T-LEVELS | Institute for Apprenticeships & Technical Education

T Level Technical Qualification in Digital, Digital Production, Design and Development (Level 3)

Monday 7 November 2022

Time 3 hours

Paper reference 19538

Core: Employer Set Project
Task 1: Planning a project

You do not need any other materials.

Information

- This booklet contains material for the completion of the set task under supervised conditions.
- This booklet is specific to each series and this material must only be issued to students who have been entered to undertake the task in the relevant series.
- This booklet must be kept securely until the start of the timetabled assessment.

Continue ▶

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Pearson

Instructions to students

You must complete **ALL** parts of the activity within the assessment.

The task must be undertaken at the time and on the date specified by Pearson.

You will be given three hours for producing the outcomes for this task.

Your centre will advise you of when any supervised breaks have been scheduled.

The task must be completed under supervised conditions.

You are **not** permitted access to the internet during this task.

You are permitted to use **offline** versions of relevant software to produce evidence for this task.

Your work and any material provided must be kept securely at all times.

Set Task Brief

You work for a software development company that has been offered the contract to develop the new digital solution for Elanp Air.

Your manager has asked you to analyse the potential costs, benefits and risks associated with the project and then produce a plan for the development of the new digital solution.

Your manager intends to use your plan during the next monthly meeting with the client.

Activity

Using the Set Task Information provided your manager has asked you to produce:

- a Gantt chart to demonstrate how you would organise the development of the new digital solution

- a plan for the resources selected and associated costs

- a rationale that explains your planning approach and justifies the decisions you made.

(19)

Outcomes for submission

Save your Gantt chart as a PDF file **and** as either:

- an Excel compatible spreadsheet file

- or MS Project compatible file (as appropriate).

Save your resource and cost plan as a PDF file **and** as:

- an Excel compatible spreadsheet file

- a MS Project compatible file (as appropriate).

Save your rationale as a PDF file.

All files should be saved in your folder for submission.

Use these naming conventions:

Task1GanttChart_[Registration number #]_[surname]_[first letter of first name]

Task1ResourceCostPlan_[Registration number #]_[surname]_[first letter of first name]

Task1Rationale_[Registration number #]_[surname]_[first letter of first name]

Set Task Information

Elanp Air currently provides domestic flights within the UK and Ireland and is aiming to expand its services to more airports. The company wants to develop a system to manage the maintenance of its fleet of planes and support business operations.

Elanp Air has reviewed its current systems and decided that it needs to develop a new centralised digital solution.

The aims of the solution are to allow:

- customers and company representatives to communicate more effectively

- employees to:

    - manage servicing records for the fleet

- management to:

    - access tools for carrying out business data analysis

    - help improve service around client needs (data analysis).

The requirements of the system are:

- a user interface (GUI) with appropriate accessibility features

- to provide staff with access to up-to-date information on fleet maintenance

- to allow staff to interact with a dashboard of business information.

Planning information

Elanp Air estimates that the new solution will allow an increase in revenue of 3% in its first year and 5% in its second and third year.

Elanp Air and your manager have provided you with information to help you to produce your plan.

Company financial data	
Description	**Amount (£)**
Current annual revenue	1 400 000
Current outgoing costs	1 175 000
Forecast for development	**Amount (£)**
Purchasing of hardware	30 000
Training for staff	10 000
Software development company base fee	60 000
Server options	Option 1: Physical server 15 000 Option 2: Cloud server 750 per month without support Option 3: Cloud server 1 250 per month with support
Upgrades to company infrastructure	12 000
Server upgrade	3 000
Your pay (Project Lead)	175 per day
Ongoing costs	**Amount (£)**
Maintaining servers and equipment (annual)	10 000
IT Support Technician (only needed if server option 1 or 2 chosen)	25 000

You have been allocated members of staff by your manager to assist with the project.

Your project development team will consist of these staff members:

- one Senior Software Engineer

  - Ellis Soto

- one Junior Software Engineer

  - Zuzanna Misaczek

- one Lead User Interface (UI) Designer

  - Peter Evans

- one Hardware and Networking Technician

  - Hou Zijin

- one Database Engineer

  - Darren Long.

Profiles for the new staff

Name	Ellis Soto
Title	Senior Software Engineer
Core skills	• 10 years' experience in deployment of software. • Able to program in multiple languages. • Trained as a project supervisor in the last two years.
Previous experience	• Has worked across a number of large-scale software projects. • Recently promoted from Junior Software Engineer in previous role.
Cost	£110 per hour

Name	Zuzanna Misaczek
Title	Junior Software Engineer
Core skills	• Three years' experience in deployment of software. • Trained in customer support. • Able to program in Python and C.
Previous experience	• Worked in staff development training in previous role. • Worked as a User Interface Designer for a web development company.
Cost	£45 per hour

Name	Peter Evans
Title	Lead UI Designer
Core skills	• Fully trained in user experience and user interface design. • Can develop user interfaces in a number of languages.
Previous experience	• Worked as a Lead UI designer for 15 years. • Previous experience of delivering bespoke training on complex systems.
Cost	£110 per hour

Name	Hou Zijin
Title	Hardware and Networking Technician
Core skills	• Certified in developing test plans and hardware testing. • Postgraduate degree in computer science with a specialism in network infrastructure design and implementation.
Previous experience	• Is new to the development company. • Has worked on a number of projects previously, but has always worked alongside a more senior member of staff.
Cost	£85 per hour

Name	Darren Long
Title	Database Engineer
Core skills	• Certified in multiple methods of testing and integration. • Highly specialised in the design and development of databases. • Able to explain complicated processes in non-technical language.
Previous experience	• Worked as a Database Engineer at the company for 18 years.
Cost	£75 per hour

The table shows the key tasks and the estimated number of work hours it will take to complete each task.

Task	Estimated hours
Upgrade head office infrastructure	40
Install and configure physical server	40
Deploy and configure cloud server	25
Develop module 1: Back-end database	100
Develop module 2: Maintenance management	95
Develop module 3: User interface	50
Develop module 4: Data analysis	105
Deploy modules	7 (per module)
Installation of hardware at two UK airports	30 (per airport)
Unit testing	12 (per module)
Integration testing	16 (per module)
Testing of hardware	56 (total)
Fixing and regression testing for major fault	12 (per fault)
Fixing and regression testing for minor fault	5 (per fault)
Create a test plan	7 (per module)
Staff training	28
User/acceptance testing	13
User training	15

It is assumed that:

• four minor faults will be found with each module

• a maximum of four major faults will be found throughout the whole project

• staff will work seven hours a day five days a week.

Elanp Air has requested that the job is completed in 14 weeks.