

15.7 Argument Context

Context comes from a best practice whitepaper “Towards a Clearer Understanding of Context and Its Role in Assurance Argument Confidence” by Patrick John Graydon in 2014 specifying how one should define Context in an Assurance Case. This is an element representing that Context idea.

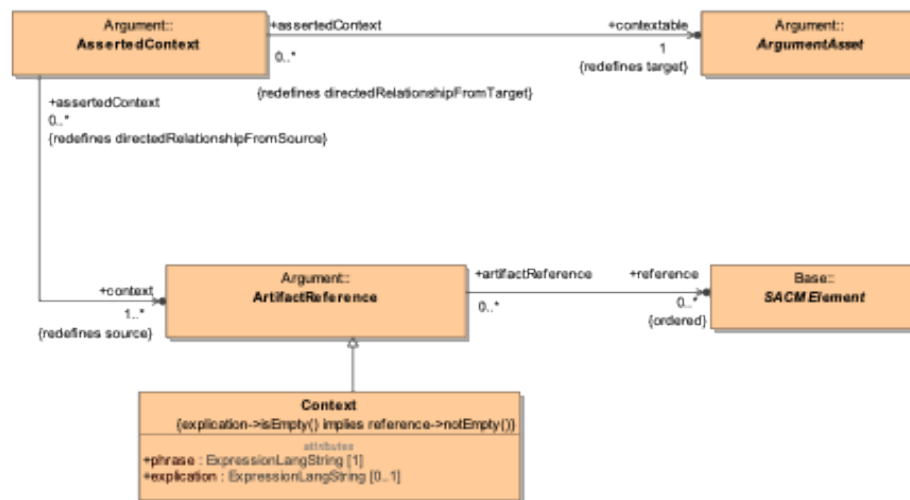


Figure 15.7.1 – Argument Context Diagram

15.7.1 Context

Context is "PHRASE is interpreted as EXPLICATION" or if EXPLICATION is empty, then "PHRASE is interpreted in the context of the referenced SACMElement (perhaps an Artifact)"

Supertype

Argument::ArtifactReference

Attributes

phrase : ExpressionLangString [1] - the phrase targeted by this Context

explication : ExpressionLangString[0..1] - the explication to interpret the phrase as

The explication applies to

- (i) the element *e* at which the context *c* is asserted,
- (ii) any ArgumentConcept in the same argument module that directly or indirectly supports *e* through AssertedRelationships, and
- (iii) any justification, assertion, or confidence element in the same module asserted as context to an element to which *c* applies as per rules (i) and (ii).

Semantics

- Non-circularity: Context may not have any phrase that is directly or indirectly explicated in terms of itself
- Uniqueness: May not assert two explications for the same phrase that apply to the same element
- Loaded language: Arguers should not use phrase-context to phrase arguments in terms whose plain-language meaning might cause misunderstanding of the argument
- UI Note: Explicated phrases should be visually distinguished from non-explicated text and Context has the graphical form "phrase:explication"

Constraints

ExplicationIsEmpty

If Explication is empty then there must be a reference to a SACMElement.

inv: explication->isEmpty() implies reference->notEmpty()

15.7.2 Argument Context Example

Context1 provides an explication for Claim1’s use of the phrase “routine” by its “use in compliance with Insulin Pump User Guide” and provides a reference to the Artifact in the Assurance Case defining that Insulin Pump’s User Guide.

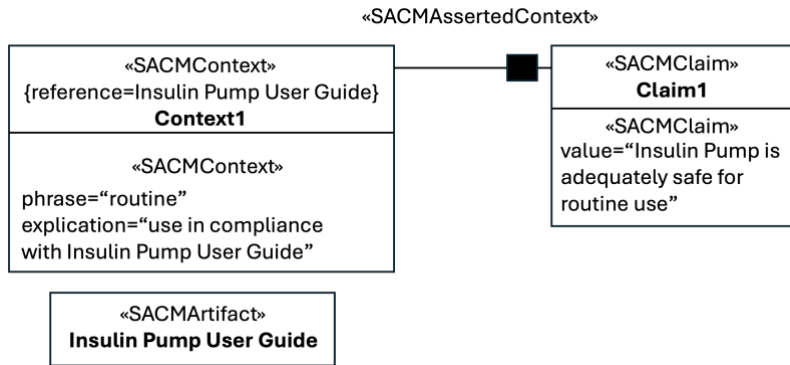


Figure 15.7.2 Argument Context Example