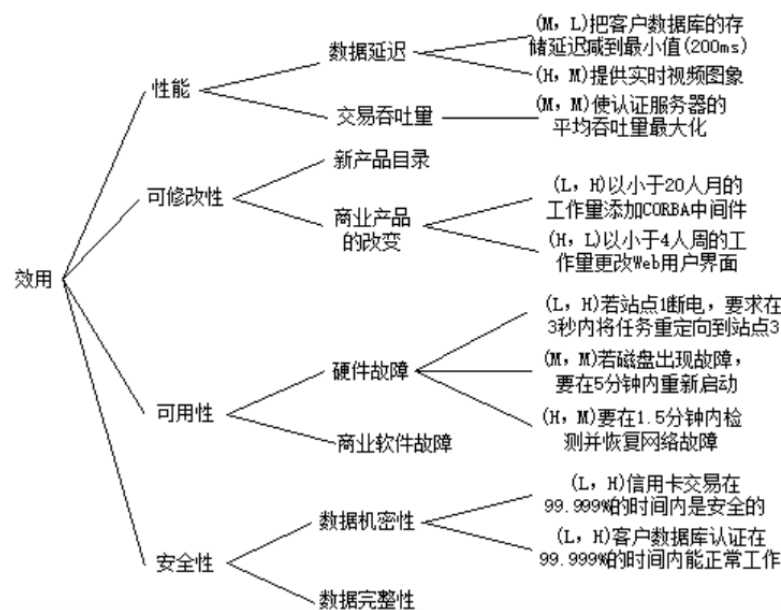
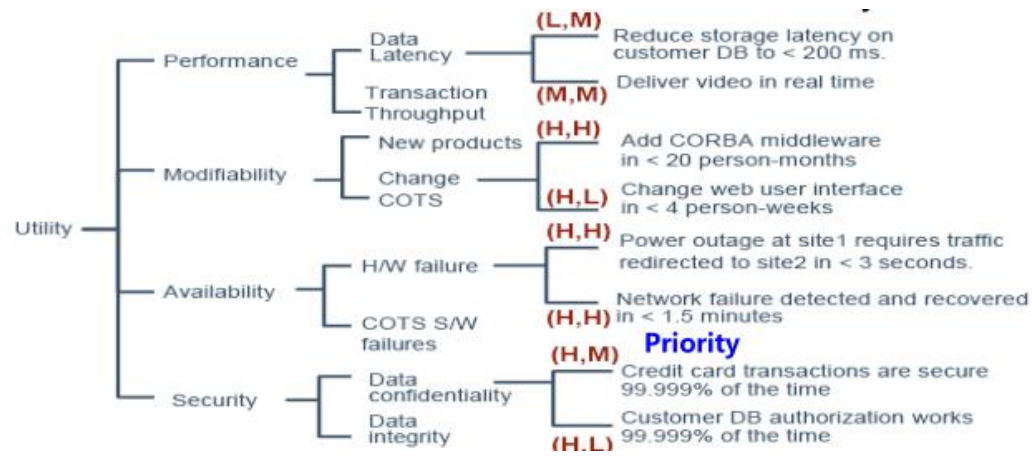


5、效用树:

(1)、效用树的驱动质量属性是高级节点（通常是性能、可修改性、安全性和可用性）

(2)、场景是效用树的叶子节点

(3)、(重要性, 实现难度)



(4)、输出: 特定质量属性的特征描述和优先级排序

6、场景:

(1)、功能: 场景用于代表项目干系人的利益, 了解质量属性要求

(2)、场景应涵盖一系列

- 用例场景: 系统的预期用途
- 增长场景: 系统的预期更改
- 探索场景: 系统的意外压力

(3)、一个好的情景可以清楚地说明是什么刺激因素导致了这种情况, 以及什么样的反应是令人感兴趣的

(4)、举例:

- 用例场景：远程用户在高峰期间通过 Web 请求数据库报告，并在 5 秒内收到该报告。
- 增长场景：在场景中添加新的数据服务器使其在 1 人每周减少延迟 1 到 2.5 秒
- 探索性场景：一半服务器在正常运行期间停机，而不影响总体系统可用性。

Stimuli, Environment, Responses

- Use Case Scenario
 - *Remote user requests* a database report via the Web *during peak period* and receives **it within 5 seconds.**
- Growth Scenario
 - *Add a new data server* to reduce latency in scenario 1 to 2.5 seconds **within 1 person-week.**
- Exploratory Scenario
 - *Half of the servers go down during normal operation* **without affecting overall system availability.**

排除功能需求.

不 { 可测试性：甲方不关心系统的可测试性
 适 | 易用性：主观性强。

易用性 一般重要性

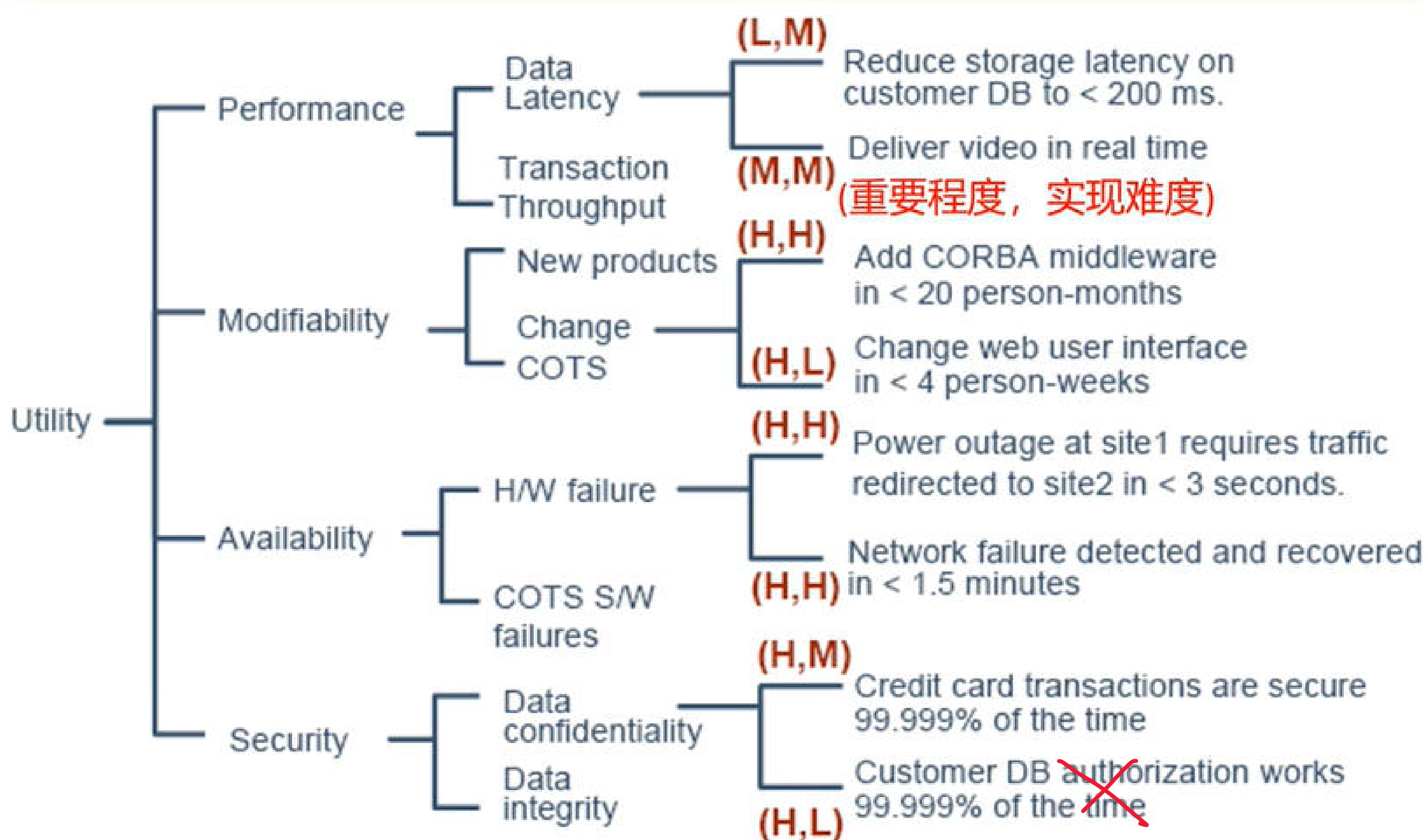
安全性 重要性 11, 优先级不足

例题讲解-1

- There was a system concerned about Performance, Modifiability, Availability and Security. A development team analyzed the Quality attributes, designed architecture and wanted to use Utility Tree to evaluate the architecture, the following are the scenarios.

- The Power off (电力中断) at Web site 1 requires traffic redirected to Web site 2 in < 3 seconds 可用性
- Credit card transactions are secure 99.999% of the time 安全性
- Deliver video in real time 性能
- Change Web user interface in < 4 person-weeks 可修改性
- Network failure detected and recovered in < 1.5 minutes 可用性
- Reduce storage latency on customer DB to < 200ms 性能
- Add CORBA middleware in < 20 person-month 可修改性
- ~~The system is able to be accessed from the intranet(局域网) to support remote invocation and debugging 可用性~~
- ~~The user password must have least 16 characters mixed with numbers 功能~~

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A software company plans to develop a video sharing Web site. The development team analyzed the Quality Attributes, designed architecture and wanted to use Utility Tree to evaluate the architecture. followings are the scenarios.

- The crash of Web server #1 requires traffic redirected to Web server #2 in < 5 seconds 可用性
- Credit card transactions are secure 99.999% of the time 安全性
- Deliver video in real time 性能 ✓
- Change Web user interface in < 4 person-weeks 可修改性
- Any network failures should be detected and recovered in < 10 minutes 可用性
- X User password must have least 16 characters mixed with numbers X 功能
- Reduce storage latency on customer DB to < 200ms 性能 ✓
- Add message queue(消息队列) middleware in < 20 person-month 可修改性
- X The system is able to be accessed from the intranet(局域网) to support remote invocation and debugging X 可测试性
- User Database accessing is secure 99.99% of the time 安全性

