

GCSE WJEC ICT Full Course

Coursework Project Guide

Welcome to your Full Course ICT Project Booklet

In this booklet you will find a detailed explanation of what is required for your individual project. READ IT CAREFULLY!

Your individual project makes up 30% of your final grade so it is obviously very important that you produce high quality work!

Throughout this project you will be working on a topic that YOU have chosen. Chose your topic wisely as you will be spending the best part of two terms working on this topic.

The individual nature of this project also requires you to be organised and self motivated. You will find a list of deadlines below

Although this is an individual project you will have the full support of your ICT teacher. If you need help, ASK!

Work hard and you will achieve your potential.

Deadlines:

Section	Heading	Weeks	Deadline date (W/E)
1	Introduction to your project	2	Friday 15 th September
1	Analysis & problems	2	Friday 29 th September
1	Aims & Objectives	1	Friday 6 th October
2	Alternative methods & Software used	2	Friday 20 th October
2	Designing a solution	3	Friday 17 th November
3	Database	3	Friday 8 th December
3	Spreadsheet	3	Friday 26 th January
3	Communicating Info	3	Friday 16 th February
3	User documentation	3	Friday 16 th March
4	Evaluation	4	Friday 30 th March

GCSE ICT Project Guide

What do I have to do?

Submit a report on the solution to a problem which demonstrates your information systems capability.

You must design a system for others to use. The topic may be from any suitable area but it must be a real system.

Your project is worth 30% of your final grade! (% your coursework mark).

Your report will cover 4 sections:

1. Statement of Problem and Analysis [10 marks]
2. Design of Solution [12 marks]
3. Development of Solution [30 marks]
4. Evaluation [8 marks]

Things you must include in your project:

- A title page with your Name, Exam number and Title of your project.
- Section dividers in coloured paper or with suitable section headers
- Footers on all pages that include:
 - Your name and exam number
 - Hayle Community School 53809
- Use a plain font, maximum size 14.
- Use the same font throughout your write-up.

Hints to help you achieve a high mark

1. READ this booklet carefully BEFORE you start work on your project
2. Do a detailed analysis - it will help you later when setting your aims and objectives.
3. Remember to read each section carefully before you begin designing, especially your spreadsheet and database. Think about how you will complete the advanced tasks in each section to gain the top marks.
4. Speak to your ICT teacher if you are not sure about something.
5. Stick to the deadlines set by your teacher - leaving everything to the last minute will result in sub-standard work.

Section 1: Statement of Problem and Analysis [10 marks]

In this section you must:

- a) Describe the business or club that your project is based on,
- b) Analyse how the current system works,
- c) Describe problems encountered with the present system,
- d) Explain how you plan to improve the current system by developing ICT systems

a) Title and Background [2 marks]

Why have you selected the topic?

Why do you think the topic is feasible for computerisation?

Give as much general background as possible.

Describe how you intend to collect data (interviews/questionnaires/existing documents etc.)

b) Analysis of the Current System [4 marks]

You will need to speak to someone from your chosen organisation to collect information about how the current system works. Write up an interview or questionnaire to use when you speak to your contact person.

Include the results of your interview and any other documentation you collected in this section. Make sure you cover these key areas:

Records

What information / records are stored — describe the data needed and how do they obtain the data. What is the data used for?

How is this information presently stored? E.g. book / files / record cards?

Documents and advertising material

What documents are used and how are they produced / published? E.g. Letters, invoices, newsletters, brochures, etc

How are their services advertised?

Financial Records

What accounts, billing or payroll system is used — describe the data needed and how do they obtain the data.

How information presently is recorded or stored?

Also discuss the job roles of people involved — who accesses information? How often is it accessed? Who produces documents? Etc

c) Problems with, or limitations, of the current system [2 marks]

Make sure all points are specific to topic. Do not copy the list. Do not generalise. Cover 3 areas:

e.g. Database type of information

- missing cards
- only one person can access information
- sorting on different indexes too time consuming
- searches, especially complex searches, difficult

e.g. Spreadsheet type of information

- information may be on many different pieces of paper
- lost paper
- hard to change data, recalculate data, check data for accuracy
- difficult to do financial forecasting
- sorting, searching, graphing almost impossible

e.g. Documents

- storing large amounts a problem
- lost papers
- problems with making amendments, retyping
- not possible to personalise documents
- quality of documents
- difficult to combine text and graphics from different sources
- not possible to make changes in the size of text or graphics
- not possible to experiment with different layouts
- some documents may have to be produced by printers so expensive

d) Aims and Objectives

[2 marks]

There are two parts to this task:

1. A list of suggestions of how different areas of CT (Spreadsheets, Databases, DTP, word-processing, graphics...) could be used within your chosen area. This should be hand-drawn on A4 paper.

2. Explain your 5 main aims & objectives?

You must create: one database, one spreadsheet, two DTP / Web site / word-processing / presentation, and one use of mail merge.

List your five aims then explain how will you go about achieving each aim (break each aim down into steps).

Sections 2 and 3: Design of Solution [12 marks]

and

Development of Solution [30 marks]

In these sections you must design the solution to the problems you outlined in your Statement of Problem and Analysis, and then develop the systems you design. You will also create a user guide explaining how to use your new systems.

Remember to refer to your Aims and Objectives section regularly to make sure you keep on track throughout your design and development phase.

Sections two and three will be split into 7 parts:

- | | |
|-------------------------------------|------------------|
| 1. Alternative methods | [1 mark] |
| 2. Software | [1 mark] |
| 3. Information Handling | |
| • planning | [3 marks] |
| • implementing | [8 marks] |
| 4. Modelling | |
| • planning | [3 marks] |
| • implementing | [8 marks] |
| 5. Communicating Information | |
| • planning | [3 marks] |
| • implementing | [8 marks] |
| 6. Data Flow (Mail Merge) | |
| • planning | [1 mark] |
| • implementing | [2 marks] |
| 7. User documentation | [4 marks] |

1. Alternative methods [1 mark]

For each aim you have from the first section, list advantages and disadvantages of using a manual vs. computerised system

- Manual systems

Describe methods with advantages and disadvantages

e.g. Newsletter could be typed and pictures stuck on; then photocopied or sent to printers. Quality poor, difficult to alter...

- Computerised systems

Describe methods with advantages and disadvantages

e.g. Newsletter could be produced using a word processor or a DTP program. Using DTP allows easier combining of text and graphics.

2. Software [1 mark]

Produce a table to indicate what software you will use for each task and why.

e.g.

Task	Software	Reason for use
Newsletter	PagePlus11	DTP program that allows text and graphics to be combined easily by using frames. Easy to alter frame size.
etc		

3. Information Handling

3.1 Data capture form [1 mark]

- A form that will be used to collect data for your database - could be word processed, or produced using Microsoft Access
- Make sure that it is user friendly, i.e. has instructions, that the layout is clear, uses boxes or lines to fill in, tick boxes etc

3.2 Data Structure [1 mark]

- A table that shows the fields and structure of your database

e.g.

Fieldname	Field type	Description (if not obvious)	Validation

3.3 Validation techniques [1 mark]

- Should be included in your data structure table
- Must include at least 3 different examples of validation

3.4 Create database

- must have key field and 15-20 records [2 marks]
- Variety of fields - must have at least 3 types other than text e.g. integer, date, Boolean, real, graphic, formula, etc Make sure you use enough fields to do complex searches on [1 mark]
- Printout of whole database, (record card format) and at least one list layout.

3.5 Test plan & implementation (printouts — make sure you label them)

- Test plan (see below) [3 marks]
- Implementation (evidence of test plan) [2 marks]

For the test plan you need to produce a table that will explain what you need to test and how you plan to do this. You will then need to carry out each test and provide annotated evidence (print outs) to show you have done each test.

Below is an example format you could use:

NEEDS	TEST
List all the things you need to test	Explain what you are going to do to test each need.

Below is an example Test Plan - NOTE a third column has been added to show how you could provide evidence of each test - you DO NOT need to include this column in your own test plan.

NEEDS	TEST	POSSIBLE EVIDENCE
Edit a record	Change the address of Arnold Thringblatt as he has moved house.	A list printout with Arnold Thringblatt details highlighted before the edit and another list printout after the edit.
Delete a record	Delete Arnold Thringblatt details as he is no longer a club member.	A list printout with Arnold Thringblatt details highlighted before the delete and another list printout after the edit showing Arnold Thringblatt record has been removed
Test validation for date of birth field (type check)	Enter incorrect date 34110/85 - error message should appear	Print a screen shot of the error message.

Test validation for membership no. (Presence check)	Leave membership no. field blank and add a new record - an error message should appear	Print a screen shot of the error message.
Simple search & sort on one field	Search for all members doing Salsa lessons & sort alphabetically by surname for a telephone list for the class instructor.	Print a list of the search results.
Complex search on two or more fields	The club is running an under 18's salsa competition - search for all members doing salsa and under 18.	Print a list of the search results.

4. Modelling

4.1 Hand-drawn spreadsheet design [2 marks]

- Show outline of spreadsheet and formulas — you MUST use a least one complex formula e.g. IF function, VLOOKUP etc.
- Indicate copy / paste of formulas.
- State any graphs to be drawn and their purpose

4.2 Explanation of formulas [1 mark]

- Explain all formulas in words — you could use a table like this:

Cell	Formula	Explanation
D5	C3*C4	Total =number items X item price

4.3 Create your spreadsheet [1 mark]

- Printout of spreadsheet with data
- Printout of spreadsheet showing formulas

4.4 Check plausibility and accuracy of sheet [1 mark]

- No nonsense data and check formulas work (either with a calculator or by hand) - show how you checked on your printouts

4.5 Test plan with printouts of tests [6 marks]

- Labelled and highlighted to clearly explain what each printout shows

For the test plan you need to produce a table that will explain what you need to test and how you plan to do this. You will then need to carry out each test and provide annotated evidence (print outs) to show you have done each test.

Below is an example format you could use:

NEEDS	TEST
List all the things you need to test	Explain what you am going to do to test each need.

Below is an example Test Plan — NOTE a third column has been added to show how you could provide evidence of each test— you DO NOT need to include this column in your own test plan!

NEEDS	TEST	POSSIBLE EVIDENCE
Produce a graph for a stated purpose	Produce a graph of players points to show who is leading the league table	Print out of graph
What if' investigation with a change of data	Arnold Thringblatt won his match this week - Change the number of his wins from 5 to 6	Printout before changes made highlighting Arnold Thringblatt details with predictions of what changes will take place. Then a printout after data was changed highlighting changes to the spreadsheet
What if' investigation with a change of formula	Change the number of points for a win from 3 to 4 in the 'points for' formula to see if the league standings are affected by a different scoring system.	Printout showing formulas before changes made highlighting 'points for' formula with predictions of what changes will take place – then a printout after formula was changed highlighting changes to the spreadsheet

5. Communicating Data

5.1 Hand-drawn designs of adverts, newsletters, web sites,

PowerPoint presentations etc

[3 marks]

Include:

- Proposed font names and size
- Pictures: of what and where from e.g. imported from digital camera, clipart, scan, Internet...
- Articles/information: what information to be included; not actual article but content e.g. article about prize giving

(1 mark for each plan, 1 mark for overall quality and detail of BOTH plans)

5.2 Produce first presentation

[1 mark]

- include at least 2 stages of development (midway & final printout - Label, highlight changes to be made)
- must have at least 1 form of electronic communication (scan, clipart, digital camera, file from Internet) [1 mark]
- use at least 1 form of advanced formatting e.g. hyperlinks, animation, tables, bullets points, imported sound/video etc. [1 mark]

5.3 Produce second presentation [1 mark]

- include at least 2 stages of development (midway & final printout - Label, highlight changes to be made)
- must have at least 2 forms of electronic communication [2 marks]
- use at least 1 form of advanced formatting e.g. hyperlinks, animation, tables, bullets points, imported sound/video etc. [1 mark]

REMEMBER TO:

- Check spelling,
- Make sure your presentations are realistic,
- Write a cover page listing your presentations and their purpose

6. Design of Data flow

6.1 Design of mail-merge template [1 mark]

- Show data to be merged and where it is to come from (merge fields).
- Annotate your design explaining where the data will come from — i.e. CSV file exported from database

6.2 Create a mail merge [2 marks]

- Create (by searching) a small list from your database
 - Printout template letter with merge fields first (1 mark)
 - Printout list from database
 - Printout merged documents.

7. User Documentation [4 Marks]

Create a User Guide for the systems you have created. Points to cover:

1. What system would you need?
 - Operating System, e.g. Windows 98 or above
 - Programs needed to be pre-loaded, e.g. Microsoft XP, (inc. Word, Access, Excel and PowerPoint, etc
 - Hardware requirements — HDD, Memory, Input/Output devices
 - Where are files stored? Names of files.
2. What security should you have?
 - Passwords to system
 - Passwords to document/database
 - Backups — how often, to what media (floppy, tape, CD Rom etc)
3. How to use (not create) each facility (use diagrams or screen prints)
e.g. Load, save & print files. Enter, change, sort, search data into database. Amend and save your spreadsheet.
4. Advanced features

Describe how to run the mail merge and describe any advanced features built in e.g. macro, load a switchboard etc

Section 4: Evaluation [8 marks]

The following points must be covered in your evaluation:

Explain your answers fully - give examples where appropriate.

Introduction

- Did you meet your aims and objectives?
- Did you alter your original plans? If so, why?

Database:

- Were the fields suitable? Why?
- Was the data suitable? Why?
- How could you improve your database?
- How well did the database work?
- Would the database improve the efficiency of the club/business?

Modelling:

- How well did the spreadsheet work?
- Was the data suitable? Why was the data suitable?
- How could you improve your spreadsheet? Would the spreadsheet improve the efficiency of the club/business?

Communicating Data:

- Were the pictures and text suitable? Why?
- Was it presented in the right way?
- How could you improve your presentations? Make sure you write about BOTH presentations!

Modifications:

How could you develop your system in the future?

- You must write at least TWO examples of modifications!

Conclusion:

- Are you pleased with your work?
- Is the new system better than the old one?
- What would you do differently next time?

FINAL CHECKLIST

- Go back through this booklet — have you completed ALL the sections?
- Double check your name and exam number are on each page of your report
- Sort your final report into order as shown below.
- Divide each section with a coloured title page