Group Project – Activity 2

Requirements Specification

Software Requirements Specification

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Remember

A **software requirements specification (SRS)** is a **description** of a software system to be developed. It lays out **functional and non-functional requirements**, and may include a set of use cases that describe user interactions that the software must provide.

SRS establishes the basis for an **agreement between customers and contractors or suppliers on what the software product is to do as well as what it is not expected to do**.

SRS permits a **rigorous assessment** of requirements **before design can begin and reduces later redesign**.

It should also **provide a realistic basis** for estimating product **costs**, **risks**, and **schedules**.

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Functional Requirement

A **Functional Requirement (FR)** is a description of the service that the software must offer. It is a product feature or function that developers must implement to enable users to accomplish their tasks.

- Good practice:
  - FR0X - The software must enable the **[actor]** + **[function]**.
  - An example: FR01 - The software must enable the **finance department** to **process employee payments**.

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Non-functional Requirement

A **non-functional requirement (NFR)** specifies criteria that can be used to judge the operation of a system, rather than specific behaviors.
It specifies the **quality attributes** of a software system.

- **Functional requirement:** The software must send a confirmation e-mail after customer conclude a purchase.
- **Non-functional requirement**: Emails should be sent with a latency of no greater than 15 minutes.

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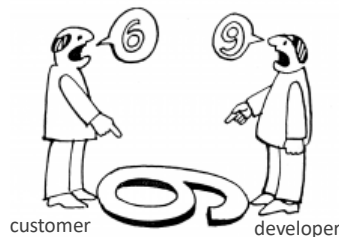College of Engineering

NFR Must be Measurable!

Avoid terms like friendly interface, small files, quick performance, very safe...

You can not measure them!!!

You can not depend on different points of view when evaluating the system.

customer   developer

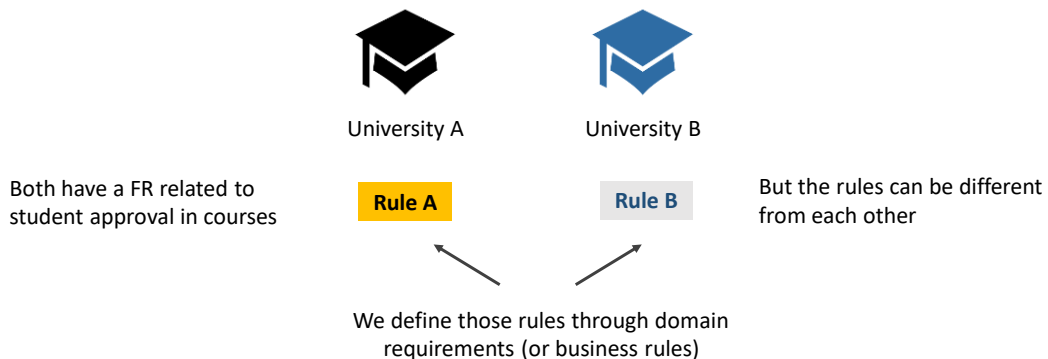**Software Requirements Specification**

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Domain Requirement

• Usually, they complement the specification of functional requirements

University A   University B

Both have a FR related to student approval in courses

Rule A   **Rule B**

But the rules can be different from each other

We define those rules through domain requirements (or business rules)

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Use Case Specification

A **Use Case Specification** is a textual description of the functionality provided by the system. It captures **actor-system interaction**. That is, it specifies how a user interacts with a system and how the system responds to the user actions.

Name:	Maintain customer
Description:	The software allows the manager to carry out the maintenance (include, read, update, delete) of customers.
Actor:	Manager
Entry condition:	The actor selects the option Maintain Customer
Basic path:	1. The system presents the customer registration screen containing: **[PRO01]** - Name (editable) - The options: --- Search --- New --- Cancel 2. The actor selects the New option **[A01] [A02]** 3. The system presents a screen for entering the customer containing: **[PRO02]** - Name (editable) - SSN (editable) - Address (editable) - State (containing the list of the US states) - The options: --- Confirm

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Activity Description

In your groups

Define the **software requirement specification (SRS)** of your project. The SRS must encompass:

- List of functional requirements.
- List of non-functional requirements.
- The specification of **three** use cases.

You can use any text editor.

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Activity Description

Deadline: Oct 8.

Deliverable: software requirement specification.

- Consider the provided SRS Template.
- Package the result of your work into a PDF file and upload it on Canvas.

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How will I be evaluated?

- (1.0 point) Do the defined <u>functional requirements</u> follow the **best practices** presented in class??
  - The software must enable the [actor] + [function].
- (1.0 point) Are the defined <u>non-functional requirements</u> **measurable**?

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How will I be evaluated?

- (8.0 points) Use case description:
  - **(3.0 points) Use of Basic, Alternative, and Exception Paths:** Are the basic, alternative, and exception paths used correctly and logically throughout the use case?
  - **(1.0 point) Prototype Integration:** Are prototypes or visual representations of the system presented alongside the use case to enhance understanding?
  - **(1.0 point) Linking Between Paths:** Are the links between different paths (basic, alternative, and exception) clearly defined, showing how users or the system transition between them?
  - **(2.0 points) Level of Detail:** Is the level of detail sufficient to guide developers, testers, and stakeholders without being overly complex?
  - **(1.0 point) Error Handling:** Are the error handling and recovery processes well described in the exception paths?

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