



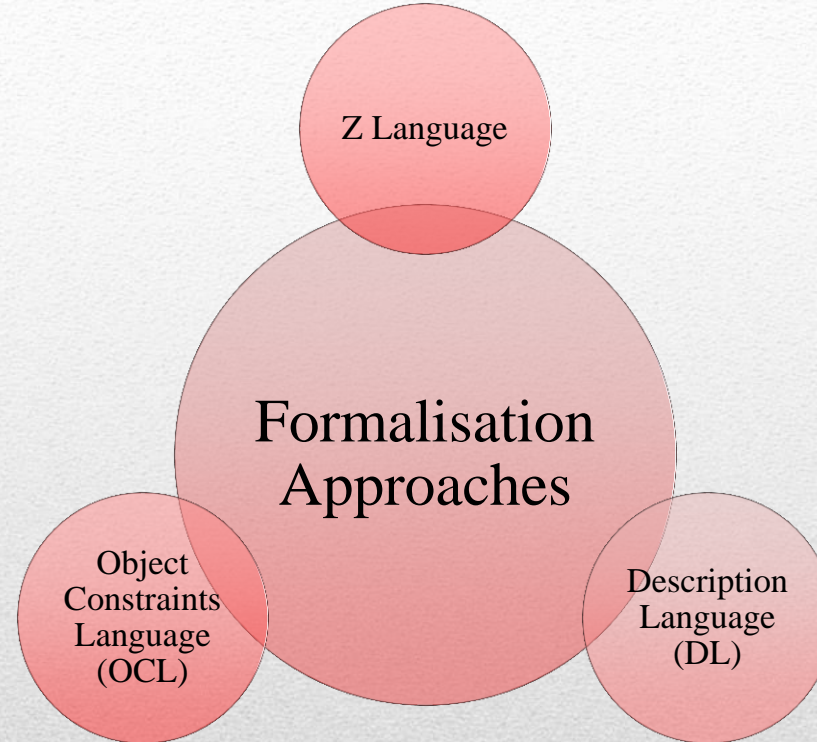
Some Considerations on UML Class Diagram Formalisation Approaches

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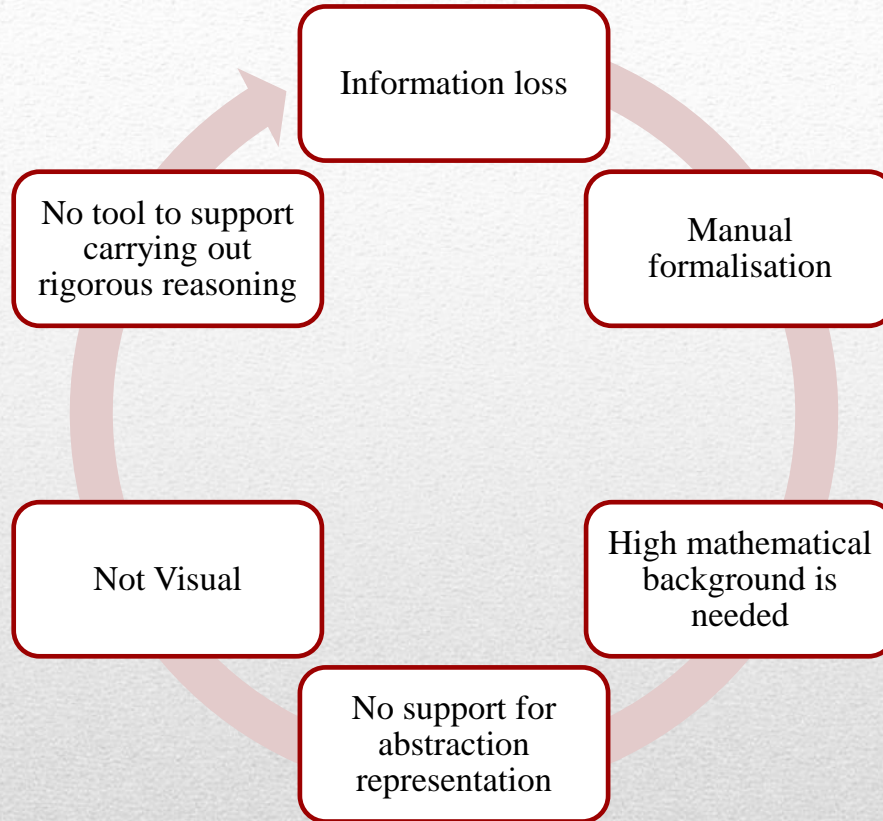
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Approaches we looked at

Method \ Feature	Z	DL	OCL
Formal	Yes	Yes	No
Information lose	Yes	Yes	Yes
Abstraction support	No	No	No
Complex constraints support	Yes	Yes	No
Automation tool support	Yes	No	No
Math backg.	Yes	Yes	No

Comparison



Side-effects

- Why formalizing UML?
 - Tackles ambiguity and incompleteness which exist in UML diagrams.
 - Carry out rigorous reasoning (verification, detection, etc.)
- What to consider when choosing a formalizing approach or proposing new one?
 - Is?:
 - Able to formalize all UML relations and complex constraints (No Information loss)
 - There a tool which takes UML diagram and produce formal statements (No Manual formalisation)
 - Requires less mathematical background, preferably visual language.
 - There a tool to support automated rigorous reasoning.

Discussion

- In this paper we have reviewed a number of formalization approaches.
- A number of formalization side-effects have been discussed.
- We highlight a guideline to consider when choosing a UML formalization approach.
- Finally, to the best of our knowledge, there is no such approach which can eliminate these side-effects. This makes those categories commendable guidelines when a new UML formalisation approach is to be introduced

Conclusion