Q.2] Write a brief about Access Control Techniques &

Ans Access Control Techniques are used to manage and regulate the access to resources and data in a computer system or network.

The different types of Access Control Techniques are as follows:-

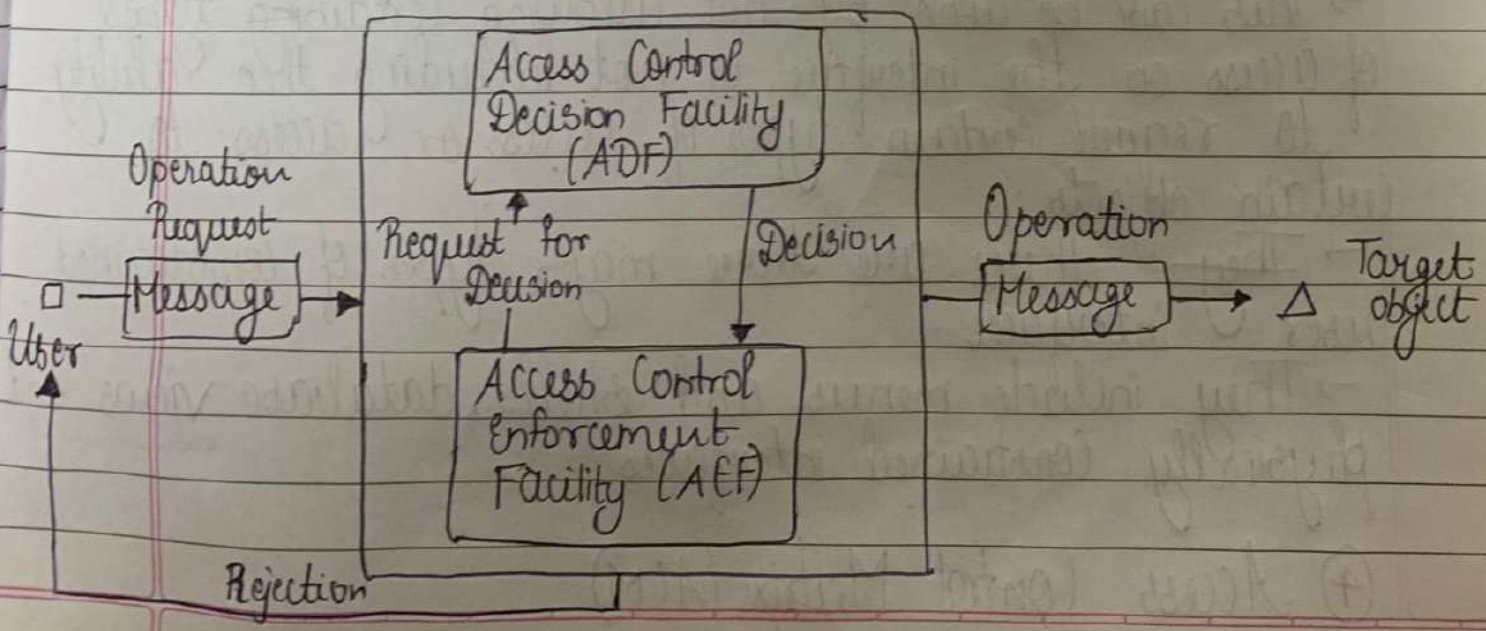
① Content Dependent Access Control

→ It is a method of performing access control based on the type of content contained in an object.

→ Imagine that an organization keeps track of the types of content held in each object.

→ Certain subjects are allowed to access certain types of content.

→ A subject is allowed to access an object if the object contains only types of content that the subject is allowed to access.



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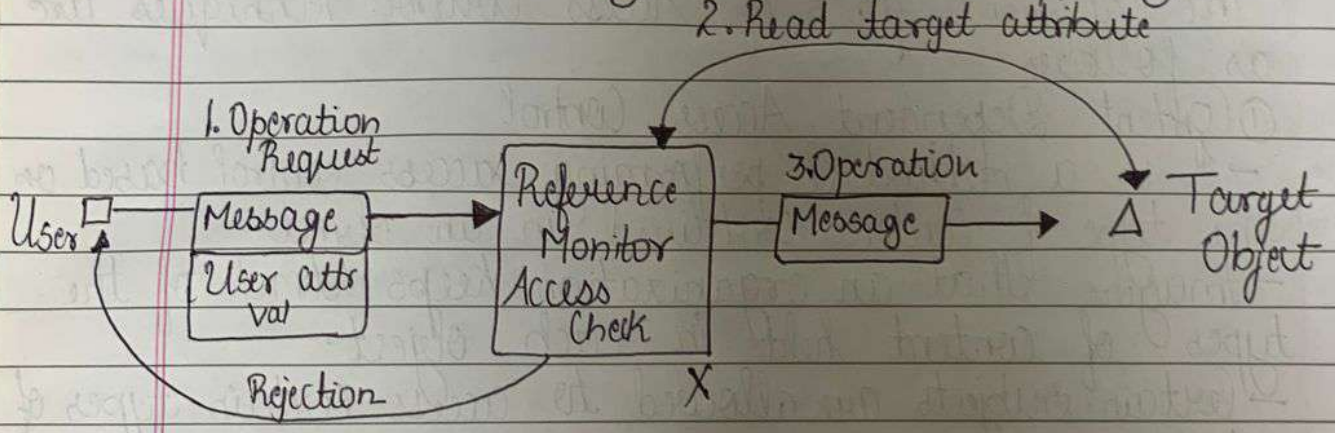
② Context Based Access Control

→ It is an access control method based on the context of a subject's request to an object, in addition to just the identities of the subject and object themselves.

→ This is a little different from other methods, and requires more information to make a decision.

→ Eg Consider an organization with an employee, Bob. Usually, Bob reads information about the organization's transactions at the end of each week to ensure that nothing suspicious is happening.



③ Constrained User Interfaces

→ One way that we can enforce access control is by constraining the user interface used to get access.

→ This can be done by not allowing certain types of access on the interface, or not including the ability to request certain types of access or access to certain objects.

→ ~~They~~ There are three major types of constrained user interfaces.

→ They include menus and shells, database views and physically constrained interfaces

④ Access Control Matrix (ACM)

→ In addition to constraining user interfaces, we can control access to objects through other methods such as access control matrices.
→ Imagine that we have a table, where each row corresponds to a subject in a system and each column corresponds to an object in a ~~syste~~ system.
→ Then, each cell in the table corresponds to a subject-object pair & can contain what access rights the ~~obj~~ subject has to the object.
→ Eg

	File 1	File 2	Process 1	Process 2
Process 1	r, w, o	r	r, w, x, o	w
Process 2	a	r, o	r	r, w, x, o

Here we have two subjects, Process 1 & Process 2 & each of them could have the following rights over an object: read (r), write (w), execute (x), append (a) and own (o).