



Software Engineering

هندسة البرمجيات

جامعة بغداد

كلية التربية للعلوم الصرفة/ابن

الهيثم

قسم علوم الحاسبات

المرحلة الثالثة

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Software Requirements Specifications (SRS)

Topics covered



- ✧ What is Software Requirements Specifications?
- ✧ Types of Software Requirements
- ✧ Functional Requirements
- ✧ Non-Functional Requirements
- ✧ User Requirements
- ✧ System Requirements
- ✧ Some Videos for more explanation

What is Software Requirements Specifications?



- ✧ **Requirements** form a set of statements that describe the user's needs and desires. In developing a software system, these requirements must be clearly and fully understood by software engineers who develop the software system.

Types of Software Requirements



- ✧ Functional Requirements
- ✧ Non-Functional Requirements
- ✧ User Requirements
- ✧ System Requirements

Functional Requirements



- ✧ Describe functionality or system services.
- ✧ Functional user requirements may be high-level statements of **what the system should do** and functional system requirements should describe the system services in details e.g., the user shall be able to search either all of the initial set of database or select a subset from them.

Non-Functional Requirements



✧ Define system properties and constraints.

✧ **Non-Functional Classification:**

Product Requirements: Requirements, which specify that the delivered product must behave in particular way e.g., reliability, efficiency, integrity, usability.

Organizational Requirements: Requirements, which are consequence of organizational policies and procedures e.g., process standard used (IEEE STANDARD-95 FORMAT).

Non-Functional Requirements



External Requirements: Requirements, which arise from factors which are external to the system and its development process e.g., the system shall not disclose any personal information about customers apart from their name and reference number to the operators of the system.

McCall's model of software quality

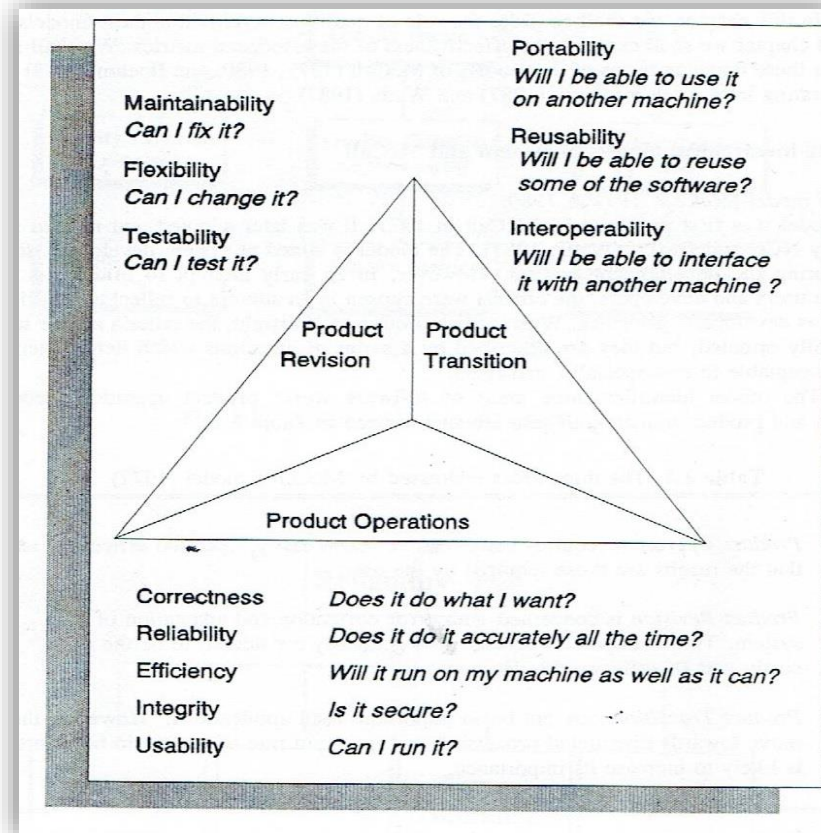


Figure 12: McCall's model of software quality

The criteria included in McCall's model

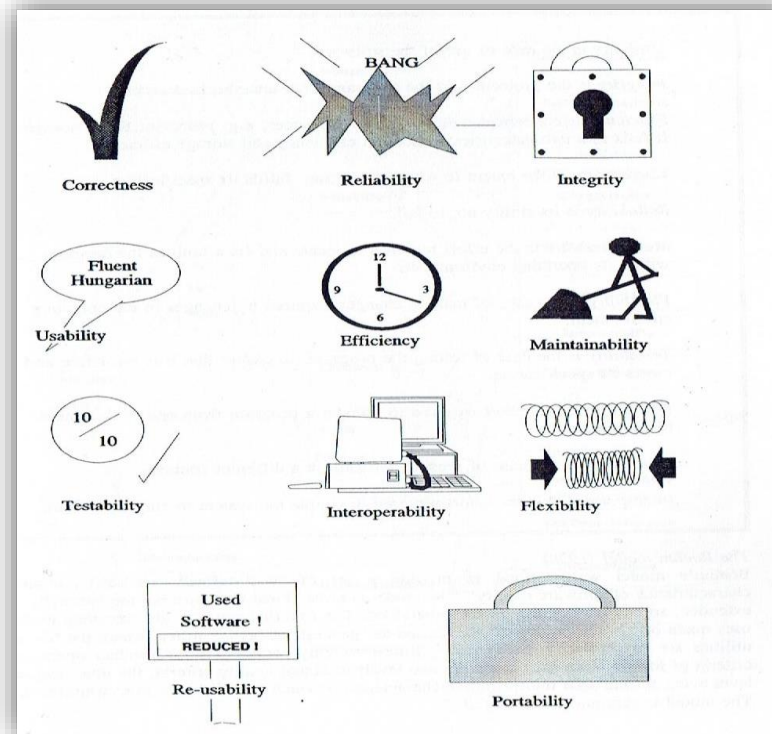


Figure 13: The criteria included in McCall's model

Functional & Non-Functional (Video1)



<https://www.youtube.com/watch?v=zCX-N1H8Vps&t=6s>

User Requirements



- ✧ Written for **users or customers**.
- ✧ Statement in natural language plus diagrams of the services the system provides and its operational constraints.

System Requirements



- ✧ Written for **developers**.
- ✧ detailed functional and non-functional requirements.
- ✧ Contains specified and clearly details more than user requirements.

User Requirements & System Requirements (Video2)



https://www.youtube.com/watch?v=vpNnZDwC_vs

Software Development Life Cycle SDLC (video3)



<https://www.youtube.com/watch?v=i-QyW8D3ei0&t=208s>



Thanks