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# Initiating a systems development project and investigating system requirements

Topic 2

ICT284 Systems Analysis and Design

# About this topic

In this topic we'll begin our coverage of the SDLC by looking first at how system development projects are initiated, and some techniques for problem identification.

Identifying the requirements of the new system is fundamental to being able to develop it successfully, and we'll look at discovering functional and non-functional requirements using the FURPS+ approach. We'll then consider various techniques for gathering requirements information, and what each of them can tell us.

# Unit learning outcomes addressed in this topic

1. Explain how information systems are used within organisations to fulfil organisational needs
2. **Describe the phases and activities typically involved in the systems development life cycle**
3. Describe the professional roles, skills and ethical issues involved in systems analysis and design work
4. **Use a variety of techniques for analysing and defining business problems and opportunities and determining system requirements**
5. Model system requirements using UML, including use case diagrams and descriptions, activity diagrams and domain model class diagrams
6. Explain the activities involved in systems design, including designing the system environment, application components, user interfaces, database and software
7. Represent early system design using UML, including sequence diagrams, architectural diagrams and design class diagrams
8. Describe tools and techniques for planning, managing and evaluating systems development projects
9. Describe the key features of several different systems development methodologies
10. Present systems analysis and design documentation in an appropriate, consistent and professional manner

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# Topic learning outcomes

**After completing this topic you should be able to:**

- Explain why and how system development projects are initiated
- Describe some techniques for problem identification
- Explain where requirements investigation fits in the SDLC
- Identify and distinguish between functional and non-functional system requirements
- Identify the stakeholders involved in IS development and their contributions to requirements definition
- Describe several information-gathering techniques and determine when each is best applied

# Resources for this topic

**READING**

- Satzinger, Jackson & Burd, Chapter 2. Omit p60-63 section 'Documenting Workflows with Activity Diagrams' for now
- Satzinger, Jackson & Burd, Chapter 11, p335-339, section 'Identify the Problem and Obtain Approval' up to 'The Estimated Time for Project Completion'

Except where otherwise referenced, all images in these slides are from those provided with the textbook: Satzinger, J., Jackson, R. and Burd, S. (2016) *Systems Analysis and Design in a Changing World*, 7th edition, Course Technology, Cengage Learning: Boston. ISBN-13 9781305117204

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# Tutorial 2 – Initiating the project and investigating system requirements

In the second tutorial we introduce the Conference Coordinator Information System (CCIS) case study, which we'll use throughout the semester to give you practice in systems analysis and design techniques.

In today's tutorial, we'll begin to investigate the requirements for the new system, by identifying its stakeholders, scope and potential benefits, functional and non-functional requirements, and consider appropriate information gathering techniques.

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# Topic outline

- Initiating a systems development project
  - Problem definition
- Requirements
  - Functional and non-functional requirements
  - FURPS+
- Stakeholders
- Information-gathering techniques

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