

## UC2 :: Build HTML Site

### Overview

This use-case describes the sequence of events necessary for Xuse to generate the HTML view of the requirements model

### Properties

**Trigger** Requirements and/or use-cases have been added or modified and a new version of published documentation is required

**Goal** To publish the latest set of requirements related documentation

**Primary Actor** Builder

**Pre-Requisites** One or more use-cases and/or [UC1] requirement should have been entered in Xuse

**Success Outcome** A new version of the HTML documentation will have been created

**Failure Outcome** Validation or technical issues will have been raised and the actor will have been informed of these issues

**Priority** 1

**Complexity** 1

**Trace from** [UC1] Add Requirement; [UC4] Edit Use-Case

**Package** tools

### Basic Flow

1. The builder initiates the build
2. Xuse loads the requirements-repository
3. Xuse scans the use-case directory and sub-directories for use-cases
4. Xuse validates the model checking for **duplicates [RQ49]** or **missing references [RQ50]**
5. Xuse **derives relationships [RQ27]** between use-cases and requirements (the relationships are traversed in both directions).
6. Xuse creates an HTML view of the requirements repository.
7. Xuse creates an HTML view of each use-case making sure that use-case that **refer to each other [RQ28]** are hyperlinked.
8. Xuse creates an index file to tie together the HTML pages for convenient presentation and navigation.

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**step8:** Currently this is a simple file with links rather than the **JavaDoc style view [RQ12]** that is anticipated for the product in the long term.

9. The use-case ends.

### Alternative Flows

### Validation Errors

At step 4 of the Main flow when Validation Errors are encountered

1. Xuse informs the actor of the validation errors, making sure that the error descriptions are as meaningful and helpful as possible.
2. The use-case ends.

## Exception Flows

### *Exception Flow 1*

At step 2 of the Main flow when The requirements repository cannot be loaded , or at step 3 of the Main flow when The use-case directory does not contain any use-cases, or there is an error scanning the directories

1. Xuse informs the actor of the issue
2. The use-case ends.

## Specific Requirements

- [RQ49] **Duplicate Use-Case Validation** : Xuse shall make sure that use-case identifiers are unique within the documentation set. (implemented)
- [RQ50] **Missing requirements references** : Xuse shall validate that requirement references (within use-cases and the requirements repository) are valid - i.e. that the requirement exists within the requirements repository. (implemented)
- [RQ27] **Reverse relationships** : Xuse shall be able to derived items that reference the requirement or use-case under focus. For instance, Xuse shall be able to trace which use-cases reference a particular requirement without that information being held directly against the requirement in the data model. (implemented)
- [RQ28] **Use-case relationships** : Xuse shall support relationships between use-cases. (implemented)
- [RQ12] **JavaDoc style view** : Xuse shall provide an integrated HTML view of the requirements model similar to JavaDoc. (implemented)
- [RQ9] **HTML View** : Xuse shall provide a navigable (static) HTML view on the XML data model (proposed)
- [RQ11] **Build tools** : Xuse shall provide the appropriate build tools to effectively marry the XML data model with the stylesheets that provide the different views. (implemented)
- [RQ23] **Build time** : Xuse shall be able to compile the XML data model into the disparate views in a timely fashion (i.e. within a matter of one or two minutes or less) - no strict performance requirements are necessary. (proposed)
- [RQ26] **Navigable relationships** : Xuse shall provide navigable relationships between: use-cases and use-cases; requirements and requirements; and requirements and use-cases. This relationships will be available in the HTML view (implemented)

## Activity Diagram

