GCSE Computer Science

Component 1: Practical Programming

Marking Grid for use in the June 2014 examinations

- ChipRider mobile assignment

GCSE Computer Science (4512)
Component 1 Practical Programming (4512/1)

These grids should be completed and securely attached as a separate document to the front of the candidate's work.
They should be sent to the moderator if the candidate's work is requested or retained at the Centre.
If sent to the moderator they will be retained and not returned with the coursework.

Centre Name:	**Specimen Controlled Assessment 1**	Centre Number:	**00000**
Candidate Name:	**A. N. Other**	Candidate Number:	**0000**

Scenario Used (Please Tick):

Mobile:	✓	Web:		Gaming:		Traditional:	

Programming Language(s) Used:	**MIT Appinventor**

Assessment criteria	Maximum mark	Mark awarded	Moderator mark
1. Design of Solution	9	**5**	
2. Solution Development	9	**6**	
3. Programming Techniques Used	36	**13**	
4. Testing and Evaluation	9	**7**	
Total	63	**31**	

Additional comments for the moderator (optional):

The candidate has attempted 4 of the 5 tasks within this scenario.

1 Design of Solution (9 marks)

Row	1 mark	2 marks	3 marks	Total for row
1	Produced a **minimal outline** of what the problem involves with minimal or no reference to the user's needs.	Produced evidence showing a **good understanding** of what the problem involves with reference to **most of the user's needs**.	There is evidence showing a **thorough understanding** of what the problem involves with reference **to all or almost all of the user's needs**.	2
Teacher comments	Most of the user's explicit needs are covered in the design section including the choices that may need to be made for the different sections. The candidate has not attempted the fifth task.			
2	Produced a **minimal** high level overview plan that may contain a **minimal attempt** to show how the problem is to be solved.	Produced a **good** high level overview plan that contains a **reasonable attempt** to show how the problem is to be solved.	Produced a **thorough** high level overview plan that **clearly shows** how the problem is to be solved.	1
Teacher comments	The overview is minimal but does show how the various parts of the solution will fit together.			
3	Produced **minimal** pseudocode (or suitable alternative) showing **a few of the main blocks** within the proposed solution.	Produced **annotated** pseudocode (or suitable alternative) showing **most of the main blocks** within the proposed solution.	Produced **well annotated** pseudocode (or suitable alternative) showing **all or almost all of the main blocks** within the proposed solution.	2
Teacher comments	The pseudocode is mostly clear and covers the first 4 tasks. It would have been helpful to include a list of the global variables used with an explanation of their purpose and use. It would have also been helpful if the user input was covered. There is no mention as to how the user input (such as the driver code) will be obtained.			
			Total for Design of Solution	5

Please make any additional comments for the moderator below. This is optional.

Additional comments for the moderator (optional):

2   Solution Development (9 marks)

Row	1 mark	2 marks	3 marks	Total for row
1	There is minimal evidence showing a **minimal understanding** of how the final solution meets the needs of the user.	There is some detailed evidence showing a **good understanding** of how the final solution meets the needs of the user.	There is detailed evidence showing a **thorough understanding** of how the final solution meets the needs of the user.	**2**
Teacher Comments	The code listings and the screen shots showing the 'design' view of the app mostly relate to the user's needs. The candidate has a good understanding of their solution but their use of the database seems less confident.			
2	A **few** of the original problem tasks have been catered for in the final solution.	**Most** of the original problem tasks have been catered for in the final solution.	**All or almost all** of the original problem tasks have been catered for in the final solution.	**2**
Teacher Comments	4 of the 5 Tasks have been catered for in the final solution.			
3	There is a **partially annotated** code listing that **may be incomplete.**	There is a **well annotated** and **mostly complete** code listing.	There is a **fully annotated** and **complete** code listing.	**2**
Teacher Comments	The code listing is mostly complete and the annotation is good in most places. The annotation could be more detailed and more explanatory in places. The candidate has not included their final version here as can be evidenced form the testing section later.			
			Total for Solution Development	**6**

Please make any additional comments for the moderator below. This is optional.

Additional comments for the moderator (optional):

3 Programming Techniques Used (36 marks)

Row	1 mark	2 marks	3 marks	4 marks	5 marks	6 marks	Total for row
1	A **few** of the programming techniques used have been **stated** showing **no or very little** understanding.	A **few** of the programming techniques used have been **stated** showing a **minimal** understanding.	**Most** of the programming techniques used have been **stated** showing a **reasonable** understanding.	There is a **description of a few** of the programming techniques used that shows a **good** understanding.	There is a **description of most** of the programming techniques used that shows a **very good** understanding.	There is a **discussion of most** of the programming techniques used that shows a **thorough** understanding.	4
Teacher Comments	Most of the programming techniques have been stated ad a few have been described.						
2	The few techniques used show how **one or two** of the different parts of the solution work together.	The techniques used show how **a few** of the different parts of the solution work together.	The techniques used show how **most** of the different parts of the solution work together.	The **description** shows how a **few** of the different parts of the solution work together.	The **description** clearly shows how **most** of the different parts of the solution work together.	The **discussion** clearly shows how the different parts of the solution work together.	3
Teacher Comments	This is mainly done at a high level (e.g. this opens up the top up screen). The solution appears quite modular and the candidate uses the same tags across their solution to ensure the data is correct. There is a lack of descriptions preventing the award of 4 or more marks.						
3	Only **one** area of the solution works as intended.	Only **two** areas of the solution work as intended.	A **few** areas of the solution work as intended	**Some** areas of the solution work as intended.	**Most** areas of the solution work as intended.	**All or almost all** areas of the solution work as intended.	5
Teacher Comments	The candidate has shown various images of the solution displaying correctly although they do not show it working (beyond the screens displaying correctly). However, the coding evidence provided reinforces the fact that most areas of the solution work as intended.						
4	There is a **statement** about the choice of **one or two** of the programming techniques used in an attempt to create a solution in which **parts** have been efficiently coded.	There is a **statement** about the choice of **a few** of the programming techniques used to create a solution in which **parts** have been efficiently coded.	There is a **statement** about the choice of **most** of the programming techniques used to create an efficiently coded solution.	There is a **description** of the choice of **a few** of the programming techniques used to create an efficiently coded solution.	There is a **description** of the choice of **most** of the programming techniques used to create an efficiently coded solution.	There is a **discussion** justifying the choice of programming techniques used to create an efficiently coded solution.	1
Teacher Comments	Efficiency is barely mentioned in this solution.						

5	The purpose and choice of **one or two** of the data structures used have been **stated**.	The purpose and choice of **a few** of the data structures used have been **stated**.	The purpose and choice of **most** of the data structures used have been **stated**.	The purpose and choice of **a few** of the data structures used have been **explained**.	There is evidence for an appropriate use of data structures with an **explanation** of the purpose of **most** of them.	There is evidence for an appropriate use of data structures with a **discussion** of the purpose of **all or almost all** of them.	0
Teacher Comments	Although the use of the online database could be considered a data structure there is no evidence that the candidate has created the structure or that the candidate understands how the structure is defined. They have used it but not really provided any recognition that it is a data structure.						
6	There is a **statement** of **one or two** of the techniques used (appropriate to the language chosen) within the code to make **parts of** the solution as robust as possible.	There is a **statement of a few** of the techniques used (appropriate to the language chosen) within the code to make the solution as robust as possible.	There is a **statement of most** of the techniques used (appropriate to the language chosen) within the code to make the solution as robust as possible.	There is a **description of a few** of the techniques used (appropriate to the language chosen) within the code to make the solution as robust as possible.	There is a **description of most** of the techniques used (appropriate to the language chosen) within the code to make the solution as robust as possible.	There is a **discussion of all or almost all** of the techniques used (appropriate to the language chosen) within the code to make the solution as robust as possible.	0
Teacher Comments	The candidate's solution is not especially robust. There is a lack of error handling throughout and the user input is rarely checked (for example the user could enter a negative number of credits to purchase)						
	Total for Programming Techniques Used						13

Please make any additional comments for the moderator below. This is optional.

Additional comments for the moderator (optional):

4 Testing and Evaluation (9 marks)

Row	1 mark	2 marks	3 marks	Total for row
1	There is a **minimal test plan** that shows **a few** of the expected tests and **includes a few examples** of the test data to be used **and/or** the expected results.	There is a test plan that shows **most** of the expected tests and includes **most** of the test data to be used **and** the expected results.	There is a **full or nearly full** test plan that shows **all or nearly all** of the expected tests and includes the **full** test data to be used **and** the expected results.	2
Teacher Comments	The testing of the main elements of the solution has been well planned. However, the test plan could have included more user input and boundary tests, which would have allowed reference to robustness and efficiency.			
2	There is evidence that a **few** of the planned tests have been carried out and a record of the results has been produced. There is minimal evidence that **an attempt** to carry out any required remedial action has been taken.	There is evidence that **most** of the planned tests have been carried out and a record of the results has been produced showing whether each test was successful or not. There is evidence that **most** of the required remedial action has been carried out.	There is evidence that **all or almost all** of the planned tests have been carried out and a detailed record of the results has been produced showing the extent to which every test was successful. There is evidence that **all or almost all** of the required remedial action has been carried out.	3
Teacher Comments	All of the planned tests have been carried out and have been recorded in a reasonable level of detail. Almost all of the remedial action has been carried out and is well documented (the candidate has not shown evidence that they have addressed the lack of an error message). It would have been more effective if the screen shots used as testing evidence were labelled more clearly and were accompanied by explanations to make it clearer what they show.			
3	There is an evaluation **stating** how the final solution meets **a few** of the original needs of the user. There is a significant number of errors in the use of spelling, punctuation and grammar. The form and style of writing is only partially appropriate. Information is not always organised and the use of specialist vocabulary is minimal.	There is an evaluation **describing** how the final solution meets **most** of the original needs of the user. Most of the evidence is accurately spelt, punctuated and grammatically correct to make most of the meaning clear. The form and style of writing is mostly appropriate. Information is organised and specialist vocabulary has been mostly used appropriately.	There is an evaluation **discussing** how the final solution meets **all or nearly all** of the original needs of the user. The evidence is accurately spelt, punctuated and grammatically correct to make the meaning clear. The form and style of writing is appropriate. Information is clearly organised and specialist vocabulary has been used appropriately.	2
Teacher Comments	The evaluation is written appropriately and describes how the solution meets most (tasks 1-4) of the user's needs. The style of writing and use of specialist vocabulary is appropriate.			
			Total for Testing and Evaluation	7

Please make any additional comments for the moderator below. This is optional.

Additional comments for the moderator (optional):