

RE Exercise

Requirements Examples

MTAT.03.306

需求工程

重新练习

要求示例

Requirement Examples

Various items that can comprise requirements:

1. External Interface Requirements

- 1.1 User Interfaces
- 1.2 Hardware Interfaces
- 1.3 Software Interfaces
- 1.4 Communication Interfaces

2. Functional Requirements

Actions that must take place in the software in accepting and processing the inputs and in processing and generating the outputs.

Generally listed as “*shall*” statements starting with “*The system shall...*”

3. Performance Requirements

Numerical requirements placed on the software or on human interaction with the software as a whole

Remember to state this in measurable terms!

4. Design Constraints

- 4.1 Standards compliance
- 4.2 Hardware limitations

5. Software System Attributes

- 5.1 Reliability
- 5.2 Availability
- 5.3 Security
- 5.4 Maintainability
- 5.5 Portability

需求示例

可以构成要求的各种项目：

1. 外部接口 要求

- 1.1 用户界面
- 1.2 硬件接口
- 1.3 软件接口
- 1.4 通讯接口

2. 功能要求 软件中必须执行的操作

接受和处理输入以及处理和生成输出。通常列为“应”语句，以“系统应……”开头

3. 性能要求 对软件的数值要求

或者关于人类与整个软件的交互

请记住用可衡量的术语来表述这一点！

4. 设计限制

- 4.1 符合标准
- 4.2 硬件限制

5. 软件系统属性

- 5.1 可靠性
- 5.2 可用性
- 5.3 安全性
- 5.4 可维护性
- 5.5 便携性

Example System Context

Shopping System

- **Subject facet:**
 - Objects:
 - customer
 - invoice (product name, quantity, billing information),
 - product
 - vendor
 - Event:
 - add product to cart
 - search for product
- **Usage facet:**
 - show products for purchase
 - online payment for products
 - collect data about customer
- **IT system facet:**
 - integration with payment system
- **Development facet:**
 - privacy legislation

示例系统上下文

购物系统

- 主题方面：
 - 对象：
 - 客户 - 发票（产品名称、数量、账单信息）， - 产品 - 供应商 -
 - 事件： - 将产品添加到购物车 - 搜索产品
- 使用方面：
 - 展示可供购买的产品
 - 产品在线支付
 - 收集有关客户的数据
- **IT**系统方面：
 - 与支付系统集成
- 发展方面：
 - 隐私立法

External Interface Requirements

1. *User interface*: The graphical user interfaces (GUI) of the shopping system must follow a similar theme
2. *Hardware interfaces*: The shopping system should run on popular web browsers
3. *Software interfaces*: The shopping system can use operating systems capable of running different web browsers
4. *Communication interfaces*: The shopping system should use HTTP protocols to facilitate communications between client and server machines

外部接口要求

1. 用户界面：购物系统的图形用户界面（GUI）必须遵循类似的主题
2. 硬件接口：购物系统应在流行的网络浏览器上运行
3. 软件接口：购物系统可以使用能够运行不同网络浏览器的操作系统
4. 通信接口：购物系统应使用HTTP协议来促进客户端和服务端之间的通信

Functional Requirements

1. The shopping system should show the discounts applicable for the particular product of a vendor
2. The shopping system should grant user access to system functionalities according to the user role and permissions
3. The shopping system should provide the following preconfigured user roles: "Customer ", "Vendor", "Administrator"
4. The shopping system should allow the vendor to organize their products to product portfolios
5. The shopping system should provide the possibility to delete a product, and its product information permanently
6. The shopping system should perform total price calculation every time a product is added to cart

功能要求

1. 购物系统应显示适用于供应商特定产品的折扣
2. 购物系统应根据用户角色和权限授予用户访问系统功能的权限
3. 购物系统应提供以下预配置的用户角色：“客户”、“供应商”、“管理员”
4. 购物系统应允许供应商将其产品组织到产品组合中
5. 购物系统应提供永久删除产品及其产品信息的可能性
6. 每次将产品添加到购物车时，购物系统都应执行总价计算

Non-functional Requirements

Performance Requirements

1. The shopping system should support concurrent work of at least 200 users that are logged into the system.
2. The shopping system should be able to retrieve product details within 10 s

Design Constraints

1. The shopping system should ensure that all mandatory fields should be filled by customer during checkout
2. The shopping system should require user consent before storing user cookie information

非功能性需求

性能要求

1. 购物系统应支持至少200个登录系统的用户并发工作。
2. 购物系统应该能够在10秒内检索产品详细信息

设计限制

1. 购物系统应确保顾客在结帐时填写所有必填字段
2. 购物系统在存储用户cookie信息之前应征得用户同意

Non-functional Requirements

Software System Attributes

1. *Reliability*: The average time between the shopping system failure and being returned to service should not exceed 2 hours within the operational hours and 8 hours outside operational hours
2. *Availability*: The shopping system should be available for use at 24 hours a day, 7 days a week
3. *Usability*: End-users with different background knowledge should be able to use the shopping system
4. *Security*: The shopping system should ensure that data about different types of transactions is processed through a secured channel.

非功能性需求

软件系统属性

- 1、可靠性：营业时间内购物系统故障至恢复服务的平均时间不超过2小时，营业时间内不超过8小时
2. 可用性：购物系统应每周 7 天、每天 24 小时可用
3. 可用性：具有不同背景知识的最终用户应该能够使用购物系统
4. 安全性：购物系统应确保不同类型交易的数据通过安全通道进行处理。

Any questions



... reach out to us.

任何问题



...联系我们。