

Requirements

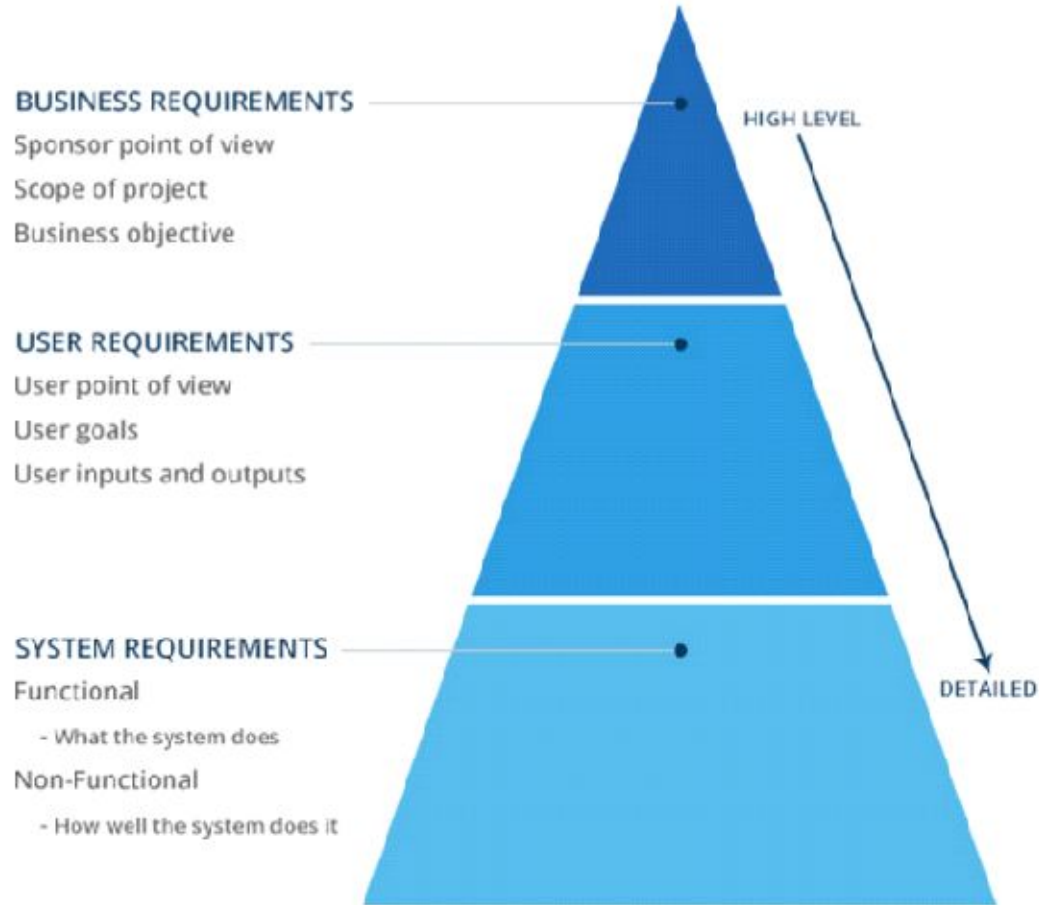






Requirements Types

- Functional:
 - ✓ Business requirements
 - ✓ User requirements
 - ✓ Functional requirements
- Nonfunctional:
 - ✓ Physical environment
 - ✓ Performance
 - ✓ Documentation
 - ✓ Quality attributes



Levels of requirements

1. Business requirements (Vision and Scope document)

Example:

“We need a tool for selecting commercial data from different sources and converting it to easy-to-read forms.”

2. User requirements (User Stories, Use Case)

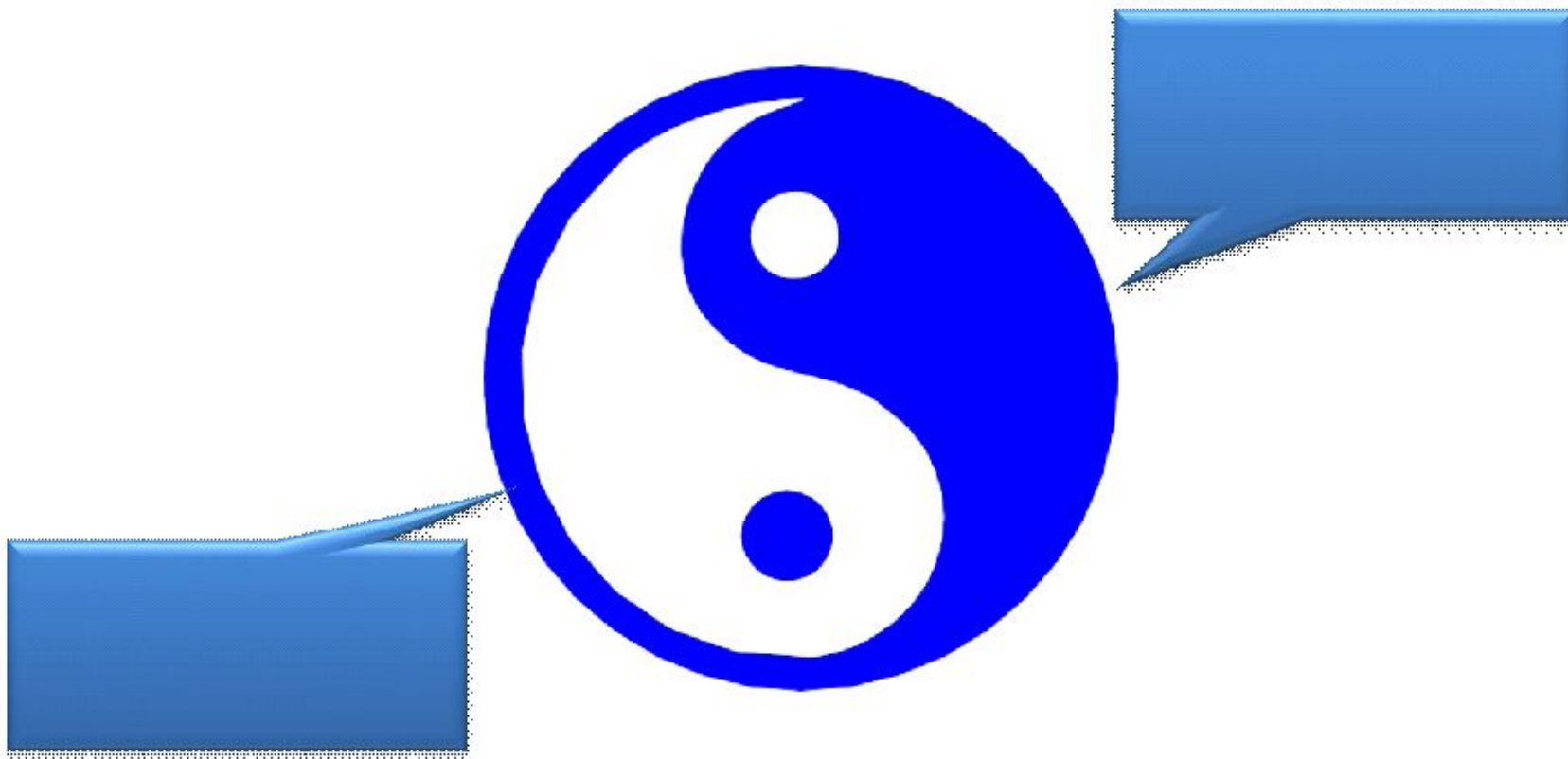
Example:

“When the user logs into the system the welcome page should be opened”.

3. Functional and non-functional requirements (Specification):

Example:

“The device should check all valid sources during installation. All invalid sources must be visible but disabled for a regular user.”





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School Zone Speed Limit 20 mph When Children are Present

How do we know who is “children”? – *Complete.*

Only when school works? – *Complete .*

What does “present” mean – on a sidewalk, behind a fence? – *Unambiguous.*

Because of this requirement is not *verifiable.*

If some of the qualities are missing, there is a problem with the requirement.

And there will be bugs.

Examples

The system shall work with any browser.

The system shall respond quickly to user clicks.

The system shall work with Firefox.

The system shall work with IE.

The system shall respond within 10ms to any user click.



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SRS

User Story

Use Case



Software Requirements Specification

SRS – it's a description of a software system to be developed, laying out functional and non-functional requirements

Contents of SRS (Section 5 of IEEE 830)

- Introduction
- General description of the software product
- Specific requirements (detailed)
- Additional information such as appendixes and index, if necessary

User Stories

User Stories - are short, simple description of a feature told from the perspective of the person who desires the new capability, usually a user or customer of the system. They typically follow a simple template:

As a <type of user>, I want <some goal> so that <some reason>.

Examples of user story

As a administrator, I can:

- Add new user to database
- Delete new user from database
- Verify count of registered users
- Verify count of users who have discount

Create Preferred Customer

As a Customer, when I purchase more than \$50,000 in goods I become a Preferred Customer so that I can receive a 10% discount on all prices.

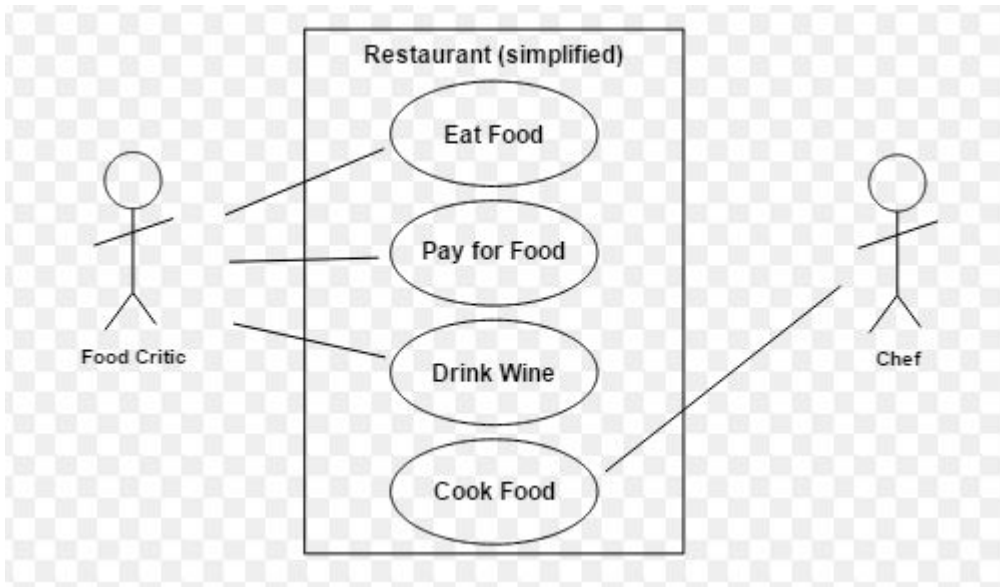
Use Cases

Use case is a list of steps, typically defining interactions between a role (known in UML as an "actor") and a system, to achieve a goal. The actor can be a human or an external system.

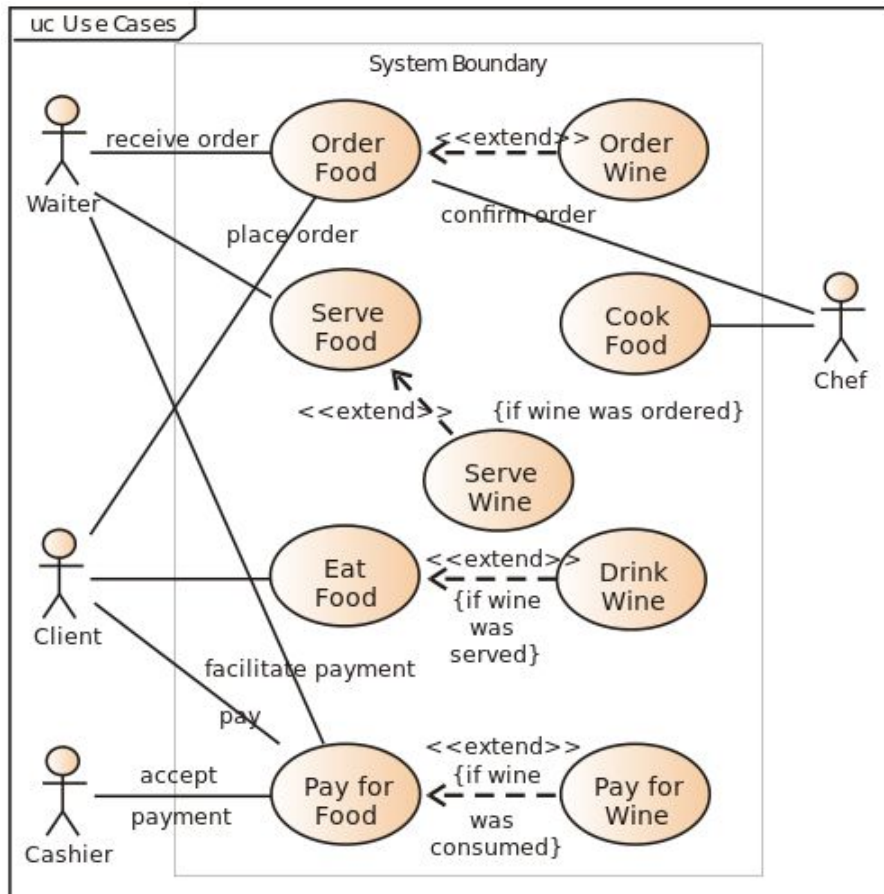
Might be represented in two major forms:

- Diagram
- Structural textual description

Use Case Diagram



A Use Case Diagram for the interaction of a **client (the actor)** and a **restaurant (the system)**



Use Case Diagram

Use Case	Outside/In Planning
Use Case Title:	Short Use Case Title That Defines the Goal
Description:	<ul style="list-style-type: none"> • A paragraph that describes <ul style="list-style-type: none"> -Who interacts with the use case -The purpose of the use case
Desired Outcome:	Result desired by the Persona
Persona(s):	User Personas 🧑🏻 🧑🏻
User Goals:	High level value goal for what the persona wants to achieve
Preconditions and other assumptions:	state required before the use case can be started
Use Case:	<p><i>Step 1.</i></p> <p><i>Step 2.</i></p> <p><i>Step n.</i></p> <ul style="list-style-type: none"> • Time ordered outline of the steps in the use case Typically just simple sentences • Concentrate on the steps in the basic flow
Additional information:	





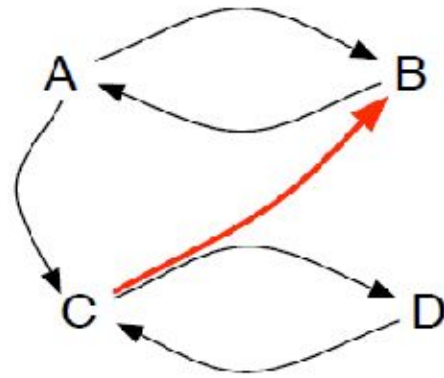


	Requirement #1	Requirement #2	Requirement #3	Requirement #4	Requirement #5	Requirement #6	Requirement #7	Requirement #8	Requirement #9	Requirement #10	Requirement #11	Requirement #12	Requirement #13
Test Case #1			X				X				X		
Test Case #2		X		X			X						X
Test Case #3	X			X			X			X			
Test Case #4				X	X								
Test Case #5								X					
Test Case #6					X				X				









	A	B	C	D
A		X	↓	
B	←		X	
C	X			X
D			X	

	A	B	C	D
A	0	1	↓	0
B	←	0	1	0
C	1	0	0	1
D	0	0	1	0



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Task

Buying page

Surname

Name

discount

coupon

Refresh

OK

Cancel