Quality Attribute Specification Assignment

1- You are working in company XYZ required you to develop a ticketing system for Cinema, the owner of the Cinema is focusing on two things:
   a. Security system for purchasing tickets using Credit Cards.
   b. The performance of booking tickets.

   Write scenarios for each requirement to get your client's signature.

   a. Security system for purchasing tickets using Credit Cards.
      i. **Source stimulus: customer**
      ii. **Stimulus: tries to make payment using credit cards**
      iii. **Artifact: ticketing system**
      iv. **Environment: under normal operations**
      v. **Response: system request for password or biometric authentication**
      vi. **Response measure: only 3 tries provided**

   b. The performance of booking tickets.
      i. **Source stimulus: customer**
      ii. **Stimulus: initiate 1000 transaction per minute**
      iii. **Artifact: ticketing system**
      iv. **Environment: under normal operations**
      v. **Response: transaction is processed**
      vi. **Response measure: process with average latency of 2 seconds**

2- You are working in the governmental sector and your boss required you to develop architecture to remove the overhead of official stamping for the documents without losing security.

   Propose a proper architectural tactic to achieve this feature.

   Proper architectural tactics used to secure security are to be able to resist attacks by authenticating and authorizing actors. Besides, must be able to limit access such that only certain authorizers that can remove the overhead of official stamping for documents. Next, must be able to recover from attacks, such that the audit trail is maintained, and previous documents can be restored.

3- You are working in a starting company with a limited budget and your boss required you to suggest some tactics to reduce the maintainability cost of the software.

Propose three tactics for this objective.

- Coupling
  Decrease the coupling between components, such that if a change is needed in one of the components, it does not requires subsequent changes towards other components, thus less maintenance is needed, and thus cost is lowered.

- Cohesion
  Increase cohesion for each system component so that is it designed to perform only a specific function. When a high-level cohesion component requires changes, the need to change other related separate components is significantly reduced which decreases the difficulty of the maintenance, thus less cost.
- Size
  Decrease the size of the program, modules, system components, and code. This is due to the larger size will increase the amount of time needed to make changes. Smaller programs will take less time and personnel to complete modifications.

- Submit your answers to your GitHub host.
- We will pick up randomly 5 students next session to present their answers.