

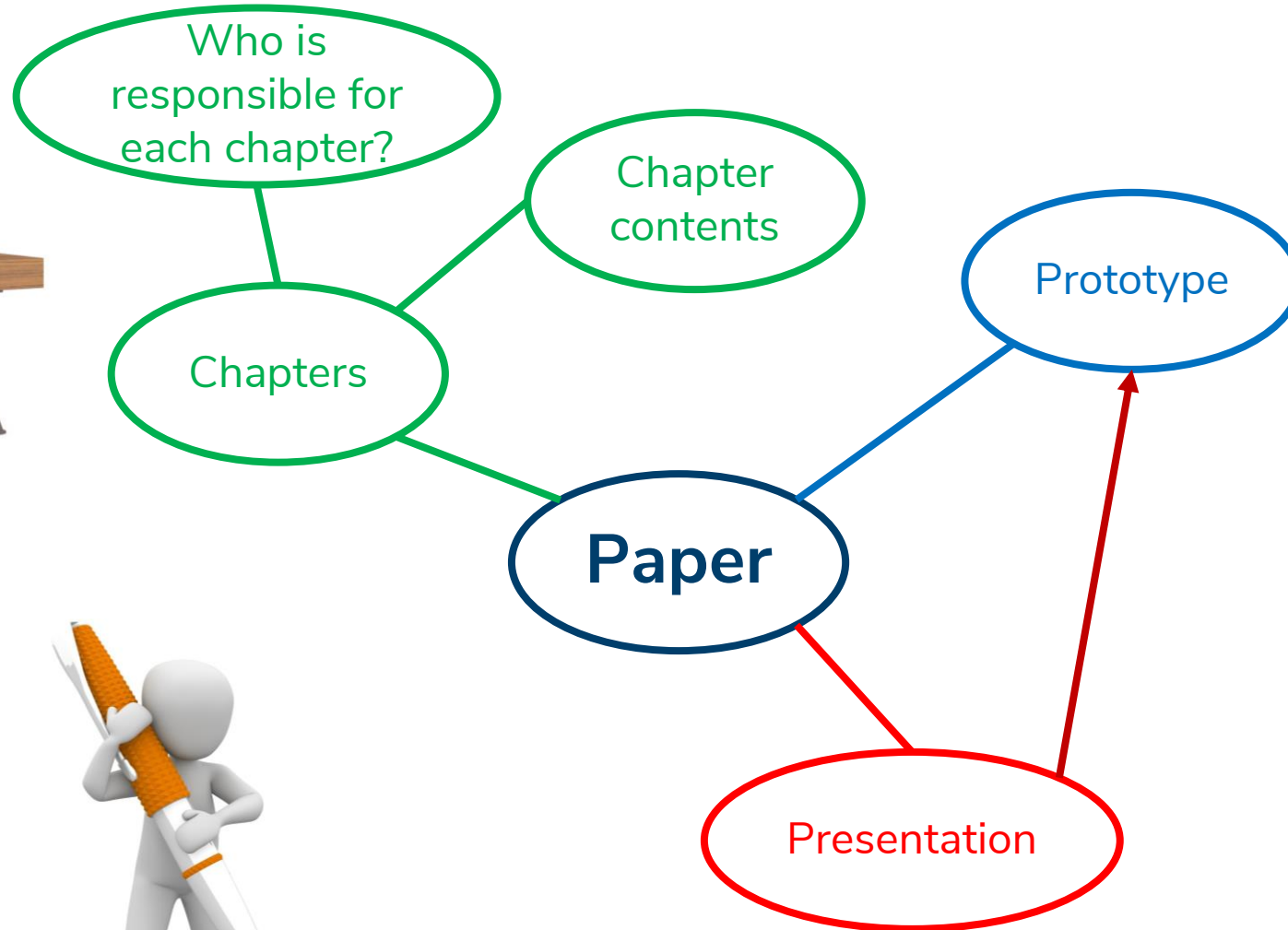
# Mind Maps sans Frontières

Dilshod Kuryazov, Florian Schmalriede,  
Christian Schönberg, Kevin Meyer,  
Andreas Winter

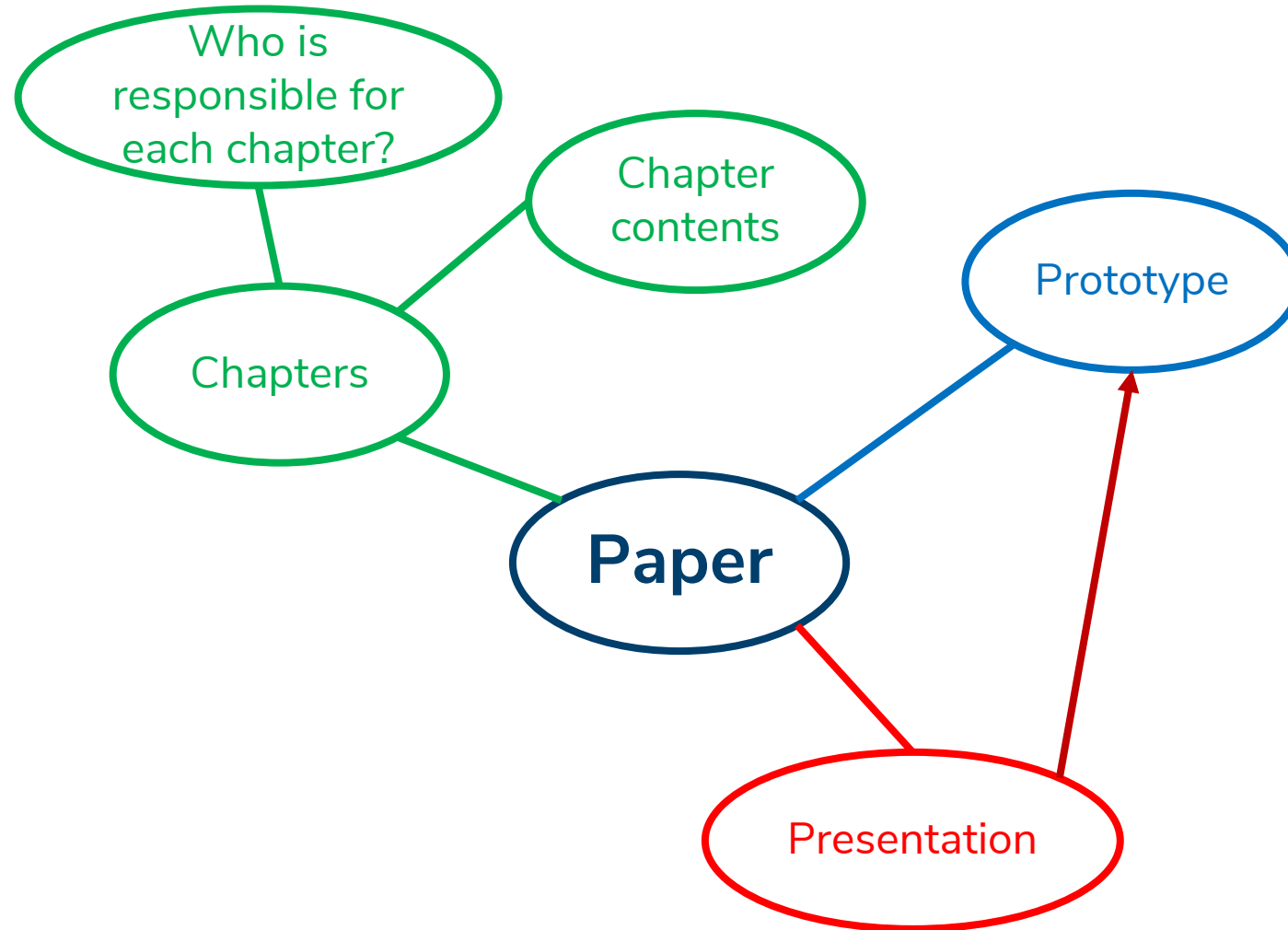
# Collaborative Mind Mapping



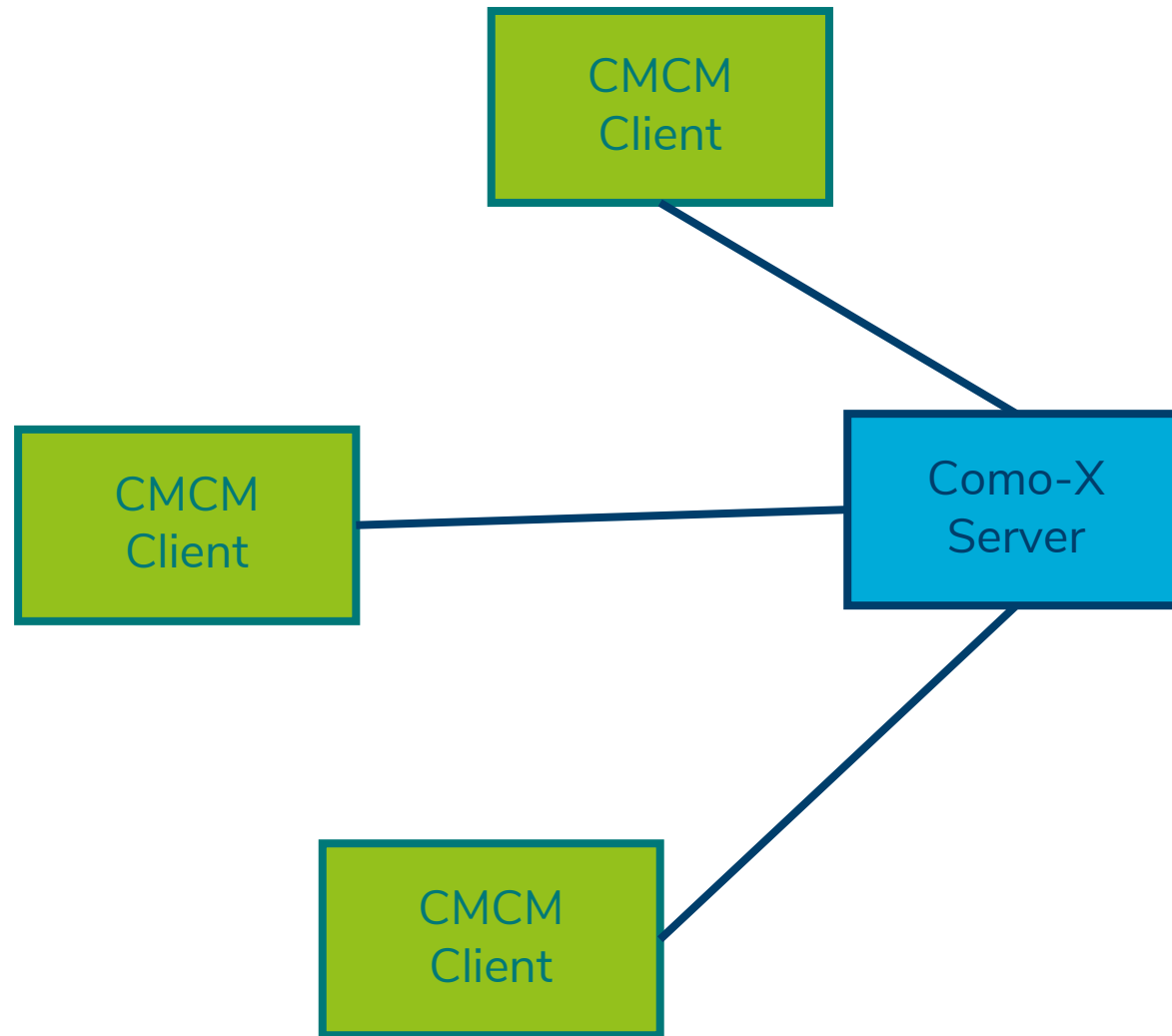
# Collaborative Mind Mapping



# Mind Maps



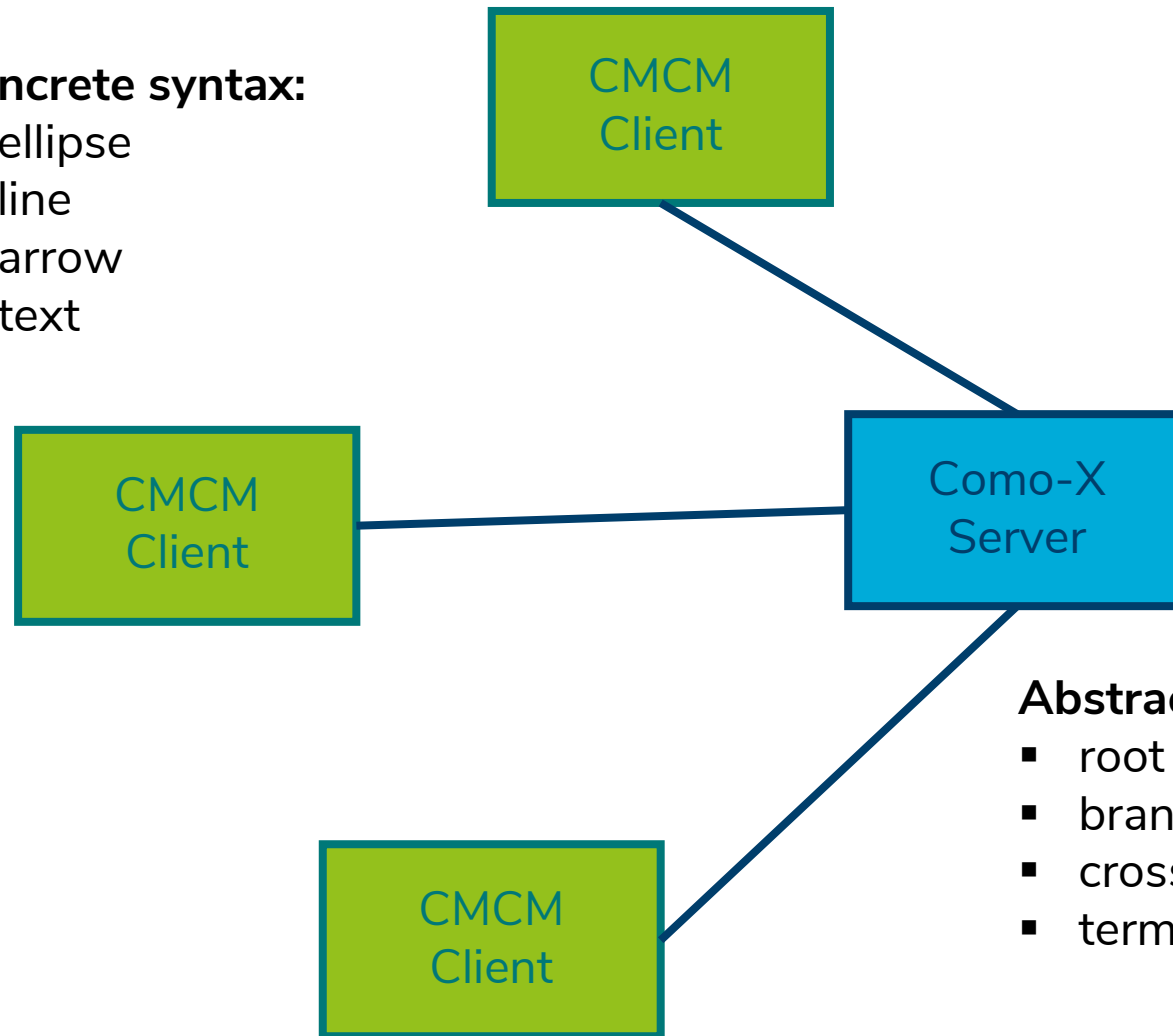
# CMCM – Architecture



# CMCM – Meta-Models

## Concrete syntax:

- ellipse
- line
- arrow
- text



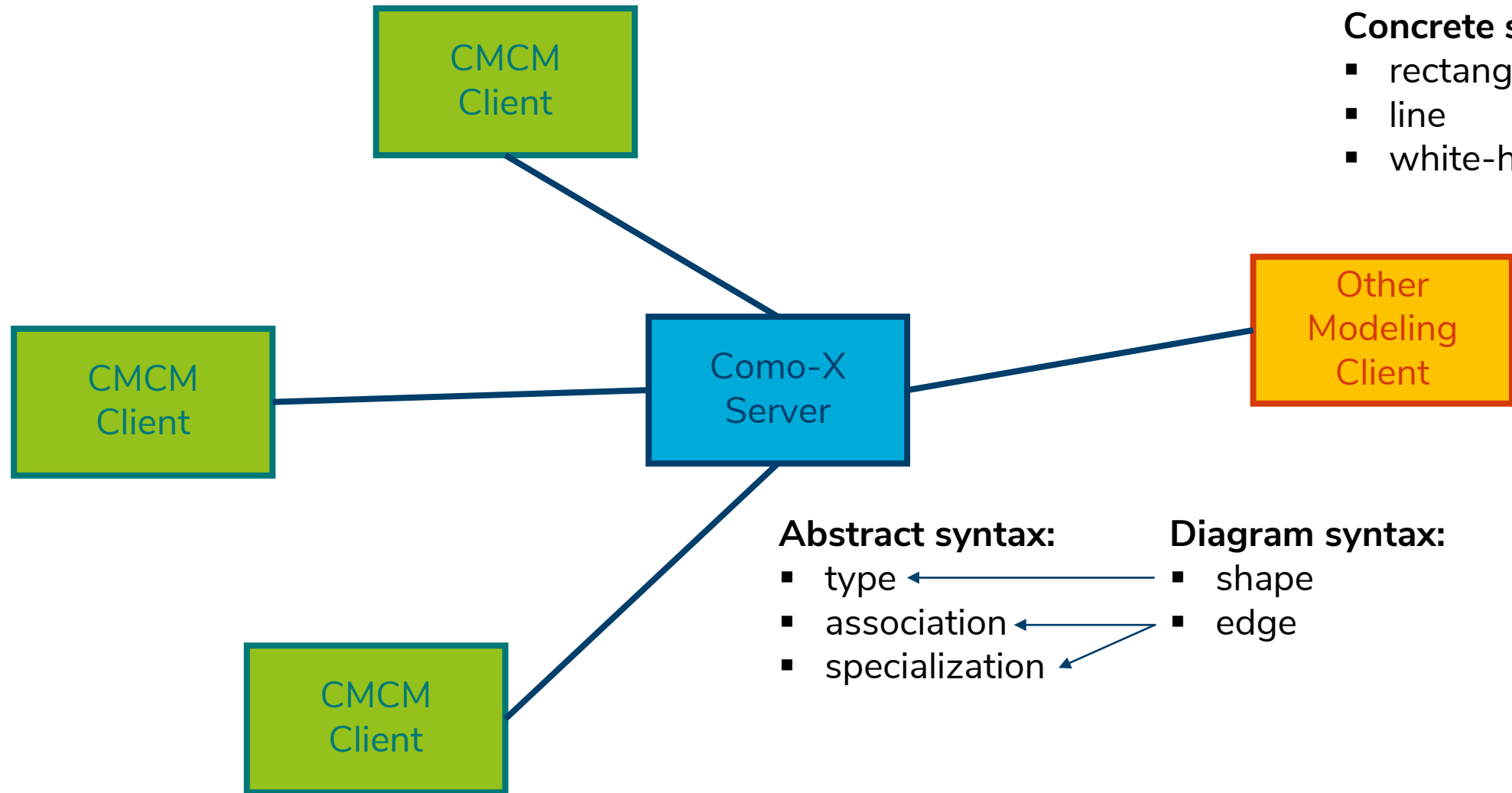
## Abstract syntax:

- root element
- branch
- cross-reference
- term

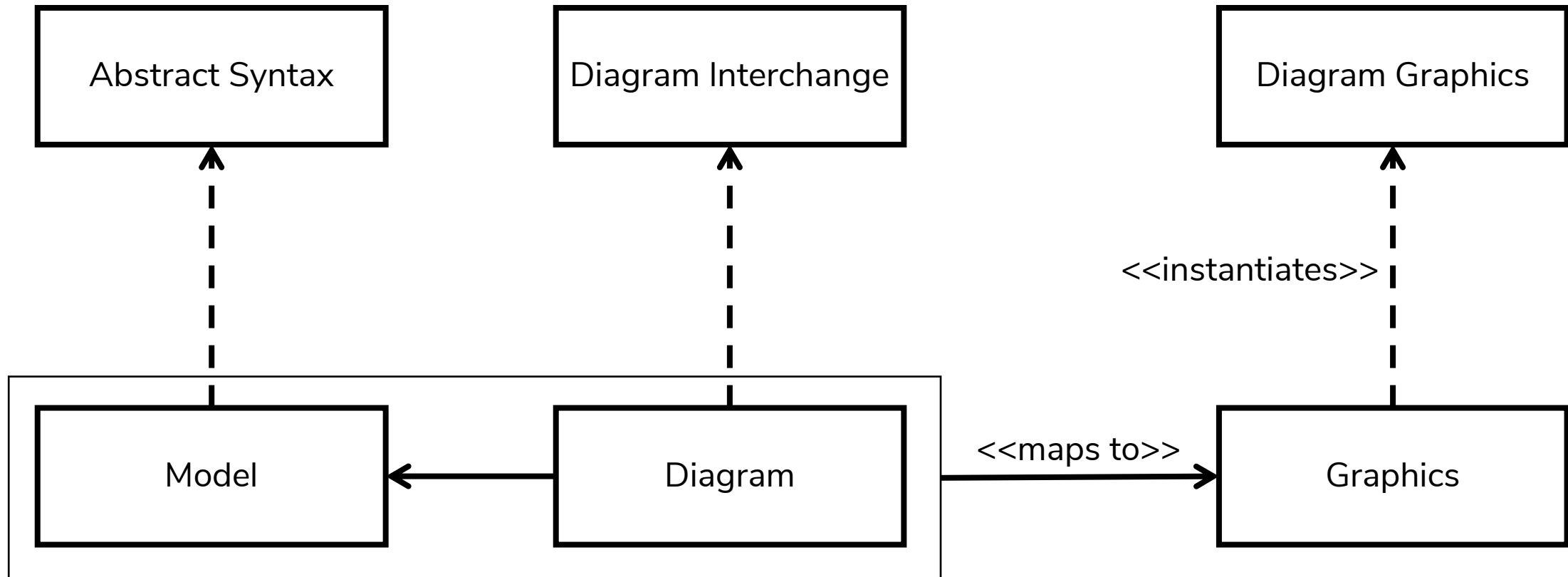
## Diagram syntax:

- shape
- edge
- label

# CMCM – Meta-Models

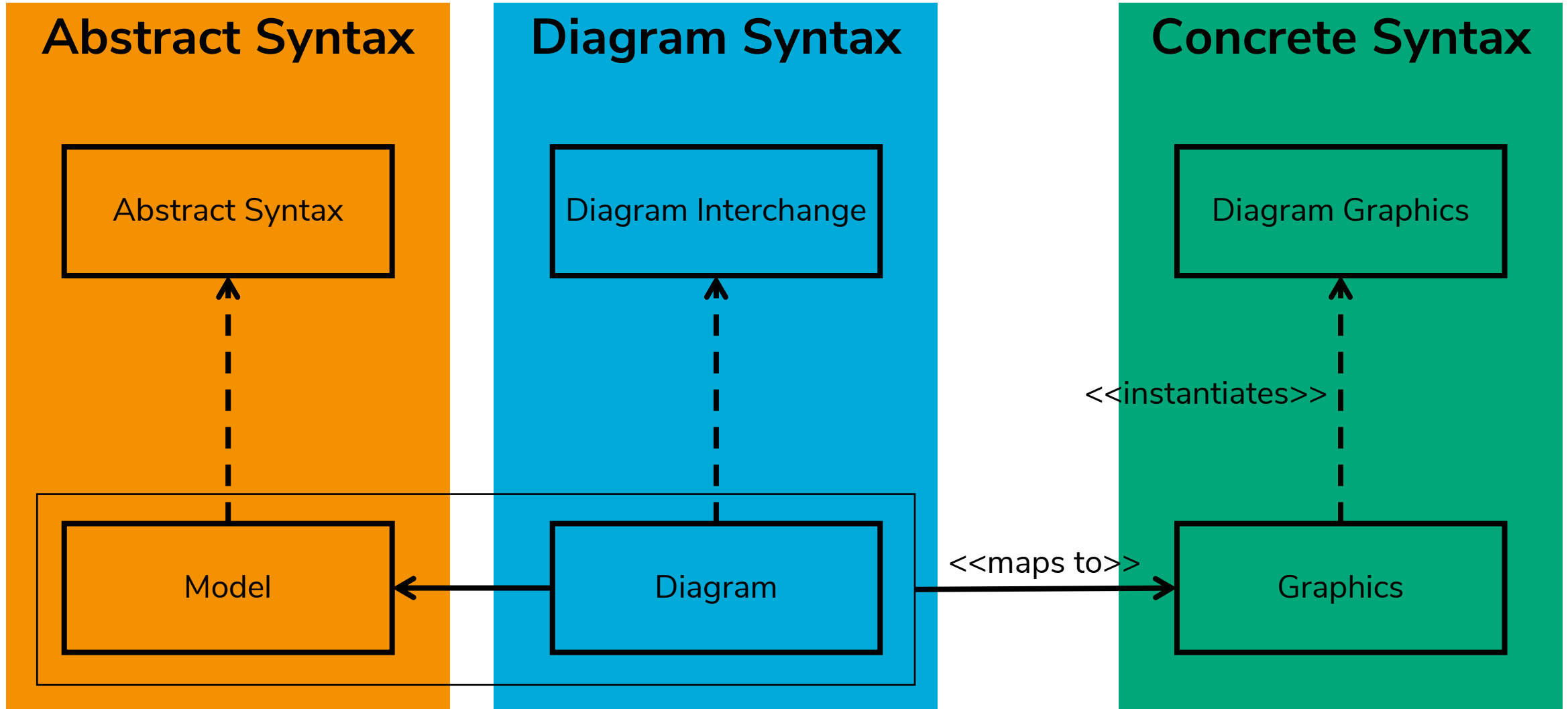


# CMCM – Meta-Models vs. OMG Diagram Definition

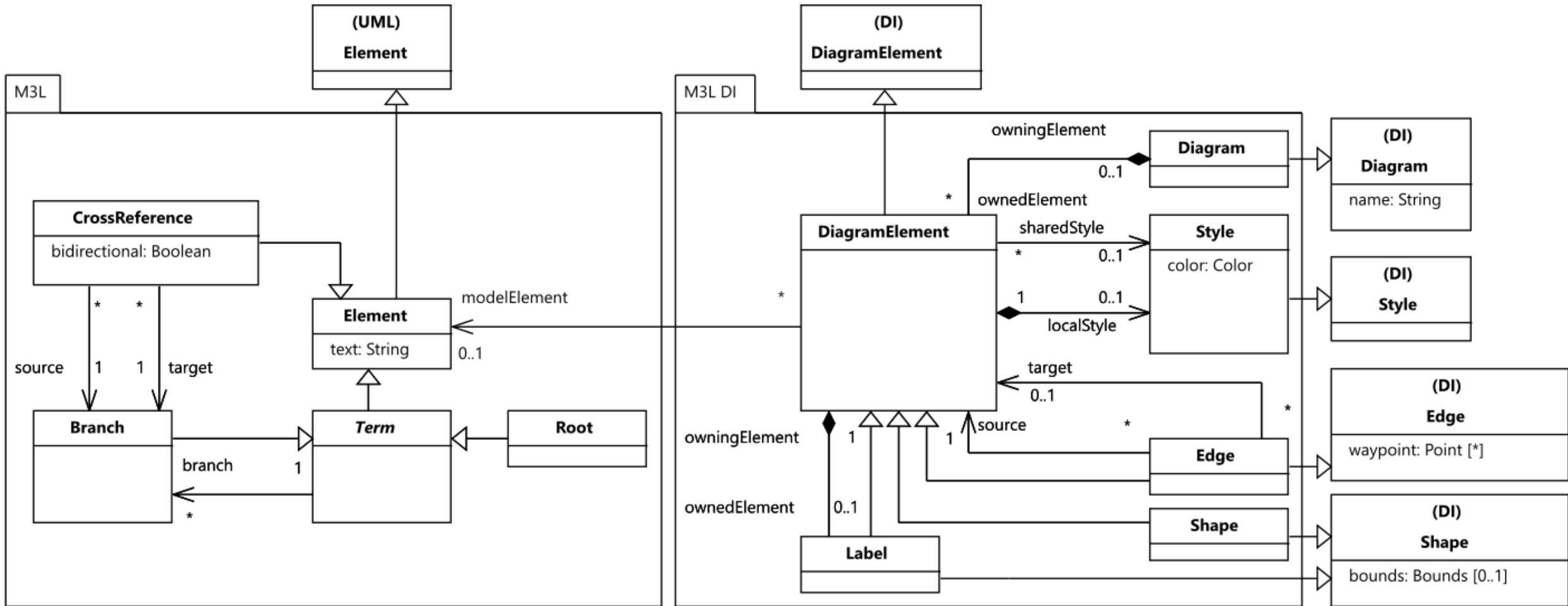




# CMCM – Meta-Models vs. OMG Diagram Definition



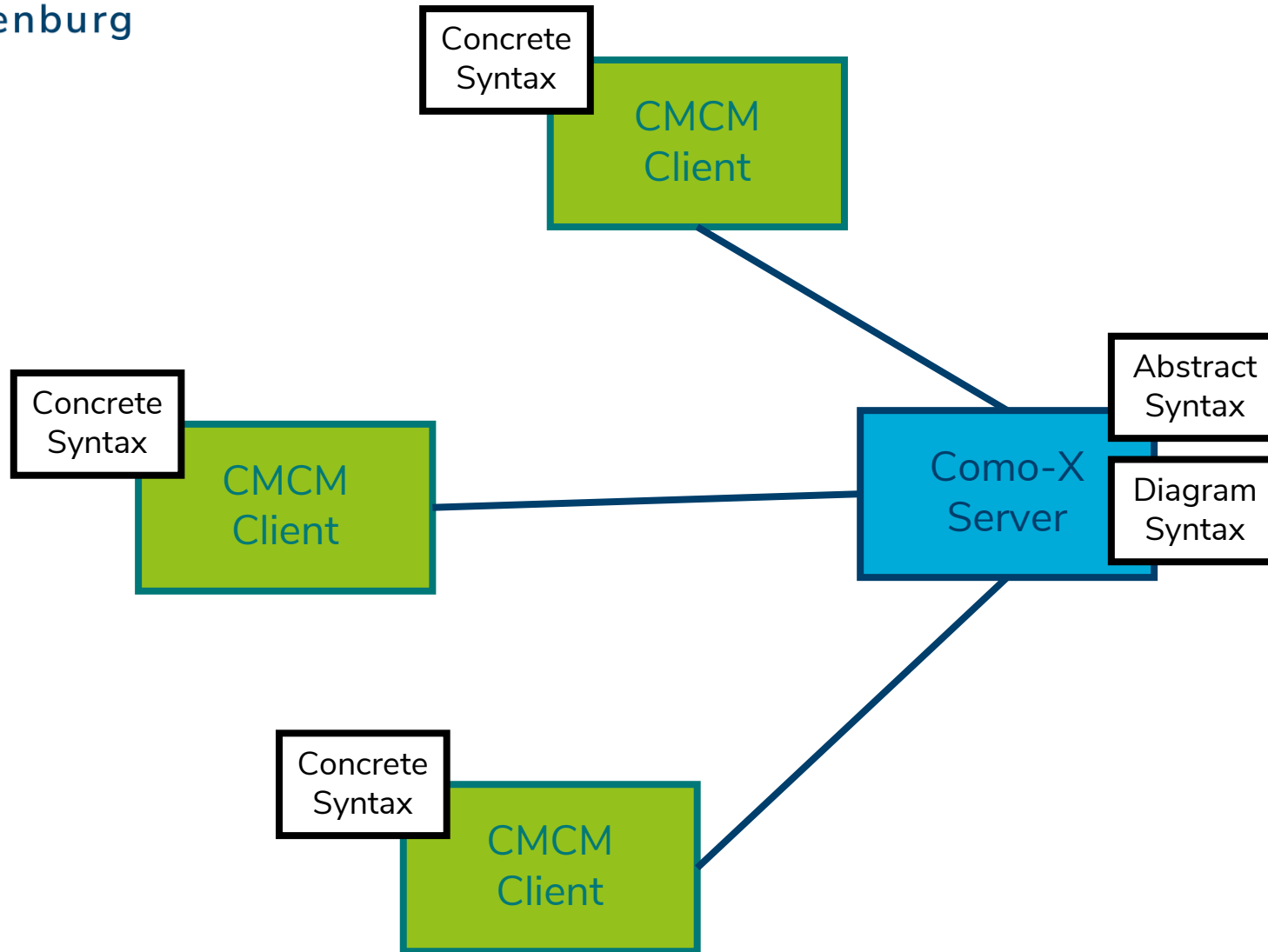
# CMCM – Metamodels



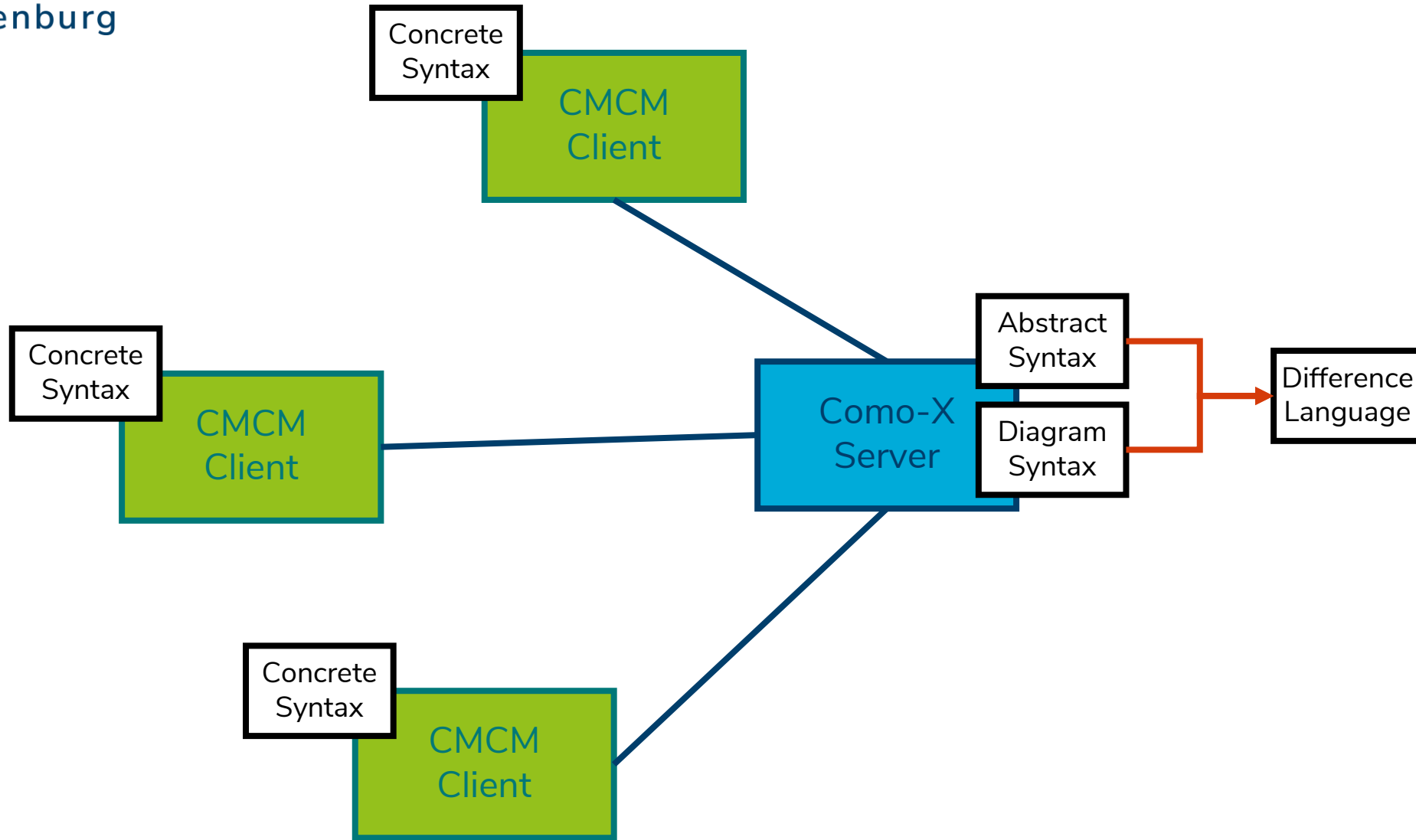
Abstract Syntax

Diagram Syntax

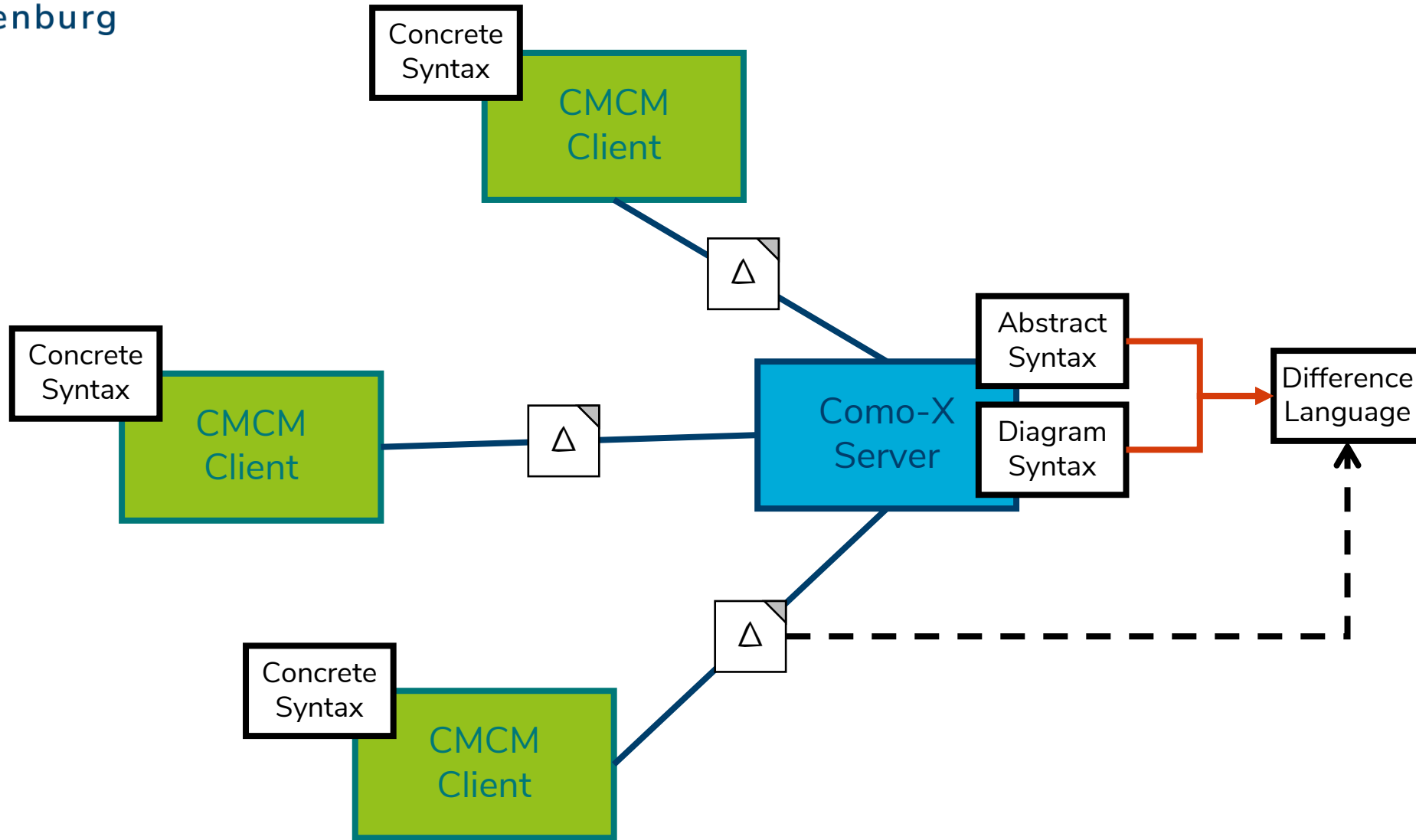
# CMCM – Difference Language



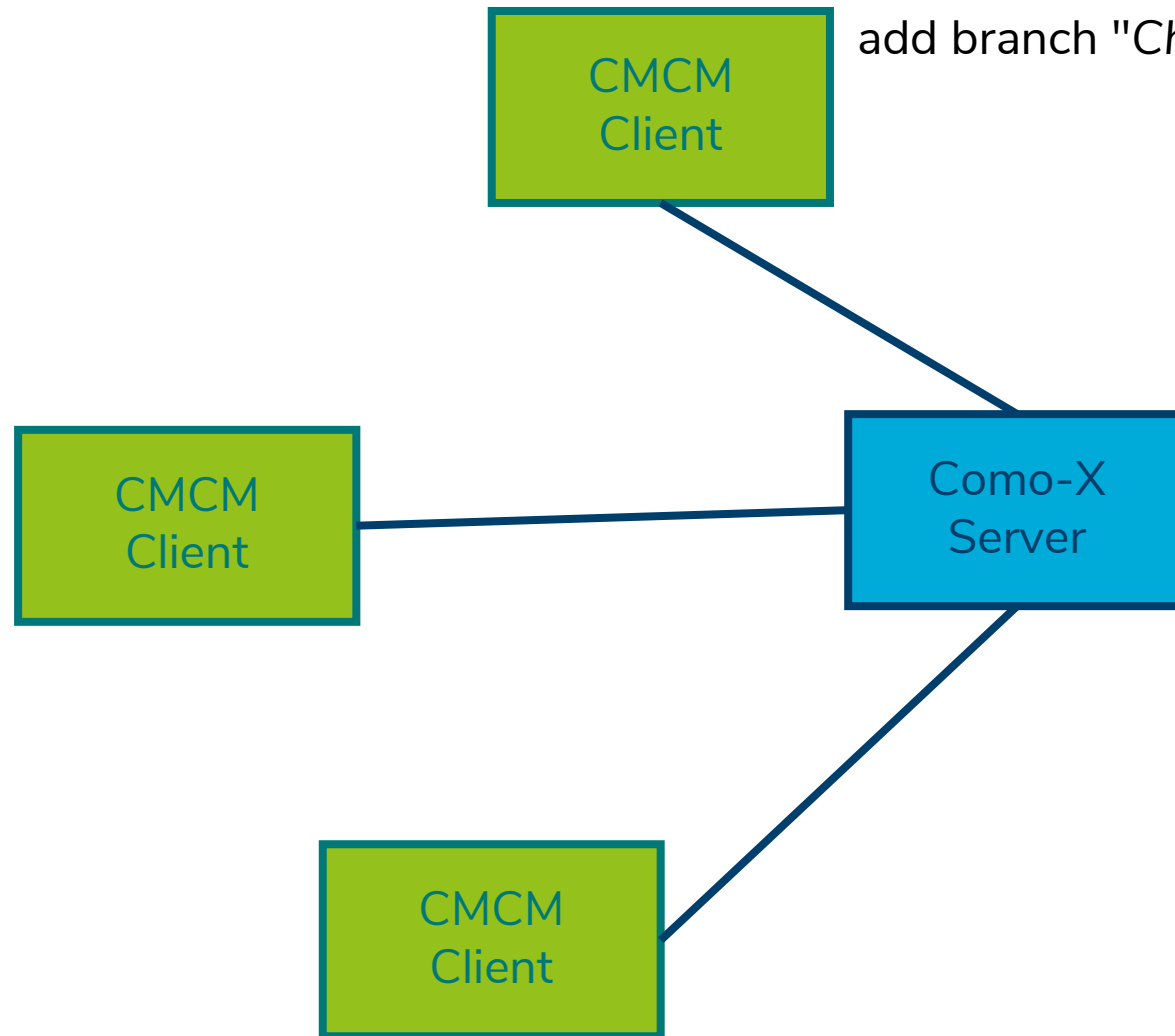
# CMCM – Difference Language



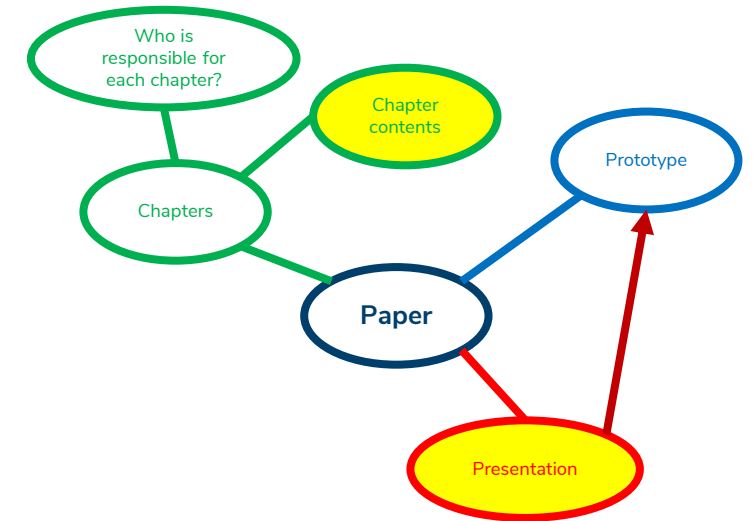
# CMCM – Difference Language



# CMCM – Difference Language (Example)

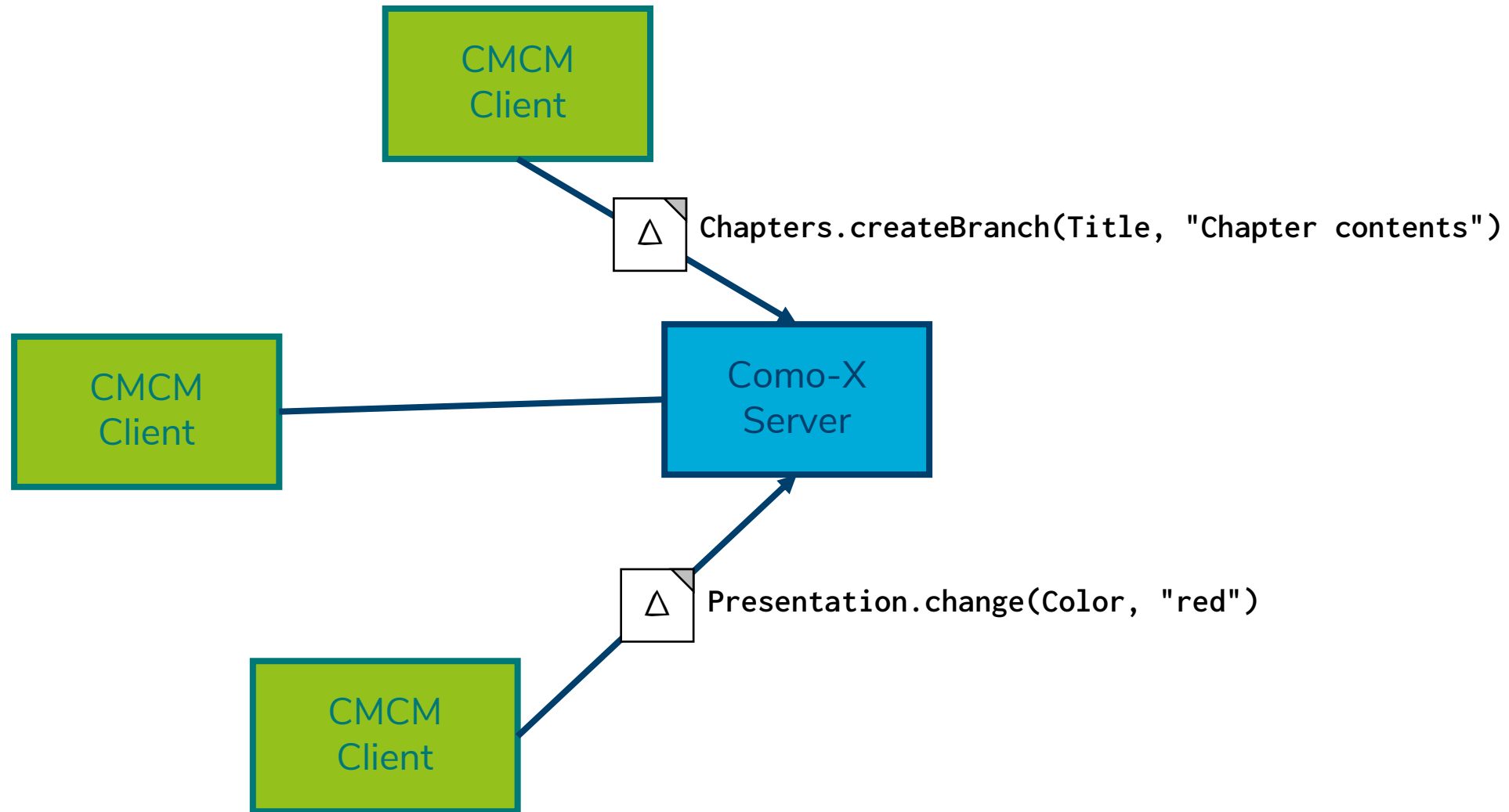


add branch "Chapter contents" to branch "Chapters"

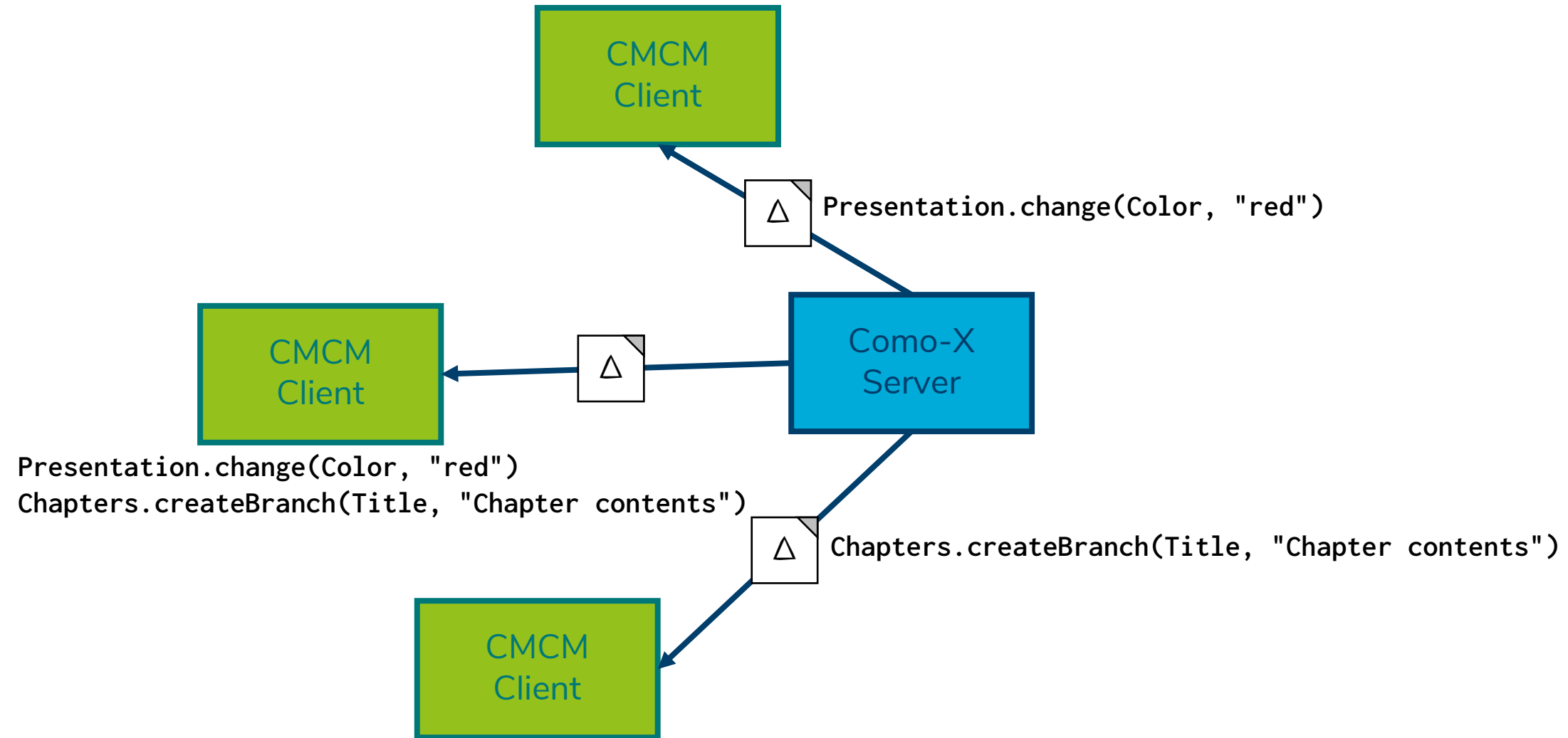


color branch "Presentation" in red

# CMCM – Difference Language (Example)

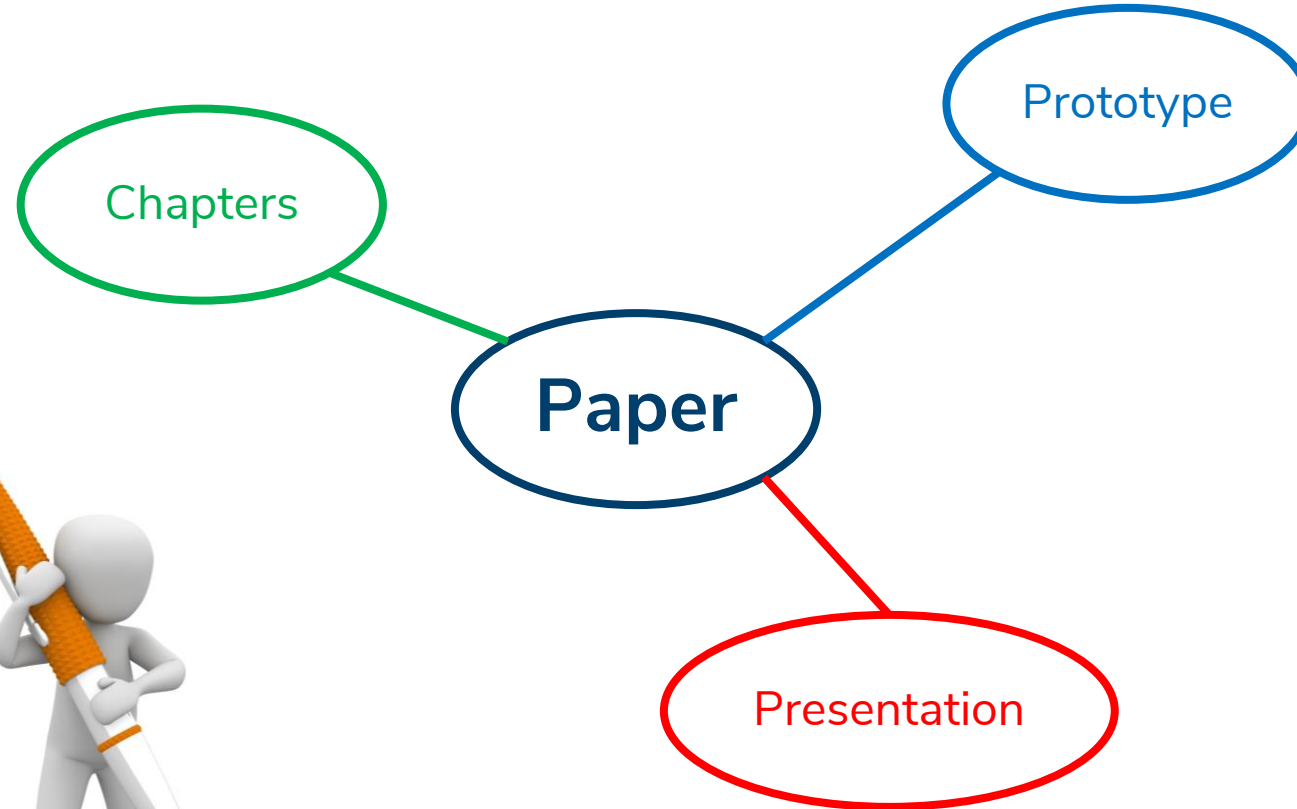


# CMCM – Difference Language (Example)

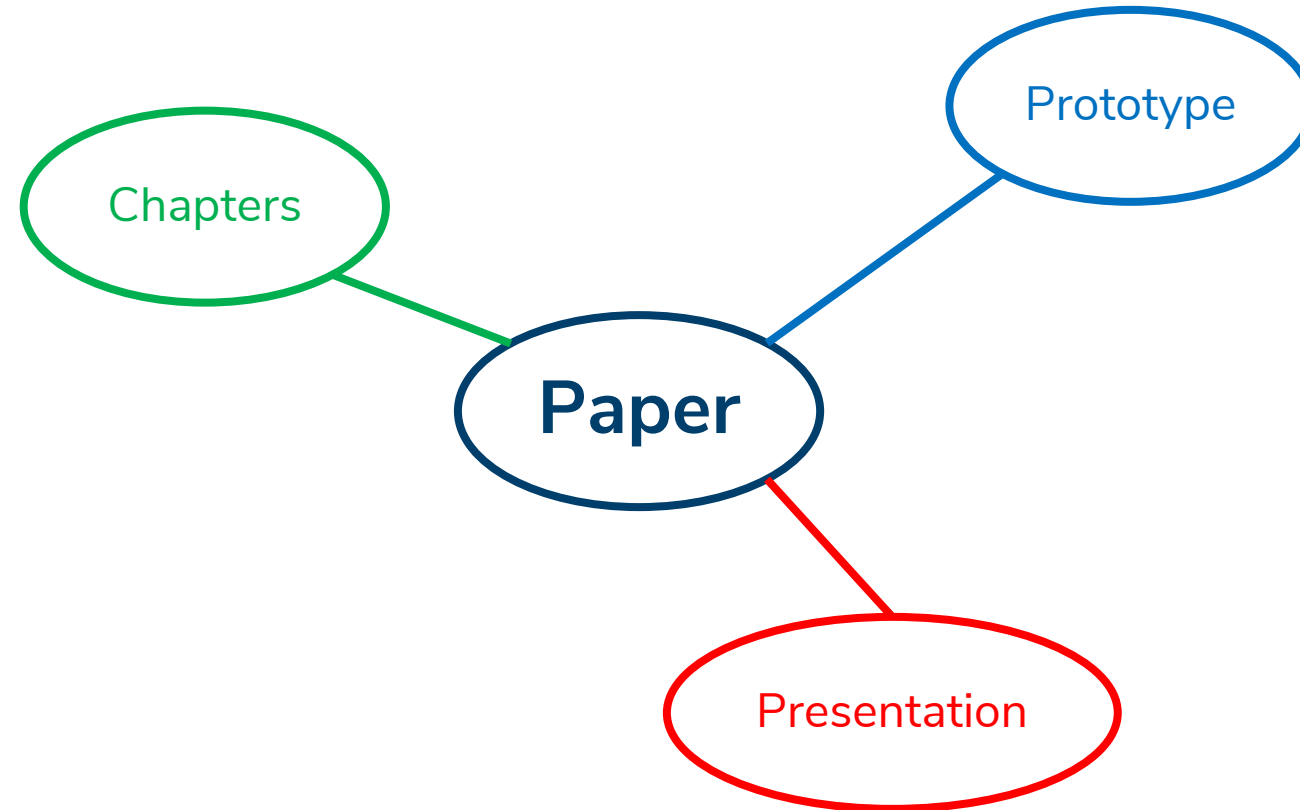




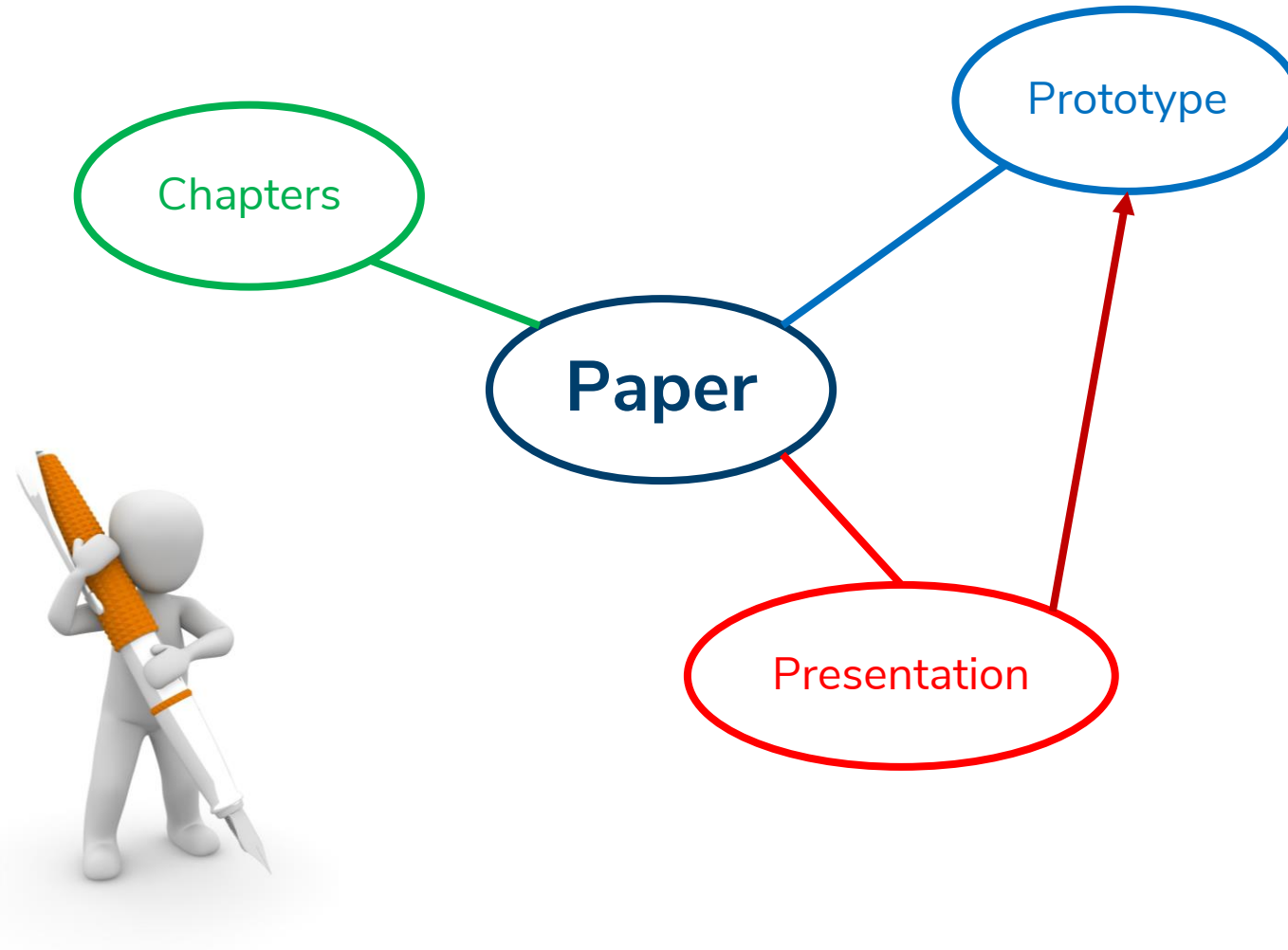
# Synchronous vs. Asynchronous Collaboration



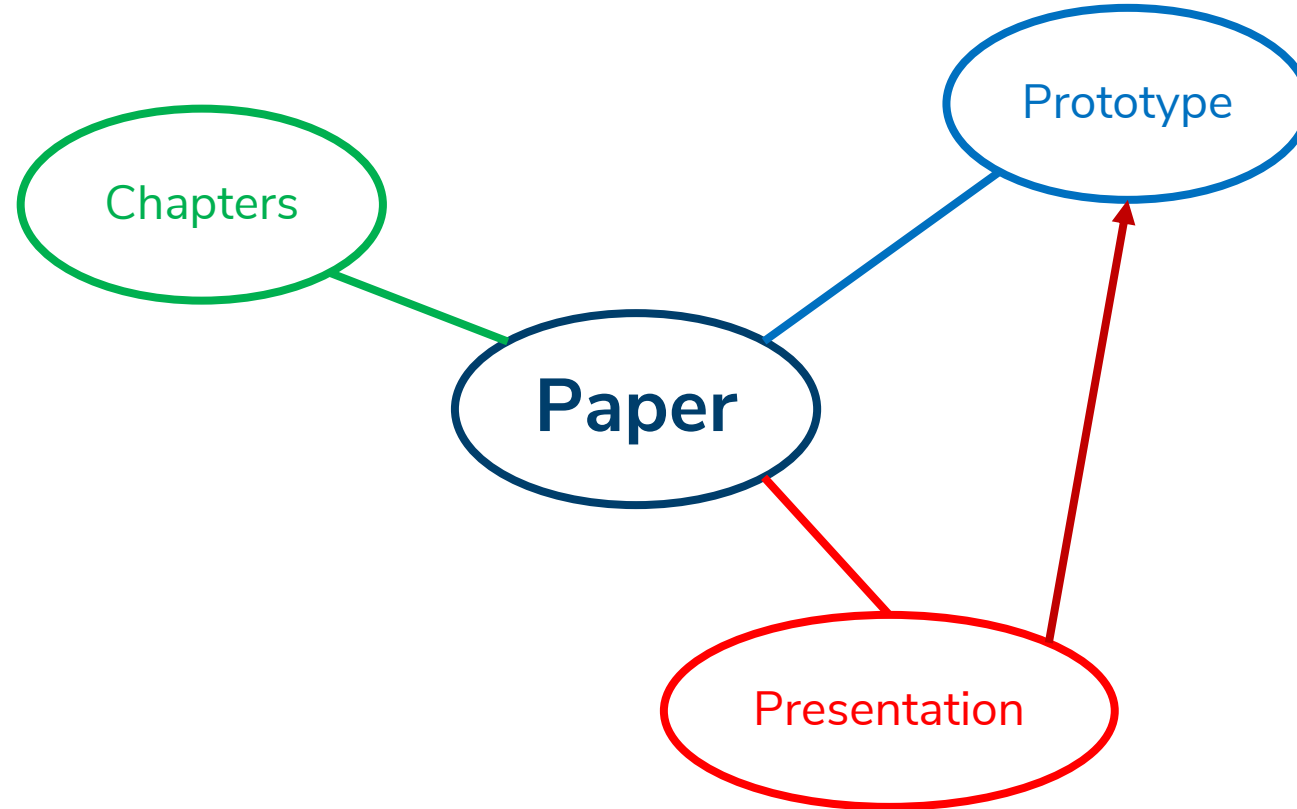
# Synchronous vs. Asynchronous Collaboration



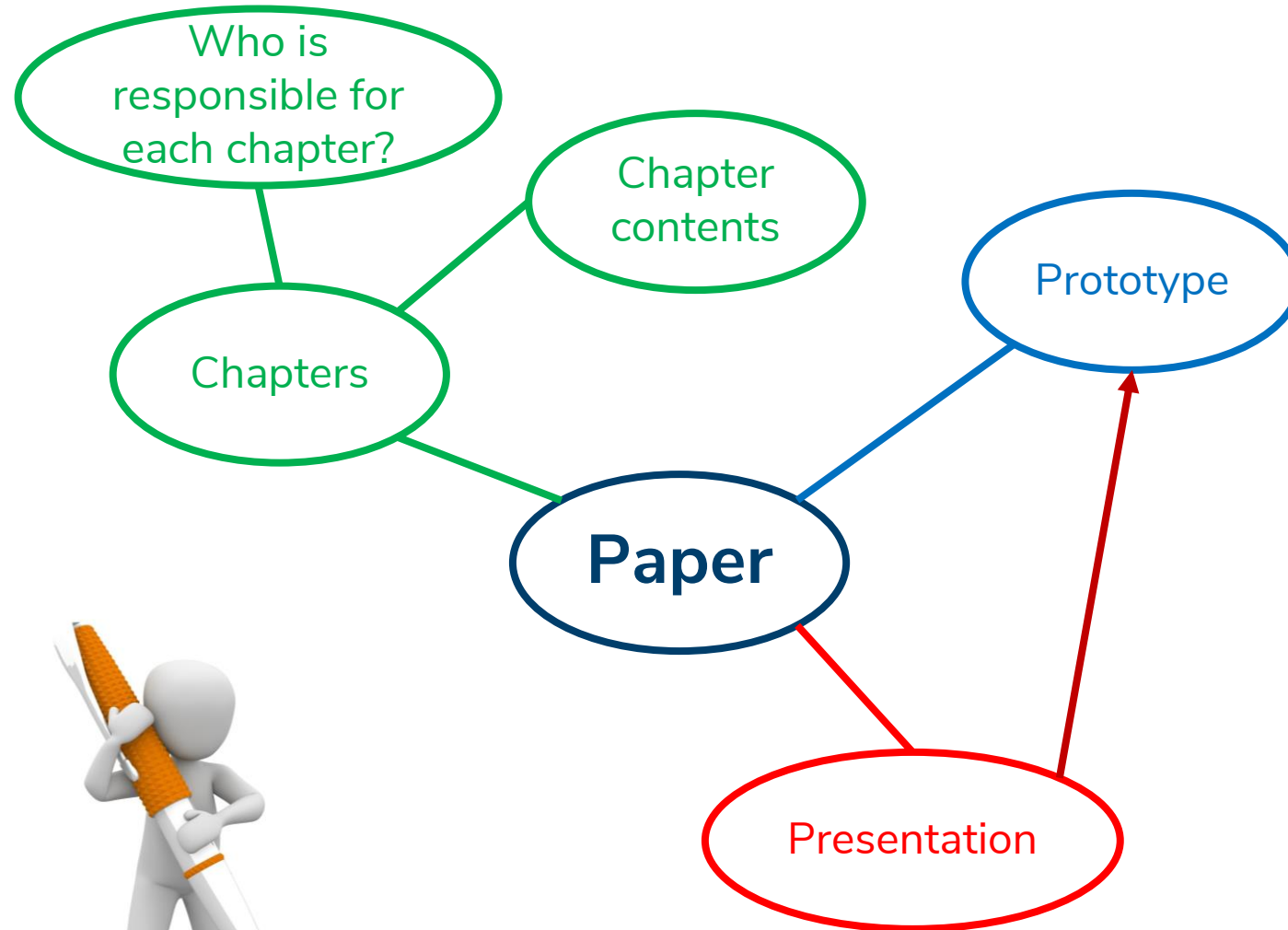
# Synchronous vs. Asynchronous Collaboration



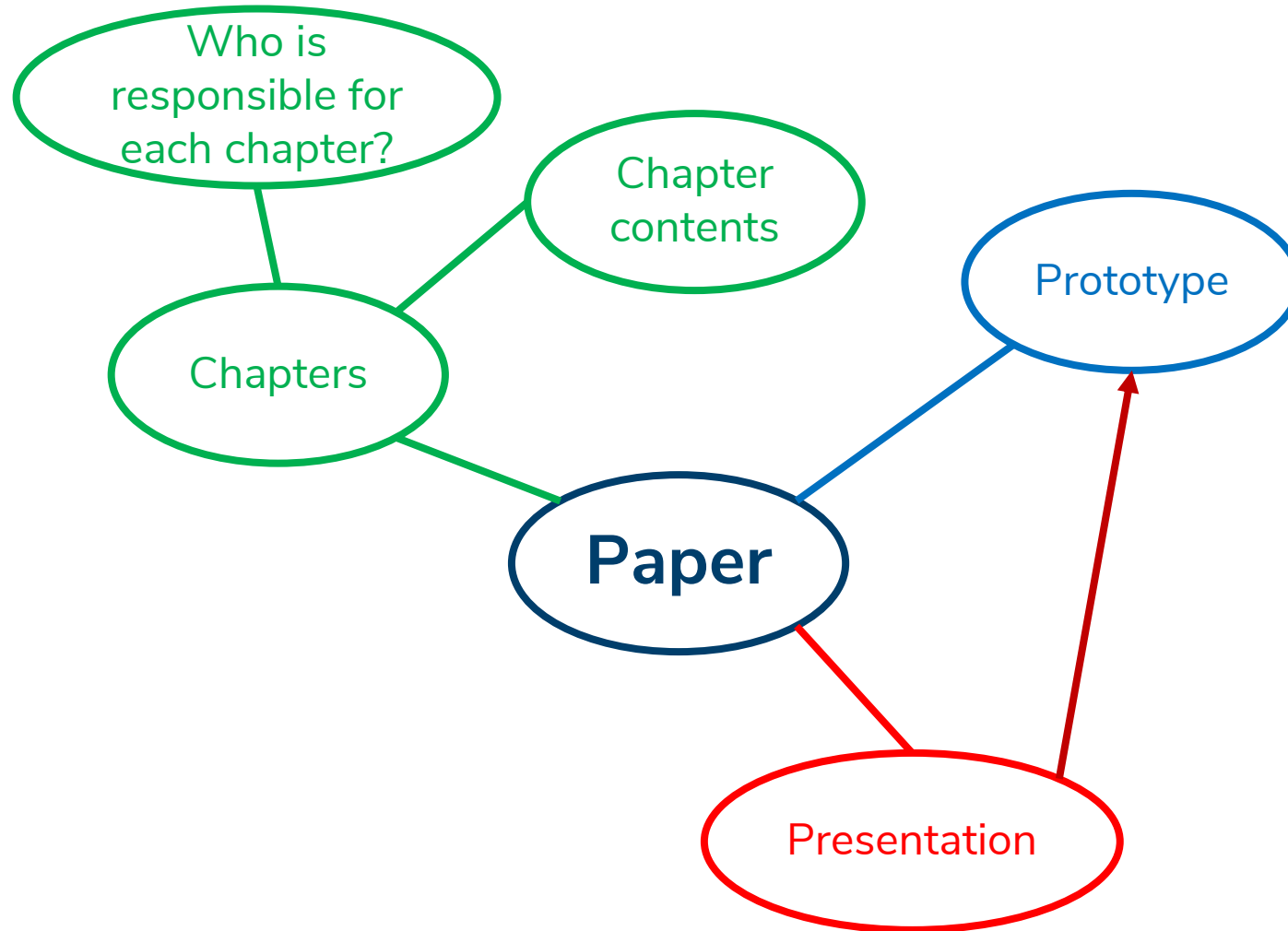
# Synchronous vs. Asynchronous Collaboration



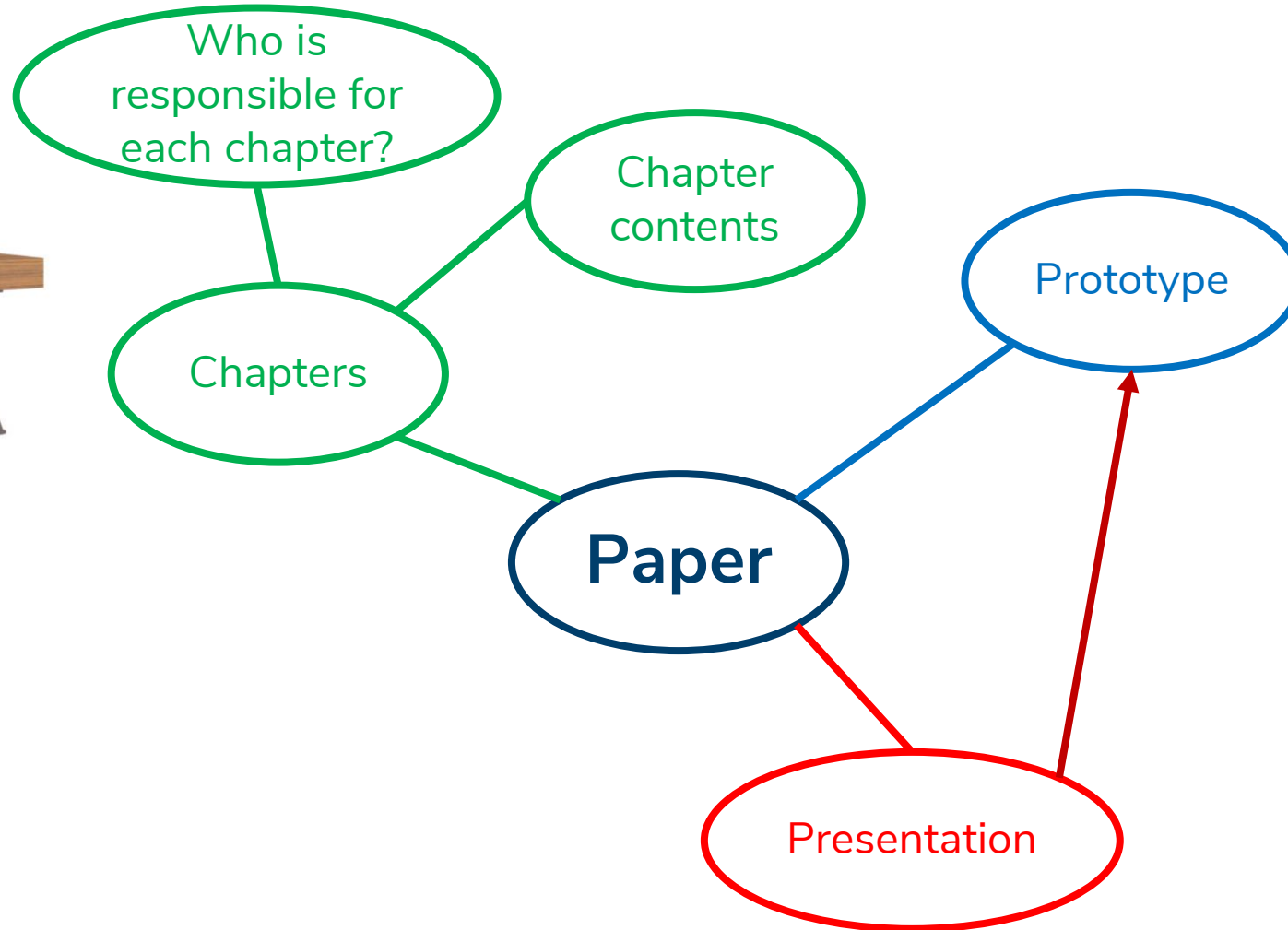
# Synchronous vs. Asynchronous Collaboration



# Synchronous vs. Asynchronous Collaboration



# Synchronous vs. Asynchronous Collaboration



# Conclusion

- Common concept for synchronous and asynchronous collaborative modeling
- Meta-models compatible with OMG Diagram Definition
- Efficient exchange of model deltas ( $\Delta$ ) based on Difference Language
  - differences with regards to abstract syntax and diagram syntax
  - in practice: no conflicts
- Modeling-Language interchangeable
  - abstract syntax + diagram syntax: easy
  - concrete syntax (visualization): hard/easy
  - communication (deltas): easy
- <https://uol.de/se?cmcm>

