

SOFTWARE ARCHITECTURE AND DESIGN

CSC 815
3 units

MSC

BY

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The Relationship between Software Architecture and SDLC

The Software Architecture and SDLC

**SW
architecture?**

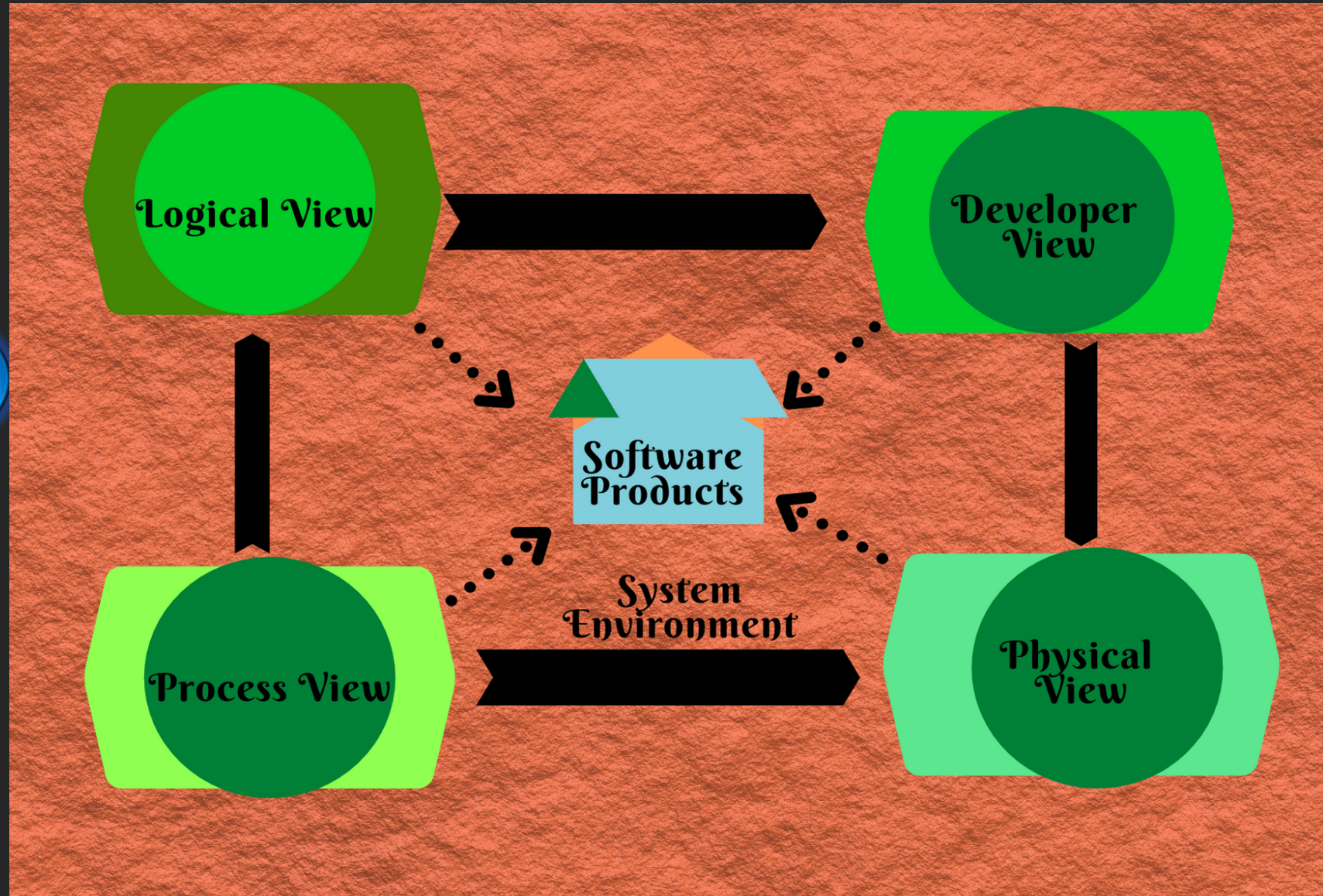
It is the organization of a system components and the interactions among themselves as well as their environment.

SDLC?

The process of planning, developing, testing, deployment and maintaining a software product

The Software Architecture Views

4+1 view model



The Software Architecture Views Contd...

Logical View

- The functionalities the system provides to the end user

Development view

- The programmers perspective of the software product

The Software Architecture Views Contd...

Process View

- System dynamics
- How the processes interact among themselves
- Focuses on the runtime behaviour

Physical view

- System engineer's point of view
- The topology of the components on the physical layer
- How the system communicates with the hardware

ROLE OF S/A

- **To help the stakeholders understand their needs accurately and effectively**
- **To create an architectural concept of the product that is feasible with the available resources and time**
- **To provide an interface through which different stakeholders and interest groups communicate with each other**
- **It is the center of development of the software product and how the design drives the development**

ROLE OF S/A IN SDLC

- **Understand business needs and constraints**
- **Extract requirements**
- **Represent the components in a framework**
- **design the architecture**
- **detailed design**
- **Monitors the implementation to ensure that it complies with the design**
- **Involved in the testing to ensure the business needs are accurately implemented**
- **Monitors the deployment to ensure seamless interaction with the physical environment in**
- **Involved in the maintenance in case of need for changes**