Unit 7 - Assignment 1

The Green Bay Building Company

The Green Bay Building Company was founded by David Green in 2003. David trained as an architect and has been designing houses since 1985. Over time David had become concerned about global warming and has introduced into his house designs aspects to minimise the carbon footprint of the occupiers. Unfortunately these modifications tend to make the houses more expensive to produce. The building firm that
David worked for at the time did not like the modifications as it meant less profit. As a result David was instructed to remove them from his designs.

Unable to find a building company to take on his revolutionary designs, David decided the only way he was going to get his designs accepted was if he formed his own building company. Consequently the Green Bay Building Company was formed.

Since its inception the Green Bay Building Company has created many successful developments. David has found that some people will pay extra if they think the house is eco-friendly and would pay even
more if they thought there would be a fuel saving.

The Green Bay Building Company has recently built a housing development on brown-field building
land in Tewkesbury and is about to auction the different plots.

The Auction

The auction will be taking place from May to July 2008. Prospective bidders will apply to the Green Bay Building Company for a userID and password. They may make a bid at any time between the start of the auction and the day the auction is closed. The development has 57 plots with eight different types of house and the number of each housing type within the development varies. As all the plots are
more or less the same the bidders will bid for the housing type rather than a specific plot. When the auction is closed the Auction Manager allocates the plots to the highest bidders for that housing type.
For example, if there are 10 three bedroom semi-detached houses, the top ten bidders for that housing type will be allocated a plot. Notification will be sent to successful bidders detailing the plot number
they have been allocated.

Once bidders have received their userIDs they should be able to sign on to the bidding system. If they supply a correct userID and password they will be taken to the bidding screen. They can then
choose which housing type they require. The userID and the bid value of those bids which are currently successful are displayed. For example, if there are eight plots containing a particular housing type then
the top eight bids for these are displayed. Bidders can then submit their own bid. If their bid is lower than the lowest successful bid so far then a message is displayed stating that their bid was unsuccessful.
If it is higher than the lowest successful bid so far then their bid is accepted. The list of successful bids is then refreshed to display the new list. Apart from the successful bids, bidders should not be able to see any details of other bidders.

The proposed system

You need to create a new database which will hold the data required to undertake the auction and allocate the plots to the successful bidders. You are supplied with some computer generated test data
to test out your system.

Activities

1. Key Words.

Read through the brief above and produce a table listing all of the key words in the brief. Next to each word, write a sentence explaining what you think might be required in the system.

for example:

Key Word	**Explanation**
bidders	System will probably need to store information about people. bidders probably a bit like a Customer.

This activity should take you at least 30 minutes. Evidence should be submitted as a Word document.

2. Understanding the problem

Now that you've started thinking about the requirements, you must produce a functional specification for the system. Describe the requirements of the system in terms of:

- The Processes the system needs to undertake
- The inputs for each process
- The outputs for each process

This activity should take about an hour. Evidence should be submitted as a Word document.

3. Understanding it a bit more

Look at the datafiles you've been given for this assignment. List all of the fields that you can find in a table, make a note next to it describing what type of data it might represent, make a judgement about the sort of validation you might be able to apply to it.

for example:

Field name	**Data type**	**Validation**
date-time of bid	Date & time information	auction is taking place between may and july 2008, make sure no bids can be placed after 31st July 2008

This activity should take around 40 minutes to 1 hour. Evidence should be submitted as a Word document.

4. Drawing a diagram

You should now have a fairly good idea of how the system might fit together. Draw a dataflow diagram to describe the the system entities and the data that flows between them. Consider what you wrote in part 1.

This activity should take about 40 minutes. Evidence should be submitted as a Word document.

5. Designing the system

Using what you have produced so far, produce a list of tables that your system may contain. Tables should be written in the format:

tableName (**primaryKey**, field1, field2...);
...

This activity should take about 30 minutes. Evidence should be submitted as a Word document.

6. Building the system

Using the design you produced in activity 5, create a new database and make the necessary tables. Apply appropriate validation to the fields and import the data from the text files supplied.

This activity should take around 2 hours. Ensure that you provide evidence of your table relationships, the structure of each table and any validation that you have applied. You should also supply evidence that you have imported some data into each table; your evidence should be submitted as a word document.

7. Interfacing a user

Using forms, create an interface for users to make bids in an auction.

Use your new interface to input the following bids:

Bid A – Petra Irons

UserID Irons.Petra
Password Petra

House	Type	Amount
MT2	(2 Bedroom Terrace)	£119,000

Bid B – Peter Jenkins

UserID Jenkins.Peter
Password Peter

House	Type	Amount
MT2	(2 Bedroom Terrace)	£118,500

Bid C – Roger Kelly

UserID Kelly.Roger
Password Roger

House	Type	Amount
DT5	(5 Bedroom Detached)	£270,000

Bid D – Kirk Bears

UserID Bears.Kirk
Password Kirk

House	Type	Amount
DT5	(5 Bedroom Detached)	£275,000

Bid E – Rachel Kearns

UserID Cairns.Rachel
Password Rachel

House	Type	Amount
MT3	(3 Bedroom Terrace)	£124,000

Bid F – Yvonne Card

UserID Card.Yvonne
Password Yvonne

House	Type	Amount
DT4	(4 Bedroom Detached)	£237,125

Bid G – Alex Bears

UserID Bears.Alex
Password Alex

House	Type	Amount
DT4	(4 Bedroom Detached)	£237,125

Ensure that you take screenshots of each bid at different stages. Be aware that some of the data provided may be incorrect and so may produce errors. You should explain the reason for any errors that you encounter.

This activity should take around 2.5 hours. Evidence should be in the form of annotated screenshots in a word document.

8. Interfacing with different users

Create a form so that the Auction Manager can assign plots to successful bidders.

Use your form to assign plots to the successful bidders in each auction.

You should spend about 1 hour on this activity. Evidence should be submitted in the form of annotated screenshots in a word document.

9. Reporting

Create a report to list the names, addresses and telephone numbers of the successful bidders. The amount of the successful bid should also be shown.

Each housing type should start on a new page and the total amount of money bid for each housing type should be shown at the end of the list for each housing type.

These totals should be repeated in a report footer and the report footer should also contain a total of all successful bids.

You must also modify your report to include your own name in the header.

Spend about 1.5 hours on this activity. Evidence should be submitted in the form of a printed report from your database.