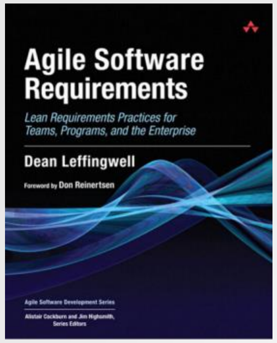
Agile Software Requirements
Lean Requirements Practices for Teams, Programs, and the Enterprise
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Foreword by Don Reinertsen
Agile Software Development Series
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Agile Software Requirements

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Chapter 19:

Use cases

The Problems with user stories and Backlog items (1)

- Alistair Cockburn is one agile thought leader with his foot in both of these camps.
- He bemoans the apparent loss of use cases from agile development.
- User stories and backlog items don't give the designers a context to work from.
- When is the user doing this, what is the context of their operation, and what is their larger goal at this moment?
- User stories and backlog items don't give the project team any sense of scope or potential "completeness".

The Problems with user stories and Backlog items (2)

- A development team estimates a project at (e.g.) 270 story points, and then as soon as they start working, that number keeps increasing, seemingly without bound.
- The developers and sponsors are equally depressed. How big is this project, really?
- User stories and backlog items don't provide a mechanism for looking ahead at upcoming work.
- With user stories, the extension conditions are usually detected mid-sprint, when it is too late.

5 good reasons to still use use cases (1)

- The list of goal names provides executives with a short summary of what the system will contribute to the business and the users.
- The main success scenario of the use case provides everyone with an agreement as to what the system will and will not do.
- The extension conditions of the use case provide a framework for investigating all the little, niggling things that somehow take up 80% of the development time and budget.

5 good reasons to still use use cases (2)

- The use case extension scenarios provide answers to the many detailed, tricky business questions programmers ask: “What are we supposed to do in this case?”
- The full use case set (use case model) shows that the developers/analysts have thought through every user’s needs, every goal they have with respect to the system, and every business variant involved.

Use Case Basics (1)

A use case describes a sequence of actions between an actor and a system that produces a result of value for that actor.

- **Sequence of actions:**
  - The sequence of actions describes a set of interactions between the actor and the system.
- **System:**
  - The system works for the actor. It executes some function, algorithmic procedure, or other activity.

Use Case Basics (2)

- **A result of value**
  - Like a user story, the use case must deliver value to a user.
- **Actor**
  - The particular actor is the individual or device (Mark, the resident; a message from the utility) that initiates the action.

Use Case Actors

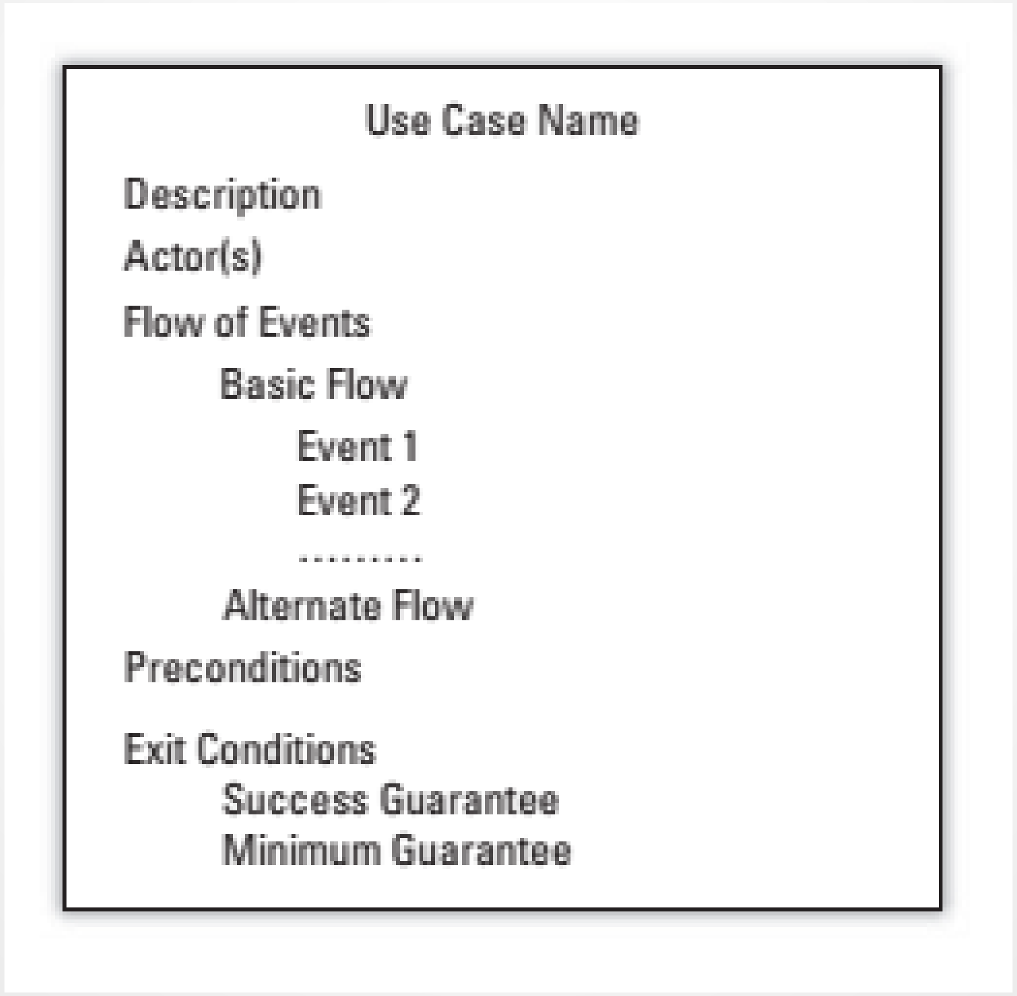
- **An actor** is someone or something that interacts with the system.
- **Users**: Users act on the system
- **Other systems or applications**: Most software interacts with other systems or other applications.
- **A device**: Many applications interface to a variety of input and output devices.

Use Case Structure

A use case has four mandatory elements.

1. **Name**: The name describes the goal, that is, what is achieved by the interaction with the actor.
2. **Brief description:** The purpose of the use case should be described in one or two sentences.
3. **Actor(s):** A use case has no meaning outside the context of its use by an actor.
4. **Flow of events:** The main body of the use case is the event flow, usually a textual description of the interactions between the actor and the system.

Use case template



Use Case Name

Description

Actor(s)

Flow of Events

    Basic Flow

        Event 1

        Event 2

        ....

    Alternate Flow

Preconditions

Exit Conditions

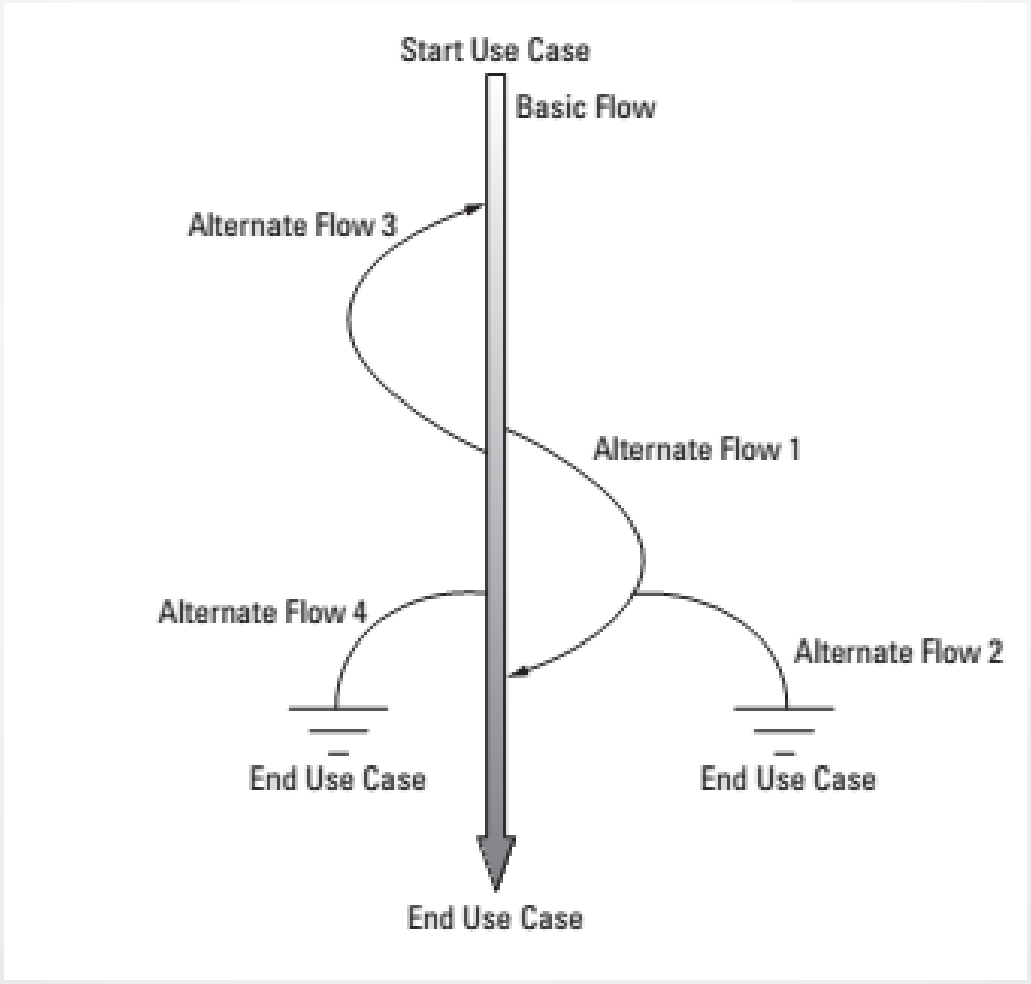
    Success Guarantee

    Minimum Guarantee

A Step-by-Step Guide to Building the Use Case Model

- Step **1**: Identify and Describe the Actors
- Step **2**: Identify the Use Cases.
- Step **3**: Identify the Actor and Use Case Relationships.
- Step **4**: Outline the Flow of the Use Cases.
- Step **5**: Refine the Use Cases

Outline the Flow of the Use Cases



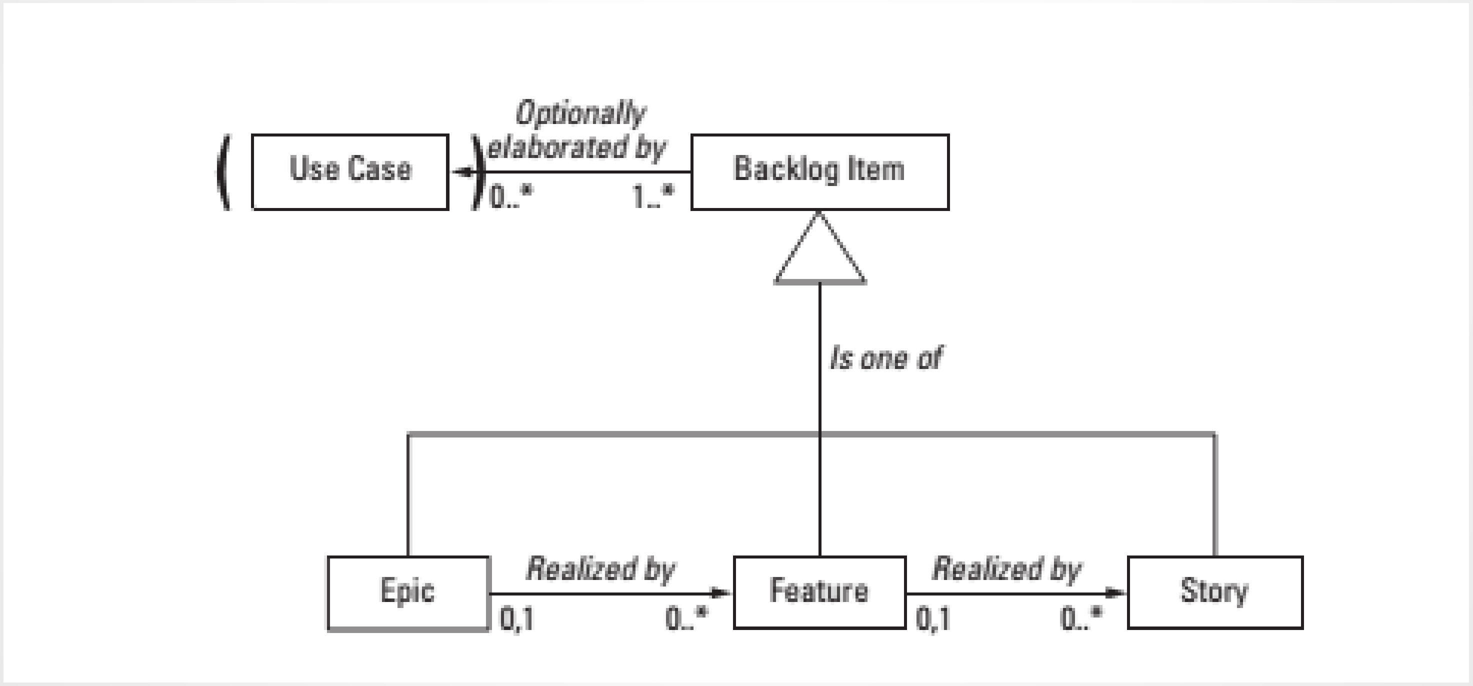
Refine the Use Cases

- Consider all alternate flows, including unusual exception conditions
- **Preconditions**: The refinement process will identify state information that controls the behavior of the system.
- **Exit conditions**: These describe the persistent states the use case leaves behind.

Tips for Applying Use Cases in Agile

- Keep them lightweight—no design details, GUI specs, and so on.
- Don't treat them like fixed requirements. Like user stories, they are merely statements of intended system behavior.
- Don't worry about maintaining them; they are primarily thinking tools.
- Model them informally—use whiteboards, lightweight tools, and so on.

Use Cases in the agile requirements information model


Use Case
Optionally elaborated by
0..*
1..*
Backlog Item
Is one of
Epic
Realized by
0,1
0..*
Feature
Realized by
0,1
0..*
Story