

L3 Lead Examiner Report 2001

January 2020

**L3 Qualification in Computing
Unit 3: Planning and Management of
Computing Projects**

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What is a grade boundary?

A grade boundary is where we set the level of achievement required to obtain a certain grade for the externally assessed unit. We set grade boundaries for each grade, at Distinction, Merit and Pass.

Setting grade boundaries

When we set grade boundaries, we look at the performance of every learner who took the external assessment. When we can see the full picture of performance, our experts are then able to decide where best to place the grade boundaries – this means that they decide what the lowest possible mark is for a particular grade.

When our experts set the grade boundaries, they make sure that learners receive grades which reflect their ability. Awarding grade boundaries is conducted to ensure learners achieve the grade they deserve to achieve, irrespective of variation in the external assessment.

Variations in external assessments

Each external assessment we set asks different questions and may assess different parts of the unit content outlined in the specification. It would be unfair to learners if we set the same grade boundaries for each assessment, because then it would not take accessibility into account.

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Unit 3: Planning and Management of Computing Projects

Grade	Unclassified	N grade	Level 3		
			Pass	Merit	Distinction
Boundary Mark	0	11	23	36	49

Introduction

This was the fifth examination series for Level 3 BTEC Computing Unit 3 (31770H). There are two supervised assessment periods. Part A is a maximum of three hours in a one week period and Part B is a maximum of two hours in a three-day period. Part A was the development of the PID and Gantt chart and Part B was the checkpoint and email.

This unit is a mandatory unit for all learners studying the extended certificate, foundation diploma, all diplomas and the extended diploma.

The examination for this unit contains four sections and each section will link to a scenario that is used throughout the whole of that section. The scenario is clearly stated at the beginning of each section.

Each section is broken down into activities, which will then test learners on different areas of the specification, and learners should expect to apply their knowledge to the scenario.

Learners are given a scenario with additional information for support. They are instructed to look at individual parts / sections of this during the examination in order to answer questions. The information brief may give learners:

1. Information about problems that they need to solve.
2. Interpret the scenario and apply solution using Project Management techniques and theory

All activities of the examination paper provide differentiation at all attainment levels and the brief is designed to escalate in difficulty, so that a larger percentage of higher-grade marks depends on the skills, knowledge and understanding.

- LE Report to be considered with paper and mark scheme
- Contextual introduction

Introduction to the Overall Performance of the Unit

Learners, overall, performed quite well for this unit, though it was not as strong as the performance of learners from the previous series. It was evident that learners prepared for the rigour of this exam. Again the performance on Activity 2, Gantt chart was excellent with many learners picking up marks for most sections. The number of blank responses was also significant. Activity 1, PID was disappointing as the main problem was the interpretation of the scenario. Activity 3 and 4 were of a good standard and demonstrated the learner's ability to apply theory to practical scenarios. However, in some parts of Activity 3, project quality management was another area that learners struggled with. They failed to include processes and activities that determine the quality of the policies and work processes. In many instances for activity 4, learners inaccurately interpreted the scenario where the objectives were either rewritten or unrelated to the scenario. This had an impact on project evaluation. Learners struggled with lessons learnt in Activity 3. Learners wrote more of an evaluation rather than discussing what they would do differently in the next project.

There is still evidence that many learners are still not covering the full specification in depth. Activity 2 part b, the costing was particularly poor, where most learners were not able to use logic chains of reasoning to apply Project Management techniques such as those that relate to functional points. Many learners were still using hours to calculate cost rather than converting the functional points to a number of hours needed.

Individual Questions

The following section considers some of the activities from the papers, providing examples of learner responses and a brief commentary of why the responses gained the marks stated. The main focus of this session is the activities that did not perform well overall.

Activity 1

Objectives

SMART objective	Achieved?	Date and Comments
The junior software engineers (Mr Lennie, Mr Faser and Ms Lomax) will create a customised interface to allow users to interact with the system easier and will take 10 days.		The task will be completed on 13/02/2020
The junior software engineers will develop the smartphone app which will allow customers to check into the airport using the app, this will take 14 days.		The task will be completed on
The senior software engineer (Mr Carson) will develop the relational database to store the airports data and will take 12 days.		The task will be completed on
The senior software engineer will integrate the smartphone app and relational database to allow the system to access the database and allow the app to connect to the system. This will take 5 days.		The task will be completed on

The junior network engineers (Mr Hawisa, Ms Hill, Ms White) will install the check-in desks and network infrastructure terminals to allow the network to communicate with all other devices and for the check in desks to be operational. This will take 25 days.		The task will be completed on
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The junior network engineers (Mr Hawisa, Ms Hill, Ms White) will Install the check-in desks and network infrastructure terminals to allow the network to communicate with all other devices and for the check in desks to be operational. This will take 25 days.		The task will be completed on
The senior network engineer (Mr Ahmed) will build and connect each server to allow them to connect to the airports network. This will take 4 days.		The task will be completed on
The senior software engineer will install and configure software for each server to allow the servers to work and be used with an easy to use interface. This will take 15 days.		The task will be completed on
The database administrator (Mr King) will complete the server software testing for each sever to ensure the software installed works as intended. This will take 8 days.		The task will be completed on
The senior network engineer will complete the hardware testing to ensure all the hardware works as intended and will take 10 days to complete.		The task will be completed on
The senior software engineer will work on delivering training for staff to show them how to use the new system and will take 2 days.		The task will be completed on
The senior software engineer will work on fault fixing to ensure any faults that are found are fixed correctly. This will take 7 days.		The task will be completed on
The senior software engineer will work on regression testing to ensure that any errors that have been fixed work as intended. This will take 15 days.		The task will be completed on

The objectives are based upon clearly defined project goals, and are then broken down further into the component tasks. This helps define your success factors, which the learner needs to evaluate in Activity 4. Getting this right first time will help later. It is important to ensure they are 'SMART' objectives. Learners still struggle with this and the above is an example of what could be added.

The objectives can reflect the Project Lifecycle stages, Analysis, Design, Implementation, Testing, and Evaluation/Review, and then adding relevant information from the scenario. These need to be specific and time-constrained, which are relevant to the given scenario. The above candidate has considered all areas using logical chains of reasoning that show full awareness of the given scenario.

Risk Management Strategy

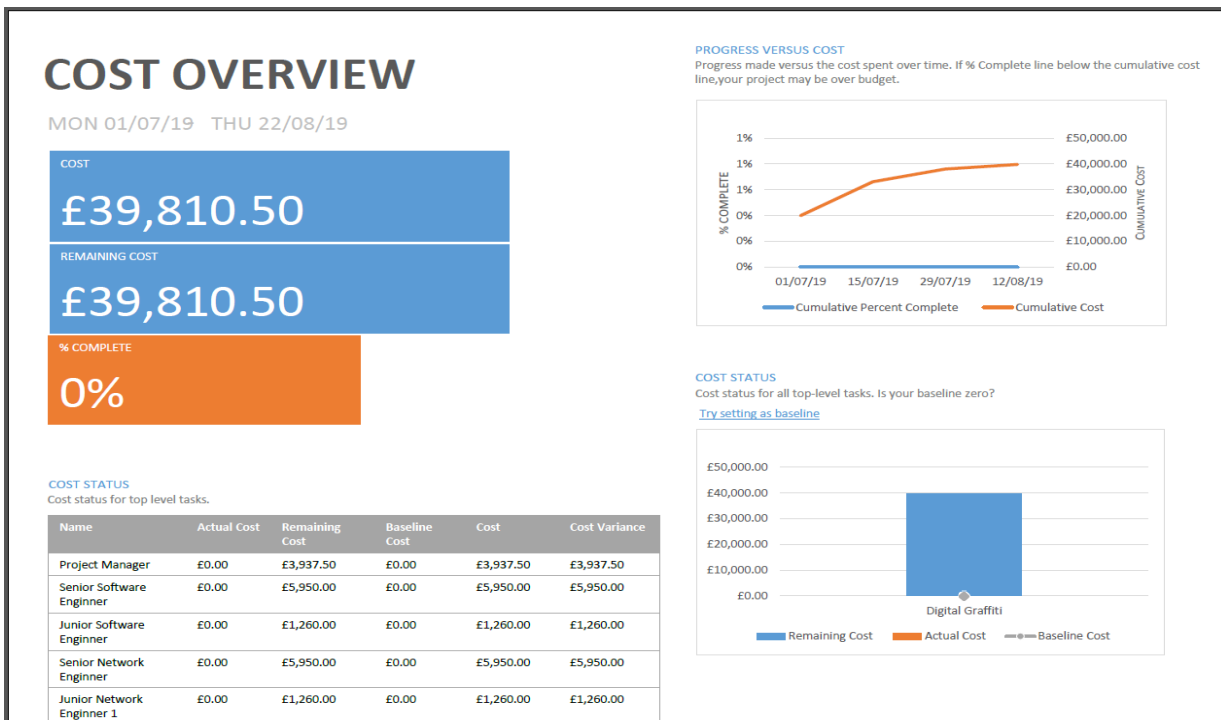
Risk	Probability	Impact	Severity	Contingency Plan
The project will exceed the deadline	Low	Low	Low	If the project deadline is exceeded, this could cause more money to be spent on the project. The contingency plan for this is to assign more time to tasks expected to take longer.
The project will exceed the budget	Low	Medium	Medium	If the project budget is exceeded, the project may not be able to be finished as workers cannot be paid and hardware cannot be bought, to resolve this, a contingency or backup fund can be set in place.
Staff will not attend work	Low	Low	Low	If staffs do not attend work, then tasks may not be completed on time which could cause delays to other tasks and push the project over the deadline. To prevent this, backup staff could be set in place to cover any staffs that do not attend work.

Communication Plan

Stakeholder(s)	Frequency	Type	Purpose
Mr Ward (Director of Operations)	Weekly	Face-To-Face Meeting	Keep them up to date with everything going on with the project
Mrs Evans (Director of IT)	Weekly	Face-To-Face Meeting	Keep them up to date with everything going on with the project
Senior Network Engineers and Junior Network Engineers	Daily	Morning Scrum	To know what everyone has done, what everyone is doing now, and what everyone will do in the future
Senior Software Engineers and Junior Software Engineers	Daily	Morning Scrum	To know what everyone has done, what everyone is doing now, and what everyone will do in the future

This is a crucial component of the project; the frequency and type of communication are appropriate for the target audience, using logical chains of reasoning that show awareness of the given scenario. More emphasis and weight for the top end marks are for the purpose. This example demonstrates that the candidate has thought about why communication is necessary thinking about what to discuss during the communication. The learner would fit into **mark band 3 (4)**.

Activity 2



The main points of this sections primarily is the benefits of meeting quality requirements. This should include less rework, higher productivity, lower costs, therefore increased stakeholder satisfaction and increased productivity. The learner has shown some reasonable understanding, having included hardware resources and cost, the time needed for each employee with cost, but they have not shown any evidence of how Cost they attained the number of days required. However, it has come over budget; the learner has shown how they have calculated the costs from the functional points or how they have found the most efficient use of resources.

Activity 3

Quality Management

(List the activities undertaken this period)

To insure quality I used time management. I used the Gantt chart to manage what task staff should work on at what times. I ran into issues where staff were needed for multiple different tasks. To elevate this I made sure that staff couldn't do the next without finishing its predecessors.

The Gantt chart helped me manage time spent on the project. It also helped with shortening the duration of the project. Normally, you would simply take on one task one at a time. But this means that other staff that were needed on later tasks, and not the one being complete, didn't need to be there. The Gantt chart help show the project team what tasks they needed to complete and you can see that multiple tasks were being performed at the same time. This could only be done with the specialised staff working on the specific task. E.g. Software engineers worked on software related tasks and network engineers worked on network related tasks.

Another tool that helped me insure quality was the project initiation document (PID) and specifically;

- Responsibilities
- Assumptions
- Risk management Strategy

These helped me manage time. By giving all staff their responsibilities it meant that we both knew what they were working on and they didn't get side tracked, which would only waste time. By creating assumptions it meant I could plan for issues that may occur in the future and provide solutions. This would help with resolving any issues as quickly as possible without stalling the project. One more tool that helped was the Risk management strategy. It helped because, like assumption, I could plan for issues that may occur in the future and provide solutions so that I do not, unnecessary, prolong the life of the project.

Quality management looks at the processes and activities that determine the policies, objectives and responsibilities to ensure the project is successful. The learner has clearly done this by focusing on standards as well as the project and sustaining it. They have demonstrated planning, performance and control quality key features that make up Quality management.

Lessons Learned

The lesson learned for the infrastructure supply problems was that a backup supplier should be established in case the original supplier is delayed or is unreliable. With the backup supplier this means that the hardware required from the backup supplier will arrive faster than needing to wait for the original supplier, meaning there would not be as much of a delay.

The check in systems overloading caused delays due to the system needing more testing. The lesson learned for this is that the system needs to be analysed before implementation or purchase to ensure that it can run the hardware that will be installed into the system. This would then mean that overloading could be avoided as the system would be powerful enough to run the hardware required.

The issue with transferring data from the old system into the new system meant more delays occurred. The lesson learned from this is to test the transfer of data initially once the system has been developed or during development to transfer data into the system to see if it transfers as intended either to ensure the data can be read, written or is compatible with the new system.

The system had incorrect security controls which meant that staff could complete tasks not appropriate for their roles. The lesson learned from this is that the security implementations should have a stronger testing standard that means the system is checked over during development to ensure the security will work as intended.

Lessons learned are relevant and insightful, indicating thorough understanding of project management concepts has been met. This section should evaluate progress and performance, which should state what changes they would make to future working practices. The learner has done this by discussing communication issues with the team. Areas that can be discussed at this stage, any issues which were dealt with, any cost saving or additional costs, the impact, timings and the scope of the task set out has been met with this point. The learner has done this well and fits in into **mark band 3 (6-8)**.

Activity 4

Subject	Project closure
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Dear Mr Ward,

I am writing this to you that the project has finally signed off, which means we have delivered the scope that we provided to you for the whole project. The budgets that you have provided are now allocated to 153,300, which it is over budget by 3,300 due to encountering issues, which it increases to total cost plan.

The new system will deliver reducing the errors from the record, it will reduce check in times so that it prevents delay for the passengers, the smartphone app were efficient to the passengers so that it tracks their flight, it collects the gate and flight data so that it will be registered to the database, it will store flight schedules so that it keeps to the record so that it will help to use for the customer service and the new system is supported 24 hours per day operation.

In this analysis stage, the project sponsor, Mrs Evans, has assigned to do analysis of the old system and she has analysis for the new system which she calculated the function points of each tasks for the new system. That took a day and there were no issues encountered.

In this design stage, I gathered details from the project sponsor for the function points, which then I created a Gantt chart for the project which it will provide 5 stages that has included with milestones, resources list and cost plan. It took 0 day and there were no issue encountered.

In the development stage, the software engineers has been assigned to develop a smartphone app for the flight check-ins to the passengers, creating a customised interface for the check in terminals, develop the relational database so that it keeps the records for each flights, gates and passengers were on board. They have been integrated for those tasks which in overall it took 20 days to complete the development stage and there are no issues encountered.

In the implementation stage, the network engineers and software engineer has assigned to install a check-terminals, network infrastructure and servers, which also installs a software to servers with configuration. That took 24 days, however, there was issue encountered for supply problems on the network infrastructure which then I have to find a new supplier, which it delays 5 days for the next stage.

In the testing stage, Both software and network engineers including database administrator were assigned to test and rectify of each task like server software testing for each server, hardware testing for each server, software and security system. Then, the senior software engineer has assigned to plan and deliver training to the staff. In overall, it took 21 days to complete, however, there were some issues encountered during that stage; the check-in failed due to system overloading, issue transferring on direct changeover and the error system security controls for the staff, therefore, it delays 16 days to resolve the issue.

During the implementation stage the supply for the infrastructure has a problem which I had to find a new supplier that takes 5 days delay and it give 10% increase of that supply costs of the network infrastructure.

During the testing stage, the Senior network engineer has encountered the check-in terminals has failed due to the system overloading, therefore, further testing was required which it delays the next stage of the development by 5 days.

The database administrator has encountered a issue transferring from old to new system, therefore, it will restart the changeover and the project will be delayed by four days.

The senior software engineer as encountered the new system had incorrect security controls during the training, which the staff are assigned are not appropriate for their roles, which it will rectify the security controls faults and the project will delay by a week.

For the future projects, I will ensure that I must contact the supplier, so that it prevents the delay on the project and it must ensure that the supplier would not encounter the supply problems so that it prevents the delay of the project. Next, I must ensure that the check-in terminals must not implement the system overloading, so that it prevents delaying the next stage of the development. Then, I will ensure that the direct changeover will cause a delay if that changeover fails and find a new changeover to pilot changeover, so that the transferring data will be implement between old and the new system in amount of duration. Finally, I will ensure that the task will find the major faults during the testing stage by the assigned job role and rectify it before it will be delivered to the staff during the training.

In addition, I will ensure that to communicate more to the client so that it provides for more details, which I will include what will deliver and I will what will not deliver, so that it prevents scope creeps during the project.

In conclusion, the project was signed off, which were completed and thank you for reading this, we hope to work with again.

The final stage is the email or review of the project's success. In this section we are looking for three main areas, Success criteria are "There is an accurate summary of how quality criteria were met showing an awareness of the scenario throughout". The second part is the review of the project and linking this to the project lifecycle. The third part is the summary of the lesson learned. For the success criteria, we are expecting the learners to look back at part A of the exam and see if they have met their objectives, and if so how and if not why not. In this case, the learner has met this criterion by discussing the success criteria individually and providing examples of how each was met. The information given in the scenario has been utilised effectively to provide details of deliverables success, such as the project coming in close to budget. Process success such as the new system delivered by the team to match the designs, and performance success such as the project team working together with the aim of developing a new system of high quality.

The band 3 criterion, “Lessons learned are relevant and insightful, showing thorough understanding of project management concepts” has been met.” The learner gives the reasoning behind the corrective action where they also include the causes of issues. They also mentioned what has been experienced. What they could have included is the lesson learned about communication management.

Summary

It is recommended that centres try focusing on using and applying techniques, so that the functional points are correctly converted to the correct cost of the employee, rather than assuming the number of hours needed to work, also making sure that all cost are included such as any hardware.

Objectives- suggest adding comments giving good reason for each objective, where it would be useful to try using less generic objectives and more which are appropriate to the given scenario.

Quality Management – learner should try understanding the different components that make up quality management.

Lesson Learnt - The only way to avoid problems happening yet again in the future is to carefully consider what went wrong this time (and why), and decide what can be done differently next time to avoid those problems. Lessons learned is a process to help identify and transfer such recommendations forward from one team to another.

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Rewarding Learning

