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Agile Development

Topic 9:
Requirements Definition and Prioritisation


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Requirements Definition and Prioritisation Topic 9 - 9.2


Topic 9 Coverage

This topic will cover:

- What is a requirement?
- Defining the requirements;
- Requirements in the Agile approach lifecycle;
- Requirements and modelling;
- The Requirement Lifecycle.




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Group Exercise: What is a Requirement?


List as many words or phrases as you can that mean "requirement".





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What is a Requirement?

In simple terms, a requirement is a feature, a function, a service or a constraint. For example, requirements can mean the following:

- **Feature/Function** – element of the planned product
- **Service** – a service the project needs to ensure it delivers
- **Constraint** – something that will act as a barrier during the project that needs to be planned for and suitable work arounds achieved.

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Defining the Requirements

It is important to define a requirement along with its acceptance criteria as measurable targets at all levels. It is vital to give each requirement a unique ID, and keep the following details: Source; Owner; Business Benefit; and Priority.

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Functional Requirements

Functional requirement is **“what”**, not **“how”**. It is important to make a requirement SMART: Specific; Measurable; Achievable; Realistic and Timely.

It is also important to consider the wording of a functional requirement. For example, **“We need the ability to ...”** or **“As a ... I need... in order to ...”**. Functional requirements should not be in conflict with, or overlap, with other requirements.

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Group Exercise: Functional Requirements

In small groups, consider the requirement; “*set up a personal bank account*”, Create some **SMART** requirements based on this from the perspectives of:

- The customer
- The bank manager

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Non-Functional Requirements – 1

Non-functional requirements are about “how well” we do the functional requirements. They are features that ensure a finished products work effectively and fits in well with the company brand, such as:

- Security
- Availability
- Portability
- Maintainability

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Non-Functional Requirements – 2

- External interfaces
- Design constraints
- Performance
- Response time

They may be global or related to just one functional requirement. It is likely that they will require extra time in the plan.

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Structure of Requirements – 1

Requirement Decomposition

- Feasibility – A very high level set of requirements is established.
- Foundations – A high level set of prioritised requirements is established (a PRL) and User stories.

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Structure of Requirements – 2

- Exploration and Engineering – Each requirement may decompose into more detailed requirements, and, at some point, it may not need to be written down, but evolved as part of iterative development (prototyping).

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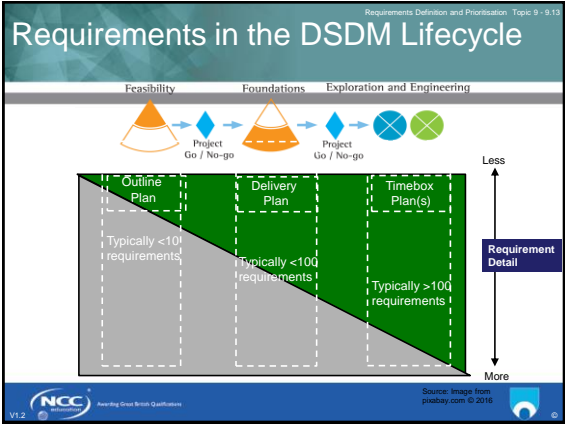
Requirements and Modelling

```
graph LR; HR[Handle Reservations M] --> R1[R1]; R1 --> MR[Make a reservation M]; R1 --> AR[Amend a reservation S]; R1 --> CR[Cancel a reservation M]; R1 --> POR[Produce occupancy report C]; MR --> R11[R1.1]; MR --> R12[R1.2]; R11 --> CFB[Make a conference booking W]; R12 --> IIB[Make an individual booking M]; IIB --> R111[R1.1.1]; IIB --> R112[R1.1.2]; IIB --> R113[R1.1.3];
```

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What is MoSCoW? – 1

Must have are:

- Fundamental to system;
- Without them, system unworkable/useless;
- Minimum usable subset;
- Guaranteed to be developed.

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What is MoSCoW? – 2

Should have include:

- Important requirements;
- Would be mandatory, but workaround exists;
- System will still be useful/usable without them.

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What is MoSCoW? – 3

Could **haves** would add business benefit and are more easily left out of this increment than **Should Haves**. **Won't haves** can be valuable requirements but can wait until a later increment.

Note: All prioritisation is with respect to a clear project objective.

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Group Exercise: Identifying requirements

Get into groups of approximately 4. Revisit the exercise from Topic 6 where you listed 20 features your need in a house. Identify the functional and non-functional requirements, and then prioritise them using MoSCoW.

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The Requirement Lifecycle

Each requirement must be subject to:

- **Elicitation** – Workshops, model-building, interviews, observation, scenarios.
- **Analysis** – Realistic? Ambiguous? Combination of requirements? Aligned with business?
- **Validation** – Prototypes, reviews, models, testing.
- **Management** – Traceability, stability, change management.

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Summary – 1

What is a requirement?

- A function, feature, service or constraint


Functional and non-functional requirements


- Functional = *what* not *how*
- Non-Functional = *how well*

Requirements in the DSDM lifecycle

- Requirements increase in number and detail throughout the lifecycle

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Summary – 2


Requirements and modelling


- Requirements are broken down and demonstrated during modelling

The Requirement Lifecycle


- Elicitation/Analysis/Validation/Management

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Topic 9 – Requirements Definition and Prioritisation

Any Questions?

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