



SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

AN AUTONOMOUS INSTITUTION



Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai
V Semester

B.Tech.-Artificial Intelligence and Data Science

19AD505 – Internet of Things and AI

UNIT II –QUESTION BANK -16 MARK

1. Purpose & Requirements Specification

Question:

Discuss the importance of Purpose and Requirements Specification in the design of IoT systems. Explain how these specifications guide the development process and ensure the final product meets user needs. Include examples of key requirements that might be considered.

2. Process Specification

Question:

Explain the role of Process Specification in IoT system design. How does this specification contribute to the efficiency and effectiveness of the system? Illustrate your answer with an example of a process flow in an IoT application.

3. Domain Model Specification

Question:

Define Domain Model Specification in the context of IoT. How does it help in understanding the relationships between various components in the system? Provide a detailed example of a domain model for a smart city application.

4. Information Model Specification

Question:

What is Information Model Specification, and why is it crucial in IoT system design? Discuss the key components of an information model and how they impact data management and system interoperability.

5. Service Specification

Question:

Analyze the concept of Service Specification in IoT design. How does defining services and

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their interactions improve system integration? Provide an example of service specifications in a healthcare IoT application.

6. IoT Level Specifications

Question:

What are IoT Level Specifications, and how do they influence the architecture and design of IoT systems? Discuss the different levels and their significance in the overall IoT framework.

7. Functional View Specifications

Question:

Discuss the significance of Functional View Specifications in the design process of IoT systems. How do they contribute to user satisfaction and system usability? Provide an example illustrating functional views in a smart home application.

8. Operational View Specification

Question:

Explain the Operational View Specification and its importance in ensuring the effective functioning of IoT systems. What elements should be included in this specification to guarantee operational reliability?

9. Device and Component Integration

Question:

Evaluate the challenges associated with device and component integration in IoT systems. What strategies can be implemented to ensure seamless integration? Discuss the impact of effective integration on system performance.

10. Application Development

Question:

Describe the application development process in IoT. What are the key considerations that developers must keep in mind during this phase? Discuss how these considerations affect the overall user experience and system effectiveness.

11. Embedded Suite for IoT: Physical Device – Arduino / Raspberry Pi Interfaces

Question:

Compare the use of Arduino and Raspberry Pi as platforms for IoT application development. What are the strengths and weaknesses of each platform in terms of functionality, ease of use, and application scenarios? Provide examples of specific IoT projects that would benefit from each platform.

12. Integration of IoT Standards and Protocols

Question:

Discuss the significance of integrating IoT standards and protocols into the design methodology. How do these standards affect interoperability and data exchange between different IoT devices? Provide examples of widely used protocols and their roles in IoT architecture.

13. Security Considerations in IoT Design

Question:

Analyze the security challenges in IoT system design. What methodologies can be employed to address these challenges throughout the design process? Discuss the implications of security on user trust and system reliability.

14. Scalability in IoT System Design

Question:

What is scalability in the context of IoT systems, and why is it critical for future growth and adaptability? Discuss design strategies that can enhance scalability in IoT applications, providing relevant examples.

15. User-Centered Design in IoT

Question:

Explain the principles of user-centered design in the context of IoT systems. How can these principles be applied to enhance user experience and ensure that systems are accessible and functional for diverse users?

16. Future Trends in IoT Design Methodology

Question:

Discuss emerging trends in IoT design methodology that are shaping the future of IoT systems. How are advancements in technology influencing design approaches, and what implications do these trends have for developers and users?