Title

Version: 2023-08-25

**Changelog**

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| --- | --- |
| 2021-04-26 | Very first draft – by JMB |
| 2023-01-28 | Check after [Handbook](https://se.inf.ethz.ch/requirements/) publication – by JMBChanges in the following titles: G.1, P.1 to P.5 |
| 2023-08-25 | Integrate the Minimum Requirements Outcome Principle, by JMB |
| 2023-09-01 | Add numbering, details and bookmarks, by JMB |
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*⚠️ This document follows the requirements book structure presented in the* [*Handbook of requirements and business analysis*](https://link.springer.com/content/pdf/10.1007/978-3-031-06739-6.pdf)*.*

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# Goals

Goals are "needs of the target organization, which the system will address". While the development team is the principal user of the other books, the Goals book addresses a wider audience: essentially, all stakeholders.

## G.1 Context and overall objectives

High-level view of the project: organizational context and reason for building a system.

⚠️ *This section should not be empty!*

1. Here is an example of numbered requirement (see also [this one](#G21)).
2. Here is an example of more precise numbering

## G.2 Current situation

Current state of processes to be addressed by the project and the resulting system.

1. Here is an example of reset numbering.

## G.3 Expected benefits

New processes, or improvement to existing processes, made possible by the project’s results.

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## G.4 Functionality overview

Overview of the functions (behavior) of the system. Principal properties only.

## G.5 High-level usage scenarios

Fundamental usage paths through the system.

## G.6 Limitations and exclusions

Aspects that the system need not address.

## G.7 Stakeholders and requirements sources

Groups of people who can affect the project or be affected by it, and other places to consider for information about the project and system.

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# Environment

The Environment book describes the application domain and external context, physical or virtual (or a mix), in which the system will operate .

## E.1 Glossary

Clear and precise definitions of all the vocabulary specific to the application domain, including technical terms, words from ordinary language used in a special meaning, and acronyms.

## E.2 Components

List of elements of the environment that may affect or be affected by the system and project. Includes other systems to which the system must be interfaced.

## E.3 Constraints

Obligations and limits imposed on the project and system by the environment.

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*Comment.*

## E.4 Assumptions

Properties of the environment that may be assumed, with the goal of facilitating the project and simplifying the system.

## E.5 Effects

Elements and properties of the environment that the system will affect.

## E.6 Invariants

Properties of the environment that the system’s operation must preserve.

# System

The System book refines the Goal one by focusing on more detailed requirements about the system under development, mainly its constituents, behaviors and properties.

## S.1 Components

Overall structure expressed by the list of major software and, if applicable, hardware parts.

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## S.2 Functionality

One section, S.2.n, for each of the components identified in S.2, describing the corresponding behaviors (functional and non-functional properties).

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## S.3 Interfaces

How the system makes the functionality of S.2 available to the rest of the world, particularly user interfaces and program interfaces (APIs) .

## S.4 Detailed usage scenarios

Examples of interaction between the environment (or human users) and the system: use cases, user stories.

## S.5 Prioritization

Classification of the behaviors, interfaces and scenarios (S.2, S.3 and S.4) by their degree of criticality.

## S.6 Verification and acceptance criteria

Specification of the conditions under which an implementation will be deemed satisfactory.

# Project

The Project book describes all the constraints and expectations not about the system itself, but about how to develop and produce it.

## P.1 Roles. And personnel

Main responsibilities in the project; required project staff and their needed qualifications.

## P.2 Imposed technical choices

Any a priori choices binding the project to specific tools, hardware, languages or other technical parameters.

## P.3 Schedule and milestones

List of tasks to be carried out and their scheduling.

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## P.4 Tasks and deliverables

Details of individual tasks listed under P.3 and their expected outcomes.

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## P.5 Required technology elements

External systems, hardware and software, expected to be necessary for building the system.

## P.6 Risks and mitigation analysis

Potential obstacles to meeting the schedule of P.4, and measures for adapting the plan if they do arise.

## P.7 Requirements process and report

Initially, description of what the requirements process will be; later, report on its steps.