

Baby Steps TDD

Agile World Workshop

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Kent Beck @KentBeck · 1. Apr.

reducing a problem to one or more easier/solved problems is the basic strategy of programming. integration is still painful, though.



102



60



Agenda



- Theory
- Kata
 - Round 1
 - Exchange
 - Round 2
 - Exchange
- Retro

Baby Steps



- Who knows the notion?

Leap



Initial code state

change 1

state 1

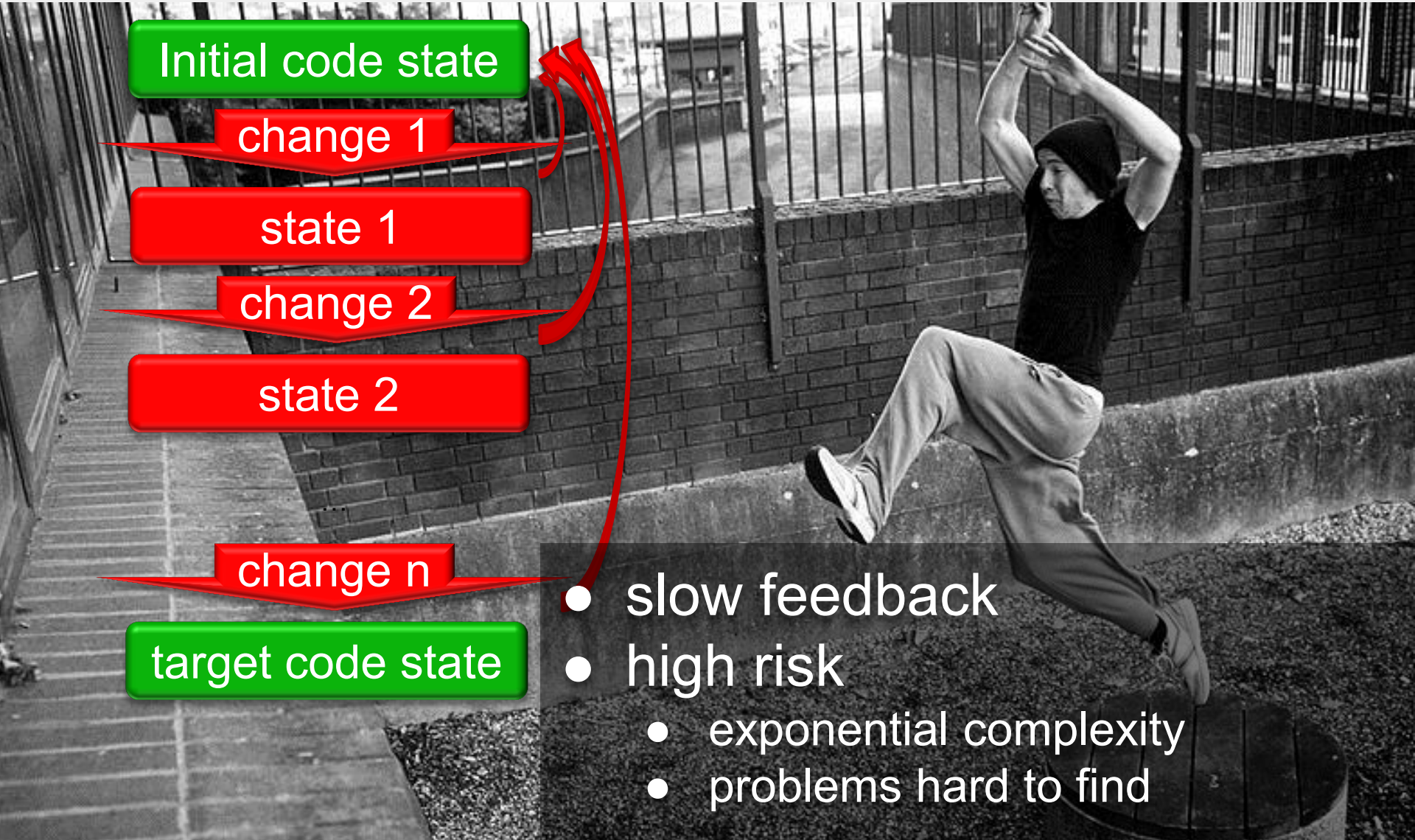
change 2

state 2

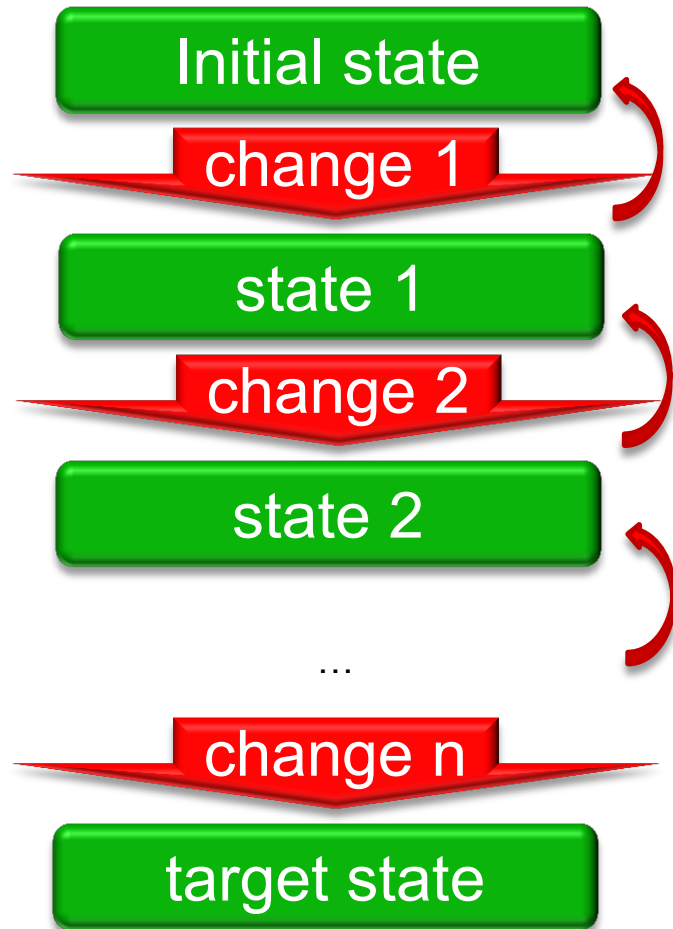
change n

target code state

- slow feedback
- high risk
 - exponential complexity
 - problems hard to find



Stepping Stone

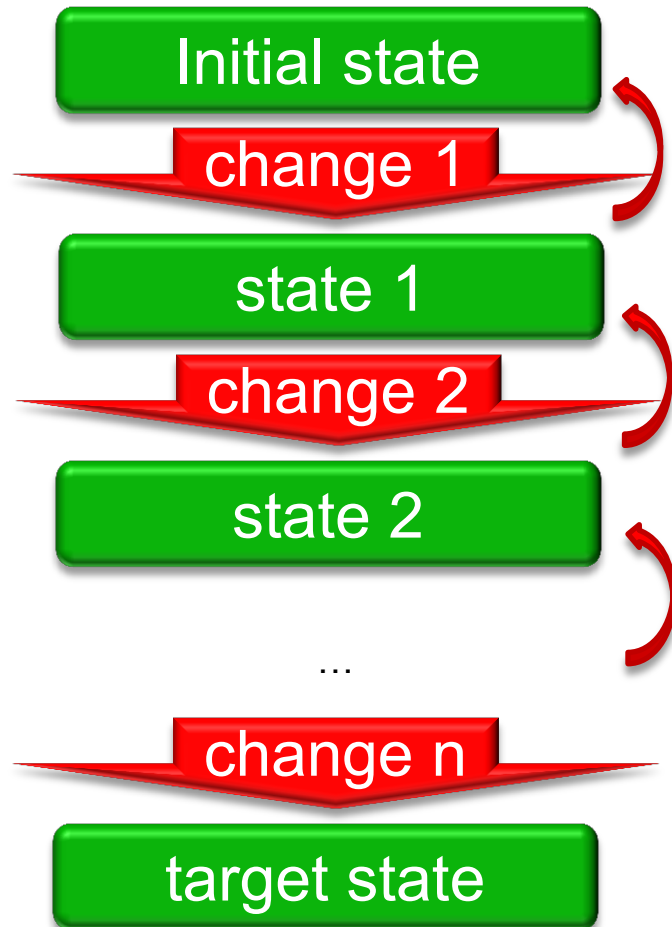


get green asap

- commit on green
- revert to green



Stepping Stone



- + fast feedback
- + less risk
- a bit more effort





"Taking Baby Steps"

Kata Constraints (Adi Bolboaca, Erik Talboom)

- Write Feature

- Test

- Implement

- Refactoring

} 2 min.

} 2 min.



red?

green?

git reset --hard

git commit



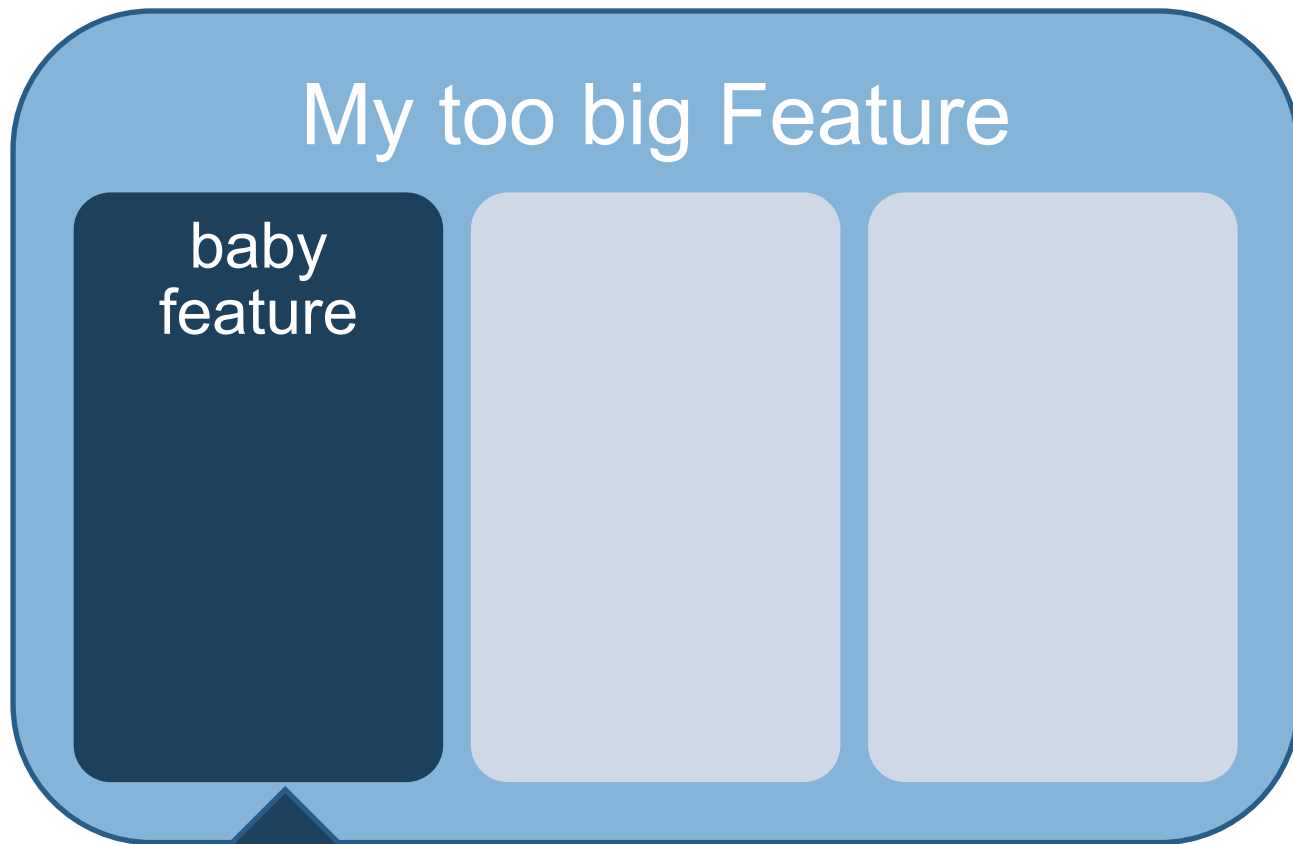
The “Diamond Kata”

"A" => "A"

"B" => "_A_\n"
"B_B\n"
"_A_\n"

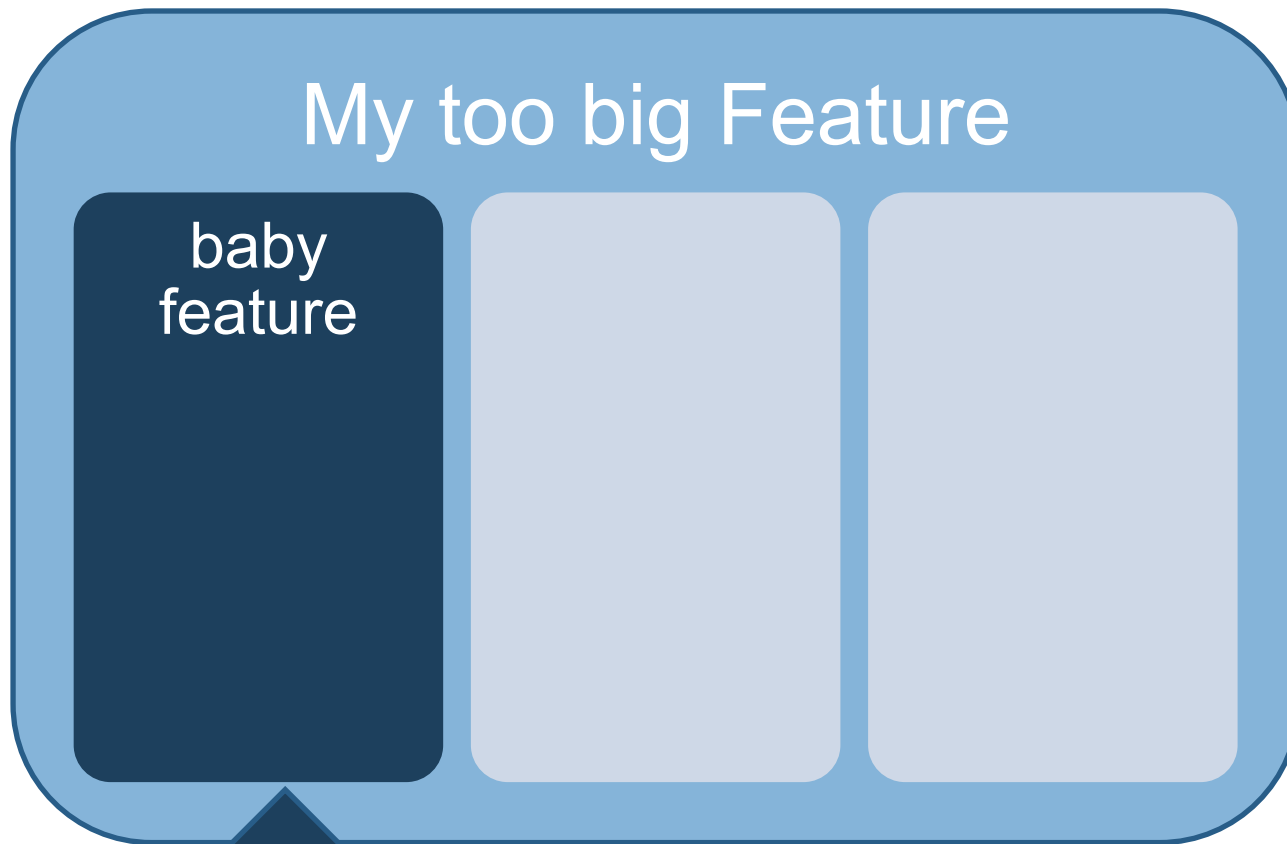
"C" => "__A__\n"
"_B_B_\n"
"C__C\n"
"_B_B_\n"
"__A__\n"

Simplification



integrated test against vertical slice

Simplification



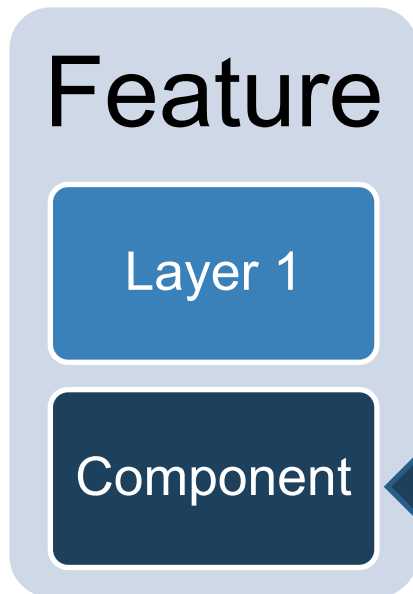
Narrow focus of test

$C \Rightarrow$ $\frac{A}{B \ B}$
 $\frac{C \ C}{B \ B}$
 $\frac{A}{}$



$C \Rightarrow$ $\frac{A}{}$

Component



Unit test bottom up / inside-out

Helper Class vs. Method?



Test-Recycling

- Start with simple test
- Subsequent rewrites of the **same tests**

$B \Rightarrow AB$

$B \Rightarrow ABB$

$B \Rightarrow A\nBB\n$

On-Site TDD



- **Temporary assertions** in production code
- Delete afterwards
- Even quicker: a REPL

```
public String diamond(String s) {  
    if (s.equals("A")) {  
        return s;  
    } else {  
        assertEquals("A", predecessor(s));  
        return (predecessor(s) + s);  
    }  
}
```

Let's code the "Diamond Kata"!



"A" => "A"

"B" => "_A_\n"
"B_B\n"
"_A_"

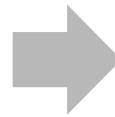
C => " __A__\n"
" _B_B_\n"
"C ___C\n"
" _B_B_\n"
" __A__"

Constraints "Taking Baby Steps"

- Write Feature

- Test
- Implement

2 min.



red?

git reset --hard

- Refactoring

2 min.

green?

git commit

- [Don't talk]

Exchange

Retrospective

How I stumbled upon...



- 2011 Kent Beck's [Responsive Design](#)
- 2013 Adi Bolboaca [Taking Baby Steps](#)
- 2014 Seb Rose & ... [Diamond Kata](#)
- [2014 [Mikado Method](#)]

Images



[THOR](#)

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