# CS2212 Introduction to Software Engineering

## Deployment Diagram

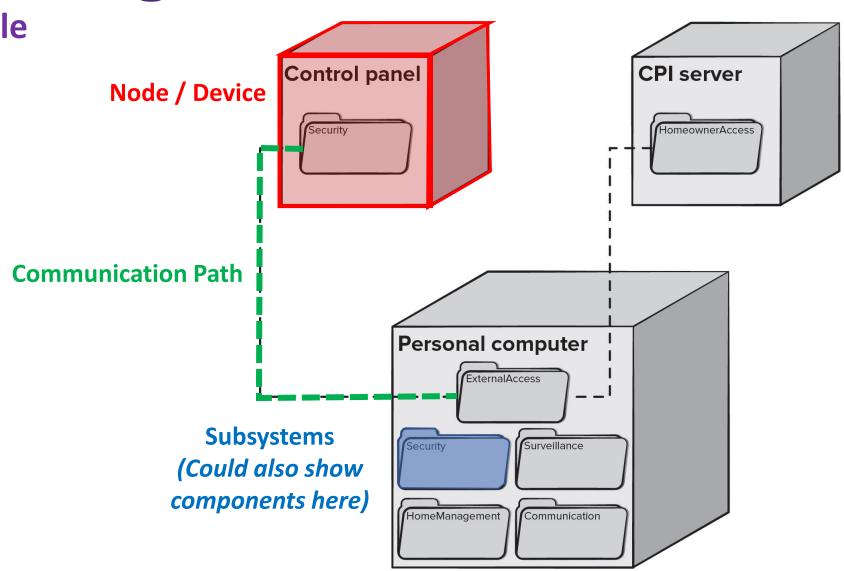


## Deployment-Level Design Elements

- Deployment-level design indicates how software functionality and subsystems will be allocated within the physical computing environment.
- Modeled using UML deployment diagrams.
  - Descriptor form deployment diagrams show the computing environment, but do not explicitly indicate configuration details.
  - Instance form deployment diagrams identifying specific named hardware configurations, are developed during the latter stages of design.

### **Deployment Diagram**

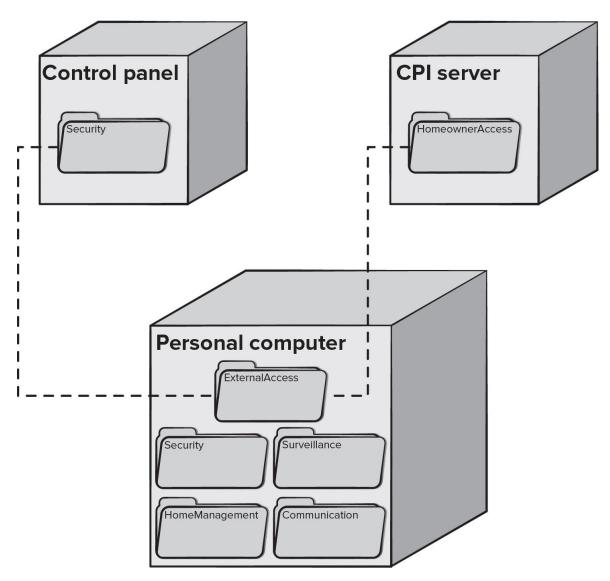
**Descriptor Form Example** 



#### **Deployment Diagram**

#### **Descriptor Form Example**

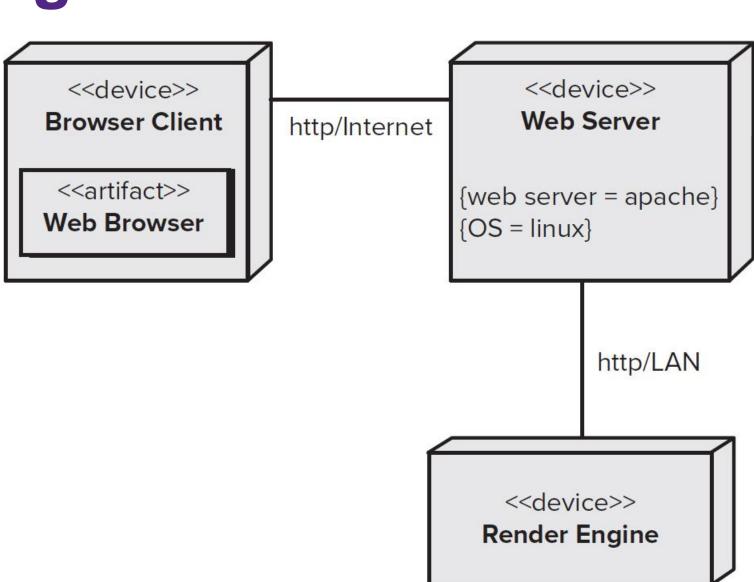
- An example UML deployment diagram for SafeHome.
- In this case, we can see that a personal computer houses subsystems that implement security, surveillance, home management, and communication features.
- In addition, an **external access subsystem** has been designed to manage access to the *SafeHome* system from an external source.
- Each subsystem could be elaborated to indicate the components that it implements.
- Other elements like sensors and cameras have been omitted but could be added in.



### **Deployment Diagram**

#### **Instance form**

- Each node annotated with details about the device.
- <<device>> denotes hardware components.
- <<artifact>> denotes software running on the device.
- Values in {}s are tag values that show configuration details.
- Communication paths may have optional labels that denotes the protocol.



**Deployment Diagram CS2212** 

#### **Deployment Diagram Activity**

- Add a Sensor node with a SensorMonitor subsystem.
- Add a Camera node with a CameraControl and CameraFeed subsystem.
- Add a Mobile Device node with a MobileApplication subsystem.
- The Camera and Mobile nodes communicate with the **CPI server** (you can add a new subsystem for this).
- The Sensor node communicates with the **Control Panel's Security subsystem.**
- The Camera node also communicates with the Personal Computer's ExternalAccess subsystem.

