

## BAD SMELLS

BLOATERS  
CHANGE PREVENTERS  
COUPLERS  
TOOL ABUSERS  
DISPENSABLES

código, métodos y clases que podrían crecer rápidamente  
cambio que conlleva cambios en otros lados  
contribuye al alto acoplamiento  
abusa o usa mal los principios de la POO  
algo sin sentido y la ausencia haría un código más limpio

### BAD SMELL

### REFACTORING QUE LO CORRIGE

long method  
large class

extract method, descompose conditional, replace temp with query,  
extract class, extract subclass

data clumps

extract class, introduce parameter object, preserve whole object

long parameter list

replace parameter with method, preserve whole object, introduce  
parameter object

primitive obsession

replace data value with object, introduce parameter object, replace array  
with object

divergent change  
shotgun surgery

extract class  
move method/ field

feature envy  
inappropriate intimacy  
message chains  
middle man

move method  
move method/ field, self encapsulate field  
hide delegate, extract method, move method  
remove middle man

switch statements  
refused bequest  
alternative class  
temporary field

replace conditional with polymorphism  
push down method/ field  
rename method  
extract class, replace method with method object

lazy class  
speculative generality  
data class  
duplicate code  
comments

inline class, collapse hierarchy  
collapse hierarchy, inline class, remove parameter  
move method  
extract method, pull up method, form template method  
extract method, rename method