

Unit 1 - Digital Tools and Best Practice for Project Management

Overview

The candidate can understand how project management can make IT projects more effective and efficient. The can learn and apply the skills of using project management tools and principles in order to make their work meet time and money deadlines, as well as build in controls for quality and team working/collaborative elements.

A work activity will typically be 'non-routine or unfamiliar' because the task or context is likely to require some preparation, clarification or research to separate the components and to identify what factors need to be considered. For example, time available, audience needs, accessibility of source, types of content, message and meaning, before an approach can be planned; and the techniques required will involve a number of steps and at times be non-routine or unfamiliar.

Example of context – this unit can underpin other units. For example, if learners are working on a DTP poster and a presentation to pitch the poster to a local company, how do they know what applications to use? How do they know how much time it will take? How will they organise their files and understand how to solve problems that arise? All of these are part of this unit so as long as they start planning using IT tools from the beginning, they will be gathering information to use for the unit. This unit should be the start, middle and end of the course as it is related to all other units.

Assessor's guide to interpreting the criteria

General Information

RQF general description for Level 2 qualifications

- Achievement at RQF level 2 (EQF Level 3) reflects the ability to select and use relevant knowledge, ideas, skills and procedures to complete well-defined tasks and address straightforward problems. It includes taking responsibility for completing tasks and procedures and exercising autonomy and judgement subject to overall direction or guidance.
- Use understanding of facts, procedures and ideas to complete well-defined tasks and address straightforward problems. Interpret relevant information and ideas. Be aware of the types of information that are relevant to the area of study or work.
- Complete well-defined, generally routine tasks and address straightforward problems. Select and use relevant skills and procedures. Identify, gather and use relevant information to inform actions. Identify how effective actions have been.
- Take responsibility for completing tasks and procedures subject to direction or guidance as needed.

Requirements

- Standards must be confirmed by a trained Gold Level Assessor or higher.

- Assessors must at a minimum record assessment judgements as entries in the on-line mark book on the INGOTs.org certification site.
- The work in the unit is recommended in order for candidates to have covered enough depth and breadth in the topic to successfully carry out their controlled assessment and take the external exam.
- When the candidate has covered as much of this material as necessary to complete the controlled assessment element, they may be introduced to the topic
- This unit should take an average level 2 learner 35 hours of work to complete.

Assessment Method

This unit will be assessed synoptically via a controlled assessment and also through an external examination.

Expansion of the assessment criteria

1. Understand the principles of project management

1.1 I can understand the principles of project management

Learners should be able to demonstrate an understanding of what project management is and how it is used with some real-world examples.

Evidence: Controlled assessment and examination

Additional information and guidance

Learners need to show some research and investigative skills. This research and summary work will provide the backdrop to all the work they do on this qualification and in other areas, so needs to be comprehensive.

Project Management is a process that usually works in a cycle as no project is ever completely finished and perfect. Learners will begin by analysing the nature of the problem they are faced with. This will be in conjunction with a client as they will need to meet the client's needs and this will inform their work.

Once they have analysed the problem and have an idea of what is required, they will come up with a design. The design does not need to be final, but will act as a guide to what they attempt to do.

Using their plan, they can then implement or build a solution to the problem and check for any issues.

The next phase, will be a testing phase where they make sure that the system or solution they have built is what was asked for in the first place. If there are any problems, they will need to be adjusted.

The final phase, although it is not really final, is the evaluation where they reflect on how it all went and think about how to do it better.

1.2 I can list digital tools used in project management

Learners should make a list of tools they will use to complete their tasks.

Additional information and guidance

Learners need to give an indication of some of the tools they will use with some guidance on what they do or will do with them. The content here will depend on what the learner's project is so there will be no set list here, but hopefully a range. Free and open source tools should be used wherever possible to minimise cost and to support this industry. An example of some tools which can be explored will be:

- Word processors
- Spreadsheets
- Databases
- Graphics applications
- Video editing tools
- Animation software
- 3D Modelling software
- DTP applications
- Web based applications

1.3 I can explain the stages of project management

Learners will demonstrate a working knowledge of project management.

Additional information and guidance

Learners can flesh out their understanding of the main stages. There are different version that are used and they can choose the one that best suits the way they work and their objectives. Traditionally it is: Analyse and Research; Plan; Implement and Create; Test; Evaluate. They will need to explain each of the stages in terms of how they work and what they are for. Some of this may be apparent in their controlled assessment.

A more detailed breakdown of how these will be assessed is in the controlled assessment

1.4 I can explain the role of team players in projects

Learners should be able to identify different roles and responsibilities.

Additional information and guidance

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Learners will, for the most part, be carrying out most of these roles themselves, but should still be aware of the different people that make a project successful. In large organisations there will be different managers and workers in each of the different areas and each one of them will have an important role in the project's success (or failure).

Some of the roles they will come across and may be relocating in their work are:

- Project sponsor or client
- Stakeholder
- Manager
- Analyst
- Developer
- Quality assurance manager/staff
- Administrator
- Team leader
- Project staff

Each of these, in addition to the overall project manager, will have a different role in each phase or all phases. Learners can give a brief description and some examples of what some of these people do.

1.5 I can describe the strengths and weaknesses of project management

Learners should describe the good and bad points of this approach

Additional information and guidance

Learners will be able to reflect as they work through their project what is effective or not. Project management is a useful process and in most cases it will be ideal for what a team needs, but perhaps not. It might be too restrictive. Are there alternatives that could be used?

Learners need to make some notes as they work through their projects and assess what worked well and what didn't. This will allow them to show that they understand the strong aspects of project management, and where they might use these again, or the weak points that they probably would not use. This process will make them much better when they work on IT projects in the future and especially with other team members or across organisations.

1.6 I can create an implementation template for a project

Learners should be able to put together a rough working draft of their project process.

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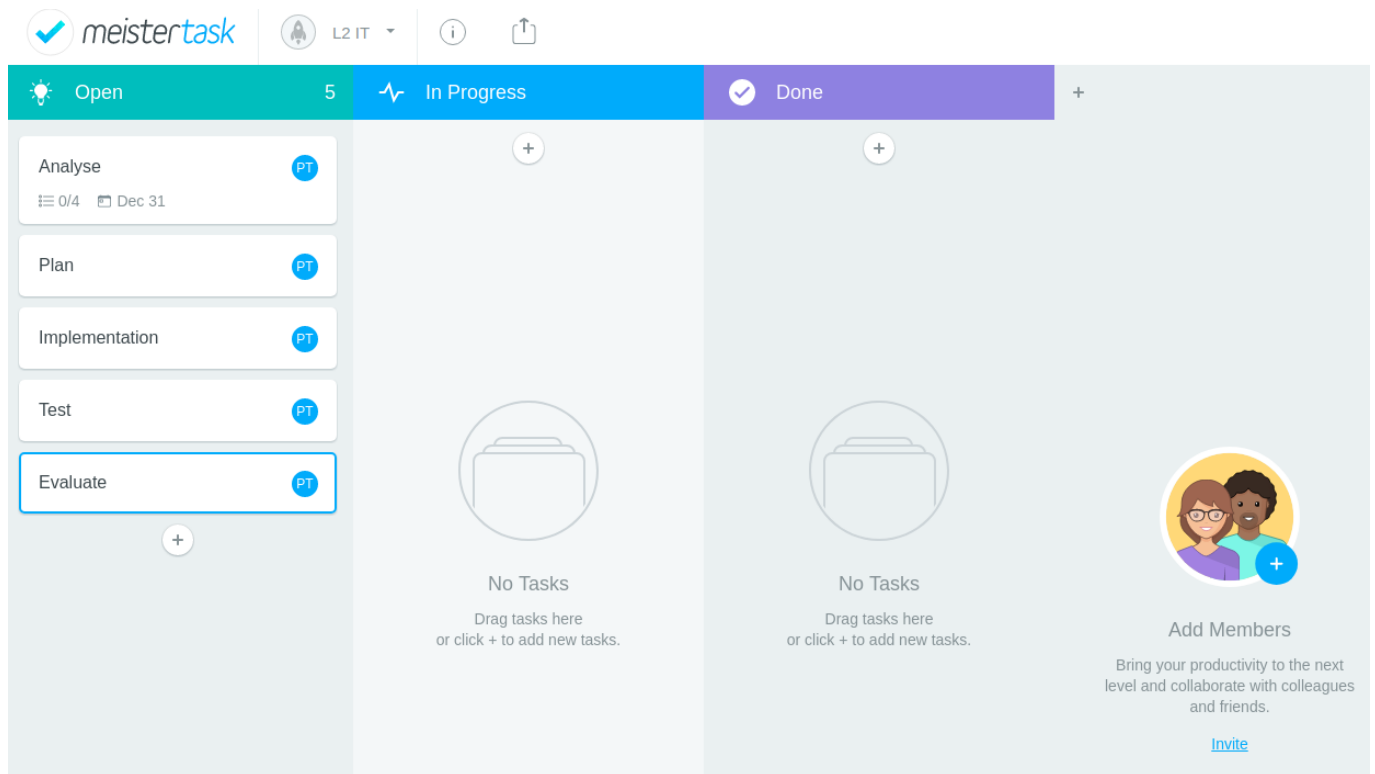
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Additional information and guidance

Learners will put together a working plan with the key areas of project management and something like a Gantt chart to track their time and actions. They can use whatever system they like, though there are useful online tools that they can explore such as

<https://www.openproject.org/> [1]

<https://www.meistertask.com/> [2]



Some of these may be overly complicated, but will introduce learners to what companies use in the work environment. In most cases they will use basic office tools such as a word processor to develop the plan and a spreadsheet to track deliverables.

2. Plan using project management best practices

2.1 I understand the need for a clear plan on project work

Learners should be able to show that they understand the useful aspects of planning with some examples.

Additional information and guidance

Learners should put together some of their views to show how they think, or in some cases know, that planning helps them achieve their goals. They can use examples from other subject areas if they need to, but will need to be clear about the way planning guides them and allows them to try and stick to deadlines and achieve targets. Plans will not necessarily be fixed and in many IT projects teams use more agile or flexible systems, but a plan is always a good place to return to and check that things are going well. The clearer and more detailed the plan, the more likelihood of overall success.

2.2 I can define best practices and tools used for my project

Learners should elaborate on their choice of tools and methods.

Additional information and guidance

Learners will have decided on their overall project focus and this will have determined, at least initially, the types of tools they are likely to use. This in turn will determine how these tools might be used, so the methods employed. By this stage, learners should be able to start adding some detail to their plans about specific parts of the process and some guidance about the role their chosen tools will play. For example, if they are making a budgeting system for a local charity, they will need to define some of the features of a spreadsheet they are likely to use, such as specific formulae, in order to get the outcomes expected. If they are creating a website for a customer, what types of colour schemes must they use and what kind of graphic package will output the proper file formats for the tasks.

2.3 I can list the main milestones in a project

Learners will show that they know what their main and sub targets are and what dates these will be met by.

Additional information and guidance

The milestones in a project are the key stages that need to be completed in order for an overall project to work. If learners are still working on the analysis after 6 months, it is unlikely that the project will be completed in time. Learners will not be experienced in gauging all of these timelines initially, so some flexibility is expected, but the project overall needs to be completed within the confines of the dates for examinations, which gives a fairly clear end date.

As with all aspects of a good project plan, there will need to be some amount of adjustment as the project progresses, but it is useful to list some of the main milestones. For example.

Element	Analysis	Design	Implementation	Test	Evaluate
End date	Half term 1	End of term 1	End of term 3	Term 4	Term 5

2.4 I can describe the stages I will use for my project

Learners should be able to detail the stages as they develop and use them

Additional information and guidance

This is putting some detail into the different sections. If learners are using one of the suggested PM tools above, this could be adding subsections or elements at each stage. For example, under analysis, it could be analysing the client's needs for input, process and output. For the testing stage, it could be using different browsers to test the website design. This will make each stage clearer and be better for overall management. Learners could also start to build in the different roles responsible at each stage or the expected outputs.

2.5 I can define the roles and responsibilities of the team I will work with

Learners should be able to define a number of key roles and what they do

Additional information and guidance

The learner is likely to be working mostly on their own on this project, though it would be useful if they worked in small teams if this is appropriate. If they do this, the assessor will need to show the individual contributions, but it will give a more realistic view and experience of project work.

If one of the team members is responsible for the testing phase, then the other team members will rely on them to complete their part in the allotted time or it will affect everyone else.

The learner themselves, in most instances, will be the overall project manager and therefore will

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need to ensure that the project meets the targets at the right time and meets the needs of the initial client request. Having said that, if they are working as part of a team they will still be responsible for their own elements of work. If working with colleagues, for example they may be the go to person in the centre for graphics, they can be managed by others for a different aspect e.g. sound or the testing of the product: they may even jointly manage a project.

The responsibilities of some of the developers will be to design a product or aspects of some application that do as was requested or improve on an existing process.

2.6 I can produce a detailed plan for the project using best practices

Learners should produce a workable plan at the end of their initial investigations

Additional information and guidance

The plan should be detailed enough to begin working on the solution, but will not be so detailed that they can't adjust it to suit changing circumstances.

The plan should incorporate some of their learning and understanding about project management. This will include detailed timelines and milestones. It could include some costings, or perhaps, if they are using open source solutions for a client who traditionally uses expensive proprietary ones, they could include the cost savings and TCO (Total Cost of Ownership).

If they are working with a team or dependent on some external people, this should be documented and managed.

3. Evaluate the effectiveness of project management

3.1 I can analyse the effectiveness of my own project management

Learners should be able to judge some of their work in terms of outcomes

Additional information and guidance

Part of the earlier elements of this unit would have been planning and developing processes. With this framework, it should be relatively easy for learners to make some judgements and analyse their work.

In the analysis phase, did they use the right research tools and gather information that helped them be more effective and efficient. Could they have talked to more people of experience to get as many answers to questions as possible. Did they think carefully about how long different elements might take to design a plan that was fully workable.

In the design phase, did they explore as many tools as possible and look for the most appropriate in terms of completing the tasks. Did they think of cost saving elements and think about how designs could be maintained once the job as completed.

During implementation, did they over complicate the process and therefore miss deadlines. What process worked well enough that they would use it on other projects. Did the team, if they used one, work as expected or did it cause issues.

In the testing phase, did they do a wide enough and detailed enough set of tests to make sure the end product would work in all situations and circumstances. Did they produce clear guidelines from the tests so that someone else could fix any problems that arise.

In the final evaluative phase, did they ask themselves difficult questions that would help them later. Did they get detailed feedback from clients and how might this make their work even better.

3.2 I can summarise the best practices I have employed

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Learners should be able to discuss the process with some examples

Additional information and guidance

Learners should be able to summarise their experiences with different aspects of their project management and what practices they used. The summary doesn't have to be hugely detailed, but should give an indication of what they did and some of the key elements of it. For example, they may say they deployed some software tool to track the time they spent on different tasks or they may discuss a collaborative tool such as LibreOffice online they used for sharing ideas on plans and other documents.

If they used a survey tool to collect ideas from people, which one did they use and how did they design it to get the best information.

3.3 I can document the best practices that were most effective

Learners should keep track of their actions to help themselves and others

Additional information and guidance

If learners are hoping for a career in IT, or an academic route involving IT, they need to get into the habit of recording and documenting all that they do. When a system breaks, whether it is software or hardware related, the first place to look is at the documentation used to set it up. Good documentation is incredibly important for good systems and as IT professionals learners need to write clear and useful guidance. The guidance can also include what not to do based on their own bad experiences. This will help them try to retrace their steps and also look for things that worked well so try these on future projects.

As people learn in different ways, wherever possible they should include screenshots to make their explanations clearer. They could also record videos, but the issue then becomes who can access these and how.

3.4 I can describe the technologies used to enhance project management

Learners should describe the tools they used for their project management

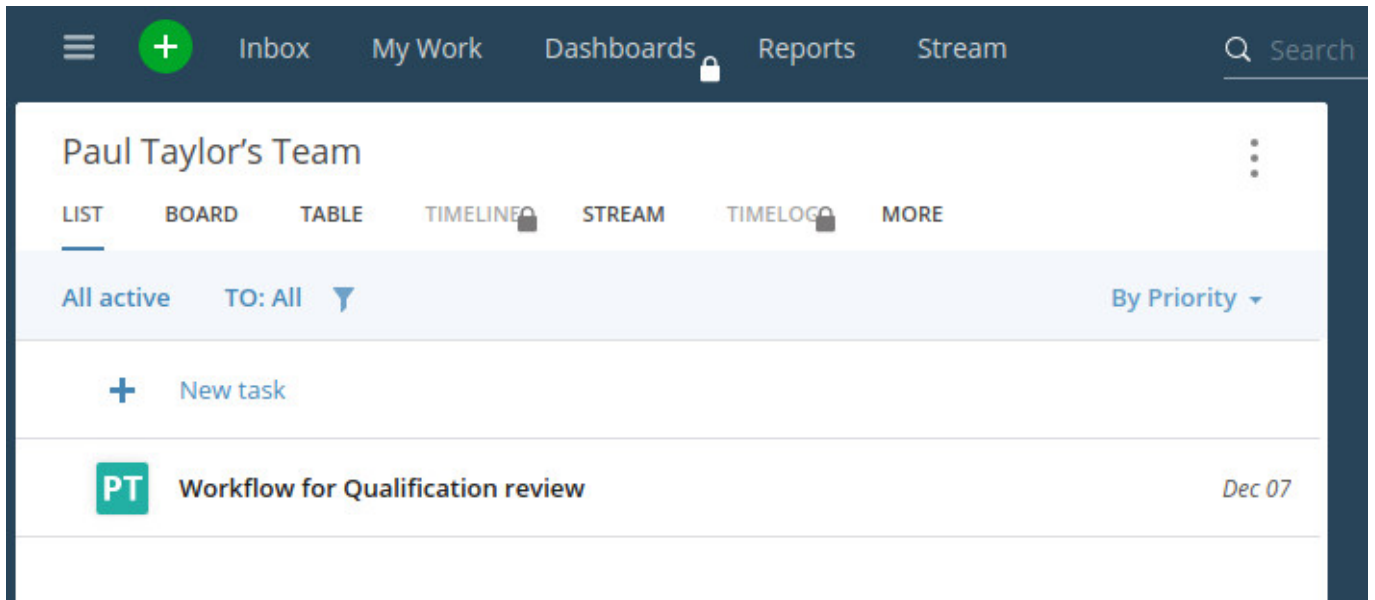
Additional information and guidance

Ideally, learners will have explored some online custom tools for project management, but they could also use more basic tools such as email or shared documents and spreadsheets in order to track what they do. Online tools will often have clear templates and guidance to assist them in getting things done correctly.

The following screenshot is from Wrike (<https://www.wrike.com> [3])

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Learners can add tasks and deadlines and add people as a team and all people will get notifications as deadlines approach and allow everyone to keep on top of their timelines and milestones.

Learners can show some of these screenshots in a document with call-outs to explain the features they used.

3.5 I can analyse the roles and responsibilities of a team

Learners should understand how teams work together and how to set up teams and assign people to their strengths

Additional information and guidance

The roles used, and therefore the responsibilities, will vary depending on what learners are working on and what resources they have access to. In many cases, they will fulfil many of the roles themselves, but will still need to show they understand some IT roles in teams and what these people should do. For example, what are the key roles of the project manager themselves. What responsibilities does a software developer have and is it their responsibility if the project goes over budget?

A table may be useful to make their finding and conclusions clearer.

Position	Reports to	Role (s)	Responsibilities
Budget Manager	Project Manager	Track expenses Pay bills Pay wages Model costs	Finances
Software Developer	Project Manager	Writes code	Documentation Bug fixing Testing

3.6 I can analyse the strengths and weaknesses of project management

Learners should be able to analyse their project management experiences

Additional information and guidance

If learners have kept detailed logs and reflections as they worked through their project (which they should), they should be able to analyse what worked well and what didn't, as well as the reasons and some examples. It is never easy to come up with weaknesses, but many tools are far from perfect and always being improved so they could try and discuss what did not work well and what could be improved. This book is written with Google docs and works reasonably well most of the time, but does have some annoying quirks. It will be the same for most tools. Many tools are designed by people to solve their own problems and these may not be the same problems for all.

They may be able to write in their own words if online tools and software based project management systems are a help or a hindrance. They certainly work well, but do they take too long to understand and therefore become a burden? They might be, but is it worth the effort as it will save time in the long run?

Source URL: <https://theingots.org/community/sil2u80x>

Links

- [1] <https://www.openproject.org/>
- [2] <https://www.meistertask.com/>
- [3] <https://www.wrike.com/>