Large Scale Systems Design
G52LSS

Lecture 20 – Summary and Revision

· Aim and Scope of G52LSS
· Key Issues of the Module
· Format of Examination

Learning outcomes:
- appreciate purpose of this module and its relation to other modules in your course;
- prepare adequately for the examination.

Pre-requisites:
- G51DBS Database systems
- G51ISE Introduction to software engineering

Following related modules:
- G52GRP Software engineering group project
- G52CCN Computer communications and networks
- G52OBJ Object oriented methods
- G52GUI Graphical user interfaces
- G52HCI Human computer interaction
- G53ACC Advanced computer communications
- G53ELC Enterprise level computing
- G53DBC Digital business communications
- G53QAT Quality assurance and testing
- G53IDS Individual dissertation (or G53LSS)

Aim and Scope of G52LSS

The aim of the module is to achieve an understanding of main the tools and techniques which may be used to manage software development projects and develop large scale systems.

The emphasis is on planning and analysis in order to specify clear and accurate system requirements that address the real needs of the users.

Detailed design and implementation issues are not within the scope of this module, these aspects are covered in other (compulsory or optional) modules of your course.

Key Issues of the Module

Large Scale Systems Development

- Identify steps and key deliverables in each phase of the traditional SDLC
- Compare traditional and modern methodologies for systems development (structured, RAD and agile) and possibly their hybrids

Rapid and Agile Development

- Understand the uses of prototyping
- Understand types of prototypes and their features
- Learn classification on CASE tools
- Learn main aspects of the XP methodology
Project Initiation
- Understand the main roles in project initiation
- The main issues of feasibility analysis and its purpose
- Purpose and scope of project management

Project Management
- Understand elements of work-plan and staffing-plan
- Issues arising when managing changes to requirements

Project Scheduling with PERT
Critical Path Method
Gantt Charts and CPM
Project Re-scheduling
- Understand fully the methods studied and practice them!

Requirements Analysis
- Understand functional and non-functional requirements
- Identify characteristics of well defined and also poorly defined requirements
- Identify differences between requirement analysis strategies (BPA, BPI, BPR)
- Identify differences between requirements analysis techniques

Information Gathering Methods
- Understand the different methods
- Identify pros and cons of different methods and when they are better applied

Defining System Requirements
- Assessed in the coursework, not subject to examination

Use Case Analysis
- Learn the main concepts of the technique
- The rest is assessed in the coursework, not subject to examination

Process Modelling with DFDs
Constructing DFDs
Validating DFDs
- Interpret DFDs correctly
- Validate DFDs to identify syntactic and semantic errors
- Understand development of DFDs

Process Specification
- Learn purpose and development of simple decision tables and decision trees

The Design Phase
Implementation and Maintenance
- Just read the lecture notes, that will be enough

Don’t Forget the Module’s Additional Reading!
Good Understanding of Coursework will Also Help!
Format of Examination

The examination is multiple-choice style and aims to mainly assess your knowledge of the key topics in the module. Some questions in the examination will also assess your understanding.

The examination is paper-based, contains 60 questions (each worth 1 mark) and the duration is 1.5 hours. You can answer the exam paper using a pen but you might find useful to bring a pencil and eraser in case you wish to modify your answers.

Previous examination papers are not available but some example questions are available in the module web page.

Many Thanks and Good Luck!