AI in Education
Where are we at and what now?

Brett Dalton
Head of Educational Solutions
MOODLE LMS

PRODUCTS

MOODLE WORKPLACE
Workplace learning with the world's most customisable LMS

MOODLE APP
Improve how you connect and take Moodle with you, wherever you go

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Our global network to share and curate open educational resources

EDUCATIONAL SOLUTIONS

SERVICES

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Expert Moodle services and hosting provided by Moodle

MOODLE CLOUD
The world's most trusted open source LMS, ready to go!

ACADEMY, ENGAGEMENT & EVENTS
The hub for the global Moodle community
Current state of AI

Moodle HQ

AI Approach

Moodle LMS AI Update
What Problem Are We Trying to Solve?
What Problem Are We Trying to Solve?

- Unlocking Creativity
- Facilitating Collaboration
- Optimising Outcomes
Current state of play with AI

AI in everything
  • Zoom
  • Windows/OSX
  • Figma
  • New Relic
  • Resume assessments

New service offerings are appearing daily
AI Legislation

EU AI Act

- Address risks specifically created by AI applications;
- Prohibit AI practices that pose unacceptable risks;
- Determine a list of high-risk applications;
- Set clear requirements for AI systems for high-risk applications;
- Define specific obligations deployers and providers of high-risk AI applications;
- Require a conformity assessment before a given AI system is put into service or placed on the market;
- Put enforcement in place after a given AI system is placed into the market;
- Establish a governance structure at European and national level.
Risks and issues

Hallucinations
• AI confidently replying with incorrect facts

Lack of Discrimination
• Google search AI summary reporting Onion satire site as fact
Risks and issues

Jail Breaking
• This is the process where safeguards are bypassed by the end user

Prompt poisoning
• Similar to Jail Breaking but uses the context data to insert prompts into the AI process. AI cannot tell the difference between a prompt and the context data.

Prompt Hijacking/Leaking
• Utilising a combination of techniques a user may be able to change the prompts or expose what prompts are used to prime a system
Risks and issues

AI is Expensive
• In both environmental and economic terms AI is expensive to run and train, this inherently limits access

Dominant cultural biases
• Cultures which are under represented in the training data may not be represented well in responses. Addressing this is non-trivial
These are not reasons to avoid AI, rather to approach AI with open eyes and understand its potential benefits but also the potential impact.
Moodles Approach to AI
LMS AI Subsystem

A way to provide a consistent and user-friendly experience for users to interact with AI in Moodle LMS. While allowing them to continue their teaching and learning activities.

Provide a straightforward integration with various AI providers on the backend.

While adhering to our AI Principles and Legislation
LMS AI Subsystem
LMS AI Subsystem

- Privacy
- Reporting
- Legislation

- Access Control
- Inputs for AI Model (Guardrails)

- Model Training
- Extendability
- Scalability
LMS AI Subsystem

Moodle LMS - AI Subsystem

THE AI

LMS Placements
- TinyMCE
- Course content
- Quiz question creation
- Assignment Grading

Configuration & Permissions
- Configuration
- Context
- Roles/Capabilities

Core Components
- Define Actions
- Logging
- Reporting

Contextual Information
- Course data
- Activity Data
- User meta data (student/teacher)
- File Content

Provider Plugins
- OpenAI API
- Midjourney
- Stable Diffusion
- Gemini

Report Builder
- Auditing
- Usage Reporting

AI Service
- Commercial AI service
- Custom LLM model
- Institutional ML service

Ai API Interface
- Authentication
- API calls
- Error Handling

Global Search API
- Course data
- Activity Data

File conversion API
- File content

TinyMCE
- Generate Text
- Generate Images

Course
- Summarise Text
- Translate Text

Activities...
- AI Grading
LMS AI Subsystem

- Placements
- Actions
- Providers
LMS AI Subsystem

- Placements
- Actions
- Providers
LMS AI Subsystem

- Placements
- Actions
- Providers

- **Summarise**: Summarise the provided text. Condense long text into key points. Simplify anything too complex for learners to understand.
- **Explain**: Explain the provided text. Clarify complex concepts or terms. Your aim is to make it easy for learners to understand.
- **Ask Question**: Generate questions from the provided text.
- **Answer Question**: Answer questions about the provided text.
- **Translate**: Translate the provided text into another language.
- **Images**: Generate images to illustrate the provided text.
- **Chatbot**: Provides a 2 way synchronous interaction in a conversational Q&A manner
LMS AI Subsystem

- Placements
- Actions
- Providers

### Provider Plugins
- OpenAI API
- Midjourney
- Stable Diffusion
- Gemini

### AI API Interface
- Authentication
- API comms
- Error Handling
LMS AI Subsystem

- **Placements**
  - How users interact with AI (UX/UI & Workflows)

- **Actions**
  - The things that can be done (Generate an Image)

- **Providers**
  - Provide the Action functionality (OpenAI API)
What is First?
What is First?

Summarise or Explain Content
When?

- Initial Functionality 4.5
- Progressive Rollout
- Prototype Site (Coming Soon)
LMS AI Subsystem

- More information

Tracker MDL-80888

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