Name_____ Student ID _____

MTAT.03.306
Requirements Engineering Examination

Test 2

Task 1: The correction information system (CIS) requirements are classified to requirements features (see Fig. 1). The feature values are calculated as sums of the requirements' values and feature cost is calculated as the sum of requirements' costs Requirements values and costs are given in Table 1. *Basic functions* are a mandatory feature. Other features are optional. Explain which two requirements' features should be implemented in the next CIS release.
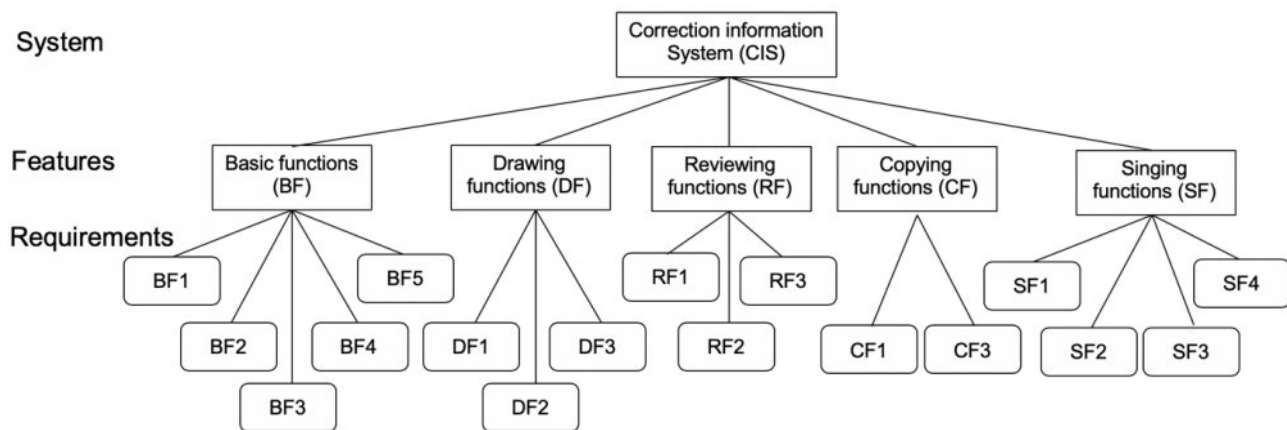

Fig. 1. CIS features and requirements

Table 1: Requirements' values

ReqID	Value (EUR)	Cost (dollars)
BF1. CIS should open document.	2	2
BF2. CIS should save document.	3	5
BF3. CIS should print document.	4	6
BF4. CIS should share document.	8	3
BF5. CIS should close document.	8	6
CF1. CIS should copy document's text.	6	8
CF2. CIS should paste document's text	7	2
DF1. CIS should draw rectangle objects.	5	9
DF2. CIS should draw circle objects.	4	9
DF3. CIS should have color pallet.	9	2
RF1. CIS should open review window.	3	7
RF2. CIS should mark commented text.	3	9
RF3. CIS should save comment text.	4	3
SF1. CIS should place digital signature.	1	1
SF2. CIS should place biometric signature.	2	1
SF3. CIS should place encrypted text signature.	8	3
SF4. CIS should support double signing option.	7	6

MTAT03.306 需求工程考试

测试2

任务1：将校正信息系统（CIS）需求分类为需求特征（见图1）。功能值计算为需求值的总和，功能成本计算为需求成本的总和。需求值和成本在表 1 中给出。基本功能是强制性功能。其他功能是可选的。解释哪两个要求的功能应在下一个 CIS 版本中实现。
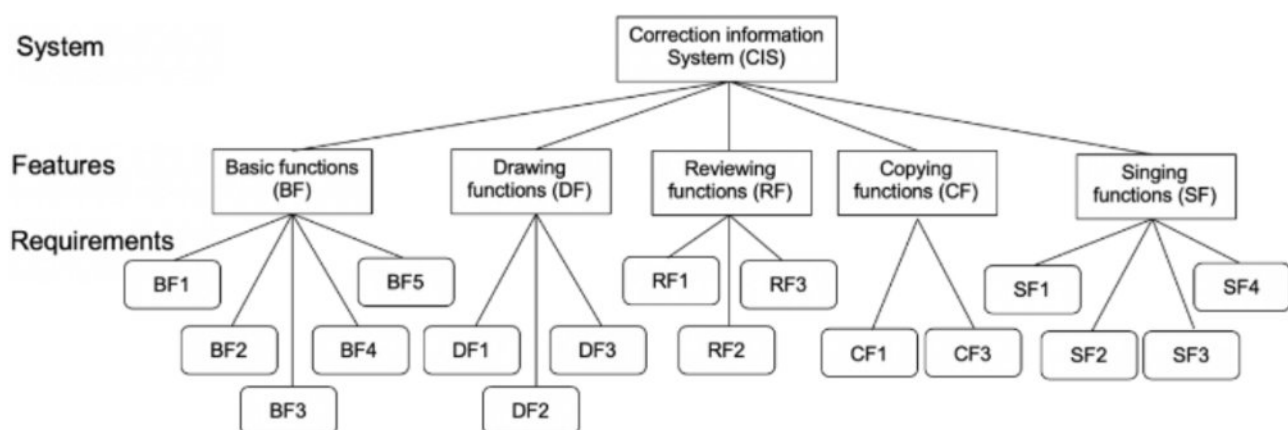

图 1. CIS 特点和要求

表 1：要求值

请求ID	价值（欧元）	Cost（美元）
BF1。CIS 应打开文档。	2	2
BF2。CIS 应保存文档。	3	5
BF3。CIS 应打印文档。	4	6
BF4。CIS 应共享文件。	8	3
BF5。CIS 应关闭文档。	8	6
CF1。CIS 应复制文档的文本。	6	8
CF2。CIS 应粘贴文档的文本	7	2
DF1。CIS 应绘制矩形对象。	5	9
DF2。CIS 应绘制圆形物体。	4	9
DF3。CIS 应该有调色板。	9	2
射频1。CIS 应打开审查窗口。	3	7
射频2。CIS 应标记注释文本。	3	9
RF3。CIS 应保存评论文本。	4	3
SF1。CIS应放置数字签名。	1	1
SF2。CIS 应放置生物识别签名。	2	1
SF3。CIS应放置加密文本签名。	8	3
SF4。CIS 应支持双重签名选项。	7	6

Task 2: Analyse the extract of the requirements specification for the PowerAB System given in Table 2.

- Create the traceability model (where all eligible requirements artefacts and relationships among them are listed)
- Create one traceability matrix, which would capture all traceability relationships defined in Table 2.

Table 2. Extract of requirements specification for PowerAB System for managing filling stations (adapted from some RE workshop solution)

US-FR-4	The station attendant should be able to save the fueling data as a receipt
Description	The fueling data entered by the station attendant should be stored as a receipt to be accessible by the department.
Traceability	based on PR-FR-3, a precondition for US-FR1, US-FR2
Goals	satisfies G22, contributes to G27
Use cases	based on UC-1, refined UC-2
Solution-oriented requirements	connected to SOR-F-1
Version	v.FR4.01

任务 2：分析表 2 中给出的 PowerAB 系统需求规范的摘录。

- 创建可追溯性模型（其中列出了所有符合条件的需求工件及其之间的关系）

- 创建一个可追溯性矩阵，该矩阵将捕获表 2 中定义的所有可追溯性关系。

表 2. 用于管理加油站的 *PowerAB* 系统的需求规范摘录（改编自一些 *RE* 车间解决方案）

US-FR-4	加油站工作人员应该能够将加油数据保存为收据
描述	加油站工作人员输入的加油数据应存储为收据，以便部门查阅。
基于 PR-FR-3 的可追溯性，是 US-FR1、US-FR2 的先决条件 目标满足 G22，有助于 G27 基于 UC-1 的用例，完善的 UC-2 面向解决方案的要求	
	连接到 SOR-F-1
版本	v.FR4.01

Task 3: Evaluate quality of the given requirements specification

	WEIGHT	SCORE	TOTAL	COMMENT
		0 or 1, but intermediate scores (0,25; 0,5; 0,75) are also OK		
Does requirements specification follow the SPECIFICATION TEMPLATE? Has it…				
… purpose of specification?	2			
… scope?	2			
… glossary (acronyms and definitions?)	2			
… overview of specification structure?	2			
… product perspective?	2			
… product functions?	2			
…user classes and characteristics?	2			
… assumptions and dependencies?	2			
... functional requirements?	2			
…performance requirements?	2			
… reliability requirements?	2			
… security requirements?	2			
… maintainability requirements?	2			
Does this requirements specification include…				
… i* model?	2			
… KAOS model?	2			
… scenario model -- use case diagram?	2			
… scenario model -- use case textual description (at least 3)?	2			
MANAGEMENT				
Are requirements prioritised? Are evidences of prioritisation activity given?	5			
Is tracebility model (where traceability artefacts and relationahips are defined) included?	5			
Is tracebility model syntactically correct (CLASS diagram)	5			
Is traceability visualised (e.g., using matrix or graph?)	5			
Do requirements, goals, use cases have the unique ID?	5			
Do requirements and specification have the verson control ID?	5			
		TOTAL:		

任务 3：评估给定需求规范的质量

	重量	总评论得分 0 或 1，但中间分数（0,25；0,5；0,75）也可以	
需求规范是否遵循规范模板？有吗……			
……规范的目的？	2		
……范围？	2		
..术语表（缩写词和定义？）	2		
..规格概述结构？	2		
...产品视角？	2		
....产品功能？	2		
..用户类别和特征？	2		
..假设和依赖关系？	2		
... 功能要求？	2		
..性能要求？	2		
...可靠性要求？	2		
...安全要求？	2		
..可维护性要求？ 2			
有这个要求吗 规格包括…			
…..我*模型？	2		
... KAOS模型？	2		
..场景模型——用例图表？	2		
..场景模型——用例文本描述（至少 3 个）？	2		
管理			
需求是否有优先顺序？是否提供了优先活动的证据？	5		
是可追溯性模型（其中定义了可追溯性工件和关系）？	5		
可追溯性模型在语法上是否正确正确（类图）	5		
可追溯性是否可视化（例如，使用矩阵还是图？）	5		
做需求、目标、用例有唯一的ID吗？	5		
做好要求和规范有版本控制ID吗？	5		
		全部的：	

Task 4: Multiple choice questionnaire – key terms

A question might have several correct answers. The question is answered correctly, if all correct answers are marked.

1. Which requirements engineering activity does help to observe the system context to detect context changes and manage the execution of requirements engineering activities?

   o Requirements validation
   o Requirements elicitation
   o Requirements management
   o Requirements representation

2. Why is it useful to perform traceability in requirements management?

   o To provide evidence that requirement was implemented in the system
   o To assign development effort to individual requirements
   o To balance time-to-market with the amount of functionality
   o To support reuse of development artefacts related to a requirement

3. Which requirements activity provides the ability to describe and follow the life of requirements in both a forward and backward direction?

   o Requirements traceability
   o Risk management
   o Requirements artefact
   o Change management

4. Why do requirements change?

   o Problem encountered during system operation
   o Change in system release
   o Unsatisfactory system quality encountered during system operation
   o Conflicts in the development facet

5. What are the important activities that a baseline of requirements artefacts supports?

   o Visibility of system operation
   o Basis for planning system release
   o Estimation of realisation effort
   o Comparison with competitor's product

任务 4：多项选择问卷 – 关键术语

一个问题可能有多个正确答案。如果所有正确答案都被标记，则问题回答正确。

1. 哪些需求工程活动有助于观察系统上下文以检测上下文变化并管理需求工程活动的执行？

- o 需求验证
- o 需求获取
- Ø 需求管理
- o 需求表示

2. 为什么在需求管理中执行可追溯性很有用？o 提供系统中已实现需求的证据 o 将开发工作分配给各个需求 o 平衡上市时间与功能数量 o 支持与需求相关的开发工件的重用

3. 哪种需求活动提供了向前和向后描述和跟踪需求生命周期的能力？

- o 需求可追溯性
- Ø 风险管理
- o 需求工件
- Ø 变革管理

4. 需求为何发生变化？ o 系统运行过程中遇到的问题 o 系统版本变更 o 系统运行过程中遇到的系统质量不理想 o 开发方面的冲突

5. 需求工件基线支持哪些重要活动？ o 系统运行的可见性 o 规划系统发布的依据 o 实现工作量的估算 o 与竞争对手产品的比较

Appendix 2: Software requirements specification of online shopping system (Developed by using proposed method)

Introduction

Purpose of SRS: The SRS document describes the requirements for the online shopping system. For correspondence purposes, the reference number of this SRS document is V101-Online Shopping.

The persons who will use this document are the requirements engineers, project analysts, designers, developers and users from client XYZ. Any possible changes made in the requirements of the online shopping system will be recorded in the SRS document, and the latest version will then be used by these groups of people.

Scope of SRS: Client XYZ wants to develop a software product called an "*online shopping system*" for their organization by which they can sell different products to a broad range of customers. The shopping system must be able to: (1) facilitate customers/end-users in purchasing different products, tracking their orders, viewing sellers'

Table 20 Description of non-functional requirements

Non-functional requirements	Description
Performance	*Response time-* The system should be able to retrieve order details within 10 s
	Workload- The system should be able to support 4 pages/second
	Scalability- The system should be capable of supporting no less than 50 customers at a time when implemented
	Platform- The system should be able to operate in Internet Explorer (v. 7 and later), Mozilla Firefox (v. 2 and later), Google Chrome, and Opera
Security	The shopping system must ensure that data about different types of transactions must be processed in a secured channel
Usability	End-users with different background knowledge can easily place orders
Support	*Helpdesk support-* Regardless of the time difference between Australia and offshore sites, 24/7 support will be required for six months from the offshore sites
	Network support- Should be provided 24/7 despite geographical dispersion
	Application support- Should be provided 24/7 despite geographical dispersion
	Database support- Should be provided 24/7 despite geographical dispersion
	Administration support- Should be provided 24/7 despite geographical dispersion
	Security support- Should be provided 24/7 despite geographical dispersion
	Training support- Should be provided 24/7 despite geographical dispersion
Availability	Orders can be placed 24/7. In case of unstable internet connection, the information necessary to place orders could be send again
Localizability	Although the system will be developed at offshore locations, localizability must be ensured with respect to Australian traits
Safety	To prevent possible data damages or losses, the shopping system must have a data recovery procedure
Reliability	The system must be able to store database information on different computers to prevent it from possible losses and damage

传统的需求规格说明和验证方法不考虑同一 GSD 项目的 GSD 细节，以便可以对结果进行比较。结果表明，所提出的方法帮助学生团队准备和验证SRS文档的内容以满足在线购物系统的要求。因此，开发团队误解和曲解需求的可能性可能会最小化，并且可以减少搜索有关 GSD 项目不同方面的信息所花费的时间。

为了检查我们的方法的可扩展性，我们的目标是找到一个商业合作伙伴，他们愿意与我们合作，在现实环境中试验我们的方法。

附录1

参见表 20 。

附件2：网上购物系统软件需求说明书（采用建议方法开发）

介绍

SRS 的目的：SRS 文件描述了在线购物系统的要求。出于通信目的，本 SRS 文档的参考号为 V101 -Online Shopping 。

使用本文档的人员是来自客户 XYZ的需求工程师、项目分析师、设计师、开发人员和用户。网上购物系统的需求任何可能发生的变化都会记录在SRS文档中，然后最新的版本将被这些人群使用。

SRS 的范围：客户 XYZ希望为其组织开发一种称为"在线购物系统"的软件产品，通过该产品可以向广泛的客户销售不同的产品。购物系统必须能够： （1）方便客户/最终用户购买不同的产品、跟踪他们的订单、查看卖家的信息

表20 非功能性需求描述

无功能要求	描述
表现	响应时间 - 系统应能够在 10 秒内检索订单详细信息 工作负载 - 系统应能够支持 4 页/秒 可扩展性 - 实施时系统应能够同时支持不少于 50 个客户 平台 -系统应该能够在 Internet Explorer （v.7 及更高版本）、Mozilla Firefox （v.2 及更高版本）、Google Chrome 和 Opera 中运行
安全	购物系统必须确保有关不同类型交易的数据必须在安全通道中进行处理
可用性	具有不同背景知识的最终用户可以轻松下订单
支持	帮助台支持 - 无论澳大利亚和离岸站点之间的时差如何，离岸站点都需要 6 个月的 24 /7 支持 网络支持 - 尽管地理分散，但仍应提供 24 /7 应用程序支持 - 应提供 24 /7 地理分散 数据库支持 - 尽管地理分散，仍应 24 /7 提供 行政支持 - 尽管地理分散，仍应 24 /7 提供 安全支持 - 尽管地理分散，仍应 24 /7 提供 培训支持 - 尽管地理分散，仍应 24 /7 提供
可用性	可以 24 /7 下订单。如果网络连接不稳定，下订单所需的信息可能会重新发送
本地化能力	尽管该系统将在离岸地点开发，但必须确保针对澳大利亚特性的本地化能力
安全	为了防止可能的数据损坏或丢失，购物系统必须有数据恢复程序
可靠性	系统必须能够将数据库信息存储在不同的计算机上，以防止可能的丢失和损坏

Table 21 List of acronyms and definitions

Acronyms	Meanings
FAQ	Frequently asked questions
CRM	Customer relationship management
IEEE	The institute of electrical and electronics engineers
SRS	Software requirements specification
GUI	Graphical user interface
HTTP	Hyper text transfer protocol

information, and making payments via a secure payment platform; and (2) facilitate XYZ in selling different products, managing information about customers (i.e. shoppers) and wholesale merchandisers (i.e. sellers), managing all the orders made by the customers, and managing information about the products sold or still available.

Acronyms and definitions: (Table 21).

References: The following references are used in the SRS document.

- IEEE 830 [17] standard for writing SRS document.
- List of scenarios and use cases
- Sommerville [33]

Overview of SRS: The remaining sections of the SRS document are organized as follows.

- Section 4.2.2 defines the product perspective, functions, user classes and characteristics, locations and time zones of user classes, list of communication modes, mechanisms and tools used between user classes, operating environment, design and implementation constraints, user documentation, and assumptions and dependencies.
- Section 4.2.3 specifies the details about functional and non-functional requirements.

General description

Product perspective: The online shopping system is a new and stand-alone software product. Therefore, it is not a part of a larger system or a modification of the existing systems.

There are two basic modules/components in the online shopping system. The first module is responsible for the different types of services offered by the shopping system. However, the second module covers the security aspect of the shopping system. A detailed description of these modules and their functionalities is listed in Sect. 4.2.3.

User classes and characteristics: The users who will interact with the shopping system are the requirements engineers, project analysts, designers, developers, client

XYZ and end-users. Requirements engineers, project analysts and designers are assumed to have detailed knowledge of the overall requirements, and developers are more aware about the development and technical aspects. However, easy-to-use graphical user interfaces and user documentation will be provided to educate client XYZ and other end-users about how to use the shopping system.

Locations and time zones of user classes: Details about the location and time zones of each user class are given in Table 22.

Communication modes, mechanisms and tools used by user classes: Details about the communication modes, mechanisms and tools that will be used by each user class are mentioned in Table 23.

Operating environment: The shopping system is a website and should be able to operate in Internet Explorer (v.7.0 and later), Mozilla Firefox (v.2.0 and later), Google Chrome and Opera.

Design and implementation constraints: Details about the design and implementation constraints are given in Table 24.

User documentation: Four different types of documentation will be produced during the software development life cycle.

- High-level description of the most important software processes
- Data specification report for purchase orders, order tracking, seller information, and payment and authentication mechanisms
- Online help about how to use the shopping system
- Feedback and error-reporting mechanisms to be used by the system administrator

Assumptions and dependencies: The following assumptions are made about the online shopping system

- User and management-related processes are combined at a central site, accept input and provide different services to different users at different locations
- ASP.Net will be used as a development platform and the SQL server to store database
- The shopping system will be easy to use by different groups of users
- The performance of shopping system depends on the speed of the internet

Specific requirements

There are different types of services and payment mechanisms in the online system. Detailed descriptions about their associated requirements are listed below.

表 21 首字母缩写词和定义列表

缩略语	含义
FAQ	经常问的问题
CRM	客户关系管理
IEEE	电气电子工程师学会
SRS	软件需求规范
GUI	图形用户界面
HTTP	超文本传输协议

信息，并通过安全支付平台进行支付； (2) 促进 XYZ 销售不同的产品、管理有关客户（即购物者）和批发商（即卖家）的信息、管理客户下的所有订单以及管理有关已售或仍然可用的产品的信息。

首字母缩略词和定义：（表 21 ）。
参考文献：SRS 文档中使用了以下参考文献。

- 用于编写 SRS 文档的 IEEE830 [17] 标准。
- 场景和用例列表
- 萨默维尔 [33]

SRS 概述：SRS 文档的其余部分组织如下。

- 4.2.2 节定义了产品视角、功能、用户类别和特征、用户类别的位置和时区、用户类别之间使用的通信模式、机制和工具列表、操作环境、设计和实现约束、用户文档和假设和依赖关系。

- 第 4.2.3 节指定了有关功能性和非功能性需求的详细信息。

一般说明

产品视角：网上购物系统是一种新型的、独立的软件产品。因此，它不是更大系统的一部分，也不是现有系统的修改。
在线购物系统有两个基本模块/组件。第一个模块负责购物系统提供的不同类型的服务。然而，第二个模块涵盖了购物系统的安全方面。这些模块及其功能的详细描述在第 2 节中列出。 4.2.3 .

用户类别和特征：
与购物系统交互的是需求工程师、项目分析师、设计师、开发人员

客户 XYZ 和最终用户。假设需求工程师、项目分析师和设计师对总体需求有详细的了解，而开发人员则更了解开发和技术方面。然而，我们将提供易于使用的图形用户界面和用户文档，以教育客户 XYZ 和其他最终用户如何使用购物系统。

用户类别的位置和时区：有关的详细信息
表 22 中给出了每个用户类别的位置和时区。

使用的沟通方式、机制和工具
用户类别：表 23 中提到了每个用户类别将使用的通信模式、机制和工具的详细信息。
运行环境：购物系统是一个网站，应该能够在Internet Explorer （v.7.0 及更高版本）、Mozilla Firefox （v.2.0 及更高版本）、Google Chrome 和Opera 中运行。

设计和实现约束：详细信息
表 24 给出了设计和实现约束。
用户文档：在软件开发生命周期中将产生四种不同类型的文档。

- 最重要的软件流程的高级描述
- 采购订单、订单跟踪、卖家信息以及支付和身份验证机制的数据规范报告
- 有关如何使用购物系统的在线帮助
- 系统管理员使用的反馈和错误报告机制

假设和依赖：对在线购物系统做出以下假设

- 用户和管理相关的流程在一个中心站点结合起来，接受输入并为不同地点的不同用户提供不同的服务
- 将使用ASP.Net 作为开发平台和SQL服务器来存储数据库
- 购物系统将易于不同用户群体使用
- 购物系统的性能取决于互联网的速度

具体要求

在线系统中有不同类型的服务和支付机制。下面列出了有关其相关要求的详细说明。

Table 22 Locations and time zones of user classes

User class	Departments	Managers	Contact details	Duties
Clients	Information Technology	Mr. ABC	Australia, GMT + 10, abc@xyz.com	Technology head
	Sales/Pre-sales	Mr. DEF	Australia, GMT + 10, def@xyz.com	Senior sales officer
	Marketing	Mr. GHI	Australia, GMT + 10, ghi@xyz.com	Marketing manager
	Human Resource	Mr. JKL	Australia, GMT + 10, jkl@xyz.com	Human resource manager
	Finance	Mr. MNO	Australia, GMT + 10, mno@xyz.com	Senior financial officer
Analysts	Information Technology	Mr. PQ	Australia, GMT + 10, pq@alpha.com	Technology manager
	Business	Mr. RS	Australia, GMT + 10, rs@alpha.com	Business executive
Requirement engineers	Information Technology	Mr. TU	Australia, GMT + 10, tu@alpha.com	Requirements engineering
	Information Technology	Mr. VW	Australia, GMT + 10, vw@alpha.com	
	Business	Mr. XY	Australia, GMT + 10, xy@alpha.com	
Designers	Information Technology	Mr. AA	India, GMT + 5.30, aa@alpha.com	Product analysis and designing
		Mr. BB	India, GMT + 5.30, bb@alpha.com	
		Mr. CC	India, GMT + 5.30, cc@alpha.com	
Developers	Information Technology	Mr. DD	India, GMT + 5.30, dd@alpha.com	Development
		Mr. EE	China, GMT + 8, ee@alpha.com	
End-users	Could be any person from any part of the world			

Table 23 List of communication modes, mechanisms and tools used by user classes

Communication task	Communication aspect	User classes				
		Client	Requirement engineers	Analysts	Designers	Developers
Project discussion	Mode	Verbal	Verbal	Verbal	Verbal	Verbal
	Mechanism	Audio/video	Audio/video	Audio/video	Audio/video	Audio/video
	Tool	Skype	Skype	Skype	Skype	Skype
Knowledge transfer and exchange	Mode	Written	Written	Written	Written	Written
	Mechanism	Messaging	Messaging	Messaging	Messaging	Messaging
	Tool	Emails	Emails and instant messaging	Emails and instant messaging	Emails and instant messaging	Emails and instant messaging

Table 24 Design and implementation constraints

Constraints	Definition
User rights and privileges	Controlled via security groups and privileges for different user classes
Back-end database	Information about services, security and management processes must be stored in a database
Training	Management processes must provide training about how to use the software product in different scenarios
HTML compliance	The product must be HTML compliant
User passwords	Depending on privilege, passwords must be assigned to each group of users

Functional requirements

I. Services

Introduction: Three different types of services are required: purchase; order tracking; and seller information

Requirement id: 2

Priority: High

Child requirement: Purchase, order tracking and seller information

Parent requirement: Online shopping system

Input: Purchase details, order tracking information, sellers' specification

Processing:

表 22 用户类别的位置和时区

用户等级	部门	经理人	联系方式	职责
客户	信息技术 ABC 澳大利亚先生，GMT？10，abc@xyz.com 技术主管销售/售前 DEF 先生澳大利亚，GMT？10，def@xyz.com 高级销售官 市场部 GHI 先生 澳大利亚，GMT？10，ghi@xyz.com 营销经理 人力资源 JKL先生 澳大利亚，GMT？10，jkl@xyz.com 人力资源经理财务 MNO 先生澳大利亚，GMT？10、mno@xyz.com 高级财务官				
分析师	信息技术 PQ 先生澳大利亚，GMT？ 10，pq@alpha.com 业务技术经理 RS 先生 澳大利亚，GMT？10、rs@alpha.com 业务主管				
需求工程师	信息技术 TU 先生 澳大利亚，GMT？10，tu@alpha.com 需求工程 信息技术 大众汽车先生 澳大利亚，GMT？10，vw@alpha.com 商务 XY先生 澳大利亚，格林尼治标准时间？10，xy@alpha.com				
设计师	信息技术		AA 印度先生，格林尼治标准时间？5.30，aa@alpha.com 产品分析和设计 BB 印度先生，GMT？5.30，bb@alpha.com CC 先生 印度，格林尼治标准时间？5.30，抄送@alpha.com	
开发商	信息技术		先生。印度DD，格林威治标准时间？5.30，dd@alpha.com 开发先生是的，中国，格林尼治标准时间？8、yes@alpha.com	
终端用户	可以是来自世界任何地方的任何人			

表23 用户类别使用的通信模式、机制和工具列表

沟通任务	沟通方面	用户类别				
		客户	要求工程师	分析师	设计师	开发商
项目讨论	方式 言语 言语			口头	口头	口头
	机制	声音的/视频	音频视频	音频视频	音频视频	音频视频
	Tool	Skype	Skype	Skype	Skype	Skype
知识传输和交流	模式 书面 书面			书面	书面	书面
	机制 消息传递 消息传递 消息传递 消息传递 消息传递工具 电子邮件 电子邮件和即时消息			电子邮件和即时消息	电子邮件和即时消息	电子邮件和即时消息
			消息传递	电子邮件和即时消息传递	电子邮件和即时消息传递	电子邮件和即时消息传递

表 24 设计和实现限制

约束条件	定义
用户权限和特权 通过不同用户类别的安全组和特权进行控制 后端数据库 有关服务、安全和管理流程的信息必须存储在数据库中 培训 管理流程必须提供有关如何在不同场景中使用软件产品的培训 HTML 合规性产品必须符合 HTML 用户密码 根据权限，必须将密码分配给每组用户	

功能要求

一、服务介绍：需要三种不同类型的服务：购买；订单跟踪;和卖家信息 需求 ID：2 优先级：高

子需求：购买、订单跟踪和卖家信息 父需求：在线购物系统 输入：购买详细信息、订单跟踪信息、卖家规格

加工：

- *Purchase details* browse catalogue, select product, payment, and place order.
- *Order tracking* tracking criteria and shipping information
- *Sellers' specification* user rating and history

  Output:

- *Purchase details* catalogue browsing, product selection, make payment and order placement.
- *Order tracking* track orders
- *Sellers' specification* view seller information

  Developed at user class: India

  Direct and indirect affected requirements: Changes in the requirements of the service module will affect the requirements of the payment module, developed at the Chinese site.

  External interfaces:

- *User interface* All the GUI's must follow a similar theme and have a clear structure.
- *Hardware interfaces* The shopping system is a web-based software product that should run easily on the aforementioned web browsers, and will be hosted on a Windows server.
- *Software interfaces* Any operating system capable of running different web browsers could be used.
- *Communication interfaces* HTTP protocols must be used to facilitate communications between client and server machines.

  II. Purchase

  Similarly, the requirements engineers and analysts document details about other functional requirements.

Non-functional requirements

Performance requirement:

- *Response time* The system should be able to retrieve order details within 10 s
- *Workload* The system should be able to support 4 pages/second
- *Scalability* The system should be capable of supporting no less than 50 customers at a time when implemented
- *Platform* The system should be able to operate in Internet Explorer (v. 7 and later), Mozilla Firefox (v. 2 and later), Google Chrome and Opera.

  Safety requirement: To prevent possible data damages or losses, the shopping system must have a data recovery procedure.

  Security requirement: The shopping system must ensure that data about different types of transactions must be processed in a secured channel.

Quality attributes:

- *Usability* End-users with different background knowledge can easily use the shopping system
- *Support* Regardless of the time difference between Australia, India and China, 24/7 helpdesk, network, application, database, administration, security and training supports will be required for 6 months from the offshore sites
- *Reliability* The system must be able to store database information on different computers to prevent it from possible losses and damage
- *Localizability* Although the system will be developed in India and China, localizability must be ensured with respect to Australian traits
- *Availability* The shopping system should be accessible to users 24/7, except the specified maintenance period

Other requirements

For further details, the user should refer to the following documents.

  Use case documentation

- 购买详细信息浏览目录、选择产品、付款并下订单。

  订单跟踪跟踪标准和运输信息
-

  卖家规范用户评分和历史记录

  输出：

  购买详情目录浏览、产品选择、付款和下订单。
-

  订单追踪 追踪订单
-
  卖家规范 查看卖家信息
-

开发用户类别：印度 直接和间接受影响的需求：服务模块需求的变化将影响在中国站点开发的支付模块的需求。

  外部接口：

  用户界面 所有 GUI 必须遵循相似的主题并具有清晰的结构。
-
  硬件接口 购物系统是一个基于网络的软件产品，应该可以在上述网络浏览器上轻松运行，并将托管在 Windows 服务器上。
-

  软件界面 可以使用任何能够运行不同网络浏览器的操作系统。
-
  通信接口 必须使用 HTTP 协议来促进客户端和服务器计算机之间的通信。
-

二.采购 同样，需求工程师和分析师记录有关其他功能需求的详细信息。

非功能性需求

性能要求：

  响应时间系统应能够在10秒内检索订单详细信息
-

  工作负载 系统应能够支持 4 页/秒
-

  可扩展性 系统实施时应能够同时支持不少于 50 个客户
-

  平台 系统应能够在 Internet Explorer （v.7 及更高版本）、Mozilla Firefox （v.2 及更高版本）、Google Chrome 和 Opera 中运行。
-

安全要求：为了防止可能的数据损坏或丢失，购物系统必须有数据恢复程序。
安全要求：购物系统必须确保不同类型交易的数据必须在安全通道中进行处理。

品质属性：

  可用性不同背景知识的最终用户都可以轻松使用购物系统
-

  支持 无论澳大利亚、印度和中国之间的时差如何，海外站点都需要 6 个月的 24/7 服务台、网络、应用程序、数据库、管理、安全和培训支持
-

  可靠性系统必须能够将数据库信息存储在不同的计算机上，以防止可能的丢失和损坏
-

  本地化虽然该系统将在印度和中国开发，但必须确保针对澳大利亚特征的本地化
-

  可用性 购物系统应可供用户 24/7 访问，指定的维护期除外
-

其他需求

如需了解更多详细信息，用户应参阅以下文档。

  用例文档

附件3：网上购物系统软件需求说明书（利用现有方法开发）

介绍

目的：SRS 文件提供有关 OSS 要求的信息。 SRS文档的参考号是SRS00 - 1/ONS 。
使用本文档的人员是来自客户 XYZ 的需求工程师、项目分析师、设计师、开发人员和用户。
范围：客户 XYZ 希望为其组织开发一种称为"在线购物系统"的软件产品。购物系统必须能够提供以下功能：

  方便客户/最终用户购买不同的产品、跟踪订单、查看卖家信息以及通过安全的支付平台进行付款。
-

  帮助 XYZ 销售不同的产品、管理有关客户（即购物者）和批发商（即卖家）的信息、管理客户下的所有订单以及管理有关已售或仍然可用的产品的信息。
-

  易于使用的图形用户界面 (GUI)。
-