

New Quiz Features and Question Types from the Open University

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Stolen Borrowed by

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For MootDACH 2023



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The Open University

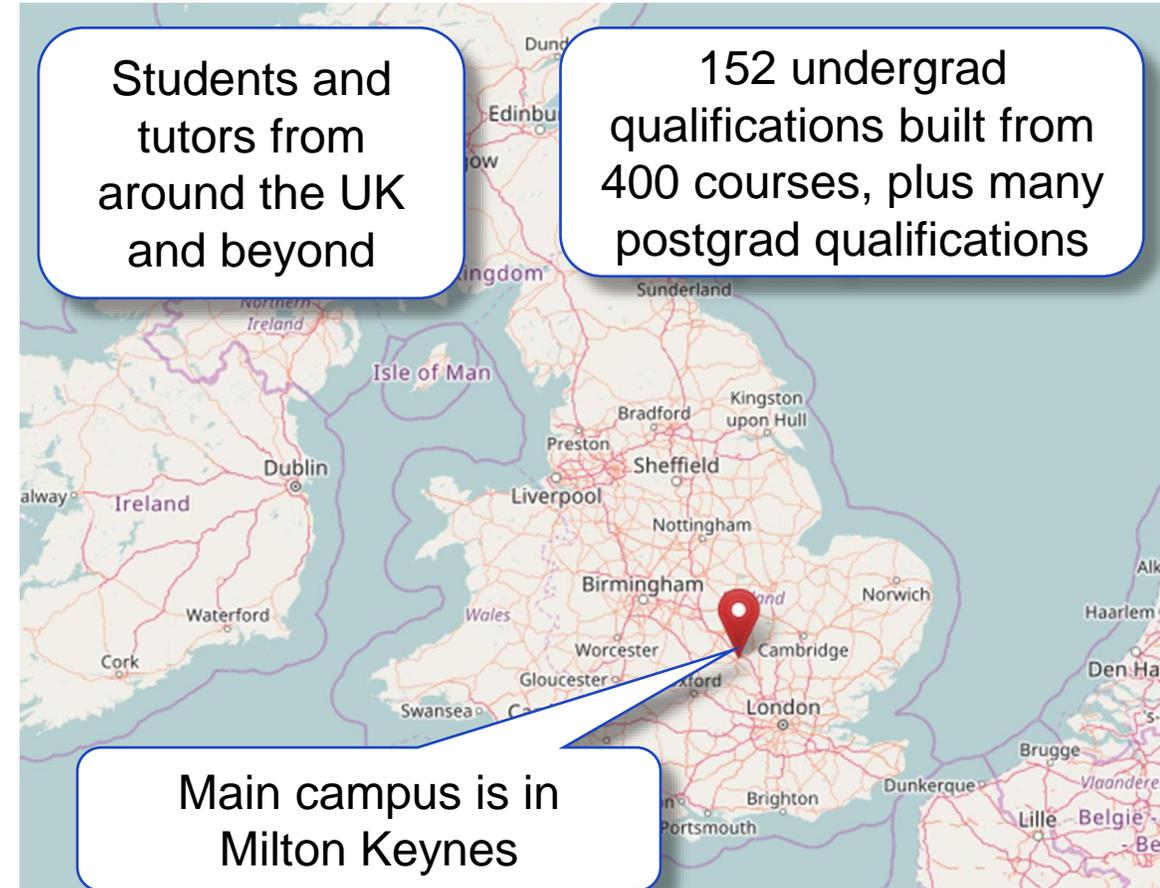


01

The OU in context

Moodling since 2006 (M1.6)

- ▶ Many contributions to Moodle Core, Community plugins, and question types.
- ▶ ~60,000 logins to our main site (average busy day).
- ▶ ~700,000 quiz attempts per year.
- ▶ ~8.8 million questions attempted per year.



The OU in context

The OG online distance educator

- Modular qualifications, courses usually present twice a year.
- Teaching: online materials (text, multimedia, interactives) with tutors supporting the learning process.
- Student/tutor ratio is ~20:1, with cohorts ranging from 100s to 1,000s.
- Moodle Quiz is used for diagnostic and consolidative/revision quizzing, as well as formative and summative testing.



Shutting 'floors' of hotel rooms during low season to reduce running costs.



An organisational culture that continually scrutinises the costs of all areas of its operation such as Asda (Walmart).



Residual efficiency
Input costs
Product design
Economies of scale
Capacity utilisation
Production techniques
Economies of learning

Check

Tries remaining: 1 | Marked out of 7.00 | Edit question

18%

Weeks 1 to 3 (6–26 Oct) Introduction...

Module introduction

- Module guide ✓
- Manual completion not synchronised.
- Introducing Earth science ✓
- Manual completion not synchronised.
- Minerals - the basics
- 1 Mineralogy: combining physics, chemistry and observation ✓
- Manual completion not synchronised.

MST124 23B

Essential mathematics 1

0%

Current weeks

All weeks

COLLAPSE ALL ^

WEEKS
12-13

Book B Unit 6: Differentiation

22 April–5 May

0 of 6
completed

In Weeks 12 and 13, work through Unit 6.

 **Unit 6** | 4.9 MB PDF document

 **Unit 6 applets**

 **Tutorial clips for Unit 6**

 **Unit 6 Practice quiz**

 **Exercise Booklet 6** | 694.3 KB PDF document

Tutor ^

Anonymous

[Contact your tutor >](#)

News ^

**Tutor advice forum for TMA02
MST124**

Posted: 24 Apr 2023

For TMA02 we will be opening a fast ...

**Tutor advice forum for TMA01
MST124**

Posted: 13 Feb 2023

For TMA01 we will be opening a fast ...

MST124 Introductory Tutorial

Posted: 24 Jan 2023

WEEKS
14-16

Book C Unit 7: Differentiation methods and integration

6–26 May

0 of 7
completed

OpenMark

OpenMark/ **openmark**



The OpenMark eAssessment system from the Open University

 3
Contributors

 1
Issue

 3
Stars

 0
Forks



OpenMark

Early quizzing innovation at the OU

- ▶ OpenMark was a quizzing engine written in the very early 2000s.
- ▶ Java-based, so our Interactive Media Developers (IMDs) could create unique and highly customisable question content with custom scoring.
- ▶ However, that was a lot of work, and question templates quickly became established.

The Open University logo is in the top left. The page title is "Are you ready for TM111?". In the top right, there are buttons for "Display options" and "Help". Below the title, it says "Question 1 (of 32) • You have only one attempt." and buttons for "Your answers" and "End test".

Info

Study time

1

Computer and internet access

Info 2 3 4

5 6 7

Using numbers

Info 8 9 10

11 12 13 14

15

Problem-solving

Info 16 17

18 19 20 21

Do I have enough time?

We estimate that students on TM111 will need to spend about 11 hours each week on the module and the assessment, and a further 3 hours on self-directed study.

If you have no time available on a particular day, either leave the box blank or enter zero. Then click the button to add up the hours.

Day	Number of hours
Monday	<input type="text"/>
Tuesday	<input type="text"/>
Wednesday	<input type="text"/>
Thursday	<input type="text"/>
Friday	<input type="text"/>
Saturday	<input type="text"/>
Sunday	<input type="text"/>
Total	Nil hours

Calculate

Enter answer

OpenMark

Early quizzing innovation at the OU

- › From 2006, the OU started looking at Moodle, which didn't allow completely free reign on question design, but was question template-driven.
- › This led to a number of OpenMark question templates being ported to Moodle:
 - Drag and Drop family (Word into Sentence, Mark, Image).
 - Multiple Response (we prefer our multi-response grading over Moodle's MC).
 - Variable-numeric family.
 - Pattern Match.
 - Select Missing Words.
 - Combined.

OpenMark

We're actually decommissioning something!

- There was even a way to embed OpenMark questions into Moodle Quiz (Opaque) and general content – the latter might sound familiar!
- After ~20 years, we've decided to decommission OpenMark (~2025).



Peter Trimming / Stonehenge Sunset (1) / CC BY-SA 2.0

OpenMark

But it's kinda been decommissioning itself....

- › Moodle is also now a mature tech, with some truly stand-out qtypes like **STACK** and **CodeRunner**.
- › Early online quizzing adopters were STEM courses; most of whom have since been tempted over. There's a 'natural decommissioning' from older courses reaching end-of-life.
- › In late 2021, we therefore started reviewing our Moodle-based VLE against OpenMark to identify quiz and question "gaps".
- › This led to....



Enhancements to Moodle



New Quiz features I

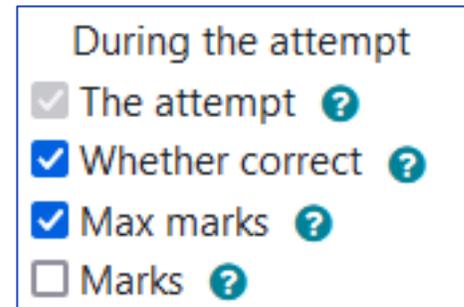
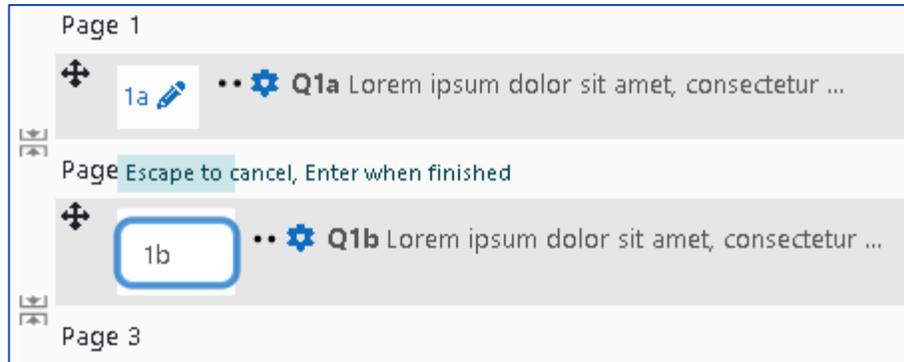
Features we've worked on

- › We wanted question versioning, which has already been done (😊). We have helped iron out some issues, and 'Delete' should delete the entire question in M4.2 (if you want to delete a certain version, do so from the History page).
- › Restored the 'Download question XML' link (M4.1).
- › Made it possible to over-ride the language of most activities (M4.1).
- › For our embedded questions, a new question version restarts any active embedded question attempts on the next click.

New Quiz features II

Features we've worked on

- ▶ Question auto-numbering over-ride (M4.2).
- ▶ Slightly more nuanced 'Show marks to students' for attempt reviews (M4.3).



Question 1
Partially correct

Question 1
Partially correct
Marked out of
1.00

Question 1
Partially correct
Mark 0.50 out of
1.00

New Quiz features III

Features we're working on

- ▶ Sectional scoring/weighting (M4.3), drawing inspiration from OpenMark for scores for each section of a quiz, and whether a student has passed each.
- ▶ This is complicated! We might not finish it all for M4.3.0!

Your result

- Computer and internet access: 0 (out of 18)
- Problem-solving: 5 (out of 21)
- Reading and writing in English: 0 (out of 24)
- Study time: 0 (out of 2)
- Using numbers: 2 (out of 18)

Our classification of those scores

- ✘ Study time
- ✘ Computer and internet access
- ✘ Problem-solving
- ✘ Using numbers
- ✘ Reading and writing in English

Question types

Question types we've improved or are working on

- ▶ General business requirements:
 - Crossword.
 - Record Audio/Video.
 - Ordering: We want to help Gordon Bateson get it into Moodle core for M4.3.
- ▶ OpenMark decommissioning:
 - Draw lines.
 - Matrix: multi-row Single Choice/Multiple Response.
 - Give examples of (Pattern Match variant).
 - Sorting.

Crossword I

1

Question 1 Tries remaining: 1
Marked out of 7.00 | [Flag question](#)

Fill in the crossword!

Across

1 Long yellow fruit which is often slightly curved. (7)

Crossword II

Complétez les mots croisés !

1 D
I
2 S I X
H
3 H U I T
I R
5 Q 6 U A T R E
N I
M 7 Z É R O
I E
L
L
8 V I N G T E T U N
O
N

Across

2 6 (3)

SIX

3 8 (4)

HUIT

5 4 (6)

QUATRE

7 0 (4)

ZÉRO

8 21 (5-2-2)

VINGT-ET-UN

Down

1 18 (3-4)

DIX-HUIT

4 13 (6)

TREIZE

6 1,000,000 (2, 7)

UN MILLION

7 0 (4)

ZÉRO ✓

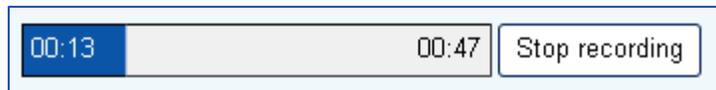
7 0 (4)

ZÉRO ✓

Record Audio/Video (RAV) I

Language practice leading to more general employability skills

- › RAV began as a replacement technology for our School of Languages' 'voice recorder' activity in their online learning materials.
- › Our latest internal release includes improved MP3 encoding, with a new progress bar showing count up/down.



- › We've just added a **new screen-recording mode**. So students (and staff!) producing slidecasts *might* have just become a lot easier in Moodle.
- › Public plugin update on its way.

Record Audio/Video (RAV) II

Question 1 Not yet answered

Record a short presentation

OU102
21J

Chris' test site (hence the image)

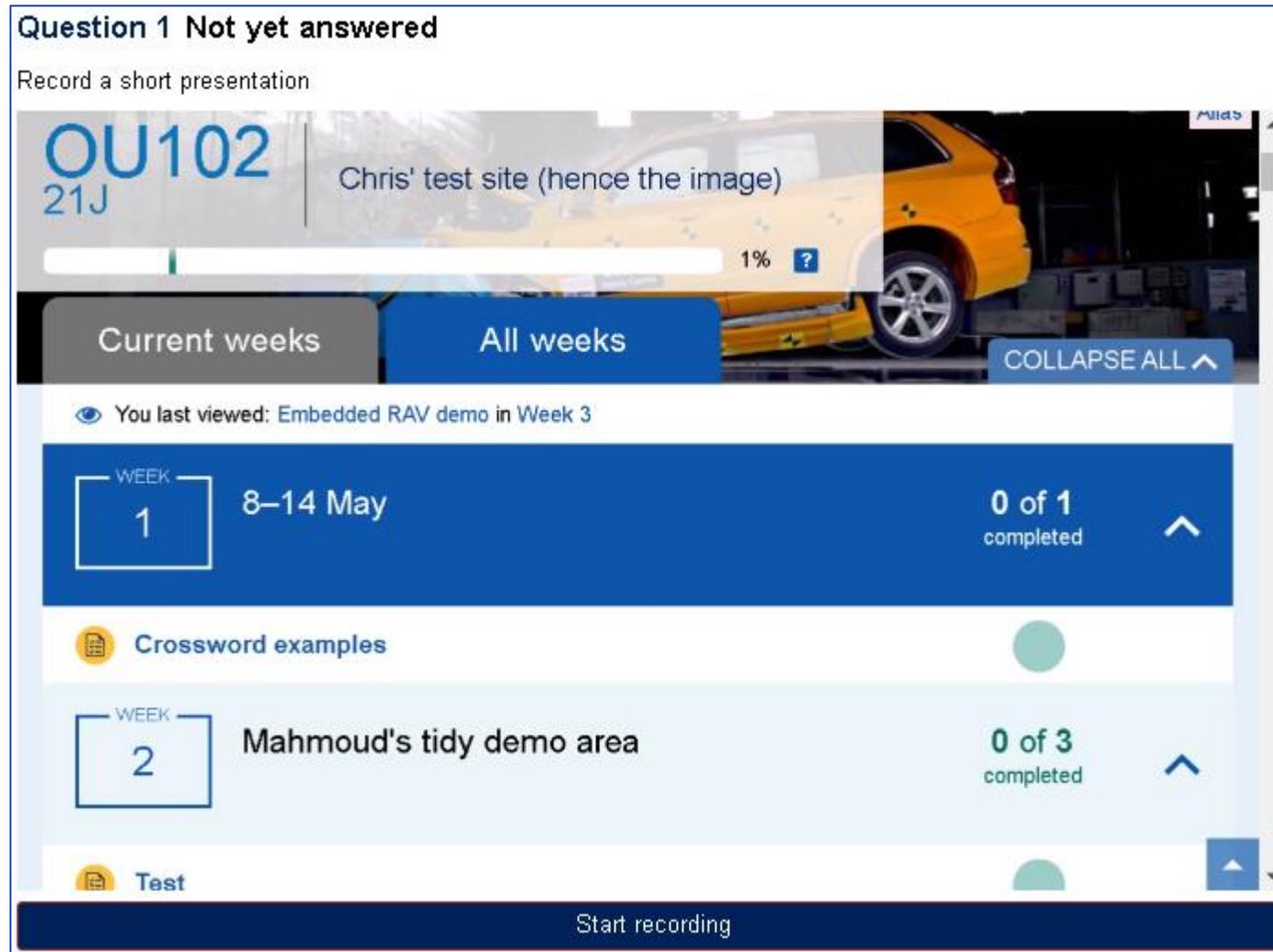
1%

Current weeks All weeks COLLAPSE ALL ^

You last viewed: Embedded RAV demo in Week 3

WEEK 1	8–14 May	0 of 1 completed	^
	Crossword examples		
WEEK 2	Mahmoud's tidy demo area	0 of 3 completed	^
	Test		

Start recording



Ordering

Excellent for testing process knowledge

- › We've been working with Gordon Bateson, its owner, since 2019.
- › We've helped improve Ordering's accessibility and made its feedback consistent with the Drag and Drop family.
- › We are hoping it could become a Moodle Core qtype in M4.3 or M4.4.

Question 3 Tries remaining: 1
Marked out of 1.00 |  Flag question |  Edit question

Put these planets in order, starting from Sol outwards.

Mercury Jupiter Mars Uranus Venus Neptune Saturn Earth

Check

Give examples of

A more response-holistic version of Pattern Match

- › Essentially a heavily templated variant of Pattern Match.
- › Should be released in late summer 2023.

- › (I should mention that we've recently made quite a few authoring usability improvements to Pattern Match/ Combined Pattern Match too – public releases coming soon!)

Question 1 **Correct**

Mark 4.00 out of 4.00

Name four ways you can use Moodle Quiz:

diagnostic ✓

consolidative ✓

formative ✓

summative ✓

Your answer is correct.

OU Matrix

Single choice/multiple response tables

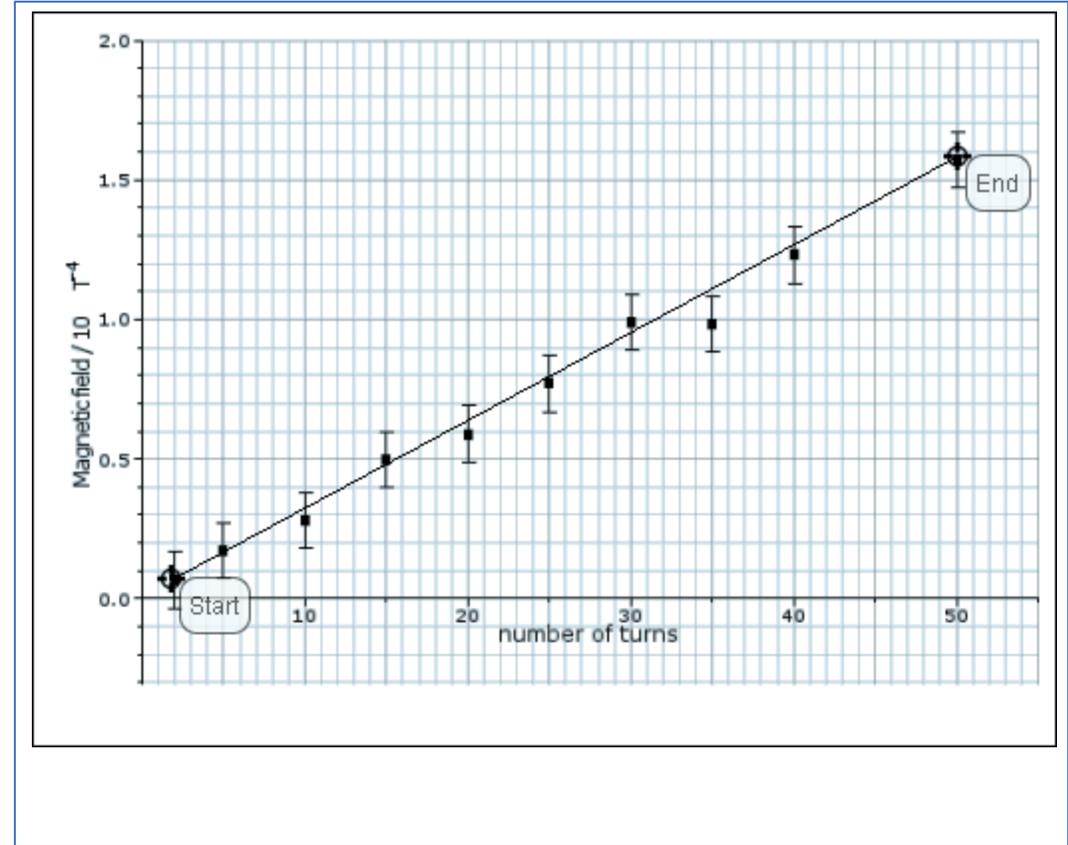
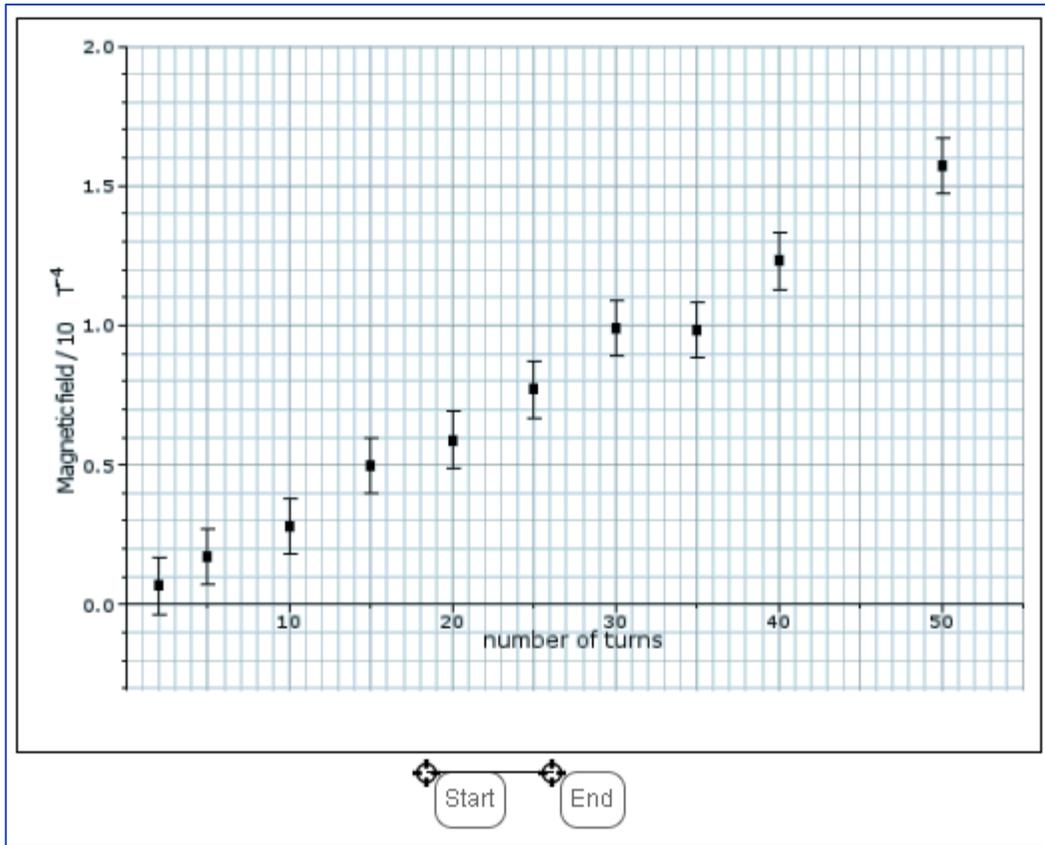
- ▶ We reviewed the existing qtypes. Our business requirements are unfortunately not quite met with what's out there.
- ▶ We've therefore decided to make our own.
- ▶ It would be nice to deliver for December 2023 (public plugin might be early/mid 2024?).

Question 1 Tries remaining: 1
Marked out of 1.00

	Is a good electrical conductor	Is an insulator	Can be magnetised
Copper	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Glass	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Iron	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gold	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Check

Draw lines



Sorting

A drag-and-drop version of Matrix, really

- › ‘Sort’ the items into categories. The exact order of the items themselves shouldn’t matter, only that they are in the right category.
- › Definitely one for mid- to late 2024.

Positive beliefs about worry	Negative beliefs about worry

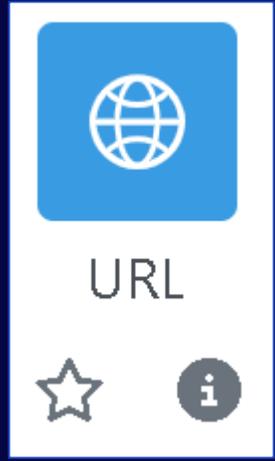
Worrying helps me cope with things
If I keep worrying, bad things will not happen to me
If I worry, I will be motivated to do things
...

Wrapping up

The future's bright, the future's (moodle™) orange!

- Overall, not many gaps to fill!
- Moodle Quiz stands up well against the other assessment systems we've seen.
- As usual, we expect some unforeseen high-priority items to lead to minor delays and distractions, but are optimistic of our timeline.
- Balancing internal development, code maintenance, and defect-fixing with external releases can be tricky!

Links to available plugins



Links to published plugins

› Embedded questions

- https://moodle.org/plugins/filter_embedquestion
- https://moodle.org/plugins/atto_embedquestion
- https://moodle.org/plugins/report_embedquestion

› Pattern Match question type

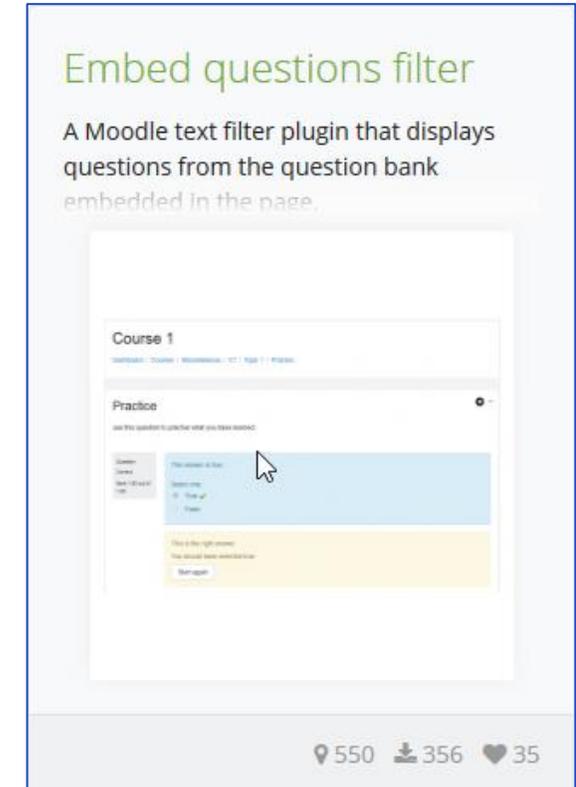
- https://moodle.org/plugins/qtype_pmatch

› Record audio/video question type

- https://moodle.org/plugins/qtype_recordrtc

› Ordering question type (Gordon Bateson)

- https://moodle.org/plugins/qtype_ordering



Thank you



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