



SNS COLLEGE OF ENGINEERING

Kurumbapalayam(Po), Coimbatore – 641 107

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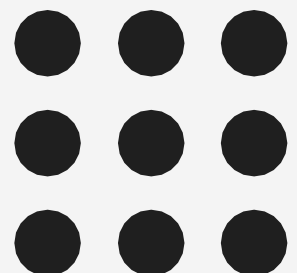
Approved by AICTE, Recognized by UGC & Affiliated to Anna University, Chennai

Department of AI & DS

Course Name – Internet Of Things & AI

V Semester

UNIT 2 - DESIGN METHODOLOGY





IOT Platforms Design Methodology

- Designing IoT systems can be a complex and challenging task as these systems involve interactions between various components such as IoT devices and network resources, web services, analytics components, application and database servers.
- IoT system designers often tend to design IoT systems keeping specific products/services in mind.
- So that designs are tied to specific product/service choices made. But it make updating the system design to add new features or replacing a particular product/service choice for a component becomes very complex, and in many cases may require complete re- design of the system.



- Here we discuss a generic design methodology for IoT system design which is independent of specific product, service or programming language.
- IoT systems designed with the proposed methodology have reduced design, testing and maintenance time, better interoperability and reduced complexity.'



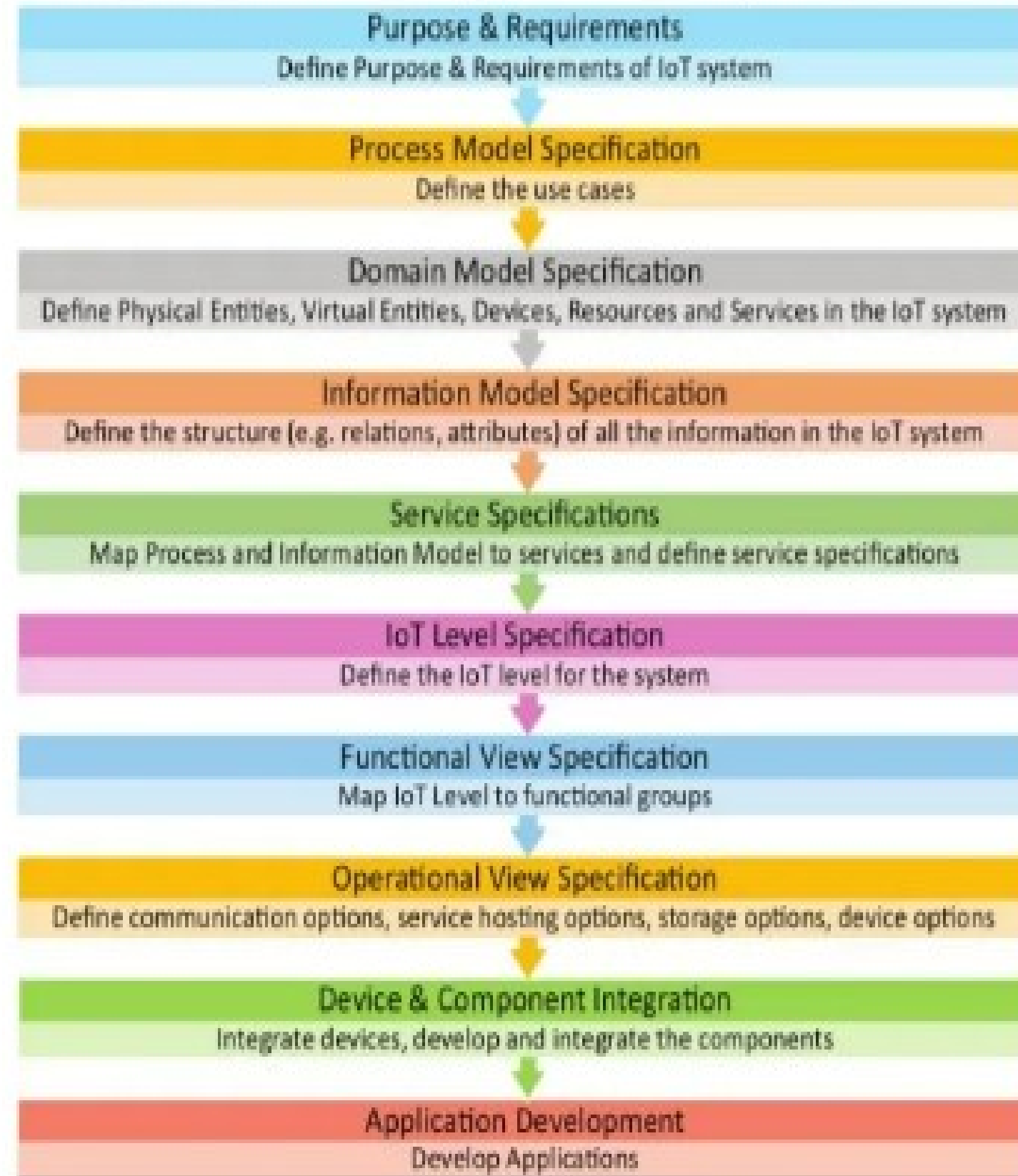
IOT Platforms Design Methodology



It includes:

- **Purpose & Requirements Specification**
- **Process Specification**
- **Domain Model Specification**-domain levels details
- **Information Model Specification**-how does informations are handled
- **Service Specification**-how many modules need to desing
- **IoT Level Specifications**
- **Functional view Specification**-tells about the functions of each module
- **Operational View Specification**-selecting each components for module
- **Device & component Integration**
- **Application Development**

IoT Design Methodology - Steps





Purpose & Requirements Specification

- The first step in IoT system design methodology is to define the purpose and requirements of the system. In this step, the **system purpose, behavior and requirements are captured.**
- **Purpose :** A home automation system that allows controlling of the lights in a home remotely using a web application.
- **Behavior : how the system has to behave,** The home automation system should have auto and manual modes
- . In **auto mode**, the system measures the light level in the room and switches on the light when it gets dark.
- **In manual mode**, the system provides the option of manually and remotely switching on/off the light.
- **System Management Requirement :** The system should provide remote monitoring and control functions



Purpose & Requirements Specification

- **Data Analysis**-System should perform local analysis of the data
- what we do with the data in the example do we want the light is on/off so decide that we need a analysis(local or remote) in our example local is enough.
- **Application Deployment** Application should be deployed locally, but should be accessible remotely
- **Security** Should provide basic security like user authentication





THANK YOU

