

Are the clients of flawed  
classes (also) defect prone?

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Working is hard...







...especially when resources are flawed



# Clients of Flawed Classes

vs.

# Defects

Does any correlation exist in  
Eclipse ?



# Class

Data Class

Feature Envy

God Class

Brain Class

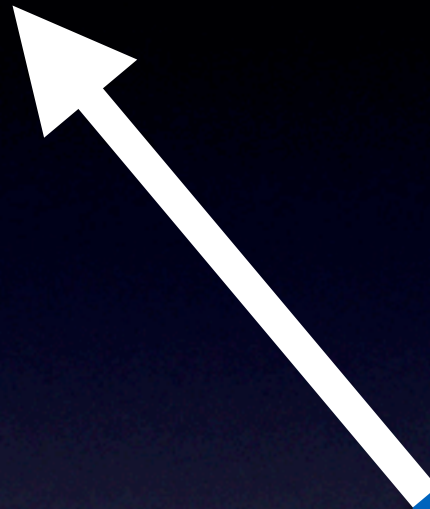


Class



has

design flaws



Class



has  
design flaws

has provider classes  
with design flaws

Class



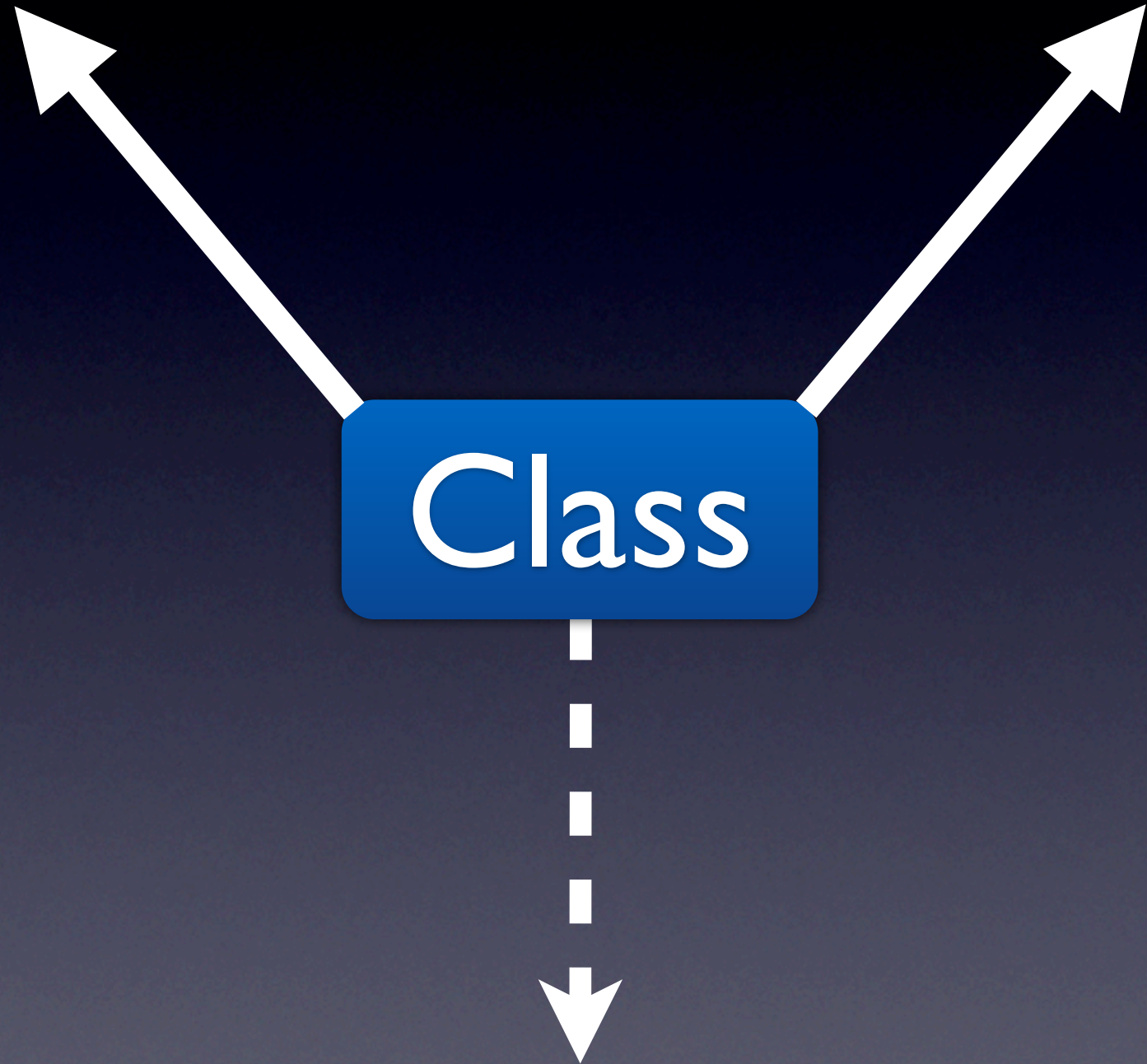


has  
design flaws

has provider classes  
with design flaws

Class

has defects  
(pre and post release)





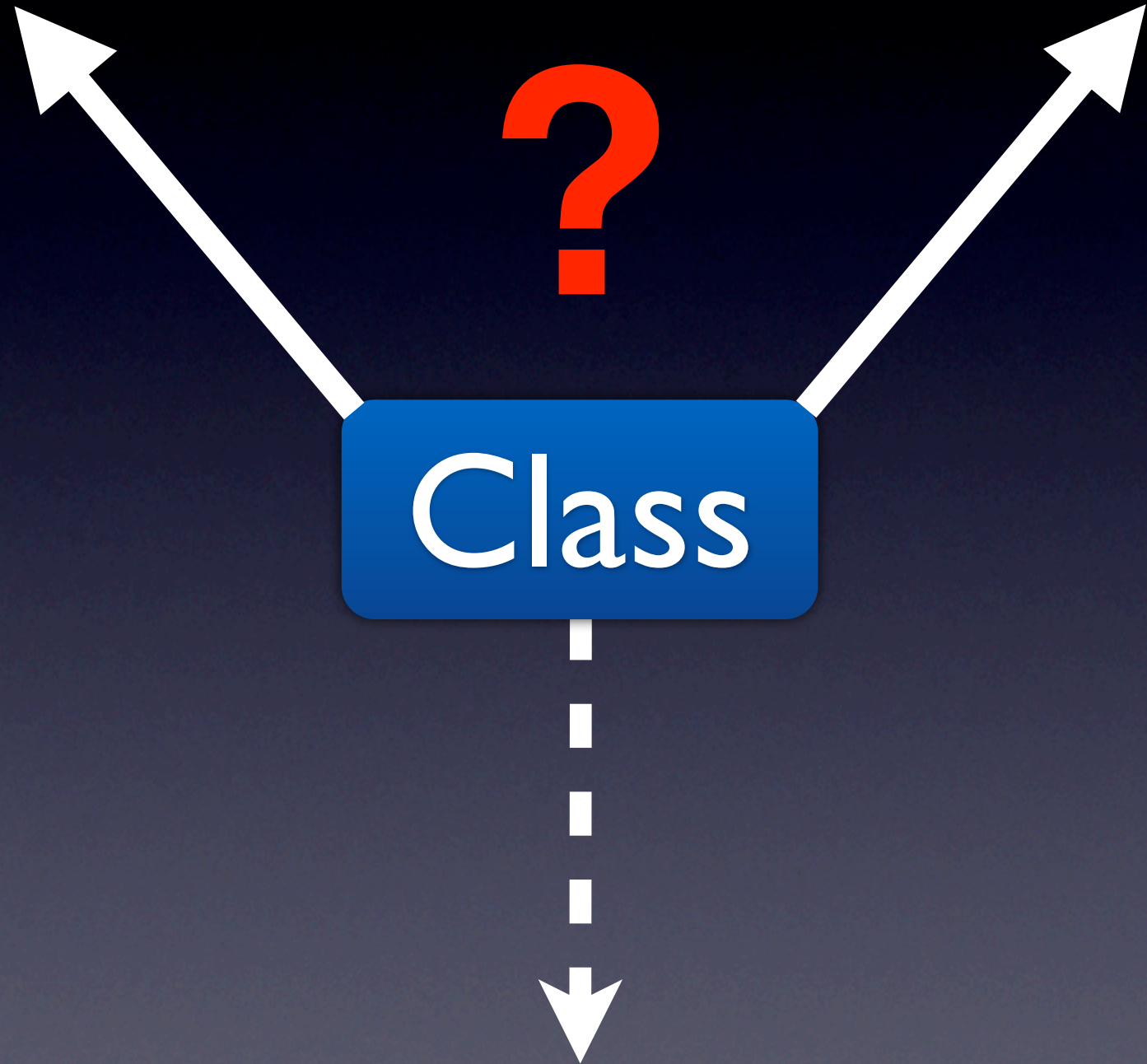
has  
design flaws

has provider classes  
with design flaws



Class

has defects  
(pre and post release)





Chi-Square

Odds Ratio

Mann-Whitney

**Non-parametric** statistical tests



flaws / flawed providers

vs.

defects

flawed **providers** correlates with **defects!**



*Odds Ratio  
on Defects*

**HAS  
Design Flaws**

**NO  
Design Flaws**

**HAS  
Flawed Providers**

**NO  
Flawed Providers**

-



*Odds Ratio  
on Defects*

**HAS  
Design Flaws**

**NO  
Design Flaws**

**HAS  
Flawed Providers**

**NO  
Flawed Providers**

0.5 - 0.7

-



*Odds Ratio  
on Defects*

**HAS  
Design Flaws**

**NO  
Design Flaws**

**HAS  
Flawed Providers**

**2 - 3**

**NO  
Flawed Providers**

0.5 - 0.7

-



*Odds Ratio  
on Defects*

**HAS  
Design Flaws**

**NO  
Design Flaws**

**HAS  
Flawed Providers**

**4 - 8**

**2 - 3**

**NO  
Flawed Providers**

0.5 - 0.7

-



*Odds Ratio  
on Defects*

**HAS**  
**Design Flaws**

**NO**  
**Design Flaws**

**HAS**  
**Flawed Providers**

4 - 8

2 - 3

**NO**  
**Flawed Providers**

0.5 - 0.7

-

The biggest danger is **using** flawed classes!



*Percent of  
classes with...*

Design Flaws

NO  
Design Flaws

Flawed Providers

NO  
Flawed Providers



*Percent of  
classes with...*

**Design Flaws**

**NO  
Design Flaws**

**Flawed Providers**

12

**NO  
Flawed Providers**

7



*Percent of  
classes with...*

**Design Flaws**

**NO  
Design Flaws**

**Flawed Providers**

12

**42**

**NO  
Flawed Providers**

7

**40**



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