Department of ICT
System Analysis and Design (SYAD-2432)

Chapter 7: System Implementation and Maintenance

2nd Lut. Lencho A.
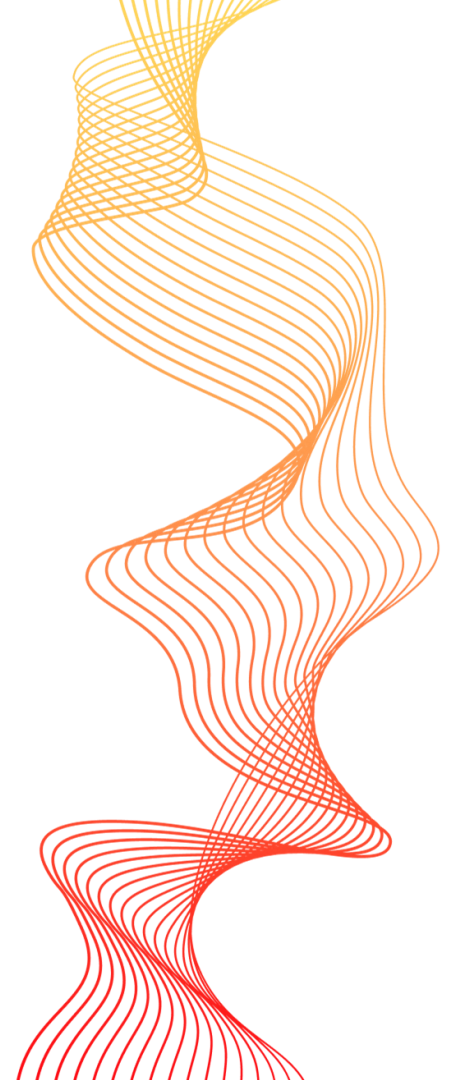**Masters in Computer Science and Engineering**
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April, 2025

Chapter 7: System Implementation and Maintenance

- Application development
- Training
- Training Methods
- Conversion
- Documentation
- System Maintenance

System Implementation and Maintenance

➤ This chapter focuses on deploying and managing information systems in organizations.

➤ It covers processes from system design to actual implementation, ensuring continuous functionality and effectiveness.

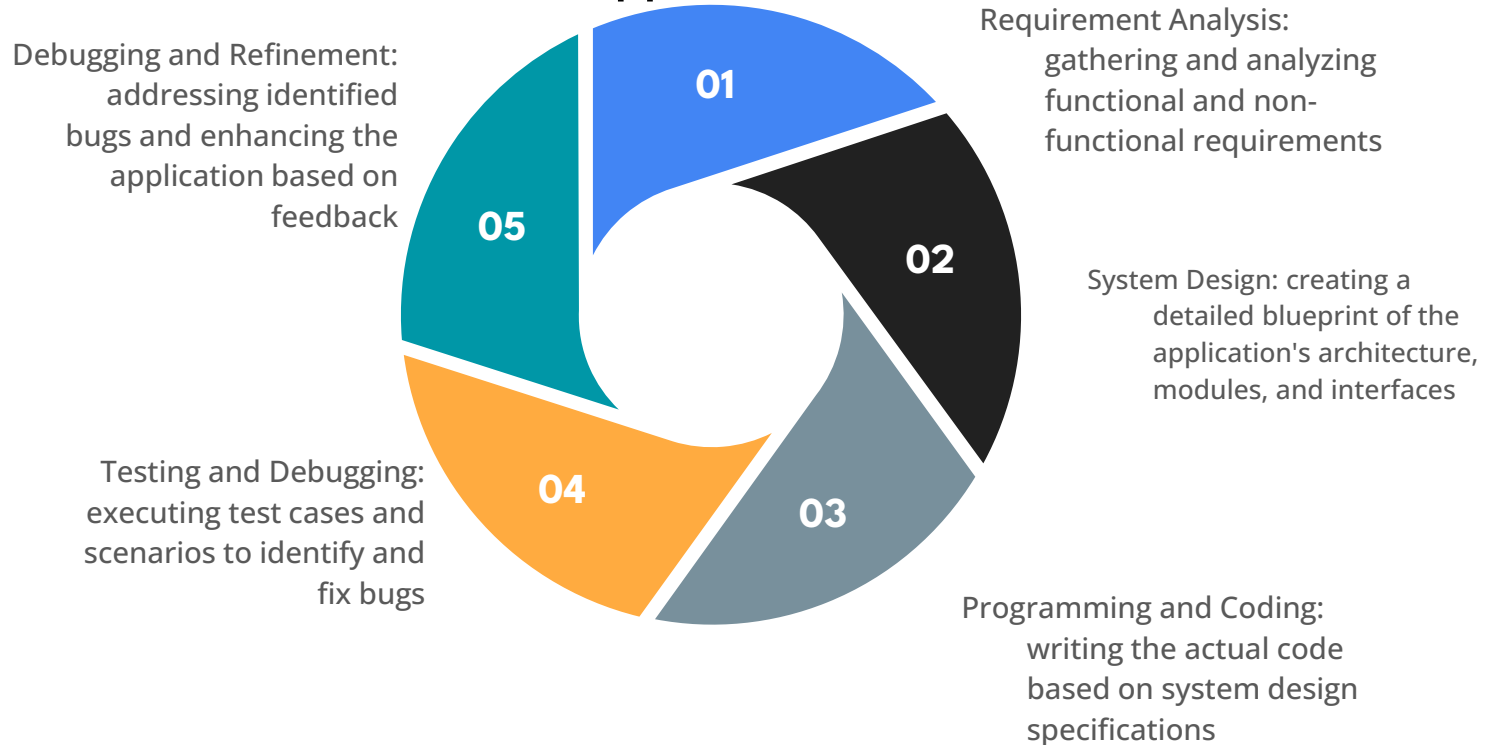➤ It discusses application development, training, conversion, documentation, and system maintenance

Application Development
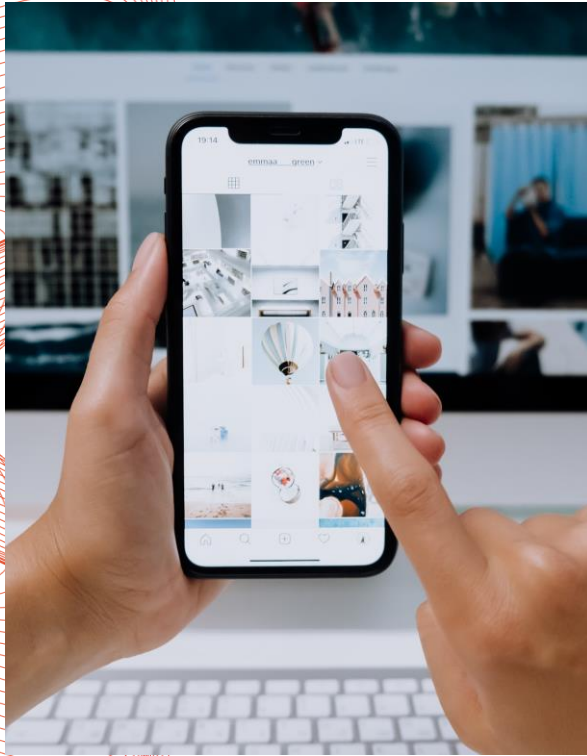
01 It involves steps like requirement analysis, system design, programming, testing, and refinement to ensure the final software aligns with user needs.

02 Application development transforms system design into a working software application that meets organization's requirements.

Application Development

Application Development: transforming system design into a working software application

Debugging and Refinement: addressing identified bugs and enhancing the application based on feedback

Requirement Analysis: gathering and analyzing functional and non-functional requirements

System Design: creating a detailed blueprint of the application's architecture, modules, and interfaces

Testing and Debugging: executing test cases and scenarios to identify and fix bugs

Programming and Coding: writing the actual code based on system design specifications

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Training

Training: empowering users with knowledge and skills to effectively utilize the system

Training

Steps involved:

Needs Assessment: identifying specific training requirements through surveys or interviews

Training Program Design: determining objectives, methods, and developing training materials

Training Delivery: using methods like instructor-led training, computer-based training, or online tutorials

Training Evaluation: assessing effectiveness through quizzes, assessments, or feedback surveys

Ongoing Training and Support: providing additional training opportunities and support mechanisms
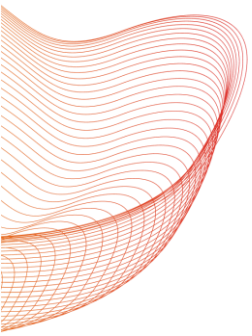
Training Methods

Training methods depend on system complexity, users, and resources.

Common methods include instructor-led training, computer-based training, online tutorials, on-the-job training, and train-the-trainer.

Selecting appropriate methods effectively transfers knowledge and develops user skills.

Commonly used training methods:

➢ Instructor-Led Training: trainer-led sessions for direct interaction and immediate feedback

➢ Computer-Based Training (CBT): self-paced learning through interactive computer programs

➢ Online Tutorials and Webinars: remote access to training materials and live online sessions

➢ On-the-Job Training: learning by performing tasks within the work environment

➢ Train-the-Trainer: training a select group to become trainers for the rest of the users

Conversion

➢ Conversion: transition from the old system to the new system

Conversion is critical for transitioning from the old to new systems.

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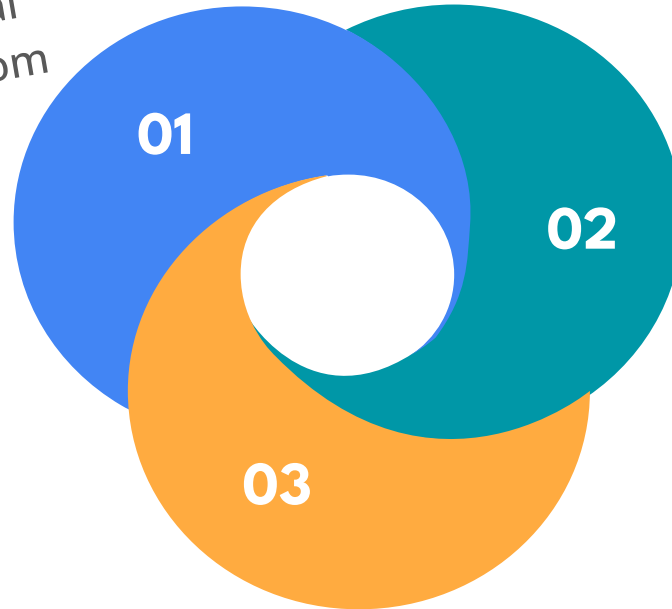
Approaches include direct conversion, phased conversion, and parallel conversion.

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Thorough planning and execution ensure seamless migration and minimize disruptions.

Types of conversion approaches:

➢ **Direct Conversion**: replacing the old system entirely with the new system on a specific date

➢ **Phased Conversion**: implementing the new system in stages or modules over time

➢ **Parallel Conversion**: running both the old and new systems simultaneously for a period
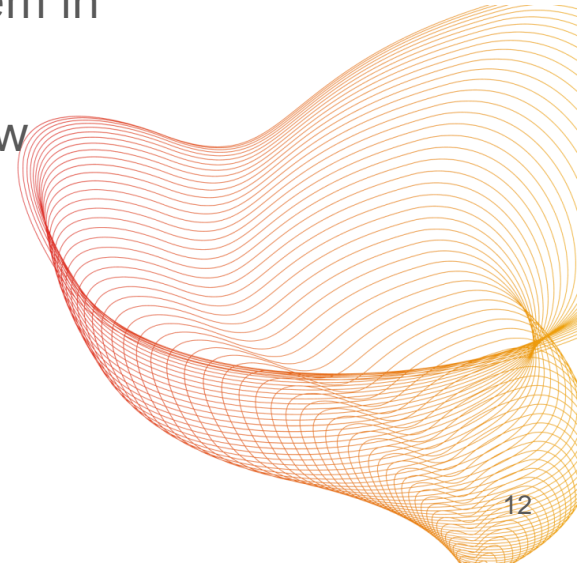
Documentation

➤ Comprehensive records of the system and its processes

01 Well-documented systems enable efficient management, troubleshooting, upgrades, training, and support.

02 Documentation is essential for implementation and maintenance.
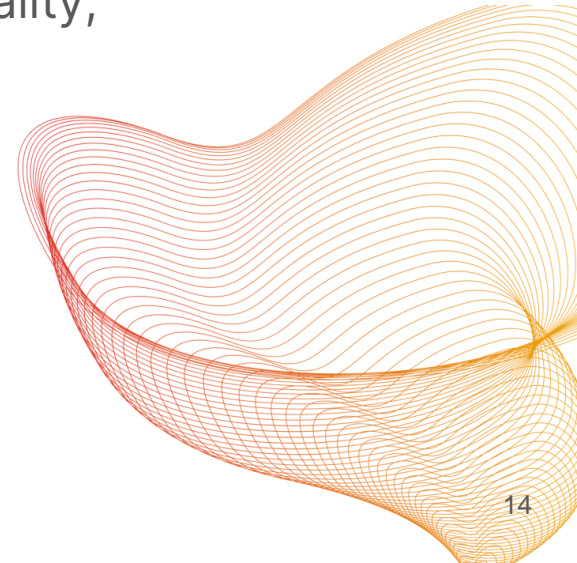
03 It includes system specifications, user manuals, procedures, and technical information.

System Maintenance: Ensuring Continued Functionality

➢ System maintenance is the process of monitoring, managing, and improving a system after its initial implementation to ensure its continued functionality, performance, and effectiveness.
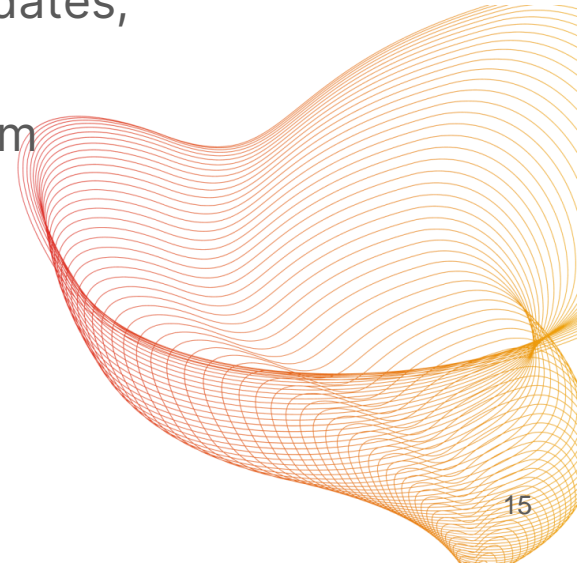
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Importance of System Maintenance

➢ System maintenance ensures continued functionality, performance, and effectiveness of a system.

Activities involved: monitoring, issue resolution, updates, enhancements, and user support.

Key benefits: minimizes downtime, optimizes system performance, and meets evolving organizational needs.

SUMMARY

Application Development: Involves creating software applications that meet organizational requirements through programming, coding, testing, and debugging.

Training: Equipping users with the necessary knowledge and skills to effectively use the system, utilizing methods like classroom training or online tutorials.

Conversion: Transitioning from the old to the new system, including data transfer and integration, with options like direct, phased, or parallel conversion.

Documentation: Creating comprehensive records for reference, including specifications, manuals, and procedures.

System Maintenance: Ongoing activities such as monitoring, issue resolution, updates, and user support to optimize system performance and adapt to changing needs.

By understanding and applying these concepts, students can effectively deploy and sustain information systems, ensuring their long-term operation in organizations.
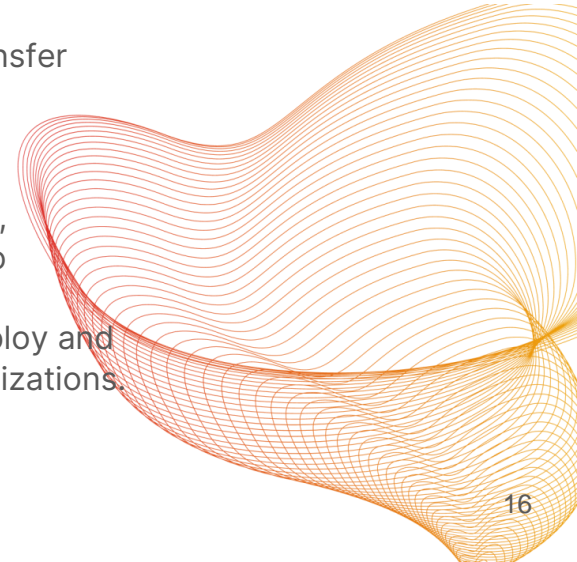
Thank you. Please feel free to ask any questions. 😄