



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

Monday 22 May 2023

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.

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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 3 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 Gurreb's BBQ.

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 this naming convention:

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

Gurreb's BBQ is a small chain of restaurants with five venues across two major UK cities. The company wants to develop a system to manage its inventory and support business operations.

After reviewing the current systems, Gurreb's BBQ has decided that it needs to develop a new centralised digital solution.

The aims of the new digital solution are to allow:

- customers and company representatives to communicate more effectively
- employees to:
 - manage the bookings, table orders and bills in a specific restaurant
 - ensure adequate inventory is available to enable the restaurant to fulfil customer orders
- management to:
 - access tools for carrying out business data analysis
 - help improve service around customer needs (data analysis).

The requirements of the system are:

- a user interface (GUI) with appropriate accessibility features
- to provide customers with up-to-date information on availability and table bookings
- to allow staff to interact with a dashboard of business information.

Planning information

Gurreb's BBQ estimates that the new solution will allow an increase in revenue of 15% after one year, 17.5% after two years and 12% after three years.

Gurreb's BBQ and your manager have provided you with information to help you produce your plan.

Company Financial Data	
Description	Amount (£)
Current annual revenue	1 560 000
Current annual costs	1 357 200
Forecast for development	Amount (£)
Purchasing of hardware	2 150 per restaurant
Training for restaurant staff	2 300
Software development company base fee	43 000
Server	Option 1: Cloud server 235 per month without support Option 2: Cloud server 575 per month with support
Upgrades to company infrastructure	4 725 per restaurant
Your pay (project lead)	175 per day
Additional annual costs	Amount (£)
Web hosting and online advertising	825 per month
IT Support Technician	19 500

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
 - Stephanie Hammond
- one Junior Software Engineer
 - Viktor Alvarado
- one Web Development Engineer
 - Iwan Jones
- one Hardware and Networking Technician
 - Shura Khan
- one Database Engineer
 - Heather Holt.

Profiles for the project staff

Name	Stephanie Hammond
Title	Senior Software Engineer
Core skills	<ul style="list-style-type: none">• Able to program in multiple languages.• Trained in a range of software-testing standards.
Previous experience	<ul style="list-style-type: none">• 15 years' experience in deployment of software.• Has worked across a number of small-scale software projects in the retail sector.• Three years' experience as a team leader.
Cost	£75 per hour

Name	Viktor Alvarado
Title	Junior Software Engineer
Core skills	<ul style="list-style-type: none">• Able to program in Python, C++ and SQL.• Good knowledge of HTML, CSS and JavaScript.
Previous experience	<ul style="list-style-type: none">• Completed their higher-level apprenticeship at a web development company.• 12 months' experience in deployment of software since completing their higher-level apprenticeship.
Cost	£45 per hour

Name	Iwan Jones
Title	Web Development Engineer
Core skills	<ul style="list-style-type: none"> • Trained in full-stack development. • Proficient in front-end and back-end development and deployment.
Previous experience	<ul style="list-style-type: none"> • Worked as an independent full-stack developer for seven years. • Worked on a number of small-scale projects in the entertainment sector. • Is new to the development company - this will be his first project with this development company.
Cost	£57 per hour

Name	Shura Khan
Title	Hardware and Networking Technician
Core skills	<ul style="list-style-type: none"> • Certified in developing test plans and hardware testing. • Postgraduate degree in computer science with a specialism in network infrastructure design and implementation.
Previous experience	<ul style="list-style-type: none"> • Has worked on a number of large-scale projects. • 12 years' experience working as a hardware and network technician in a number of different sectors.
Cost	£62 per hour

Name	Heather Holt
Title	Database Engineer
Core skills	<ul style="list-style-type: none"> • Certified in multiple methods of software testing. • Specialises in the design and development of databases. • The ability to explain complicated processes in non-technical language. • Knowledge of Python, C++ and SQL.
Previous experience	<ul style="list-style-type: none"> • Worked as a Database Engineer at the company for five years. • Previously worked for two years as a Junior Software Engineer.
Cost	£70 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 restaurant infrastructure	21 (per restaurant)
Deploy and configure cloud server	25
Develop module 1: Back-end database	75
Develop module 2: Stock control and inventory management	80
Develop module 3: Table management - orders and billing	55
Develop module 4: User interface	50
Develop module 5: Data analysis	95
Develop module 6: Customer online booking portal	100
Configure web hosting	30
Deploy modules	9 (per module)
Installation of hardware	14 (per restaurant)
Unit testing	7 (per module)
Integration testing	7 (per module)
Testing of hardware	48 (total)
Fixing and regression testing for major fault	10 (per fault)
Fixing and regression testing for minor fault	3 (per fault)
Create a test plan	5 (per module)
Training for restaurant staff	28
User/acceptance testing	12

It is assumed that:

- five minor faults will be found with each module
- a maximum of three major faults will be found throughout the whole project
- staff will work eight hours a day, five days a week.

Gurreb's BBQ has requested that the job is completed in 20 weeks.