

Introduction to Software Testing

[书上第1.9章]

Bug

- Defect
- Fault
- Problem
- Error
- Incident
- Anomaly 异常
- Variance 偏差
- Failure
- Inconsistency 矛盾
- Product Anomaly
- Product Incidence
- Feature :-)

Sources of Problems

- Requirements Definition: Erroneous, incomplete, inconsistent requirements.
- Design: Fundamental design flaws in the software.
- Implementation: Mistakes in programming faults, malicious code.
- Support Systems: Poor programming languages, faulty compilers and debuggers, misleading development tools.

Sources of Problems (Cont'd)

- Inadequate Testing of Software:
Incomplete testing, poor verification, mistakes in debugging.
- Evolution: Sloppy redevelopment or maintenance, introduction of new flaws in attempts to fix old flaws, incremental escalation to inordinate complexity.

A software bug occurs when at least one of these rules is true

- The software does not do something that the specification says it should do.
- The software does something that the specification says it should not do.
- The software does something that the specification does not mention.
- The software does not do something that the product specification does not mention but should.
- The software is difficult to understand, hard to use, slow ...

Most bugs are not because of
mistakes in the code ...

- Specification (\sim 55%)
- Design (\sim 25%)
- Code (\sim 15%)
- Other (\sim 5%)

Software Testing

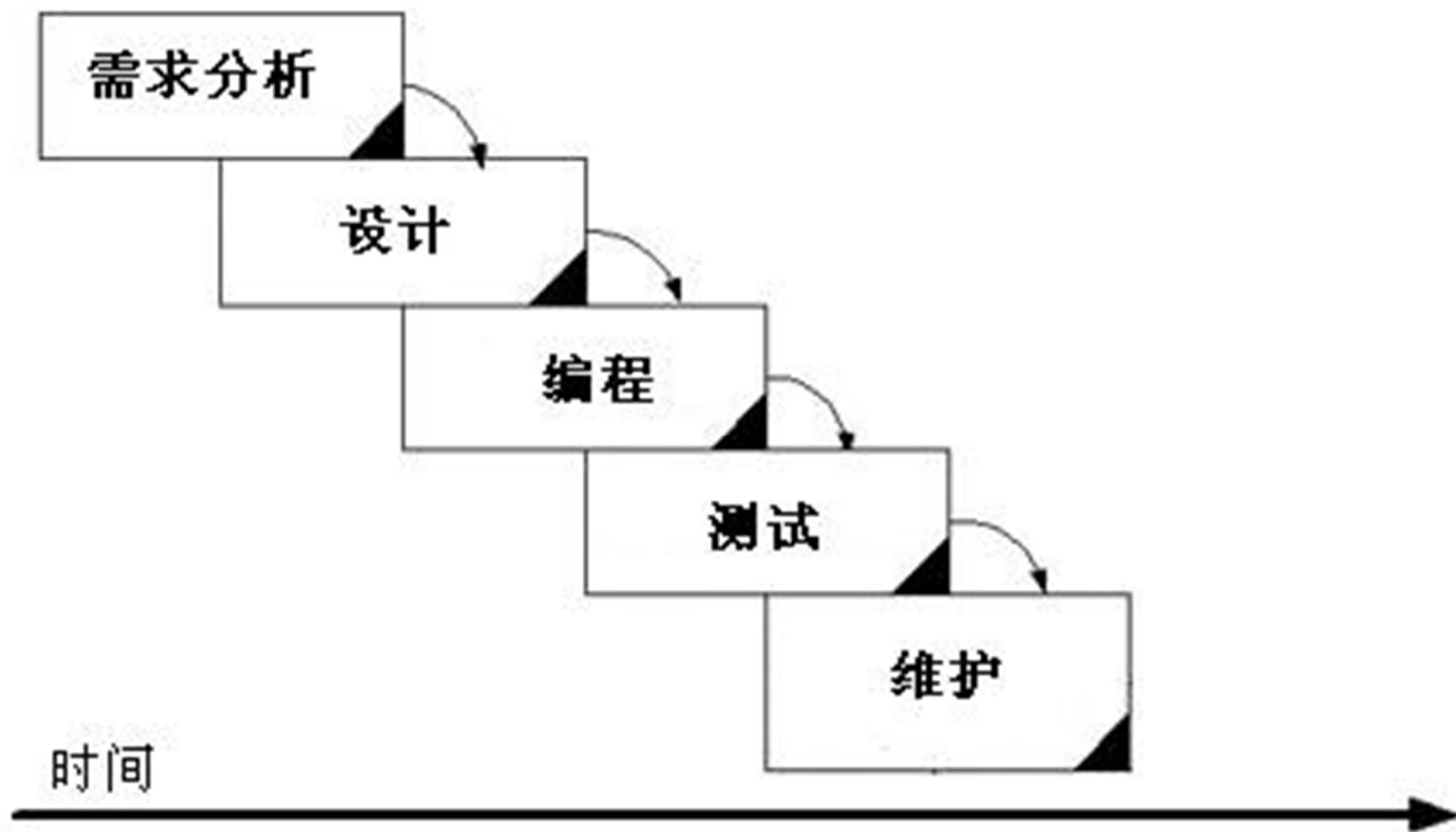
- to *find* bugs
- ... as *early* in the software development processes as possible
- ... and make sure they get *fixed*.

You now know ...

- ... what is a bug
- ... the relationship between specification and bugs
- ... the cost of a bug relative to when it is found
- ... the unattainable goal of perfect software
- ... the Software Testing

The Software Development Process

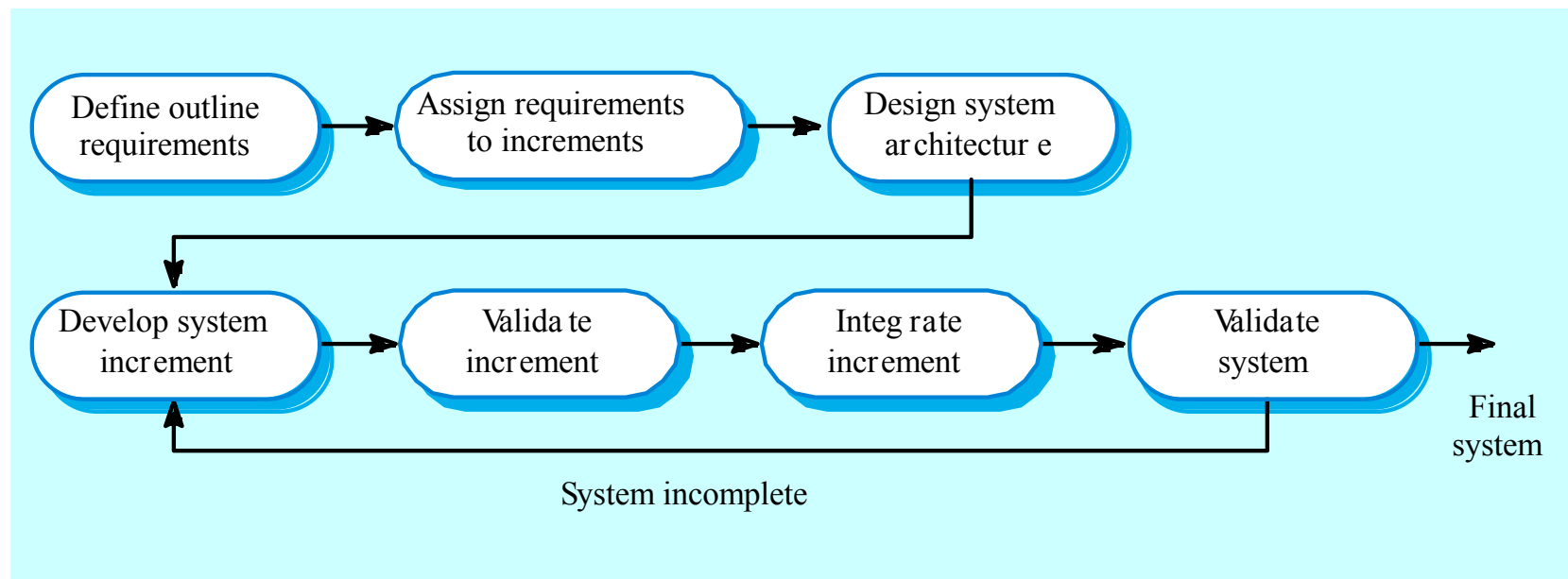
瀑布模型



原型工具

- **GUI Design Studio**
- 这是一款真的非常强大的原型制作工具，Axure之类多是基于页面的原型设计，对于web网站尽管很实用，但是对于软件界面的流程设计却略显繁琐。而GUI Design Studio却另辟蹊径，直接以建立元素与元素之间的关联的方式来自动化的创建动作流程，而从视频演示来看，这样的确很大程度上提升了软件界面原型搭建的效率。

Incremental development



TDD — *Test-Driven Development* 测试驱动开发

