# Peer Response 2:

# Collaborative Discussion 1: UML flowchart

### In reply to Zukiswa Tuso

**Peer response**

by Andrius Busilas - Thursday, 31 October 2024, 5:29 PM

Hi Zuki,

The selection of "Broken Access Control" as a security vulnerability is particularly apt, considering its widespread occurrence in contemporary applications and its recognition in the Open Web Application Security Project (OWASP) Top 10 (OWASP, 2017). This security flaw can result in significant consequences, including unauthorized system entry and information breaches, making it a crucial area of focus in developing secure software.

A sequence diagram depicting this vulnerability is particularly effective. These diagrams are well-suited for displaying interactions between components over time, which is especially valuable in demonstrating how security measures might fail at various stages. By breaking down the process of access requests, authorization, and validation phases, the diagram offers a clear view of potential points where access control could be compromised (Dennis et al., 2015).

A notable strength of the sequence diagram is its emphasis on the sequential steps that could lead to unauthorized access, such as the example of a directory traversal attack. Such specific examples within the flowchart can effectively highlight vulnerabilities in real-world scenarios (Fowler, 2004).

Nevertheless, the sequence diagram could be improved in several ways. Adding labels to clearly distinguish between secure and insecure pathways, or including annotations for key vulnerability points, would enhance clarity for readers. Furthermore, incorporating decision points (such as "Has authorization passed?") could improve the diagram by emphasizing critical stages where security measures should be implemented.

In conclusion, while the approach is praiseworthy for its clarity and relevance, minor modifications could further enhance its educational value.

## References

OWASP Foundation (2017) OWASP Top Ten 2017 – A5: Broken Access Control. Available at: https://owasp.org/

Dennis, A., Wixom, B.H., & Tegarden, D. (2015) Systems Analysis and Design: An Object-Oriented Approach with UML. 5th edn. New York: Wiley.

Fowler, M. (2004) UML Distilled: A Brief Guide to the Standard Object Modeling Language. 3rd edn. Boston: Addison-Wesley.