F11018: INGEGNERIA DEL SOFTWARE

System/Software Architecture Design

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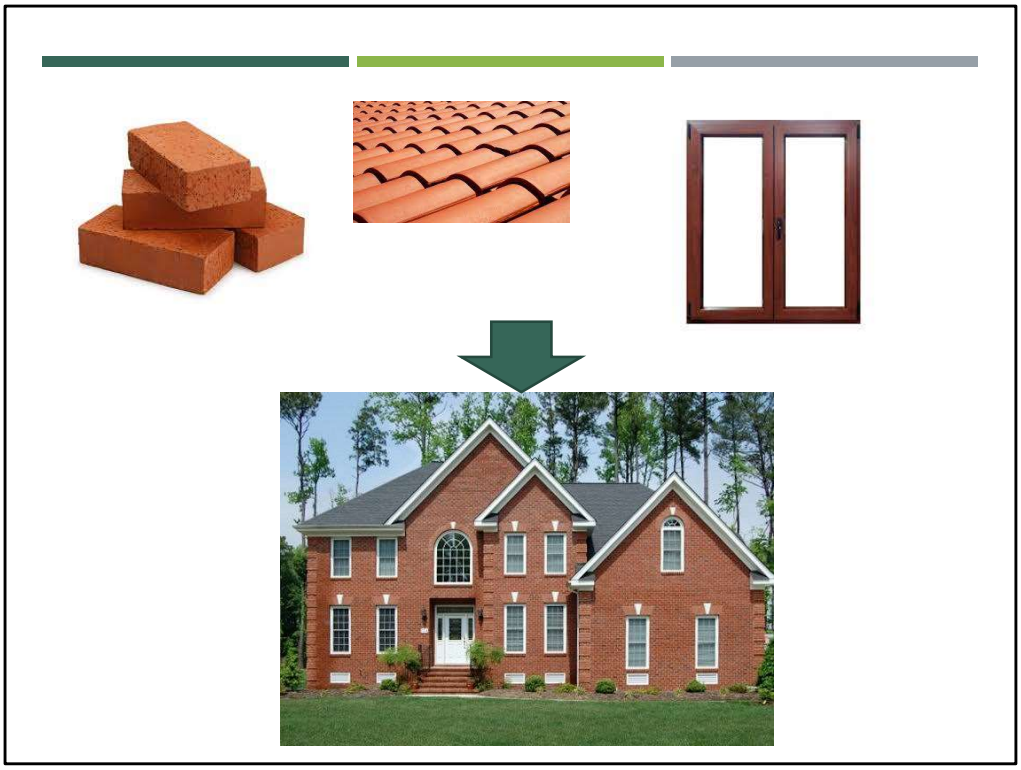
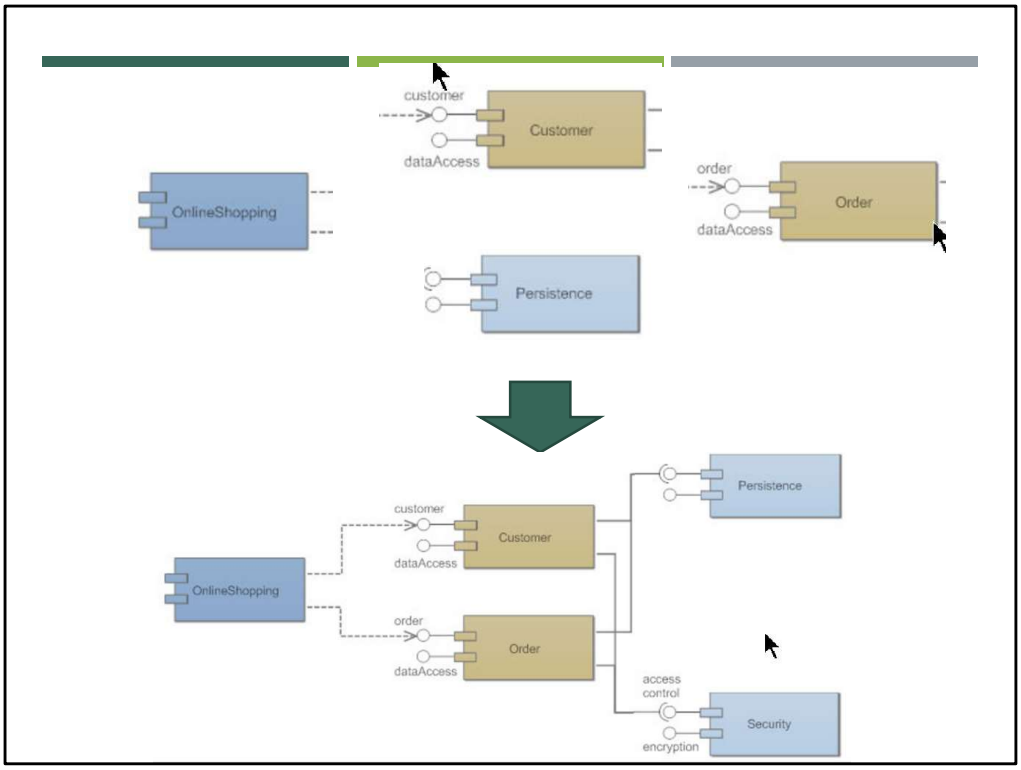
Henry Muccini

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access
control
Security
encryption

System design is the transformation of requirements into a system design model.

•During system design, developers define the design goals of the project and **decompose** the system into smaller **subsystems** that can be **realized by individual teams**.

•The result of system design is a **model** that includes a **subsystem decomposition** and a clear description of each of these strategies.

System Design

•Identify design goals. Developers identify and prioritize the qualities of the system that they should optimize.

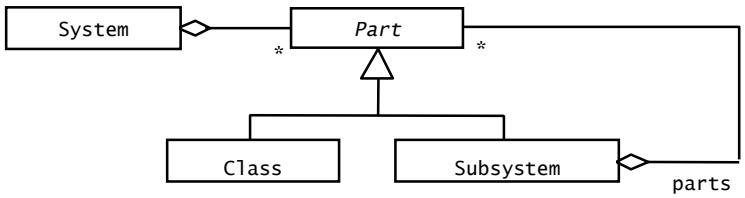
•Software Architecture: Design the initial subsystem decomposition. Developers decompose the system into smaller parts based on the use case and analysis models.

•Refine the subsystem decomposition to address the design goals. The initial decomposition usually does not satisfy all design goals. Developers refine it until all goals are satisfied.

1. Subsystem decomposition

A subsystem is a replaceable part of the system with well-defined interfaces that encapsulates the state and behavior of its contained classes.

A subsystem typically corresponds to the amount of work that a single developer or a single development team can tackle.



NEL VOSTRO PROGETTO

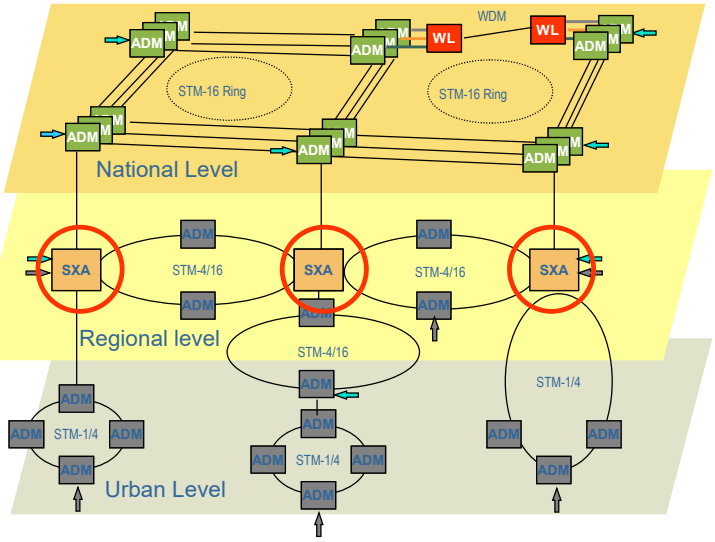
- Identificazione di componenti e connettori
- Identificazione delle interfacce
  - e come esse realizzino i requisiti funzionali
- Identificazione delle configurazioni
  - e come essi realizzano i requisiti non funzionali
- Identificazione del comportamento architetturale

NEL VOSTRO PROGETTO

Attenzione ai principi di:

- Astrazione
- Decomposizione
  - Decomposizione multi-view
- Gerarchie
- Coupling e Cohesion

TELECOM ITALIA NETWORK ARCHITECTURE



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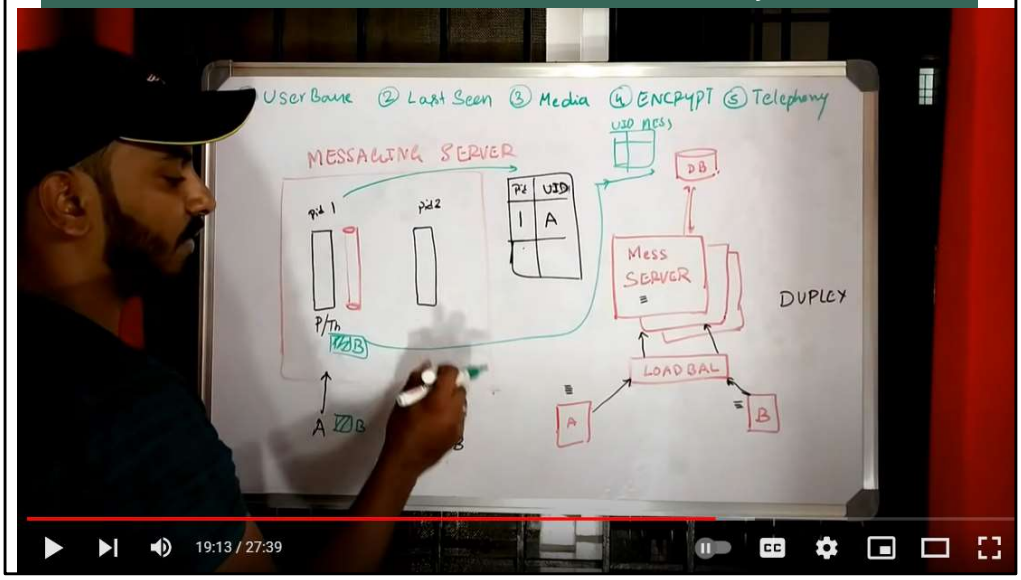

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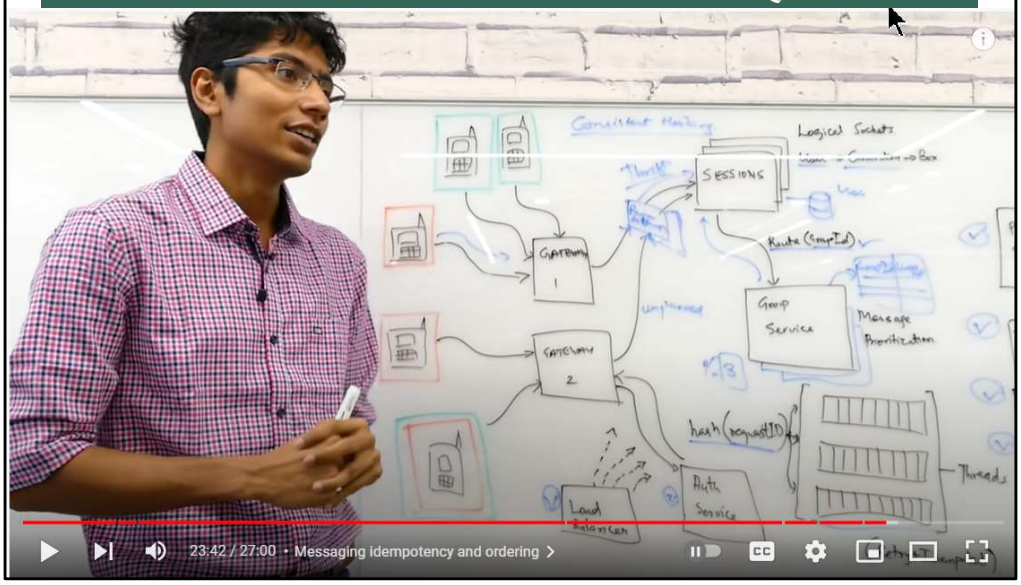

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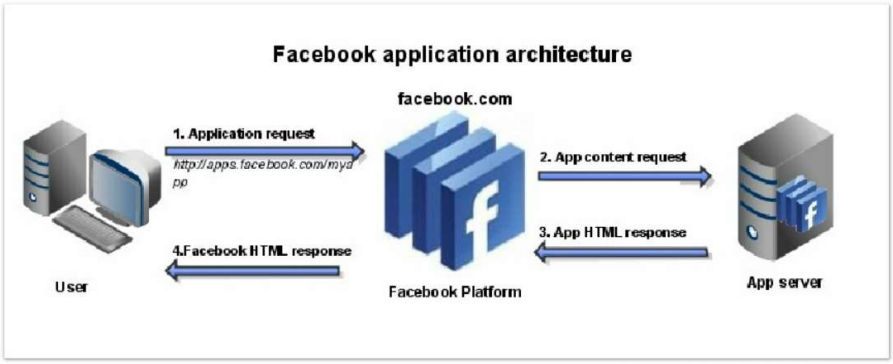
3 Facebook App Architecture



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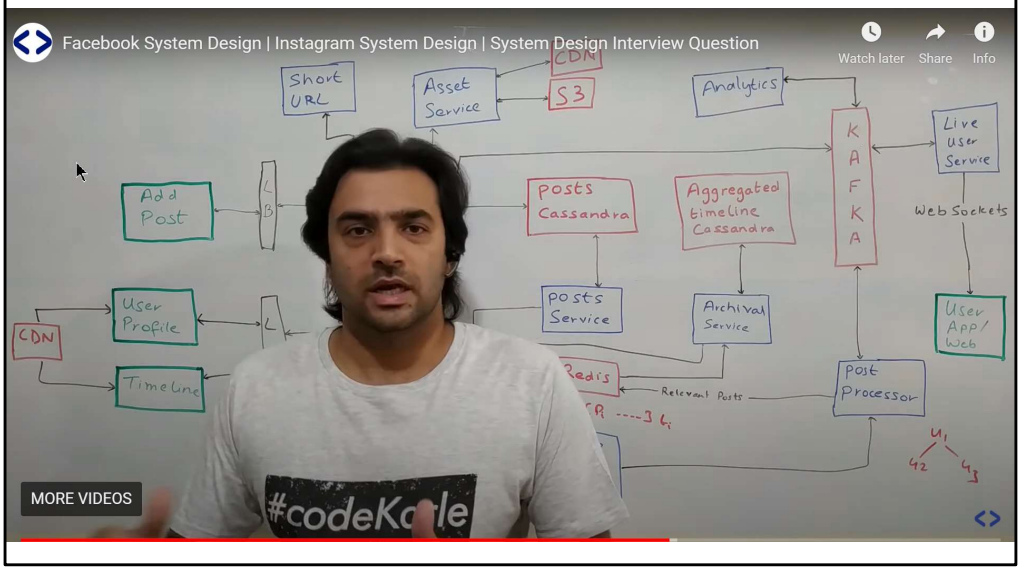

TECHNOLOGY STACK OF NDR CASE STUDY