

**SE480 – Software Architecture I****Autumn 2020****Homework 1****Due Date: September 24, 2020 5:30PM****100 points possible. Will be scaled to 10% of final grade.**

**Submit your answers to D2L by September 24, 2020 5:30PM. Late homework will not be accepted.**

This assignment will require you to watch Adrian Cockcroft's presentation [Globally Distributed Cloud Applications at Netflix](#) and to read Malan and Bredemeyer's paper [Software Architecture: Central Concerns, Key Decisions](#) (also available on D2L). You may find [these slides made by Adrian Cockcroft](#) useful as well.

1. (20 points) Malan and Bredemeyer (M&B) outline several important architectural decisions that need to be made for a system. They refer to the first one as *System Priority Setting*, which means that for complex systems an architect needs to decide where to excel. Based on Adrian Cockcroft's presentation, what are the areas that Netflix has decided to excel in? Explain your answer.
2. (20 points) Based on M&B's notion of *System Properties and Cross-Cutting Concerns*, can you identify any cross-cutting concerns? Describe ONE of them. What evidence (reason to believe) do you have that this is cross-cutting?
3. (20 points) In the past, Netflix required nearly all teams to exclusively use Java for service and component development, although they have often recently moved towards a polyglot ecosystem. Evaluate the requirement that all teams use Java from the perspective of M&B's *minimalist architecture* principle. What are the advantages and disadvantages of a monolingual ecosystem? Why do you think Netflix is moving towards polyglot development? Do you agree with their decision?
4. (20 points) Netflix was an early adopter of, and continues to embrace, the public cloud (Amazon AWS), whereas some companies like Apple & Dropbox are moving away from the public cloud. List at least three advantages of using the public cloud, and three reasons of moving away from the public cloud. Do you agree with Netflix's decision to remain with the public cloud (provide detailed reasoning)?
5. (20 points) What was your most important take-away (i.e. lesson learned) from Cockcroft's presentation?