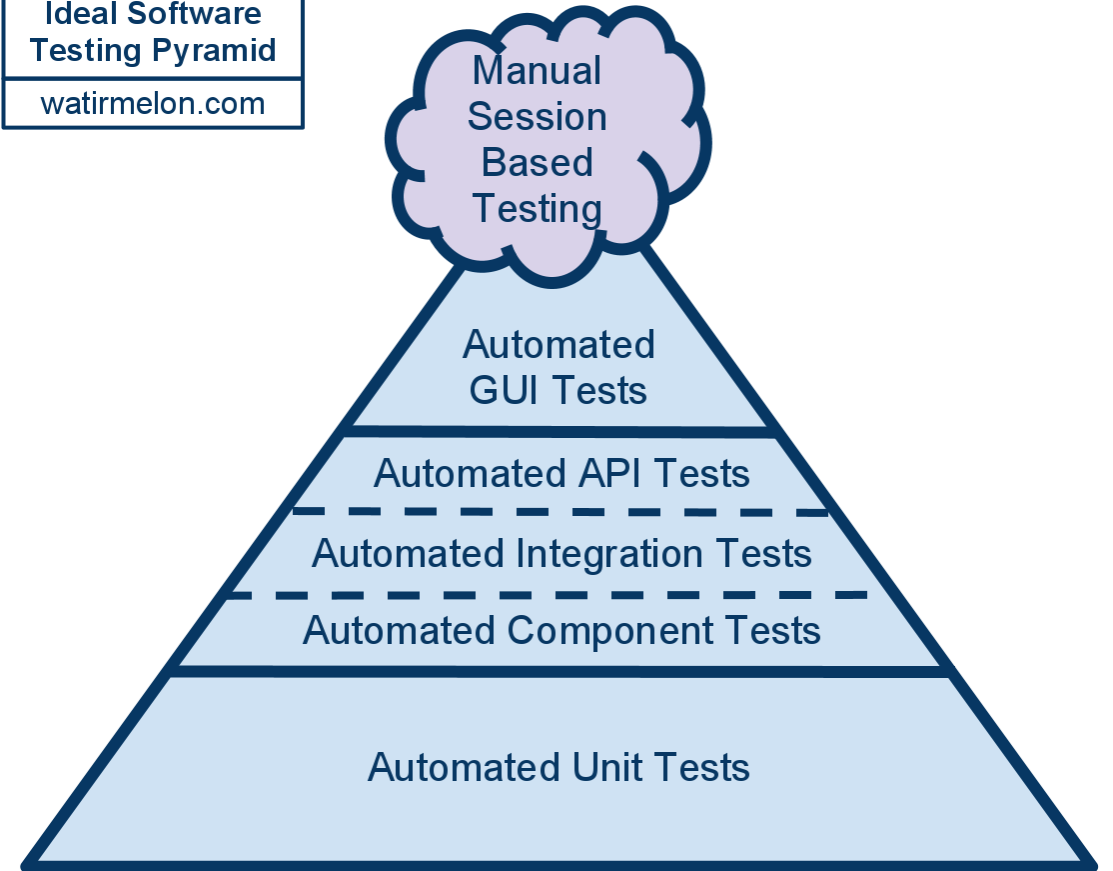
# Srovnání metodik z pohledu životního cyklu SW



# Test pyramid

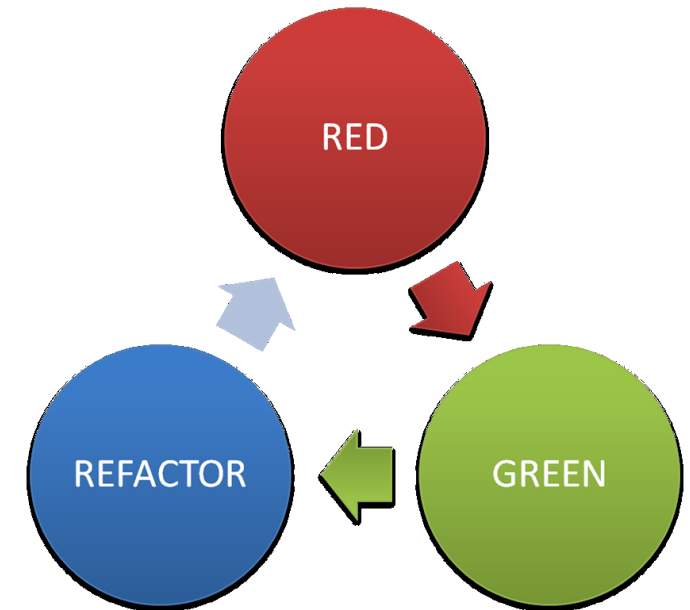


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# TDD

- Kent Beck – reinvented TDD, invented XP
- Software development process
- Pair programming
- Rules:
  - Write failing test
  - Write implementation to pass the test
  - Refactor your code
  - Repeat



# Naming conventions

- Project naming
  - <ProjectUnderTest>.Tests
- Class naming
  - <ClassUnderTest>Tests
- Test method naming
  - Given\_When\_Then
  - <methodUnderTest>\_Given\_Then

# Unit test structure

- Arrange
  - Act
  - Assert
- 
- One Assert per test
  - More assert per test
    - Refactor the test (e.g. custom assert method)
    - At least add the description to assert

# Leap year exercise

- Write a function that returns true or false depending on whether its input integer is a leap year or not.
- A leap year is divisible by 4, but is not otherwise divisible by 100 unless it is also divisible by 400.
- 2001 is a typical common year
- 1996 is a typical leap year
- 1900 is an atypical common year
- 2000 is an atypical leap year

# Fizz buzz

- Fizz Buzz is a mathematical game which is played with a group of people. Each person says a number in sequence, but when the number is a multiple of 3, they have to say "Fizz", when it is a multiple of 5 they have to say "Buzz", and if it is a multiple of both 3 and 5, "FizzBuzz". If someone makes a mistake and it is noticed, they are out.
- A typical game might start like: 1, 2, Fizz, 4, Buzz, Fizz, 7, 8, Fizz, Buzz, 11, Fizz, 13, 14, Fizz Buzz, etc.