LEVEL 5

AGILE DEVELOPMENT

Student Guide

Modification History

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Tel: +44 (0) 161 438 6200 Fax: +44 (0) 161 438 6240 Email: info@nccedu.com
http://www.nccedu.com

CONTENTS

1. Module Overview and Objectives 6
2. Learning Outcomes and Assessment Criteria 6
3. Syllabus 7
4. Related National Occupational Standards 10
5. Teaching and Learning 10
5.1 Lectures 10
5.2 Seminars 10
5.3 Private Study 10
5.4 Tutorials 11
6. Assessment 11
7. Reading List 11
7.1 Suggested reading 11
7.2 Additional Sources of Reference for Lecturers 11
Topic 1: An Overview of Agile 13
1.1 Learning Objectives 13
1.2 Timings 13
1.3 Private Study Exercises 14
1.4 Seminar Notes 15
1.5 Tutorial Notes 16
Topic 2: The Agile Approach and Principles 18
2.1 Learning Objectives 18
2.2 Timings 18
2.3 Seminar Notes 19
2.4 Private Study Exercises 29
2.5 Tutorial Notes 33
Topic 3: Modelling 34
3.1 Learning Objectives 34
3.2 Timings 34
3.3 Seminar notes 35
3.4 Private Study Exercises 36
3.5 Tutorial Notes 37
Topic 4: Roles, Skills and Team Structures 38
4.1 Learning Objectives 38
4.2 Timings 38
4.3 Seminar Notes 39
4.4 Private Study Exercises 48

4.5 Tutorial Notes 49
Topic 5: Lifecycle and Products 50
5.1 Learning Objectives 50
5.2 Timings 50
5.3 Seminar Notes 51
5.4 Private Study Exercises 52
5.5 Tutorial Notes 54
Topic 6: Project Management Part 1: Control and Risk 55
6.1 Learning Objectives 55
6.2 Timings 55
6.3 Seminar Notes 56
6.4 Private Study Exercises 57
6.5 Tutorial Notes 58
Topic 7: Project Management Part 2: Quality and Testing 59
7.1 Learning Objectives 59
7.2 Timings 59
7.3 Seminar Notes 60
7.4 Private Study Exercises 61
7.5 Tutorial Notes 62
Topic 8: Facilitated Workshops 63
8.1 Learning Objectives 63
8.2 Timings 63
8.3 Seminar Notes 64
8.4 Private Study Exercises 65
8.5 Tutorial Notes 66
Topic 9: Requirements Definition and Prioritisation 67
9.1 Learning Objectives 67
9.2 Timings 67
9.3 Seminar Notes 68
9.4 Private Study Exercises 74
9.5 Tutorial Notes 75
Topic 10: Iterative Development and Prototyping 76
10.1 Learning Objectives 76
10.2 Timings 76
10.3 Seminar Notes 77
10.4 Private Study Exercises 78
10.5 Tutorial Notes 79

Topic 11: Estimating and Timeboxing 80
11.1 Learning Objectives 80
11.2 Timings 80
11.3 Seminar Notes 81
11.4 Private Study Exercises 87
11.5 Tutorial Notes 88
Topic 12: Summary and Revision Guidance 89
12.1 Learning Objectives 89
12.2 Timings 89
12.3 Seminar Notes 90
12.4 Private Study Exercises 91
12.5 Tutorial Notes 92

1. Module Overview and Objectives

This module provides an introduction to the people, processes, practices and principles of agile development. It will prepare you for the future trends in software development and reinforce their understanding of the information systems development process.

The aims of this module are to:

- introduce you to the subject of Agile Development;
- provide a basic understanding of the main concepts and terminology of Agile;
- give sufficient understanding of the lifecycle, framework and techniques to equip you to work within an agile team.

2. Learning Outcomes and Assessment Criteria

Learning Outcomes; The Learner will:	**Assessment Criteria;** The Learner can:
1. Understand the background to Agile development	1.1 Summarise the background to Agile development 1.2 Explain Agile development in relation to other development approaches (e.g. waterfall)
2. Understand the roles within an Agile development team	2.1 Explain the roles in an Agile development team 2.2 Evaluate the need for a particular role within an Agile development team for a particular project scenario
3. Understand the various Agile development techniques	3.1 Explain the various Agile development techniques 3.2 Evaluate the need for a particular Agile development technique for a particular project scenario
4. Understand an Agile development lifecycle	4.1 Describe an Agile development lifecycle 4.2 Explain the documentation required to support an Agile development lifecycle 4.3 Evaluate the use of an Agile development lifecycle for a particular project scenario
5. Understand the principles associated with an Agile development approach	5.1 Describe the principles associated with an Agile development approach

6. Be able to apply an Agile development approach to a particular project scenario	6.1 Describe how to apply an Agile development approach to a particular problem scenario 6.2 Suggest and justify the members of an Agile development team for a particular project scenario 6.3 Suggest and justify the use of particular Agile development techniques for a particular project scenario 6.4 Define a document set to support an Agile development approach for a particular project scenario 6.5 Populate a document set to support an Agile development approach for a particular project scenario

3. Syllabus

Syllabus			
Topic No	Title	Proportion	Content
1	An Overview of Agile	1/12 2 hour of lectures 2 hours of seminars 1 hour of tutorials	• An introduction and overview of the Agile Development module • What is Agile? - the history • What Agile Approaches ***Learning Outcomes: 1 & 5***
2	The Agile Approach and Principles	1/12 2 hours of lectures 2 hours of seminars 1 hour of tutorials	• What is DSDM? • Philosophy of Agile and benefits • The 8 principles • The 5 key techniques • The Instrumental success factors • The Project Approach Questionnaire ***Learning Outcomes: 1 & 5***
3	Modelling	1/12 2 hours of lectures 2 hours of seminars 1 hour of tutorials	• What is a model? • Links to the 8 principles • Viewpoints for modelling • Modelling within the Agile lifecycle ***Learning Outcomes: 3 & 6***

4	Roles, Skills and Team Structures	1/12 2 hours of lectures 2 hours of seminars 1 hour of tutorials	• Agile team style (self-directing, empowered) • Agile team size and reasons • Project level roles and responsibilities • Solution Development Team roles and responsibilities • Specialist roles and other supporting roles ***Learning Outcomes: 2 & 6***
5	Lifecycle and Products	1/12 2 hours of lectures 2 hours of seminars 1 hour of tutorials	• The purpose of the configurable lifecycle • The 5 main phases and the two further phases of the lifecycle • For each phase: – Objectives – Preconditions – Points to consider • Products related to lifecycle phases • The three essential perspectives for the products ***Learning Outcomes: 4 & 6***
6	Project Management Considerations Part 1: Control Risk	1/12 2 hours of lectures 2 hours of seminars 1 hour of tutorials	• Key differences in style between Traditional and Agile project management • Control parameters in an Agile project • Communication including daily Stand Ups • Empowerment and escalation • Risk in an Agile project ***Learning Outcomes: 1, 2 & 6***
7	Project Management Considerations Part 2: Quality and Testing	1/12 2 hours of lectures 2 hours of seminars 1 hour of tutorials	• Configuration management • Quality and maintainability • Testing concepts • Metrics ***Learning Outcomes: 1, 2 & 6***
8	Facilitated Workshops	1/12 2 hours of lectures 2 hours of seminars 1 hour tutorials	• What is a Facilitated workshop? • The role of the Facilitator; co-facilitator/scribe; participants. • Workshop planning • Workshop success factors ***Learning Outcomes: 6***

9	Requirements Definition and Prioritisation	1/12 2 hours of lectures 2 hours of seminars 1 hour tutorials	• What is a requirement in Agile? • Defining requirements: User story format (as a... I need... in order to...) • Functional and non-functional requirements • Format and content of a requirement • The Prioritised Requirements List • MoSCoW as a key technique • Requirements and modelling ***Learning Outcomes: 6***
10	Iterative Development and Prototyping	1/12 2 hours of lectures 2 hours of seminars 1 hour tutorials	• What is a prototype? • What is iterative development? • Prototyping perspectives: – Functional – Usability – Non-functional – Capability/Technique prototype: Architectural Spike and Proof of Concept • Horizontal, Vertical and Combined development strategies • Prototyping: Identify, plan, evolve, review. • Iterative development as a key technique ***Learning Outcomes: 6***
11	Estimating and Timeboxing	1/12 2 hours of lectures 2 hours of seminars 1 hour tutorials	• The estimating process • Factors affecting an estimate • Estimating approaches • Problems with estimates • What is a timebox? • Timebox structure (Identify, plan, evolve, review) • Timebox links to MoSCoW requirements • Delivery (increment) planning • Timebox planning • Timeboxing as a key technique ***Learning Outcomes: 6***
12	Module Summary and Revision Guidance	1/12 2 hours of lectures 2 hours of seminars 1 hour tutorials	• Revision ***Learning Outcomes: All***

4. Related National Occupational Standards

The UK National Occupational Standards describe the skills that professionals are expected to demonstrate in their jobs in order to carry them out effectively. They are developed by employers and this information can be helpful in explaining the practical skills that you have covered in this module.

Related National Occupational Standards (NOS)
Sector Subject Area: 6.1 ICT Professionals **Related NOS:** 4.4.P.3 – Monitor the effectiveness of systems analysis activities and their deliverables; 4.4.S.1 – Design, implement and maintain systems analysis activities; 4.4.S.2 – Manage the systems analysis assignment activities; 4.4.S.3 – Liaise with others on matters relating to systems analysis activities; 4.4.S.4 – Review and sign off systems analysis outcomes

5. Teaching and Learning

Suggested Learning Hours					
Lecture:	**Tutorial:**	**Seminar:**	**Laboratory:**	**Private Study:**	**Total:**
24	12	24	-	90	150

The teacher-led time for this module comprises lectures, group seminar sessions and tutorials. You will need to bring this Student Guide to all classes for this module. The breakdown of the hours is given at the start of each topic.

5.1 Lectures

Your lecturer will be presenting the basic knowledge and the theoretical concepts required for the unit during this time. He/she will use PowerPoint slides during the lecture time and you will be expected to take notes.

You will also be encouraged to be active during this time and discuss and/or practice the concepts covered. Lectures will include question and answer elements to promote participation and to allow your lecturer to check whether you understand the concepts they are covering.

5.2 Seminars

These sessions provide tasks to involve group work, investigation and independent learning for certain topics. The details of these tasks are provided in this guide.

5.3 Private Study

This Student Guide also contains details of the private study exercises. You are expected to complete these exercises to improve your understanding. Your tutor will set deadlines for the completion of this work and go over the answers with you. The deadlines will usually be before the scheduled tutorials for that topic. Some of the private study tasks may require you to work in a small group so you will need to plan your time carefully and ensure that you can meet with your group members to complete the work required before the deadline.

You should also use this time to revise the content of lectures to ensure understanding and conduct extra reading (using the supplementary textbooks or other materials available in the library or online). You should bring any questions to the tutorial for additional guidance and support.

5.4 Tutorials

These are designed to deal with the questions arising from the lectures and private study sessions. You should think carefully beforehand about any areas in which you might need additional guidance and support and use this time to discuss these with your teacher.

6. Assessment

This module will be assessed by means of an assignment worth 100% of the total mark. The assessment will cover the learning outcomes and assessment criteria given above.

7. Reading List

7.1 Suggested reading

A selection of texts must be available in your Accredited Partner Centre's library to support further reading around the content of this module. The following list provides suggestions of some suitable sources:

DSDM Consortium. (2008). *DSDM : The Handbook*. DSDM Consortium.
ISBN-10: 0954482220 / 0954483227
ISBN-13: 978-0954482220

DSDM Consortium. (2014). DSDM Agile Project Framework (2014 Onwards): The Handbook. DSDM Consortium. eBook available at: https://www.dsdm.org/resources/dsdm-handbooks/the-dsdm-agile-project-framework-2014-onwards (Last accessed 14/09/2016)

Schwaber, K. and Sutherland, J. (2016). *The SCRUM Guide ™, The Definitive Guide to Scrum: The Rules of the Game*. Scrum.Org and ScrumInc. PDF version available at: http://www.scrumguides.org/docs/scrumguide/v2016/2016-Scrum-Guide-US.pdf (Last accessed 13/01/2017)

Tudor, D. and Tudor, I. (2010). *The DSDM Student Workbook,* 2nd edition*.* Galatea Training Services Ltd.
ISBN-10: 0954307135
ISBN-13: 978-0954307134

7.2 Additional Sources of Reference for Lecturers

The following texts are mentioned throughout this Lecturer Guide and serve as potential additional sources of background reading for lecturers. These are **not** intended for student use and it is **not** required to have copies of these books in your library. They may be of use if you feel you are unfamiliar with some of the topics mentioned throughout this module.

Beck, K. and Andrea, C. (2004). *Extreme Programming Explained: Embrace Change*. Pearson Addison Wesley.
ISBN-10: 0321278658
ISBN-13: 978-0321278654

Coad, P., LeFebvre, E. and De Luca, J. (1998). *Java Modelling in Color with UML: Enterprise Components and Process*. Pearson Prentice Hall.
ISBN-10: 013011510X
ISBN-13: 978-0130115102

Cohn, M. (2004) *User Stories Applied: For Agile Software Development*. Pearson Addison Wesley.

Poppendick, M. and Poppendick, T. (2003). *Lean Software Development.* Pearson Addison Wesley.
ISBN-10: 0321150783
ISBN-13: 978-0321150783

7.2 Suggested Sources for Research

The following are suggested websites that are leaders in Agile Development. It is recommended that students visit them all during the course and appreciate that they will include the latest information, as well as historical information on Agile.

The Agile Alliance: https://www.agilealliance.org/

The Agile Business Consortium (previously DSDM Consortium): https://www.agilebusiness.org/ includes the DSDM Handbooks (online)

The Agile Manifesto: http://agilemanifesto.org/

Topic 1: An Overview of Agile

1.1 Learning Objectives

This topic provides an overview of the Agile Development module as a whole, as well as an introduction to Agile, with a brief history of the Agile movement.

On completion of the topic, you will be able to:

- Identify and discuss the scope of the Agile Development Module;
- Identify the key milestones in the development of Agile;
- Name several popular approaches to Agile;
- Distinguish between Agile and other development approaches (e.g. waterfall).

1.2 Timings

Lecture:	2 hours
Private Study:	7.5 hours
Seminar:	2 hours
Tutorial:	1 hour

1.3 Private Study Exercises

You should spend approximately 7.5 hours on the Private Study for this topic. You should use this time to complete the exercises below as directed by your lecturer and to review the contents of this topic.

Exercise 1: Familiarisation with DSDM

You should take this opportunity to familiarise yourself DSDM. Research the process in greater detail. Find at least one case study documenting how it was applied and make notes relating to what you see as the benefits.

Exercise 2: Research

Work in a pair or a small group (max 3) to complete this task.

Focus on the; Scrum, FDD, Lean and XP approaches introduced in the lecture. You should also produce a 50-100 word summary of each approach in your own words, ready for discussion at the seminar session for this topic.

Exercise 3: Quiz

Based on the research conducted in Exercise 1 and 2 write 5 quiz style questions based on this topic. You must also include answers. You should bring them to the Tutorial where you will discuss them and collectively agree on model answers for a selection from the group.

1.4 Seminar Notes

The time allowance for seminars in this topic is 2 hours.

Exercise 1: Presentation from Researching Agile on the Web

Work with the same group you worked with during the private study time for this topic. Your tutor will select an Agile approach for you to focus on. You have 30 minutes to prepare a 10 minute presentation on your topic. You will need to:

- Think carefully about the information you should include
- Ensure your information is accurate
- Ensure everyone in your group has a role in both preparing **and** delivering the presentation
- Decide whether you will need to use any visual aids such as PowerPoint slides during the presentation.

Exercise 2: Agile Quick-fire Quiz

Work in the same groups. Use your research into DSDM and the other approaches, to list 10 questions to ask the other groups to test their knowledge. You will also need to make a note of the correct answers!

1.5 Tutorial Notes

The tutorials for this topic will last for 1 hour. You can expect to spend some of this time discussing your answers to the Private Study exercises with your lecturer and other students. Your lecturer will then direct you on completing the tasks below.

Exercise 1: Quiz questions

Random questions will be selected from Private Study and shared. The group will collectively agree on model answers.

Exercise 2: Agile Principles

Look at the principles behind the Agile Manifesto (reproduced below). For each of the 12 principles, identify one benefit and one risk or difficulty associated with it.

You will then present these to the rest of the tutorial group and discuss your ideas as well as those presented by other students.

Principles behind the Agile Manifesto

We follow these principles:
Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.

Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.

Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.

Business people and developers must work together daily throughout the project.

Build projects around motivated individuals.

Give them the environment and support they need, and trust them to get the job done.

The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.

Working software is the primary measure of progress.

Agile processes promote sustainable development.

The sponsors, developers, and users should be able

to maintain a constant pace indefinitely.

Continuous attention to technical excellence and good design enhances agility.

Simplicity--the art of maximizing the amount of work not done--is essential.

The best architectures, requirements, and designs emerge from self-organizing teams.

At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behaviour accordingly.

(Source: www.agilemanifesto.org)

Topic 2: The Agile Approach and Principles

2.1 Learning Objectives

This topic provides an overview of the Approach, Principles and Instrumental Success Factors for an Agile project using DSDM as the chosen method.

On completion of the topic, you will be able to:

- Identify the 8 principles of the DSDM Agile development approach;
- Identify the 5 key techniques;
- Define the structure of the DSDM approach;
- Discuss the Instrumental Success Factors;
- Analyse the environment for an Agile project using the Project Approach Questionnaire.

2.2 Timings

Lectures:	2 hours
Seminar:	2 hours
Private Study:	7.5 hours
Tutorials:	1 hour

2.3 Seminar Notes

The time allocation for this seminar session is expected to be 2 hours.

Exercise 1: Introduction to Case Study/Project Objective

The purpose of this exercise is:

- To become familiar with the Hotel Olympia Scenario
- To formulate a draft objective for the project.

This exercise requires reference to:

- Hotel Olympia Background Information (see next pages)

For this exercise, you are a management team from the Hotel's Group Head Office by request of the Olympia Hotel's General Manager. The Olympics are taking place in the region in 12 weeks time, and although the hotel is able to open a new block of accommodation (300 extra rooms), their administrative systems will not cope.

1. Formulate what you see as the objective of this project to achieve in the next 12 weeks.

2. Consider each of the eight principles and state how well you think this should work in the hotel environment for this project.

3. Present the objective and the eight principles work to the group.

CASE STUDY

HOTEL OLYMPIA Background Information

Company Profile

The Hotel Olympia is a modern hotel, close to the Motorway links. It has 150 bedrooms, and is currently expanding this by a further 300. There is a Conference Centre attached to the hotel, but this is run as a separate business, the hotel merely providing rooms to the Conference Manager as a customer.

The Project

The hotel's "back-office" accounting systems were computerised four years ago, but these are now due for review and a number of improvements have been asked for by the Accountant. The “front desk” functions such as reservations, check-ins and check-outs are a mixture of separate word-processor templates for producing the bills and spreadsheets for room bookings, which are printed out each day and manually amended during the day. Management feel that these systems need to be more integrated. They also feel the need for additional features, such as detailed guest histories in order that direct mailings can be accurately targeted to the appropriate types of customer, for special promotions. They have stressed the need for computer systems not to interfere with the dialogue of receptionists with the guests. They must allow flexibility in the approach to guests.

The restaurant and bar billing systems produce receipts which are passed on separate pieces of paper to the front desk for adding to the guests’ bills. Receipts occasionally go astray in this process, and automatic transfer of the data from bar and restaurant directly to guest accounts is desired.

The ordering of food for the restaurant, and drinks for the bar and restaurant is haphazard and unreliable. It is recognised that advance knowledge of bookings would allow ordering to become more accurate and that a computerised ordering system, which would allow stocks of food to be controlled, would reduce wastage and allow considerable savings.

The systems at the Olympia have coped adequately with the levels of business to date. However, the Olympic Games are being held in the region in three months time, and the hotel hopes to triple its residency for the period of the games and for several months afterwards. It then hopes to maintain the new, higher level of business through extensive marketing. To this end, an extension consisting of 300 bedrooms, which was being built in a leisurely way, has been speeded up and is now almost ready for use. The reception staff have pointed out that the hotel cannot deal with the expected influx of customers with the systems they now use.

Advance Booking enquiries have already been made by over a hundred followers of visiting teams. These have not yet been treated as provisional bookings for specific rooms, but verbal offers of accommodation have been made. **All aspects of the hotel’s back office, front desk, restaurant and bar administration, and housekeeping systems will need to be changed to cope with this influx of customers.**

Current Computer Configuration

The current accounting systems are run as a multi-user system, using integrated software packages for sales ledger, purchase ledger and general ledger. These were written, and are maintained, by a local software company who would be willing to handle the integration needed between any new

front-desk system and their accounting system provided that the interface is clearly specified by the hotel.

At the front desk, there are three stand-alone PCs. One is used to record guest details on arrival, one to produce spreadsheet templates and one to enter billing details for the production of bills when the customer leaves.

Staff Organisation within the Hotel

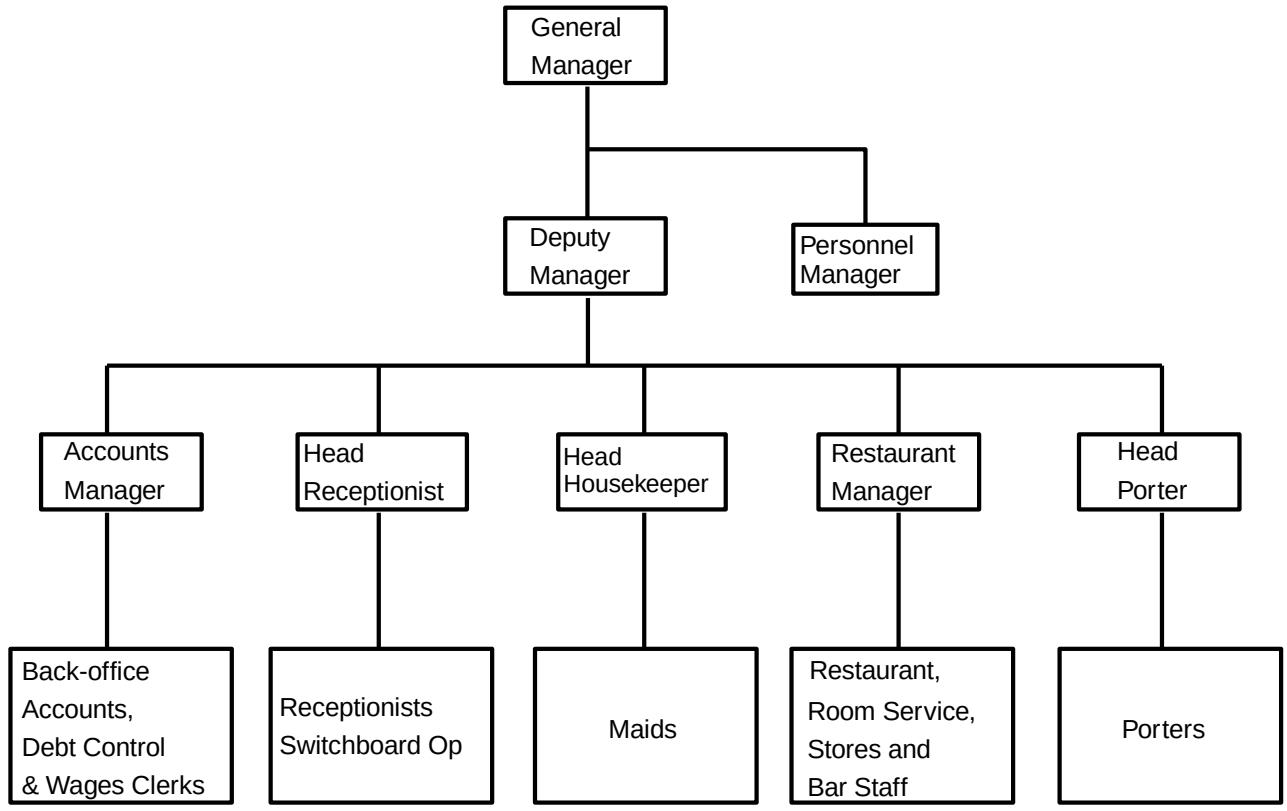

Figure 1.0: Olympia Hotel Staff Organisation Chart

Staff Responsibilities

The individual responsibilities of the key members of the hotel staff are described below. Also given below are the notes taken during interviews detailing the current system and the problems of the current system as identified by the interviewee.

General Manager

Assisted by the Deputy Manager, the General Manager is in charge of the day-to-day smooth

running of the hotel, its finances and stores, and is also responsible for future planning.

Accounts Manager

The Accounts Manager is responsible for all back-office accounting functions including acceptance of account-customers, credit-checking, debt-chasing and the maintenance of the hotel's financial records. The Accounts Manager's responsibilities also include payment of staff wages.

Head Receptionist

The Head Receptionist is in charge of day-to-day running of Reception (the Front Desk) and all of its procedures, and also responsible for notifying the housekeeper of rooms for service and for the porters and switchboard. The Head Receptionist is also responsible for ensuring an effective link with Accounts.

Other Receptionists

The other receptionists handle the acceptance of bookings, greeting and checking-in of guests; maintenance of an up-to-date "rooms available" chart; preparation of accounts for guests; notification to the housekeeper of rooms for service and to the restaurant and kitchen for guest food requirements; keeping the porters informed of newspaper requirements.

Interview Notes

Person Interviewed: General Manager (L Timmis)

Subject: Existing systems: overview, problems and objectives

Current Systems Overview

Guests may book rooms in advance or turn up without prior booking. Bookings made by telephone must be confirmed in writing. A deposit is usually paid for block bookings.

On checking in, the guest is asked to complete an index-card listing personal details and car registration number before being given a room-key. The room-charge and details of whether full-board, half-board, or bed-and-breakfast, are recorded on the guest's account (one account per room). Any special dietary needs are notified to the restaurant immediately.

On checking out, bills are calculated to include restaurant receipts, bar receipts, and telephone calls as recorded on the Switchboard Operator's Log. A guest who has a customer-account with the hotel may pay none, part or all of the bill, the balance being sent to Accounts to be put to the sales ledger for normal invoicing and statements.

Reception prepare daily lists for the Housekeeper to advise which rooms require service, and for the restaurant to notify room-numbers and number of guests expected for breakfast, lunch and dinner.

Problem Areas

The accounting system was brought in mainly to address the problem of bad debts. This has been fairly successful and the staff are now becoming comfortable with the use of the system, although there were some initial teething problems due to inexperience with computers.

The front-desk systems are too slow: guests frequently experience unacceptably long delays on checking-out. The reconciliation of cash for passing through to accounts is often delayed and inaccurate which results in angry words between the Accountant and the Head Receptionist.

Some problems have been experienced with the reservations procedure, which has resulted in double booking.

Additionally, information about guest histories, required for planning and marketing purposes, is not readily available.

No information is available to assess unsatisfied demand for rooms. Other information is time-consuming to extract.

Person Interviewed: Head Receptionist (R. Allenby)

Subject: Existing systems, problems and objectives

Current System Overview

Guests usually book their accommodation, and may do so anything up to two years in advance, either by telephone or letter. Some guests, or their companies, are customer-account holders with the hotel. Guests must always confirm in writing if they are not already customer-account holders with the hotel (Customer-account holders are companies or individuals who have a standing agreement with the hotel to book rooms, and will be allowed to pay bills monthly, in arrears). For all bookings, reception send a written confirmation of the booking. Customers may be asked to pay a deposit, particularly in the case of large block-bookings. Bookings may at first be provisional and be confirmed later. Bookings (provisional or confirmed) and are all recorded on the room-booking chart, which is a spreadsheet printed out from one of the PCs at reception. The original documents related to the booking are annotated with a reservation number (next sequential number) and filed in arrival-date order in an office behind reception. A reservation card is completed and filed in reservation number order.

On checking in, guests are asked to complete an index card (if a booking has previously been made, this will be the reservation card) with personal details. This is filed in guest-name sequence in reception and discarded once the bill has been paid. The guest's room-account is annotated with the room charge and meals required. On checking out the bill is finalised with newspaper charges and last-day telephone, bar, and restaurant charges. The guest may pay the whole bill or have all or part of it allocated to his company's customer-account. All cash received is recorded in the daily cash book.

At the start of each day, restaurant, bar, room service and telephone charges are added to the appropriate room accounts. Each day, lists are prepared for the housekeeper to identify rooms for service and rooms changing occupancy the following day; for the night-porter to notify newspaper requirements; and for the restaurant to give room-numbers of guests expected for each meal. These are prepared from the Room Booking Chart and the guest's account.

At the end of the day, all payments received are reconciled against the daily cash book and sent, together with the paid-up bills and bills deferred for company payment, to Accounts.

Overnight the Booking Chart spreadsheets are updated with the information from the room booking charts by the Night Receptionist. Although it is possible to update the spreadsheets directly on the screen during the day, the reception staff found it took too long to locate the appropriate spreadsheet which was then extremely difficult to read on the screen. They requested the information be printed off each day and the sheets are manually updated.

Person Interviewed: Head Receptionist (R. Allenby)

Subject: Existing systems, problems and objectives

Problems

Some problems occur with prior bookings as the Room Bookings chart becomes illegible after it has been manually changed several times.

The Room Bookings charts are printed off each morning (1 chart for each floor of the hotel) each with details of 30 rooms. Charts are produced for the next six weeks. If a customer wishes to reserve a room beyond the six weeks period then that weeks' chart is printed out and manually updated. Although the policy is to fill the hotel from the lower floors upwards, block bookings often disturb this pattern, and determining room availability can be a slow process.

Checking out can be time-consuming, as many bills are queried and errors are often found, for example, bar receipts allocated to wrong accounts, or simple addition errors (bills are calculated manually, with the help of a calculator. Occasionally, room charges, held on the Room Booking chart, are found to be in error.

Customer-account numbers given by guests are not checked until the final bill arrives in the accounts office, after the guest has left the premises.

The reconciliation of cash at the end of the day means that substantial sums of money are often held at Reception, which is recognised as a security risk. More frequent release of cash to Accounts would mean that reception was without the cash-book for periods of time, which is unacceptable. The use of separate loose sheets for cash recording has been tried but failed as these often got lost.

Person Interviewed: Receptionist in charge of reservations (S. Fisher)

Subject: Bookings

Current System Overview

Guests may make enquiries and bookings either in writing or by telephone. Telephoned bookings are treated as provisional bookings unless a credit-card number or one of the hotel's customer-account numbers is quoted. A written communication may result in either a firm booking or a provisional booking.

Guests making provisional bookings are required to confirm the booking in writing within 2 weeks of the reservation date, (although we always ask them to confirm within 7 days). If the booking is made too close to the arrival-date for this to be possible, the accommodation will be released for re-letting at 6pm on the date of arrival. Provisional bookings are identified in the Room Booking Chart with a "P" against the date of reservation and reservation number. A reservation card is completed and marked "P". The next reservation number is kept on a card at the front of the reservations tray.

A written booking may be taken as a firm booking if the guest's accommodation requirements can be matched exactly. For a firm booking, a written confirmation is always sent by the hotel. Such bookings may include a deposit, which is recorded as part-payment against the guest's account. The accommodation is booked as "reserved" in the room Booking Chart and the reservation number, date and "F" entered against the dates required. A reservation card is completed and filed in the reservations tray. The original confirmation or booking letter is filed in date-of-accommodation sequence.

Either a provisional or firm booking may be cancelled. Provided that this is 14 days or more before the date accommodation is required, no charge will be made. Within 14 days, if a deposit has been paid or a customer-account is involved, the guest's account is referred to Accounts for decision on whether a refund, or a charge, is appropriate. All appropriate records are amended to cancel the booking.

Volumes and Trends

The statistical data was collected as accurately as possible given the limitations of the current system and is detailed below.

Volumes:

Number of rooms:	150 Bedrooms (increasing to 450 during this project)
Average stay:	2 nights
Average room occupants:	1.1
Average bookings/month:	1800 (for 2000 guests approx)
Prior reservations/month:	1400
Average % full:	80% (120 rooms /night)
Number of Customer Accounts:	300

Trends:

Most residents are on business. Therefore the majority of trade is weekdays, with weekends and holidays being less busy (no figures available to exactly quantify trends).

STRENGTHS AND WEAKNESSES OF THE CURRENT SYSTEMS

Strengths

The systems are fairly simple and on-the-job training is easy. No computer skill is needed.

Weaknesses / Problem Areas

1. Reservations procedure can result in double booking due to illegibility.
2. Determining room availability is slow due to manual searching of the large room booking chart.
3. Delays on checking-out due to errors:
    - bar receipts allocated to wrong accounts;
    - arithmetic errors in calculation;
    - room charges, from Room Booking Chart, are wrong.
4. Customer-account numbers are not checked until after the guest has left the premises.
5. The reconciliation of cash at the end of the day means that substantial sums of money are often held at Reception.
6. Information about guest histories, required for planning and marketing purposes, is not readily available.
7. Information to assess unsatisfied demand for rooms is not available. Other information is time-

consuming to extract.

8. If a guest checks out ahead of schedule, the room is not released until the intended check-out date.

2.4 Private Study Exercises

You should spend approximately 7.5 hours on the Private Study for this topic. You should use this time to complete the exercises below as directed by your lecturer and to review the contents of this topic.

Exercise 1:

Before attending the seminar session, read the background to the Hotel Olympia case study. You can find this in the seminar notes for this topic.

Exercise 2:

Using the Case Study background information, complete this Project Approach Questionnaire (PAQ) for the Hotel Olympia, as you see it at this point in the project.

DSDM Project Approach Questionnaire		***Indicate the closest collective opinion***					***Comments***
Ref	**Statement**	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**	
1	The business driver behind the project is clearly stated and is visible to all members of the project team.						
2	The Business Sponsor and/or Business Visionary demonstrate clear ownership of the project.						
3	The Business Sponsor, Business Visionary and Technical Coordinator all understand and accept the DSDM philosophy.						
4	The development has a clearly-defined timescale.						
5	The requirements can be prioritised and there is flexibility to accept that not all requirements are 'Must Have' requirements.						
6	Requirements have been defined at a high level at the outset of the project, and it is acknowledged that changes are likely during development of the detail.						

7	It is accepted that the detail of both the requirements and the solution will emerge as the project progresses.						
8	The Business Sponsor and Business Visionary are aware of the importance of active business involvement and have the willingness and authority to commit appropriate business resources to the project as required.						
9	The Business Ambassadors are sufficiently empowered to guide the day to day evolution of the solution.						
10	The Solution Developers are sufficiently empowered to provide the best solution they can from a business perspective within pre-agreed architectural constraints.						
11	Solution development resources are allocated at an appropriate level and the team will be largely stable throughout the project (or, at least, throughout each increment).						
12	The Project Team and Solution Development team are able to adopt the roles and responsibilities within DSDM.						
13	It will be possible for the Solution Developers to have easy access to Business Ambassadors and Business Advisors throughout the project.						
14	The Solution Development team (including both business and solution development resources) will have the appropriate collective knowledge and/or technical skills to deliver the solution.						

15	The Solution Development team (including both business and solution development resources) will have the appropriate soft skills (communication, negotiation etc.) to work effectively with each other and those around them.						
16	Strategies for continuous communication and collaborative working practices are sufficient to clearly support iterative development of the solution.						
17	The development technology tools and techniques support an iterative approach to solution development.						
18	There are no technical, contractual or other constraints to prevent the solution being broken into increments for development and delivery (even if the products of such increments are not deployed immediately).						
19	All project participants understand and accept that on-time delivery of an acceptable solution is the primary measure of success for the project.						
20	All parties accept that continual assessment of the fitness for purposes of all deliverables during development is essential.						
21	There are no mandatory standards or practices in force that will work against the evolution of a solution from a baselined set of high level requirements.						

Exercise 3:

In preparation for the tutorial session for this topic, make a note of any questions you have about the case study exercises, the private study reading and the practical exercises from the recommended text. You will have a chance to discuss these with your tutor during the tutorial.

Exercise 4: Quiz

Based on the research conducted in Exercise 1 and 2 write 5 quiz style questions based on this topic. You must also include answers. You should bring them to the Tutorial where you will discuss them and collectively agree on model answers for a selection from the group.

2.5 Tutorial Notes

The tutorials for this topic will last for 1 hour.

Exercise 1: Quiz questions

Random questions will be selected from Private Study and shared. The group will collectively agree on model answers.

Exercise 2:

Present your findings to the Project Approach Questionnaire from Private Study Exercise 3 to the other students in your group. What is your assessment of how 'risky' the project seems, from an Agile point of view?

Topic 3: Modelling

3.1 Learning Objectives

This topic provides an overview of the approach to modelling in an Agile project. On completion of the topic, you will be able to:

- Describe the perspectives from which models may be created;
- Explain what a model is and the benefits of modelling;
- List types of models which may be used in an Agile project;
- Identify points in the Agile project lifecycle where models are appropriate;
- Construct a scoping diagram (context diagram) for a given scenario;
- Discuss the benefits and limitations of models.

3.2 Timings

Lectures:	2 hours
Seminar:	2 hours
Private Study:	7.5 hours
Tutorials:	1 hour

3.3 Seminar notes

The time allocation for the seminar sessions for this topic is 2 hours.

Exercise 1: A Context Diagram for the Hotel Olympia Project

The purpose of the exercise is:

- To show how a model/diagram can assist in defining the scope of a project.

This exercise requires reference to:

- Hotel Olympia background information
- Outputs from Topic 2 Seminar Exercise 1

You should spend approximately 1 hour on the exercise, plus time to review the results of your classmates.

Work in groups as directed by your lecturer. Imagine you are a mix of developers and business people who must perform the task and communicate with senior management.

1. Draw a high level diagram of your choice (rich picture, function hierarchy, context diagram or simple illustration) which helps to define scope and structure of the project for the hotel, to communicate with a mix of technical and business people in senior management.

2. Prepare to present this diagram to the whole course group.

3.4 Private Study Exercises

You should spend approximately 7.5 hours on the Private Study for this topic. You should use this time to complete the exercises below as directed by your lecturer and to review the contents of this topic.

Exercise 1:

Through your own research, investigate the technique of High-level Use Case modelling.

Draw a high-level (scoping) use case diagram for the Hotel Olympia, based on the background information and the interview with the Head Receptionist (presented in Topic 2).

Exercise 2: Quiz

Based on the research conducted in Exercise 1 write 5 quiz style questions based on this topic. You must also include answers. You should bring them to the Tutorial where you will discuss them and collectively agree on model answers for a selection from the group.

Exercise 3:

In preparation for the tutorial session for this topic, make a note of any questions you have about the case study exercises, the private study reading and the practical exercises from the recommended text. You will have a chance to discuss these with your tutor during the tutorial.

3.5 Tutorial Notes

The tutorials for this topic will last for 1 hour.

Exercise 1: Quiz questions

Random questions will be selected from Private Study and shared. The group will collectively agree on model answers.

Exercise 2:

Discuss your research into High-level Use Case modelling (Private Study Exercise 1) with the other students in your group. You should prepare to feedback the most interesting findings to the rest of the class and augment your own notes with any useful ideas suggested by other students.

You should also share your use case scoping diagram and explain how you arrived at your final diagram.

Topic 4: Roles, Skills and Team Structures

4.1 Learning Objectives

This topic provides an overview of the roles, skills and responsibilities in an Agile Team and the way in which effective teams are structured.

On completion of the topic, you will be able to:

- Describe the style of working of an Agile team as compared to a non-Agile team (self-directing, empowered);
- Discuss the style and recommended size of an Agile team;
- Understand the roles and responsibilities in an Agile team;
- Identify the roles required and the individuals best qualified to fill them, in a given scenario.

4.2 Timings

Lectures:	2 hours
Seminar:	2 hours
Private Study:	7.5 hours
Tutorials:	1 hour

4.3 Seminar Notes

The time allocation for the seminar sessions for this topic is 2 hours.

Exercise 1: Team roles

The purpose of this exercise is to identify appropriate people for DSDM project roles.

This exercise requires reference to:

- Hotel Olympia Case Study: Background Information - Interview Notes
- Role briefs for staff available for workshops (see below)

Work in groups as directed by your lecturer. For this exercise, you are a management team who have been brought in from the hotel's Group Head Office by request of the Olympia Hotel's General Manager.

1. Use the role briefs below to identify which members of staff could take one or more DSDM team roles in Template A below. Ensure that every role is filled.

   Some roles may have more than one person and sometimes a person may hold more than one role. Give reasons for your choices.

   Use the comment column in the table below to note any concerns about the suitability of the people chosen and/or to show other people who you considered.

HOTEL OLYMPIA

Role Briefs for Workshops

Staff available for workshops:

The Business

General Manager	Les Timmis
Chief Accountant	Evelyn Cash
Assistant Accountant	Lee Ditton
Marketing Manager	Lin Barking
Deputy Head Receptionist	Sam Fisher
Kitchen Manager	Pat O'Cake
Restaurant Manager	Karel Singa

IT Staff from the Head Office of the Hotel Group (Normally located 200km away)

IT Analyst/developer	Stevie Reader
IT Analyst/developer	Chris Mist
IT Analyst/developer	Nicky Fox
IT Analyst/developer	Val Derry
IT Analyst/developer	Georgie Gere

Other staff who may need to be involved:

(no role briefs are available for these; check with General Manager for availability):

Head Receptionist	Ros Allenby
Deputy Manager	Des Prescot
Personnel Manager	Jan Petersen
Trainee Receptionist	Denni Blake

General Manager:	**Les Timmis**
Responsibilities:	In charge of the day-to-day smooth running of the hotel, its finances and stores; also responsible for future strategy and planning for the hotel
Character:	Friendly but imprecise, often ineffectual
Management Style:	Delegates everything
System requirements:	To avoid chaos when the influx of visitors are at the hotel. To ensure that the hotel remains profitable
Likes:	People
Dislikes:	Discord amongst the staff.

Accountant:	**Evelyn Cash**
Responsibilities:	In charge of Back-office accounting functions including acceptance of account-customers, credit checking, debt-chasing and the maintenance of the hotel's financial ledgers. Also responsible for the payment of staff wages.
Background:	Evelyn has been the accountant for the hotel for six years and was involved in the installation of the computer system currently used for accounting functions.
Character:	Precise, assertive, determined
Management Style:	Direct, dictatorial, often abrasive
System requirements:	To reduce duplication of effort and increase accuracy in Accounts.
Likes:	Order, obedience
Dislikes:	Hesitant people

Marketing Manager:	**Lin Barking**
Responsibilities:	Lin is responsible for pricing policy for the hotel; advertising and planning marketing campaigns; doing market research to identify new ways of attracting customers. Lin would sum up the job as: identifying, anticipating and satisfying customer's requirements profitably.
Background;	Lin has worked in Marketing for 3 years; 2 of these with another hotel in the group and the past 12 months with Olympia. She has an Economics degree and an MBA.
Character:	Friendly and charming.

Management Style:	Brisk and Energetic.
System Requirements:	Management information particularly information on where customers found our hotel and on unsatisfied demand where customers tried to book but were told that we had no rooms available
Likes:	Efficiency, People
Dislikes:	Lack of information

Assistant Accountant:	**Lee Ditton**
Experience:	Has been a business manager and knows IT superficially. Has been trained as a facilitator but has little experience thus far.
Character:	tactful, assertive, determined
Management Style:	consensus always sought
System Requirements:	To help the team at Olympia develop and implement what the business really needs.
Likes:	people
Dislikes:	impoliteness

Receptionist:	**Sam Fisher**
Responsibilities:	In charge of reservations.
Character:	Precise, efficient, determined, imaginative, lateral-thinker
Management Style:	Friendly but firm
System Requirements:	To deal with customers in a friendly and efficient manner, especially on arrival and check-out. To reduce duplication of effort and increase accuracy at the Front Desk
Likes:	Order, efficiency
Dislikes:	Bossy people Not getting own way

Kitchen Manager:	**Pat O'Cake**
Responsibilities:	Producing weekly menus for breakfast, lunch and dinner. Advance ordering of food to fulfil the menus. Ordering and catering for functions. Ensuring the smooth running of the kitchen and looking after the kitchen staff.
Character:	Usually friendly, but can be temperamental
Management Style:	None. Acts as one of the workers.
System Requirements:	To have no disruption to the normal running of the kitchen
Likes:	Food, often eating more of the kitchen stock than is acceptable!
Dislikes:	Being told what to do, or having other people's ideas imposed in the kitchen.

Restaurant Manager:	**Karel Singa**
Responsibilities:	In charge of the restaurant and restaurant staff. Handles seating arrangements for functions such as business meetings and weddings. Ensures an adequate supply of crockery, cutlery and table linen. Places orders for floral displays with an outside supplier.
Character:	Erratic, always seems irritated by something
Management Style:	Bossy, often making unreasonable demands of staff
System Requirements:	To ensure that the orders of guests are satisfied. Too frequently, the items on the menu become unavailable too soon, and guests are disappointed.
Likes:	Very friendly with the General Manager
Dislikes:	Does not speak to the accountant, dislikes the reception staff.

IT Analyst/developer:	**Stevie Reader**
Experience:	IT systems development from a business analysis perspective. Has never actually been a developer. Business analysis knowledge is self-taught and unstructured. Has led teams on two previous projects including the accounts back office system. Gets on quite well with the accountant
Character:	Assertive, determined
Management style:	Likes to work in teams
System requirements:	Would like to try out an Agile framework for a project.

Likes:	People with clarity of purpose
Dislikes:	People who change their minds about requirements

IT Analyst/developer:	**Chris Mist**
Experience:	Programmer and systems analyst. Has Agile programming experience. Has worked as a database designer
Character:	Intelligent but can be stubborn even when better ideas have come from others.
Management Style:	Likes to work alone. Hates Agile ideas such as working in teams.
System Requirements:	To implement a trouble-free product which meets specification.
Likes:	Elegant IT solutions
Dislikes:	Technophobes

IT Analyst/developer:	**Val Derry**
Experience:	Software developer and systems analyst. Has been an systems analyst for only eight months. Works with Chris Mist reasonably well, in spite of Chris's unfriendly nature.
Character:	Bright but not very confident until thoroughly familiar with the work
Management Style:	Likes to work as part of a team
System requirements:	To work on a major project in a team
Likes:	Praise
Dislikes:	Criticism

IT Analyst/developer:	**Georgie Gere**
Experience:	Has developed many systems using programming languages and Web development tools. Likes getting involved with the fine detail and producing solutions with own ideas added.
Character:	Good communicator but likes to make own decisions
Management Style:	Individualist
System Requirements:	To be given a major challenge
Likes:	Cricket

Dislikes:	Being made to work to rigid specifications

IT Analyst/developer:	**Nicky Fox**
Experience:	Junior developer using Web development tools
Character:	Energetic, but sometimes does not think of consequences of rapid actions.
Management Style:	None
System Requirements:	To add an interesting project to the CV
Likes:	Dancing, music, anything but work
Dislikes:	Being blamed for everything.

Project Roles for the Hotel Olympia Project

ROLE	PERSON	REASON	COMMENT
Business Sponsor			
Business Visionary			
Business Ambassador			
Business Advisor			
Project Manager			
Technical Co-ordinator			

Team Leader			
Business Analyst			
Solution Developer			
Solution Tester			
Other Specialist Roles			

4.4 Private Study Exercises

You should spend approximately 7.5 hours on the Private Study for this topic. You should use this time to complete the exercises below as directed by your lecturer and to review the contents of this topic.

Exercise 1:

Research team role analysis (Meredith Belbin's approach, plus any one other approach you find) and prepare a presentation of the team roles proposed here.

Be prepared to discuss the advantages of using such an approach with the Agile team.

Exercise 2: Quiz

Based on the research conducted in Exercise 1 write 5 quiz style questions based on this topic. You must also include answers. You should bring them to the Tutorial where you will discuss them and collectively agree on model answers for a selection from the group.

Exercise 3:

In preparation for the tutorial session for this topic, make a note of any questions you have about the case study exercises, the private study reading and the practical exercises from the recommended text. You will have a chance to discuss these with your tutor during the tutorial.

4.5 Tutorial Notes

The tutorials for this topic will last for 1 hour.

Exercise 1: Quiz questions

Random questions will be selected from Private Study and shared. The group will collectively agree on model answers.

Exercise 2:

Work in a small group and present your findings from the team role research that you conducted during the private study time for this topic. Work together to develop a presentation to give to the other groups.

Topic 5: Lifecycle and Products

5.1 Learning Objectives

This topic provides an overview of the configurable lifecycle of an Agile project and the structure and context of products to be produced, to give sufficient rigour to project management whilst still retaining the flexibility of the Agile approach.

On completion of the topic, you will be able to:

- Explain why a lifecycle is necessary;
- Describe the DSDM lifecycle;
- Identify the different phases of the lifecycle, with objectives, preconditions, points to consider;
- Describe the three essential perspectives for the products;
- Discuss how to configure the lifecycle and the purpose of doing this;
- Compile key products for a given scenario.

5.2 Timings

Lectures:	2 hours
Seminar:	2 hours
Private Study:	7.5 hours
Tutorials:	1 hour

5.3 Seminar Notes

The time allocation for the seminar sessions for this topic is 2 hours.

Exercise 1:

The purpose of this exercise is:

- To consider appropriate configuration of the lifecycle for the Hotel Olympia Project
- To produce one product (A one-page summary of the Outline Solution, which is one part of the Feasibility Assessment).

This exercise requires reference to:

- Hotel Olympia background information
- Answers from seminar exercises thus far

For this exercise, you are the Project Manager, the Business Analyst, the Business Visionary and the Technical Co-ordinator.

1. Remind yourselves of the background information for the Olympia Hotel.

2. Decide on a suitable lifecycle configuration for this project to include incremental delivery, over the next 12 weeks, of a solution to meet the project objective. Please note, this is not a full plan of the project, just a high level view of the likely deliveries.

3. Show your planned lifecycle stages on a flip chart, for presenting to the other groups later.

4. Describe the outline solution, in words and diagrams (models).

5. Present your lifecycle and outline solution to the other groups.

5.4 Private Study Exercises

You should spend approximately 7.5 hours on the Private Study for this topic. You should use this time to complete the exercises below as directed by your lecturer and to review the contents of this topic.

Exercise 1:

Research the 14 following products of DSDM:

1. Terms of Reference
2. Business Case
3. Prioritised Requirements List
4. Solution Architecture Definition
5. Development Approach Definition
6. Delivery Plan
7. Management Approach Definition
8. Feasibility Assessment
9. Foundation Summary
10. Evolving Solution
11. Timebox Plan
12. Timebox Review Record
13. Project Review Report
14. Benefits Assessment

Many of the products have sub-products within them.

Draw a diagram (mind-map, hierarchy or similar) to illustrate the 14 key products and their sub-products, for presentation to the tutorial group.

Exercise 2: Quiz

Based on the research conducted in Exercise 1 write 5 quiz style questions based on this topic. You must also include answers. You should bring them to the Tutorial where you will discuss them and collectively agree on model answers for a selection from the group.

Exercise 3:

In preparation for the tutorial session for this topic, make a note of any questions you have about the case study exercises, the private study reading and the practical exercises from the recommended text. You will have a chance to discuss these with your tutor during the tutorial.

5.5 Tutorial Notes

The tutorials for this topic will last for 1 hour.

Exercise 1: Quiz questions

Random questions will be selected from Private Study and shared. The group will collectively agree on model answers.

Exercise 2:

Share your diagram of the structure of the 14 products from private study Exercise 1 with the other students in your group. Discuss the key things you found out and any differences in the diagrams.

Topic 6: Project Management Part 1: Control and Risk

6.1 Learning Objectives

This topic provides an overview of key considerations in project management, as they are affected by an Agile approach. On completion of the topic, you will be able to:

- Explain how Agile project management differs from traditional project management;
- Explain the use of the Agile control parameters;
- Identify the Agile differences from traditional project management for key components of project management;
- Apply risk considerations to an Agile project management scenario.

6.2 Timings

Lectures:	2 hours
Seminar:	2 hours
Private Study:	7.5 hours
Tutorials:	1 hour

6.3 Seminar Notes

The time allocation for the seminar sessions for this topic is 2 hours.

Exercise 1: Agile Risk Assessment

The purpose of this exercise is to:

- To identify initial risks to the Agile way of working by completing a Project Approach Questionnaire.
- To consider major risks and their mitigations

This exercise requires reference to:

- Hotel Olympia Background Information
- All Case Study exercises completed to this point

Work in small groups as directed by your tutor. For this exercise, you are the Project Manager, Business Visionary, Technical Co-ordinator and Business Analyst. Your tutor will act as Business Sponsor, if required.

1. Review the Project Approach Questionnaire for the Hotel Olympia case study, previously completed in Topic 2, identifying any changes.

2. Identify 2 key **Agile** risks to the case study project

3. Suggest ways to mitigate these risks

6.4 Private Study Exercises

You should spend approximately 7.5 hours on the Private Study for this topic. You should use this time to complete the exercises below as directed by your lecturer and to review the contents of this topic.

Exercise 1:

Research and List 10 major differences between traditional project management and Agile project management.

Exercise 2: Quiz

Based on the research conducted in Exercise 1 write 5 quiz style questions based on this topic. You must also include answers. You should bring them to the Tutorial where you will discuss them and collectively agree on model answers for a selection from the group.

Exercise 3:

In preparation for the tutorial session for this topic, make a note of any questions you have about the case study exercises, the private study reading and the practical exercises from the recommended text. You will have a chance to discuss these with your tutor during the tutorial.

6.5 Tutorial Notes

The tutorials for this topic will last for 1 hour.

Exercise 1: Quiz questions

Random questions will be selected from Private Study and shared. The group will collectively agree on model answers.

Exercise 2:

Share with your group the differences you listed between traditional and Agile project management. Make notes on any points which other students suggest.

Topic 7: Project Management Part 2: Quality and Testing

7.1 Learning Objectives

This topic provides an overview of key considerations in project management, as they are affected by an Agile approach. On completion of the topic, you will be able to:

- Explain the Agile project management approach to:
  - Configuration Management
  - Quality;
  - Maintainability;
  - Quality Management and Testing;
- Explain the Agile testing concepts;
- Perform a stand up meeting in relation to a given project scenario;
- Apply Agile project management considerations (Configuration Management, Quality, Maintainability) to a given scenario.

7.2 Timings

Lectures:	2 hours
Seminar:	2 hours
Private Study:	7.5 hours
Tutorials:	1 hour

7.3 Seminar Notes

The time allocation for the seminar sessions for this topic is 2 hours.

Exercise 1:

The purpose of this exercise is:

- To act as a reminder to keep the 8 Principles at the centre of the project work - these are the things which will cause problems if not addressed.
- To see the mapping of principles to Quality and Testing, Configuration, Maintainability and Metrics

This exercise requires reference to:

- Hotel Olympia Background information
- Outputs from all exercises thus far

Work in a group as directed by your tutor. Imagine you are a mix of developers and business people who must perform the task and communicate with senior management.

1. Map each of the 8 principles, in a matrix, to the topics of:
   - Quality
   - Maintainability
   - Configuration Management
   - Testing
   - Metrics

2. Prepare to present this work to your classmates.

7.4 Private Study Exercises

You should spend approximately 7.5 hours on the Private Study for this topic. You should use this time to complete the exercises below as directed by your lecturer and to review the contents of this topic.

Exercise 1:

Research the topic of Agile Project Management to answer the following questions. Prepare a one-page discussion of each point.

a. Is Agile inherently more risky than traditional (Waterfall) methods?
b. How do you know when an Agile Project will deliver?
c. Do we really need an Agile project manager when the team is an empowered team?
d. Many large organisations use corporate project management approaches such as PRINCE2, which ties into their programme and portfolio structure. Can they use Agile?

Exercise 2:

Work in a small group to prepare your answers from Exercise 2 into a 20 minute presentation. You will deliver this to the other groups during the tutorial for this topic.

Exercise 3: Quiz

Based on the research conducted in Exercise 1 and 2 write 5 quiz style questions based on this topic. You must also include answers. You should bring them to the Tutorial where you will discuss them and collectively agree on model answers for a selection from the group.

Exercise 4:

In preparation for the tutorial session for this topic, make a note of any questions you have about the case study exercises, the private study reading and the practical exercises from the recommended text. You will have a chance to discuss these with your tutor during the tutorial.

7.5 Tutorial Notes

The tutorials for this topic will last for 1 hour.

Exercise 1: Quiz questions

Random questions will be selected from Private Study and shared. The group will collectively agree on model answers.

Exercise 2:

During this tutorial, you will give the presentation you prepared during Private Study Exercise 2 to the rest of the class, following the instructions given by your tutor.

You should take notes during the other students' presentations and ask questions as necessary.

Topic 8: Facilitated Workshops

8.1 Learning Objectives

This topic provides an overview of facilitated workshops, their use in Agile projects and what facilitation is. On completion of the topic, you will be able to:

- Explain what a facilitated workshop is, and the benefits and risks;
- Describe the roles and responsibilities in a facilitated workshop;
- Identify where facilitated workshops would be used in an Agile project;
- Plan, prepare for and run a facilitated workshop, towards a given outcome;
- Take the roles of facilitator, participant and scribe in workshops.

8.2 Timings

Lectures:	2 hours
Seminar:	2 hours
Private Study:	7.5 hours
Tutorials:	1 hour

8.3 Seminar Notes

The time allocation for the seminar sessions for this topic is 2 hours.

Exercise 1: Requirements Capture Workshop

The purpose of this exercise is to prepare for and participate in (or facilitate) a facilitated workshop.

This exercise requires reference to:

- Hotel Olympia Background information, Interview Notes; Strengths and Weaknesses
- Role briefs for staff available for workshops (available from the Topic 4 seminar)
- Outputs from previous seminar exercises

You will be assigned a role by your tutor. You will be one of the following:

- A business person from the hotel
- A developer
- A facilitator or co-facilitator/scribe

1. Prepare for and participate in a workshop, the purpose of which is to:

    a. Ensure everyone is aware of the project objective (assume this is already authorised by the Business Sponsor) and the timeframe for the project.

    b. Ensure everyone knows/accepts their roles in the project (already authorised by the Business Sponsor).

    c. Capture high level requirements.

2. As a group, run the workshop. You should allow approximately 45 minutes for the workshop itself.

3. Follow the guidance from your tutor and review the success of the workshop.

8.4 Private Study Exercises

You should spend approximately 7.5 hours on the Private Study for this topic. You should use this time to complete the exercises below as directed by your lecturer and to review the contents of this topic.

Exercise 1:

Use the Internet to research an effective technique to use in a workshop you are to prepare. Many websites do business games and facilitation techniques, including www.squarewheels.com and www.businessballs.com. There is also http://www.iafworld.com which is the home of the international association of facilitators.

In pairs, or small groups, prepare to facilitate a short workshop (15 minutes) to run with six participants from other groups during the tutorial. Prepare an agenda to issue to participants and be ready to run the workshop with a group at the next tutorial. Typical topics to choose are:

- Identify the top 10 most popular sports
- Analyse the group's favourite hobbies
- Identify the top 10 things that make the group happy and sad
- Imagine you are IT testers. Identify 10 ideas to improve the effectiveness of your testing.

Exercise 2: Quiz

Based on the research conducted in Exercise 1 write 5 quiz style questions based on this topic. You must also include answers. You should bring them to the Tutorial where you will discuss them and collectively agree on model answers for a selection from the group.

Exercise 3:

In preparation for the tutorial session for this topic, make a note of any questions you have about the case study exercises, the private study reading and the practical exercises from the recommended text. You will have a chance to discuss these with your tutor during the tutorial.

8.5 Tutorial Notes

The tutorials for this topic will last for 1 hour.

Exercise 1: Quiz questions

Random questions will be selected from Private Study and shared. The group will collectively agree on model answers.

Exercise 2:

Run the workshops you designed in your private study time on another group in the class, as assigned by your tutor.

Topic 9: Requirements Definition and Prioritisation

9.1 Learning Objectives

This topic provides an overview of the Agile approach to requirements elicitation, analysis, definition and management. On completion of the topic, you will be able to:

- Explain what a requirement is, and the difference between functional and non-functional requirements;
- Explain the differences between the levels of detail of traditional requirements and agile requirements;
- Explain the concept of a user story and the advantages and disadvantages of this approach to requirements;
- Define a given number of requirements from a scenario, using user stories;
- Explain the purpose and application of MoSCoW prioritisation;
- Prioritise a list of requirements from a given scenario, according to MoSCoW rules;
- Discuss the link between requirements and modelling.

9.2 Timings

Lectures:	2 hours
Seminar:	2 hours
Private Study:	7.5 hours
Tutorials:	1 hour

9.3 Seminar Notes

The time allocation for the seminar sessions for this topic is 2 hours.

Exercise 1: Structuring and Prioritising Requirements

The purpose of this exercise is:

- To structure and prioritise requirements

This exercise requires reference to:

- Outputs from earlier seminar exercises and the list of requirements in the table on the next pages.

Work in groups of 4-6. You are a mixture of Solution Developers, Business Ambassadors and Solution Testers in the Solution Development Team empowered to do this job. Typically you would be:

- One or two business people from the hotel (accountant, receptionist)
- One or two developers/testers
- The Project Manager or Team Leader

1. Match the requirements listed on the next pages with the business function they support. Clarify or split the requirements if necessary.

2. Identify, by name, the user resource needed for each requirement.

3. Prioritise the requirements *(MoSCoW).*

4. Identify **three** essential global non-functional requirements and **one** which is specific to one function.

Olympia Hotel Requirements List

Requirements Definition and Prioritisation

Functional Areas:

a. Reserve rooms
b. Check-in
c. Add charges to bills, such as newspapers, meals etc.
d. Check out
e. Prepare housekeeping information
f. Control kitchen stock
g. Produce management and marketing information

You need to record the GLOBAL non-functional requirements at the end of this worksheet.

Functional Requirements

Req Id	Original Requirement	New Id	Functional Requirement(s)	Function A - G	Non-Functional Requirement(s)	MSCW Priority	Business Ambassador
1	Facility to make, amend and delete reservations using "user-friendly" screens. The user should be able to select easily which function he/she wants to carry out. The outline screens should all look the same.						
2	Check-in facility, which will quickly and efficiently update the reservation to "arrived" or store appropriate details if customer just walks in and accommodation is available.						
3	Ability to print, on request, written confirmation of bookings. This is for customer-account holders and for written bookings.						

Req Id	Original Requirement	New Id	Functional Requirement(s)	Function A - G	Non-Functional Requirement(s)	MSCW Priority	Business Ambassador
4	Ability to produce details of provisional bookings not confirmed within 14 days of the reservation date, with the option to the user to release the rooms.						
5	Links from restaurant and bar tills to update customer accounts automatically and instantly.						
6	Link from telephone switchboard to update customer accounts automatically.						
7	Facility for newspaper orders to be entered directly to the customer account.						
8	Daily production of newspaper requirements list.						
9	Forward-loading figures on hotel occupancy to be produced for use in ordering food and drink.						

Req Id	Original Requirement	New Id	Functional Requirement(s)	Function A - G	Non-Functional Requirement(s)	MSCW Priority	Business Ambassador
10	A computerised stock control system for food and drink with automated links to bar and restaurant for charging.						
11	Daily production of lists for housekeeping and the restaurant.						
12	Facility for adding items on check-out and then the automatic production of customer bills. If customer-account, checking account number is the correct one with a customer-account file						
13	Input of payment type on check-in and whether part or the entire bill is being paid. If payment by cash at check-out, update cash receipt data, this data being made available to the accounting systems.						
14	Input if no payment, (customer account holders) account to be sent to accounts department and letter/invoice generated.						

Req Id	Original Requirement	New Id	Functional Requirement(s)	Function A - G	Non-Functional Requirement(s)	MSCW Priority	Business Ambassador
15	Facility to handle cancellations including notification to Accounts if a refund or charge is involved.						
16	Facility to interrogate customer data on usage of rooms.						
17	Facility to classify customers (business, weekend breaks, holidays) and reasons for choosing the Hotel (facilities, position, service).						
18	Facility to interrogate room occupancy figures and forward loading data.						

Global Non-Functional Requirements:

	Non-functional Requirement (e.g. security, performance, response time)	Acceptance Criteria	Related Functional Requirements
G NFR1			

G NFR2			
G NFR 3			

9.4 Private Study Exercises

You should spend approximately 7.5 hours on the Private Study for this topic. You should use this time to complete the exercises below as directed by your lecturer and to review the contents of this topic.

Exercise 1:

Research the description of requirements a User Stories.

Rewrite requirements 1 – 5 of the list of requirements for the case study as User Stories, for review in the tutorial.

Exercise 2: Quiz

Based on the research conducted in Exercise 1 write 5 quiz style questions based on this topic. You must also include answers. You should bring them to the Tutorial where you will discuss them and collectively agree on model answers for a selection from the group.

Exercise 3:

In preparation for the tutorial session for this topic, make a note of any questions you have about the case study exercises, the private study reading and the practical exercises from the recommended text. You will have a chance to discuss these with your tutor during the tutorial.

9.5 Tutorial Notes

The tutorials for this topic will last for 1 hour.

Exercise 1: Quiz questions

Random questions will be selected from Private Study and shared. The group will collectively agree on model answers.

Exercise 2:

Review the User Stories you wrote in your private study time with the rest of your group.

Topic 10: Iterative Development and Prototyping

10.1 Learning Objectives

This topic provides an overview of the key technique of Iterative Development, and the use of prototyping in an Agile project. On completion of the topic, you will be able to:

- Define what a prototype is in an Agile project;
- Explain what iterative development is and the iterative development lifecycle;
- Discuss the link between prototyping and requirements;
- Describe the “FUN” approach to prototyping (Functional, Usability, Non-functional);
- Explain horizontal, vertical and combined approaches to the planning of timeboxes;
- Compile and demonstrate a simple prototype in a given scenario.

10.2 Timings

Lectures:	2 hours
Seminar:	2 hours
Private Study:	7.5 hours
Tutorials:	1 hour

10.3 Seminar Notes

The time allocation for the seminar sessions for this topic is 2 hours.

Exercise 1: Prototyping

The purpose of this exercise is:

- to prepare and present a simple, paper-based prototype (or role-play prototype) of the reservations aspect of the Hotel Olympia project. This will be used to inform staff of the changes they are likely to see.

This exercise requires reference to:

- Hotel Olympia Background Information
- Answers from seminar exercises thus far

For this exercise, you are the Project Manager and relevant members of the Solution Development Team.

1. Create a simple prototype for reservations function within the hotel.

2. Explain what perspective this is testing (functional, usability, non-functional) and why.

3. Prepare a short presentation to show this prototype to other groups, who will be looking at it from the point of view of the receptionists who will be handling reservations when the new systems are implemented.

10.4 Private Study Exercises

You should spend approximately 7.5 hours on the Private Study for this topic. You should use this time to complete the exercises below as directed by your lecturer and to review the contents of this topic.

Exercise 1:

Explain how prototyping could be used within the case study to evaluate the effectiveness of electronic tills for the bar and restaurant. What kind of prototype would this be? What are the advantages and disadvantages of performing this kind of prototype?

Prepare the above as a presentation to explain the prototype as if to the hotel management.

Exercise 2: Quiz

Based on the research conducted in Exercise 1 write 5 quiz style questions based on this topic. You must also include answers. You should bring them to the Tutorial where you will discuss them and collectively agree on model answers for a selection from the group.

Exercise 3:

In preparation for the tutorial session for this topic, make a note of any questions you have about the case study exercises, the private study reading and the practical exercises from the recommended text. You will have a chance to discuss these with your tutor during the tutorial.

10.5 Tutorial Notes

The tutorials for this topic will last for 1 hour.

Exercise 1: Quiz questions

Random questions will be selected from Private Study and shared. The group will collectively agree on model answers.

Exercise 2:

Present the prototype you selected in Exercise 1 of the private study session to the rest of the group, and highlight its advantages and disadvantages.

Topic 11: Estimating and Timeboxing

11.1 Learning Objectives

This topic provides an overview of estimating, and the key technique of timeboxing, together with timebox planning and the link to requirements.

On completion of the topic, you will be able to:

- Explain the need for estimating and the factors affecting estimates;
- Estimate given tasks to establish the different approaches which can be used;
- Identify factors affecting estimating and the link between estimating and requirements detail;
- Define what timeboxes are and the different levels of these within a project;
- Produce and present a timeboxed delivery plan for a given scenario.

11.2 Timings

Lectures:	2 hours
Seminar:	2 hours
Private Study:	7.5 hours
Tutorials:	1 hour

11.3 Seminar Notes

The time allocation for the seminar sessions for this topic is 2 hours.

Exercise 1: Timebox Planning

The purpose of this exercise is:

- To produce a first-draft delivery plan, showing development timeboxes and the functionality to be delivered from them.
- To show user and technical Solution Development Team resources needed by each of the timeboxes.
- To prepare for and participate in an informal workshop to present and discuss the plan.

This exercise requires reference to:

- Outputs from all previous seminar exercises, the project objective and the diagram of the scope of the system.
- The prioritised requirements list, with the group's own MoSCoW priorities from the Topic 9 seminar exercise.
- The table below on estimates for the requirements.

You are members of the empowered Solution Development team for the project, plus the Project Manager. For the preparation of the plan, you can gain input from the Business Visionary in the form of your tutor. For the workshop and presentation of the plan, you will have to provide:

- A facilitator
- A presenter
- A scribe

Note that this will not be an independent facilitation. Observe whether this makes a difference.

1. Produce a timeboxed and visible delivery plan for the whole 12 week period, divided into 2 or 3-week timeboxes to cover the functionality necessary to satisfy the requirements.

   - Identify, and make visible, the high-level requirements to be addressed in each timebox and their priorities *(MoSCoW)*.
   - Identify by name the user and technical resources needed for each timebox to allow the work to be done.
   - Check that there is no overloading of users' and technical time in any timebox.

2. Prepare for a presentation of your first draft timeboxed plan to deliver to the hotel management. The objectives of this workshop are to:

   - Ensure that the plan is understood by all, and is viable.
   - Obtain commitment of resources to the timeboxes.
   - Note any changes needed to the plan.
   - Highlight any requirements which have become 'Won't Haves'.

Olympia Hotel Requirements List: Estimates, for use in Timebox Planning

Constraints for this Exercise:

- You may use **only 2 developers,** full time.
- You will need to ask for any business user resources you need.
- Estimates include Exploration, Engineering, Testing and Deployment activities, but you should show where deployments are happening on your plan.
- Each requirement can use only one developer, for simplicity of this exercise.

					User time		Developer and Tester time	
Old Req Id	**Original Requirement**	**New Id**	**MSCW**	**Requirement Short Name**	**DAYS Per user (Business Ambassador)**	**User(s) resource needed (initials)**	**DAYS per Developer, and the same again per Tester**	**Developer and Tester resource needed (initials)**
1	Facility to make, amend and delete reservations using “user-friendly” screens. The user should be able to select easily which function he/she wants to carry out. The outline screens should all look the same.	1a		Make reservation	6		8	
		1b		Amend reservation	4		6	
		1c		Delete reservation	4		6	
2	Check-in facility, which will quickly and efficiently update the reservation to “arrived” or store appropriate details if customer just walks in and accommodation is available.			Check-in	4		6	
3	Ability to print, on request, written confirmation of bookings. This is for customer-account holders and for written bookings.			Print booking confirmation	4		6	
4	Ability to produce details of provisional bookings not confirmed within 14 days of the reservation date, with the option to the user to release the rooms.			Release provisional booking	4		6	

5	Links from restaurant and bar tills to update customer accounts automatically and instantly.			Add restaurant and bar charges	4		8	
6	Link from telephone switchboard to update customer accounts automatically.			Add switchboard charges	4		6	
7	Facility for newspaper orders to be entered directly to the customer account.			Add newspaper order	2		4	
8	Daily production of newspaper requirements list.			Produce newspaper list	2		4	
9	Forward-loading figures on hotel occupancy to be produced for use in ordering food and drink.			Capture occupancy figures	4		8	
10	A computerised stock control system for food and drink with automated links to bar and restaurant for charging.			Stock control system	15		30	
11	Daily production of lists for housekeeping and the restaurant.			Produce occupancy lists	3		4	
12	Facility for adding items on check-out and then the automatic production of customer bills. If customer-account, checking account number is the correct one with a customer-account file	12a		Add bill items	1		2	
		12b		Produce bills	4		8	

13	Input of payment type on check-in and whether part or the entire bill is being paid. If payment by cash at check-out, update cash receipt data, this data being made available to the accounting systems.	13a		Input payment type	4		6	
		13b		Allow cash payment	4		4	
14	Input if no payment, (customer account holders) account to be sent to accounts department and letter/invoice generated.			Allow checkout with later payment	4		6	
15	Facility to handle cancellations including notification to Accounts if refund or charge is involved.			Cancel booking	4		6	
16	Facility to interrogate customer data on usage of rooms.			Customer data usage enquiry	6		6	
17	Facility to classify customers (business, weekend breaks, holidays) and reasons for choosing the Hotel, (facilities, position, service).			Add customer class	4		4	
18	Facility to interrogate room occupancy figures and forward loading data.	18a		Capture room occupancy data	4		8	
		18b		Future room occupancy Enquiry	4		8	

Global Non-Functional Requirements

Don't forget that the non-functional requirements may require extra time in the delivery plan to build in and deploy!

Global NFR Req Id	Non-functional Requirement	Related requirements	Acceptance Criteria	User Effort (days)	Dev. Effort (days)
G NFR1	"User-friendly" screens.	All customer-facing	Screens are deemed usable and signed off by the empowered Business Ambassador for that function	1 day per timebox	1 day per timebox
G NFR2	Standard screens (The screens should all look the same)	All	Screens conform to GUI standard xxx	1 day per timebox	1 day per timebox
G NFR 3	Quick responses	All	Response time should be no more than 2 seconds from entry of request to return of first data, for 98% of all user-facing transactions	0	5 days in total for system tuning

11.4 Private Study Exercises

You should spend approximately 7.5 hours on the Private Study for this topic. You should use this time to complete the exercises below as directed by your lecturer and to review the contents of this topic.

Exercise 1:

In groups of 4 – 6, research the Agile planning technique of planning poker. You may like to refer to the following book for information, or conduct research using the Internet.

- Cohn, M. (2005). *Agile Estimating and Planning*. Pearson Prentice Hall

Produce a short report on the way in which this works, along with the advantages and disadvantages.

Exercise 2:

Within your group, try out planning poker for a simple task: e.g. running between two points, passing obstacles.

1. First, your group should look at the "job" and estimate it using planning poker. Discuss estimate differences and agree a size in story points.

2. Consider a second similar task and estimate it in relation to the first (Is it twice as big, five times as big, etc.?)

3. Get one member of the group to perform the first task. Compare the estimate with the actual.

4. How does this affect your expectation for the second task?

5. Try the second task and compare actual with estimate. How good was the group estimate?

6. Write up the results of the experiment for group discussion in the tutorial.

Exercise 3: Quiz

Based on the research conducted in Exercise 1 and 2 write 5 quiz style questions based on this topic. You must also include answers. You should bring them to the Tutorial where you will discuss them and collectively agree on model answers for a selection from the group.

Exercise 4:

In preparation for the tutorial session for this topic, make a note of any questions you have about the case study exercises, the private study reading and the practical exercises from the recommended text. You will have a chance to discuss these with your tutor during the tutorial.

11.5 Tutorial Notes

The tutorials for this topic will last for 1 hour.

Exercise 1: Quiz questions

Random questions will be selected from Private Study and shared. The group will collectively agree on model answers.

Exercise 2:

Feedback the results of your research and experiments from the private study work to the rest of the class.

Topic 12: Summary and Revision Guidance

12.1 Learning Objectives

On completion of the topic, you will be able to:

- Place techniques taught in this whole module in the context of the module themes;
- Demonstrate an understanding of concepts taught and recognise the links between them;
- Place the principles, roles and key techniques taught during the module into the appropriate place(s) in the lifecycle;
- Demonstrate the ability to be proactive in directing your own revision.

12.2 Timings

Lectures:	2 hours
Seminar:	2 hours
Private Study:	7.5 hours
Tutorials:	1 hour

12.3 Seminar Notes

The time allocation for the seminar sessions for this topic is 2 hours.

Exercise 1:

Your tutor will put you into small groups with your classmates. In your groups, answer the following questions:

- State in a few sentences what Agile is and how it is different from a more traditional waterfall approach. What benefits does it bring? What additional risks does it have?
- Explain the 8 principles of DSDM.
- Draw a simple model (diagram) of this module and its interactions, to help with revision.
- Describe a typical work pattern for a co-located Solution Development Team.
- Explain each of the 5 main stages of the DSDM life cycle. What are the other 2?
- Explain the different approach to project management of an Agile project, as compared to waterfall one.
- Describe the benefits of:
  - Facilitated workshops
  - Requirements
  - Prototyping
  - Estimating
  - Timeboxing

12.4 Private Study Exercises

You should spend approximately 7.5 hours on the Private Study for this topic. You should use this time to complete the exercises below as directed by your lecturer and to review the contents of this topic.

Exercise 1:

Refresh your knowledge by re-reading any notes and the Student Guide to remind you of the topics.

Make a note of any questions you want to ask in the final tutorial session.

Exercise 2: Quiz

Every topic included a Private Study task to create a quiz. Look at the quizzes you have created throughout the unit. Using these quizzes to a final create 20 multiple choice question quiz. You should include answers. Your quiz should cover all topics and be suitable for a fellow student to answer.

12.5 Tutorial Notes

The tutorials for this topic will last for 1 hour.

Exercise 1: Quiz questions

Random questions will be selected from Private Study and shared. The group will collectively agree the correct answer.

Exercise 2:

In this final tutorial, you should use the opportunity to raise any questions or queries arising from the case study exercises, private study reading.