Competition Brief

Competition Title

Coding Skills

Competition duration: 3 hours

Covid-19
Due to situations relating to Covid-19, our competition briefs have been adapted to take into account remote participation or in-house participation where required. This approach has been adopted in order to take into account the safety of all competitors, judges and also in order to accommodate the different rules and procedures at the different colleges, universities, organisations and venues taking part.

This competition brief has been designed so that it can be used in-house at competitors' own colleges, universities or organisations, or so that it can be used remotely from competitors' own homes.

Competition Overview

Coding is a skill where instructions are taken and translated into a language the computer understands since computers do not communicate like humans. They communicate in a language called BINARY which uses 0's and 1's. Coders write the instructions using a programming language to get the computer to behave how they want it to. Every line of code tells the computer to do something, and a document full of lines of code is called a script. Each script is designed to carry out a job. This job might be to take an image and change its size.

In this competition, competitors will undertake a series of practical tasks which will demonstrate their abilities and skills in software development and coding; essential requirements for a successful career as a computer programmer within any industry.

Entry Criteria

This competition is for those training for a career in the IT Industry and are studying towards a Level 2 or 3 BTEC Diploma or equivalent.

Please ensure your entrants have the skills and competences to complete the task.

Entry capacity restrictions by organisation

Maximum of 3 entries per organisation.

This is the maximum number of entries permitted by an organisation for this competition.

This is determined by 'location' and 'organisation'. 'Organisation' refers to the competitors' training provider/employer. 'Location' refers to a site where the competitor studies / is employed. For further guidance on these capacities, click here.

Brief

This competition encourages practical programming to provide a solution, and will test your ability to use a programming language, of your choice, to complete the tasks.

You can complete these tasks using the most appropriate integrated development environment (IDE) freely available for download for your chosen language.

The task will involve designing and coding a Text-Based Adventure which meets a series of requirements including a storyline. The full competition brief will be provided to each competitor on the morning of the competition heat.

Example Text-Based Adventure Scenario

Player **Zed** enters their name into the prompt and is greeted with a welcome message telling them they are a Knight in the world of Ni. Their task is to navigate through several locations to fight a dragon.

From the starting location, **Zed** can either go **North**, **East** or **West**. **Zed** chooses to go **East** and enters a valley bordering a river (**East**), a creepy forest (**North**) and a cave (**West**).

Zed enters the creepy forest by choosing to go **North** and although they are presented with multiple onward directions, they choose to return back to the valley (**South**) because the forest is too creepy.

They can now choose to go back to the starting location and take a completely new route (by returning **South** again), or take a different route from the valley. **Zed** chooses to go **West** and enters the cave. A message appears on the screen telling **Zed** that their route back to the valley is now blocked because the entrance has caved in.

Zed can now only continue with the new directions presented. **Zed** can now go only **North**, **East** or **West**, as **South** is not an option. **Zed** chooses to go **North**, deeper into the cave.

The new location shows a large exit (**East**) but it is blocked by a sleeping dragon with a cold. If **Zed** continues **East** they will wake the dragon and will have to fight it, but a smaller

exit hole can be seen near its mouth (**North**) and some objects can be seen in a cubby hole to the **West**… to be continued.

Example of an alternative end-point: From the valley, **Zed** chose to go **East** to the River, followed it downstream and got stuck in boggy mud.

Infrastructure List
- Each competitor will need a PC or laptop compatible with using your preferred IDE or text editor compatible with your chosen programming language.

Competition Rules
For full terms and conditions of entry and competition rules visit www.skillscompetitionwales.ac.uk/terms-and-conditions

Generic competition rules
- Mobile phones are to be switched off during competition activity.
- Listening to music via headphones is not permitted during competition activity.
- Any questions during competition activity should be addressed to the competition judging panel.
- Competitors should not communicate with other competitors during competition activity.
- It is the responsibility of each competitor to arrive on time for each competition session. No additional time will be allowed if you arrive late.
- Technical failure of your equipment should be reported immediately to the judging panel. Additional time will be allocated if the fault is beyond the control of the competitor.

Marking and Assessment
Marking and judging of this competition will be done by a team of experts from Industry, Further Education or Training Provider, using a marking criteria and allocated marks to ensure consistency.

Breakdown of marking and assessment.

A	Create and submit a map of the layout.	10%
B	Uploaded correctly annotated code to the provided Google Drive folder	20%
C	A video showing a demonstration of the completed task has been	10%

	provided.	
D	The code demonstrates multiple end-points or options as per the task.	20%
E	The code provided flows and makes sense in line with the task.	40%
	Total	100%

Feedback and Recognition

Individual and Group verbal feedback will be provided at the end of the competition.

No results or awards will be awarded on the day, as marking will be quality assured.

Certificates of Participation will be issued on the day.

Medallists will be invited to a Celebration Event which will be held in March 2022, where the First, Second and Third Awards will be presented.

Marksheets will be made available to unsuccessful competitors after the quality assurance process has been completed. Further details will be provided to all competitors upon notification of outcomes.

Competition Lead

Lead Contact:
Rona Griffiths - rona.griffiths@cambria.ac.uk - 01978 548 817

Expert Contacts:
Peter Cresswell - peter.cresswell@cambria.ac.uk - 01978 267 517
Kate Unitt - kate.unitt@cambria.ac.uk - 01978 548 820

Briff y Gystadleuaeth

Teitl y Gystadleuaeth

Sgiliau Codio

Hyd y gystadleuaeth: 3 awr

COVID-19

Oherwydd sefyllfaoedd yn ymwneud â Covid-19, mae ein briffiau cystadlu wedi'u haddasu i ystyried cyfranogiad o bell neu gyfranogiad mewnol lle bo angen. Mabwysiadwyd y dull hwn er mwyn ystyried diogelwch yr holl gystadleuwyr, beirniaid a hefyd er mwyn darparu ar gyfer y gwahanol reolau a gweithdrefnau yn y gwahanol golegau, prifysgolion, sefydliadau a lleoliadau sy'n cymryd rhan.

Dyluniwyd y brîff cystadlu hwn fel y gellir ei ddefnyddio'n fewnol yng ngholegau, prifysgolion neu sefydliadau'r cystadleuwyr eu hunain, neu fel y gellir ei ddefnyddio o bell o gartrefi'r cystadleuwyr eu hunain.

Trosolwg o'r Gystadleuaeth

Mae codio yn sgìl lle mae cyfarwyddiadau'n cael eu cymryd a'u cyfieithu i iaith mae'r cyfrifiadur yn ei deall, gan nad yw cyfrifiaduron yn cyfathrebu fel pobl. Maen nhw'n cyfathrebu mewn iaith â SYSTEM DDEUAIDD sy'n defnyddio rhifau 0 ac 1. Mae codwyr yn ysgrifennu'r cyfarwyddiadau gan ddefnyddio iaith raglennu i gael y cyfrifiadur i ymddwyn mewn ffordd arbennig. Mae pob llinell o god yn dweud wrth y cyfrifiadur i wneud rhywbeth, ac mae dogfen yn llawn llinellau cod yn cael ei galw'n sgript. Mae pob sgript wedi'i chynllunio i wneud gwaith penodol, fel cymryd delwedd a newid ei maint.

Yn y gystadleuaeth hon, bydd cystadleuwyr yn ymgymryd â chyfres o dasgau ymarferol a fydd yn dangos eu gallu a'u sgiliau o ran datblygu a chodio meddalwedd – gofynion hanfodol ar gyfer gyrfa lwyddiannus fel rhaglennydd o fewn unrhyw ddiwydiant.

Meini Prawf Cystadlu

Mae'r gystadleuaeth hon ar gyfer y rhai sy'n hyfforddi ar gyfer gyrfa yn y Diwydiant TG ac sy'n astudio ar gyfer Diploma BTEC Lefel 2 neu 3 neu gymhwyster cyfatebol.

Sicrhewch fod gan eich ymgeiswyr y sgiliau a'r gallu angenrheidiol i gwblhau'r dasg.

Cyfyngiadau capasiti mynediad yn ôl sefydliad

Uchafswm o 3 chystadleuydd fesul sefydliad.

Dyma uchafswm y cystadleuwyr a ganiateir o bob sefydliad ar gyfer y gystadleuaeth hon. Penderfynir ar hyn yn ôl 'lleoliad' a 'sefydliad'. Mae 'sefydliad' yn cyfeirio at ddarparwr hyfforddiant/gyflogwr y cystadleuwyr. Mae 'lleoliad' yn cyfeirio at y safle lle mae'r cystadleuydd yn astudio/cael ei gyflogi. I gael rhagor o ganllawiau ynglŷn â chapasiti, cliciwch [yma.](#)

Briff

Mae'r gystadleuaeth hon yn annog rhaglennu ymarferol i ddarparu datrysiad, a bydd yn profi'ch gallu i ddefnyddio iaith raglennu, o'ch dewis chi, i gyflawni'r tasgau.

Gallwch chi gyflawni'r tasgau hyn gan ddefnyddio'r amgylchedd datblygu integredig (IDE) mwyaf priodol sydd ar gael i'w lawrlwytho am ddim ar gyfer eich dewis iaith.

Bydd y dasg yn cynnwys dylunio a chodio Antur Testun sy'n cwrdd â chyfres o ofynion. Bydd briff llawn y gystadleuaeth yn cael ei ddarparu i bob cystadleuydd ar fore gwres y gystadleuaeth.

Rhestr Seilwaith

- Bydd angen cyfrifiadur neu liniadur ar bob cystadleuydd sy'n gydnaws â defnyddio'r IDE neu'r golygydd testun o'ch dewis sy'n gydnaws â'r iaith raglennu o'ch dewis.

Rheolau'r Gystadleuaeth

I weld y telerau ac amodau mynediad llawn a'r rheolau cystadlu ewch i https://www.skillscompetitionwales.ac.uk/terms-and-conditions?lang=cy

Rheolau cystadlu cyffredinol

- Rhaid diffodd ffonau symudol yn ystod y gweithgareddau cystadlu.
- Ni chaniateir gwrando ar gerddoriaeth drwy glustffonau yn ystod y gweithgareddau cystadlu.
- Os bydd unrhyw gwestiynau yn ystod y gweithgareddau cystadlu, dylid eu cyfeirio at banel beirniaid y gystadleuaeth.
- Ni ddylai cystadleuwyr gyfathrebu â chystadleuwyr eraill yn ystod gweithgareddau cystadlu.
- Cyfrifoldeb pob cystadleuydd yw cyrraedd yn brydlon ar gyfer pob sesiwn o'r gystadleuaeth. Ni chaniateir amser ychwanegol os byddwch yn cyrraedd yn hwyr.
- Os bydd methiant technegol gyda'ch offer dylech hysbysu'r panel beirniadu ar unwaith. Bydd amser ychwanegol yn cael ei ganiatáu os yw'r nam y tu hwnt i reolaeth y cystadleuydd.

Marcio ac Asesu

Caiff y gwaith o farcio a beirniadu'r gystadleuaeth ei gynnal gan dîm o arbenigwyr o blith Darparwyr Hyfforddiant, gweithwyr Addysg Bellach, neu gynrychiolwyr Diwydiant gan ddefnyddio meini prawf marcio a marciau wedi'u dyrannu i sicrhau cysondeb.

Dadansoddiad o farcio ac asesu.

A	Creu a chyflwyno map o'r cynllun	10%
B	Cod wedi'i lwytho i fyny wedi'i anodi'n gywir i'r ffolder Google Drive a ddarperir	20%
C	Mae fideo yn dangos arddangosiad o'r dasg wedi'i chwblhau.	10%
D	Mae'r cod yn dangos sawl pwynt terfyn neu opsiwn yn unol â'r dasg.	20%
E	Mae'r cod a ddarperir yn llifo ac yn gwneud synnwyr yn unol â'r dasg.	40%
	Cyfanswm	100%

Adborth a Chydnabyddiaeth

Bydd adborth llafar Unigol a Grŵp yn cael ei ddarparu ar ddiwedd y gystadleuaeth.

Ni roddir canlyniadau na gwobrau ar y diwrnod gan y bydd angen sicrhau ansawdd y gwaith marcio.

Caiff Tystysgrifau Cyfranogi eu cyflwyno ar y dydd.

Bydd y rhai sy'n ennill medalau yn cael eu gwahodd i Ddigwyddiad Dathlu a fydd yn cael ei gynnal yn mis Mawrth 2022, lle bydd y Gwobrau Cyntaf, Ail a Thrydedd yn cael eu cyflwyno.

Bydd taflenni marcio ar gael i gystadleuwyr aflwyddiannus ar ôl i'r broses sicrhau ansawdd gael ei chwblhau. Caiff manylion pellach eu darparu i bob cystadleuydd ar ôl iddynt gael gwybod beth yw'r canlyniadau.

Arweinydd y Gystadleuaeth
Cyswllt Arweiniol: Rona Griffiths - rona.griffiths@cambria.ac.uk - 01978 548 817

Cysylltiadau Arbenigol:
Peter Cresswell - peter.cresswell@cambria.ac.uk - 01978 267 517

Kate Unitt - kate.unitt@cambria.ac.uk - 01978 548 820