

Principal Examiner Feedback

January 2013

Applied GCE ICT 6957

Unit 7: Using Database Software

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General Comments

It was pleasing to see that the majority of candidates took into account the clear instructions in the examination paper with regards to the ordering of evidence and the printouts required. It is understandable that some candidates need to produce more than the minimum printouts required in activity 3, but the best practice, as shown by many candidates, is keep to the task specified and keep it simple.

It is apparent that a lot of candidates are taking on board comments made in previous reports with regards to marks that are lost because of poor screenshots with the majority ensuring screenshots were clear. However, there are still some who either crop screenshots too much – missing off names of tables, numbers of records on datasheets, truncating macro screenshots etc, and of printing them out too small or with poor print quality making the evidence illegible.

It is probably worthwhile reiterating here what is deemed acceptable with regards to help and assistance before and during the exam period. The teacher's job is to prepare the candidates for the exam by developing the **technical skills** necessary to create a database at this level. The scenario is released prior to the examination. Teachers are allowed and encouraged to discuss the scenario with their students. The scenario had very clear tasks in order to aid this process. A practice data set can be created and used to aid this process.

The content of the live data files is only made available to candidates in the exam sessions and there must be no discussions related to these at any stage, until the exam window has closed.

The data file(s) in any examination contain data that the candidates should accept as correct. It is up to them how they cope with any anomalies that may be present. This is true of any 'live' situation in the real world where they would have to make their own decisions about how to proceed. Candidates are not required to create any new fields, they should use all and only what they have been given.

Administration

On the whole administration is sound but there are still some candidates losing one or two standard ways of working marks in the paper by not assembling the tasks in the correct order or, where they are in the correct order, attaching them to the answer booklet incorrectly. When the examiner opens the booklet they should be greeted with activity 1 facing toward them ready to mark; this is not always the case ie when the examiner opens the booklet they are faced with the back of the activity 6 or the work hole punched in the right-hand corner as opposed to left. This adds to the time taken to mark an examination paper. Very few candidates do not ensure their name and centre number is present on every print though it does still occur.

Activity 1

It was expected that this question would be well answered and it was pleasing to see that, in many instances, it was. However, there were quite a few candidates who achieved very few of the marks. Generally, this was down to trying to think outside of the scenario or not taking into account the tasks that were clearly given in the scenario. With regards to Part A, all marks should have been available from the scenario along with taking into account where and when messages would be required. A lot of candidates had the senior tutor down for some of the part A answers. Whilst the senior tutor was certainly mentioned in the scenario, at no time were they put forward as users who needed to get anything from the system. Carole and Senior Manager were the only people who required anything from the system in this prototype.

All candidates attempted this question and there were some very good answers and explanations put forward. Where marks were lost here it tended to be because the answers were not focussed enough.

Activity 2

On the whole this question was well answered which was particularly pleasing to see.

Candidates tended to do very well in the A section marks with many achieving seven marks. However, some centres put forward a three table solution. This prevented the scoring of some of the marks in the A section. It is worthwhile noting that at A2 level the examination will never have less than four tables required as part of the solution.

Most candidates did achieve the first B mark for the correct primary keys and quite a lot achieved the second for the composite key. However, in some instances some introduced a new primary key; we are not expecting this they should use the data they are given. Others did not include a key at all. Whilst many candidates did achieve the third mark for including the two yes/no and one number field it was surprising just how many did not.

The majority of candidates did identify the evidence required for each of the six different validation techniques specified with some very good evidence taking into account the scenario. It was nice to see the majority took into account the exam paper requirements and they did name each type as requested. We are testing two things in this section of Activity 2 – the ability to recognise different types of validation and the ability to apply them sensibly.

With regards to a format check we are **always** looking for a suitable input mask. Input masks on dates are not acceptable in any shape or form. Input masks on fields that are generated are also not acceptable. This would rule out the enrolment number as that was generated.

When it came to a range check there was only one suitable range check. This was clearly discussed in the scenario and should have been picked up

from there – it was in the majority of cases though some did include other ranges. These were not deemed acceptable in line with the scenario.

It was good to see most candidates achieved the presence check mark. However, some are still applying this form of validation to primary keys which is not suitable and will not attract a mark.

Most candidates attempted the table lookup we requested. However, at times the table looking up into was not suitable. For example, whilst a table lookup is acceptable in a table where a field is a foreign key or part of a composite key, it is not suitable looking up itself in its own table. Some candidates did not use a table lookup and provided evidence of a value list or combo box. This did not attract any marks. It is also worth reiterating that we expect evidence of the lookup being limited to list. Quite a few candidates did not provide evidence of this.

The only field deemed suitable as a default value was the StudentStatus field which should have been set to current. Any other default values did not attract marks.

The majority of candidates provided evidence of a suitable field size.

On the whole the D section was very well answered and, where candidates had included four tables, full marks nearly always achieved. However, it was sad to see how many candidates lost marks here because they cropped the table screenshots to the point the number of records from the bottom of the table was missing. Examiners could still award the marks for the senior tutor and learning outcome tables if it was clear only three records were present. It was impossible to award marks for the student or progress table without being able to see the specific number of records in each.

Activity 3

All candidates attempted this activity which was pleasing to see. On the whole it would appear the centres that have taken the time to use the Principal Examiner examination solutions from the website as revision did well as these really do show the type and quantity of evidence we are expecting.

However, it is still worth noting that activity 3 is really all about the **design view** aspects of building the forms and generating the processes. Candidates are specifically told what screenshots should be design view and what screenshots should be form view. Quite a few candidates included far too much evidence that was not really of any use ie the system working and what happens when they complete the forms etc. Indeed, this meant that some missed marks in Activity 4 because they had already deleted and archived data before they got to it. Activity 4 is designed to test the system and show it working so we do not need to see any evidence of it working in this activity unless specifically requested. This is all about building the system. The majority of marks in this section are awarded for the design view aspects.

At other times candidates did not include enough evidence which will become apparent from the comments given:

Most candidates achieved the A section mark for showing the menu button.

Section B – There was some excellent and very creative solutions put forward for this section of the paper. Some students chose to use the wildcard eg "1011*" whilst others used the Left function to determine the start and end year. Others used calculations that determine what should be archived and deleted from the current year. All that were clearly evidence and would clearly work were credited. It is worth reminding candidates that examiners cannot be sure something works if fields in queries have been truncated or only partial queries shown. However, some candidates missed some of the marks due to deleting or archiving the wrong years. The paper clearly stated that the current academic year was 1213. This should have provided all the information required to determine 1011 needed deleting and 1112 archiving.

It was nice to see that quite a few candidates did realise that when the students were deleted from the student table, the relevant progress records should also automatically disappear. Candidates chose different methods of evidencing this. For example, showing the referential integrity screenshot with cascade delete ticked. Some another delete query. All methods that were clearly evidence and deemed to work were credited.

Section C was well attempted and evidenced on the whole. The majority of candidates ensured the correct fields were on the form and that the senior tutor could be selected. Many, many candidates achieved all four marks for the generation of the key and there were many creative ways put forward of achieving this. Where marks were lost it tended to be because candidates had used queries to determine the highest number – yet did not include a screenshot so it could be seen, or they have generated the number using another form or field etc without making sure the examiner could clearly see the number had been generated. Others lost marks due to an incorrect year being physically entered ie 1314, whilst others arrived incorrectly at 1314 using formulae. 1213 was the only suitable four digits to be at the beginning of the enrolment number. In very few instances the year was put forward in a combo box. This was not what was wanted. We wanted the generation of the enrolment number to be entirely automatic.

Section D Many candidates scored very well here when it came to saving the student record in the student table. There were many different methods of achieving this. Some chose unbound forms and an append query. Others chose bound forms and the generation of the enrolment number which was fed into the enrolment number field as part of a macro or code when the save button was pressed. However, there are still some candidates who do not provide all of the evidence required for the examiner to be sufficiently satisfied that the record would indeed save. For example, if the form is bound, running the save record command either in a macro or code without evidence that the enrolment number would actually be in the enrolment

number field and correctly bound to the enrolment number in the student table means the saving mark would not be awarded. Similarly, if the form is unbound and the candidate is running an append query the mark will not be awarded if the query is missing or truncated etc.

There was some very good evidence of automatically creating the three new progress records. Some chose one append query, others ran three, some used code etc. On the whole, where this was attempted or evidenced at least 1 mark from the section was achieved.

It was nice to see the majority of candidates used a form and subform for the progress update section of the activity. However, some did not choosing to use a single form, or two forms. This was not what was required. In other instances it was impossible to see whether the subform would show the three progress records. For this activity we were expecting a bound form – there was no need to generate any primary keys anywhere which would put forward a bound form as being the most suitable. If three progress records were not seen one mark was lost.

There were some very creative methods for determining whether or not the WWO_Completed field should have been updated. This was very pleasing to see. Some candidates included an extra field on the subform with a sum formula. The result of this formula was then checked either in the macro or code to determine whether the update should take place. Others used queries with DCount. There were many more. Where all evidence was presented in full and we could determine it would work the marks were awarded.

Overall, it was really, really nice to see how well this activity was attempted and the many different methods of achieving what was required on display. The only downside is that some candidates still do not realise that if they want the marks on offer they must ensure the examiner can clearly see the evidence. It is worthwhile them asking themselves the question – *'if I did not know how this had been done, would I be able to work it out from the screenshots I have provided?'* - This does not mean lots of annotations have to be present. Indeed, we do not want any unless specifically requested. It just means have I included all of my queries, have I included evidence of every part of formulae used, are my query columns wide enough, are my screenshots clear to see etc.

Activity 4

Overall, the candidates did well on this activity with regards to sections A to C. Where candidates had attempted the A section, in nearly all instances the marks were awarded. If marks were lost it was usually because candidates had provided screenshots before the delete or archive had taken place or had not ensure the data was as per the data file prior to carrying out the test.

The B section marks were usually awarded. If marks were lost here it was generally down to spelling mistakes or the evidence clearly pointing toward the candidate physically inputting the data into the table(s).

Section C was awarded in nearly all instances. However, it is worth bearing in mind that default error message are not deemed appropriate. We are expecting to see an error message that the candidate has created.

Section D was very well evidenced on the whole.

Activity 5

Most candidates determined correctly that a criterion was needed to filter the records for only those that had not fully completed the qualification. It was expected they would determine 'current' students only were of interest. On the whole a lot of the marks available were awarded in this activity. However, marks are being lost in the same areas over again:

We were only expecting one level of grouping. When candidates include more it generally means that somewhere along the line they are not meeting what is required and they tend to lose marks. If more than one level of grouping were required it would be asked for. With regards to this examination when candidates have been specifically asked to group, it will never appropriate to have labels of fields in the report or page header. We are expecting all field labels to be in the group header. We are also always looking for suitable labels. If labels do not have suitable spaces in them then generally a mark is lost.

Most candidates correctly identified and used the count formula correctly which was good.

It was pleasing to see that candidates did make a good attempt at formatting the report. However, some did not check their data carefully enough for **presentation** i.e. checking for truncation of labels or fields etc. We are also looking for more than just the default layout given to the candidates by the report wizard.

Activity 6

It was very nice to see that the majority of candidates had taken note of what was asked of them in the examination paper and carefully ensured their evaluation reflected this with some excellent, well thought evaluations raising some very good points about future functionality. However, others still see it as an opportunity to talk about how well they have completed the examination questions or give a running commentary of what they did to build it. To reiterate the first part of the evaluation should see the candidates evaluate how well their database carries out the tasks from the scenario. The second should see them discuss further functionality. Please stress to candidates that we do not want to see screenshots of how they have built aspects. We have already seen that in activity 3 and candidates can waste a lot of valuable time doing this.

For example

Mark Band 1

Part A

I did not get all of activity 3 done because I could not do the save bit. I tried and tried but could not get it to work. I did do well in activity 1 and 2 I think because I managed to get the relationships and I think I was good at the validation. *(This is all about their own performance not evaluating the database at all).*

Part B

To make the database better then I would make sure the save bit for the student was done properly. I would also make sure that the enrolment number got done properly as Carole has to type it in herself. I would work faster so that I could finish all of the activities. *(This is all about what should already have been done).*

Mark Band 2

Part A

I have a main menu that Carole can use at the beginning of the year. When Carole clicks it the old students are automatically deleted and last year's students archived. Then a message is displayed. **So I have met this requirement and I do think it makes it a bit easier for Carole.** *(This is very descriptive and not really evaluative apart from what is highlighted in bold).*

Part B

I think the main menu should have more buttons because there is no way to navigate at the minute and Carole would need to. I also think there should be edit and delete facilities as they are not there at the minute. More validation could be used too so that less mistakes would be made. There should also be a log in facility so that only Carole could use the system. *(These are improvements but are general improvements overall).*

Mark Band 3

Part A

There was a need for a menu to run the start of year tasks. I wanted this to be very easy for Carole to use. I made sure she was aware she could not undo her actions if she chose to let the button do its job. **I thought this was very important as I am sure Carole and her Senior Managers would not be very happy if all of the data was suddenly wiped out.** I made sure Carole was aware when the task was completed **as I know it can be very annoying if there are not enough user aids in a system. I think I have made this job very easy for Carole. If this button and the queries behind it did not exist it would literally take Carole ages to find the students to delete or archive, or she would have to know how to build the queries herself. There would also be ample opportunities for errors. She could potentially delete or archive the wrong students.** So overall I think Carole will be happy with this function.

However, there are problems but I will discuss them in the second part of the evaluation.

(This is fully evaluative. As you can see we don't need to know how they have done something as we have seen that in activity 3, we want to know what they think of what they have done with regards to how it makes the system easier to use for the user(s). Good candidates can see the weaknesses in the prototype and can take them forward into the second section where they have to make recommendations for further functionality).

Part B

Whist I do think the prototype is good and would save Carole a lot of time and effort it is not perfect.

The start of year task is not perfect. The way it is at the minute it is only good for this academic year. This is because the criteria are specific 1011 for delete and 1112 for archive. This potentially means the system would not get used again or Carole would have to be taught how to change the criteria. I don't think that is very good at all. It would be far better if the current year could be determined. For example when it comes to the delete if it is between September and December then a formulae that would automatically ensure the criteria was for the current year minus 2 to get the beginning of the academic year that needs deleting. If it was after December then it would be the current year minus three etc. This would be far more effective. Also, at the minute it is only the student records that are archived. It would be better if the records in the progress table for those students were archived too.

(There are always things wrong with the prototype and we will be looking for them picking up on that here and talking about what they think really should have been done to extend the functionality. We also look for sensible ideas with regards to the actual database in question for new functionality that is not present in the prototype. There were many areas that could be developed in this case eg there is more than one key skill/subject. Different users eg giving access to Senior Management and Senior Tutors themselves with a discussion of what each would need access to/need to be able to read from or write to etc.)

Grade Boundaries

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