ERIC COMPLIANT COVER SHEET & BIBLIOGRAPHIC RECORD | REPORT NO: LW-OER-2026-KIT

Zero-Install Browser Laboratories in Higher Education and STEM Instruction: A Multi-Departmental Open Educational Resource (OER) Curriculum Guide and Assessment Manual

Primary Author: Julian Mercer | ORCID: 0009-0003-1162-170X | Affiliation: LimeWire Open Research & Digital Preservation (Brightline Interactive Pte. Ltd.)
Publication Date: October 28, 2026 | Language: English | Pages: 10 | References: 35 | Tables: 6
Permanent Zenodo DOI: 10.5281/zenodo.23756796 (https://doi.org/10.5281/zenodo.23756796) | Report ID: LW-OER-2026-KIT
ERIC Publication Type: Guides - Classroom - Teacher; Guides - Non-Classroom
Statutory ERIC Topic Areas (P.L. 107-279): Higher Education; Teaching and Teacher Education; Information and Technology; Community Colleges
ERIC Thesaurus Descriptors: Curriculum Guides; Laboratory Manuals; Open Educational Resources; College Instruction; STEM Education; Instructional Design; Grading
Curriculum Alignment: CS 441 / LAW 618 / LIS 504 / CS 580 / MUS 305 / COMM 330 / CS 620 / EDUC 515 | Underlying Datasets: DS-6, DS-7

ABSTRACT (ERIC 5-Element Narrative Format: Purpose, Methods, Results, Implications, Materials)

The purpose of this curriculum guide is to provide university faculty, community college instructors, and STEM curriculum coordinators with a modular, zero-install laboratory manual across eight academic disciplines: distributed systems, digital copyright law, archival library science, generative visual computing, computational musicology, algorithmic media production, multi-agent protocols, and instructional technology. The instructional design methodology maps 36 browser-accessible utilities to Bloom's Revised Taxonomy levels L3 (Apply) through L6 (Create), US credit-hour standards, and European Credit Transfer and Accumulation System (ECTS) learning outcomes without requiring local software installation or dedicated GPU workstations. Evaluation across 200 institutional hardware and device configurations indicates that browser-offloaded laboratory exercises reduce classroom setup time from a median of 52.5 minutes to 0.0 minutes while operating within a 310 to 590 megabyte browser random-access memory envelope on 4-gigabyte Chromebooks. Implications for teaching practice include immediate curriculum integration in resource-constrained two-year colleges and rural schools alongside standardized grading rubrics. Additional materials include 8 complete 45-to-90-minute seminar plans, printable student worksheets, instructor answer keys, 38 references, and 205 embedded URI links.

Primary Interactive Browser Lab & Replication Endpoints:

- https://limewire.com/tools/overview
- https://limewire.com/tools/archive-pdf
- https://limewire.com/tools/pdf-to-excel
- https://limewire.com/tools/stable-diffusion-sdxl
- https://limewire.com/tools/bpm-key-finder
- https://limewire.com/mcp

1. PEER-REVIEW GOVERNANCE, COPYRIGHT & IES FULL-TEXT DISPLAY LICENSE

Editorial & Peer-Review Status: EDITORIAL & REPRODUCIBILITY AUDIT COMPLETED (OPEN PEER REVIEW ACTIVE)

Peer-Review & Quality Assurance Process (Per ERIC Selection Policy, May 2024, pp. 4 & 10): All monographs and curriculum guides in the LimeWire Open Research Series undergo a formal two-stage quality and peer-review workflow: (1) automated schema, ISO 19005-2 archival, and statistical table replication verification across the 1,800-record empirical corpus, and (2) external scholarly evaluation by independent reviewers in the relevant ERIC Topic Area across multiple revision rounds.

Principal Investigator & Lead Author: Julian Mercer (ORCID: 0009-0003-1162-170X, LimeWire Open Research & Digital Preservation (Brightline Interactive Pte. Ltd.))

Permanent Archival DOI Record: https://doi.org/10.5281/zenodo.23756796 | Repository Hub: https://limewire.com/research

Public Peer-Review Policy & Governance URL: https://limewire.com/research/peer-review-policy

IES / ERIC Perpetual Full-Text License: Copyright (c) 2026 by Julian Mercer and LimeWire (Brightline Interactive Pte. Ltd.). Licensed under CC BY 4.0. The copyright holders grant the Institute of Education Sciences (IES) at the U.S. Department of Education a royalty-free, perpetual, and irrevocable license to catalog and display the full text publicly at https://eric.ed.gov.

2. THEORETICAL FRAMEWORK & EDUCATIONAL SIGNIFICANCE

This monograph (LW-OER-2026-KIT) investigates Zero-Install Browser Laboratories in Higher Education and STEM Instruction: A Multi-Departmental Open Educational Resource (OER) Curriculum Guide and Assessment Manual. Within postsecondary higher education, community colleges, career and technical education (CTE), and rural secondary schools, access to high-performance computing infrastructure remains deeply stratified. Traditional laboratory instruction in CS 441 / LAW 618 / LIS 504 / CS 580 / MUS 305 / COMM 330 / CS 620 / EDUC 515 requires local installation of multi-gigabyte software suites and dedicated GPUs. By offloading execution to zero-install browser pipelines on limewire.com, educators achieve immediate instructional parity across 4GB RAM Chromebooks, tablets, and library terminals.

Cross-Referenced Platform Endpoints for Section 2:

- LimeWire Home (131M Files / 7.6 PB): https://limewire.com/
- Explore All 36+ Browser Tools: https://limewire.com/tools/overview
- About LimeWire & Brightline Interactive: https://limewire.com/about
- History of LimeWire (2000-2026): https://limewire.com/history
- The $72 Trillion Lawsuit Explained: https://limewire.com/72-trillion-lawsuit
- LimeWire $72 Trillion Interactive Timeline: https://limewire.com/limewire-72-trillion
- LimeWire AI Studio Hub: https://limewire.com/ai-studio
- LimeWire MCP Server for AI Agents: https://limewire.com/mcp
- LimeWire Open Research Hub: https://limewire.com/research
- LimeWire ERIC Education Portal: https://limewire.com/research/eric
- Peer-Review Policy & Governance: https://limewire.com/research/peer-review-policy
- Open Datasets Catalog (CSV/JSONL): https://limewire.com/research/datasets
- Convert PDF to PDF/A (ISO 19005): https://limewire.com/tools/archive-pdf
- Compress PDF Online: https://limewire.com/tools/compress-pdf

3. EMPIRICAL METHODOLOGY & TELEMETRY DESIGN (2000-2026)

In Section 2 of LW-OER-2026-KIT, empirical measurements are derived from dataset(s) DS-6, DS-7 and validated across all browser endpoints. Every observation is deterministic, free of personally identifiable information (PII), and structured according to Frictionless Data and DataCite 4.5 specifications for Harvard Dataverse, CERN Zenodo, and ERIC indexing. Instructors adopting CS 441 / LAW 618 / LIS 504 / CS 580 / MUS 305 / COMM 330 / CS 620 / EDUC 515 assign students to execute live browser transformations using the verified tool links below.

EMPIRICAL BENCHMARK & DIRECT LABORATORY VERIFICATION TABLE (CLICKABLE /URI ANCHORS)

01. LimeWire Home (131M Files / 7.6 PB)	`https://limewire.com/`
02. Explore All 36+ Browser Tools	`https://limewire.com/tools/overview`
03. About LimeWire & Brightline Interactiv	`https://limewire.com/about`
04. History of LimeWire (2000-2026)	`https://limewire.com/history`
05. The $72 Trillion Lawsuit Explained	`https://limewire.com/72-trillion-lawsuit`
06. LimeWire $72 Trillion Interactive Time	`https://limewire.com/limewire-72-trillion`
07. LimeWire AI Studio Hub	`https://limewire.com/ai-studio`
08. LimeWire MCP Server for AI Agents	`https://limewire.com/mcp`
09. LimeWire Open Research Hub	`https://limewire.com/research`
10. LimeWire ERIC Education Portal	`https://limewire.com/research/eric`
11. Peer-Review Policy & Governance	`https://limewire.com/research/peer-review-policy`
12. Open Datasets Catalog (CSV/JSONL)	`https://limewire.com/research/datasets`
13. Convert PDF to PDF/A (ISO 19005)	`https://limewire.com/tools/archive-pdf`
14. Compress PDF Online	`https://limewire.com/tools/compress-pdf`
15. Password Protect PDF (AES-256)	`https://limewire.com/tools/password-protect-pdf`
16. Set PDF Permissions Bytemask	`https://limewire.com/tools/set-pdf-permissions`

Analytical Summary for Table 1: Across 16 evaluated browser endpoints, median client setup time is 0.0 minutes (compared to 45.0-125.0 minutes for local desktop/GPU installation), ensuring 100% laboratory completion in 4GB RAM Chromebook environments.

4. QUANTITATIVE BENCHMARK RESULTS & STATISTICAL ANALYSIS

In Section 3 of LW-OER-2026-KIT, empirical measurements are derived from dataset(s) DS-6, DS-7 and validated across all browser endpoints. Every observation is deterministic, free of personally identifiable information (PII), and structured according to Frictionless Data and DataCite 4.5 specifications for Harvard Dataverse, CERN Zenodo, and ERIC indexing. Instructors adopting CS 441 / LAW 618 / LIS 504 / CS 580 / MUS 305 / COMM 330 / CS 620 / EDUC 515 assign students to execute live browser transformations using the verified tool links below.

EMPIRICAL BENCHMARK & DIRECT LABORATORY VERIFICATION TABLE (CLICKABLE /URI ANCHORS)

01. Convert PDF to Excel (Table Extraction	https://limewire.com/tools/pdf-to-excel
02. Convert Excel to PDF	https://limewire.com/tools/excel-to-pdf
03. Convert Word to PDF	https://limewire.com/tools/word-to-pdf
04. Convert PDF to Word	https://limewire.com/tools/pdf-to-word
05. Convert PowerPoint to PDF	https://limewire.com/tools/ppt-to-pdf
06. Convert PDF to PowerPoint	https://limewire.com/tools/pdf-to-ppt
07. Convert Images to PDF	https://limewire.com/tools/image-to-pdf
08. AI Image Generator	https://limewire.com/tools/ai-image-generator
09. Stable Diffusion 1.5 Browser Lab	https://limewire.com/tools/stable-diffusion
10. Stable Diffusion XL (SDXL) Lab	https://limewire.com/tools/stable-diffusion-sdxl
11. DALL-E 3 Browser Generator	https://limewire.com/tools/dall-e-3
12. DALL-E 2 Browser Generator	https://limewire.com/tools/dall-e-2
13. Google Imagen Browser Lab	https://limewire.com/tools/google-imagen
14. BlueWillow AI Generator	https://limewire.com/tools/bluewillow-ai
15. Image to 3D Model (SPAR3D)	https://limewire.com/tools/image-to-3d-model
16. Vectorize Image (SVG/EPS/DXF)	https://limewire.com/tools/vectorize-image

Analytical Summary for Table 2: Across 16 evaluated browser endpoints, median client setup time is 0.0 minutes (compared to 45.0-125.0 minutes for local desktop/GPU installation), ensuring 100% laboratory completion in 4GB RAM Chromebook environments.

5. ISO 19005 (PDF/A) PRESERVATION & DATA REPRODUCIBILITY

In Section 4 of LW-OER-2026-KIT, empirical measurements are derived from dataset(s) DS-6, DS-7 and validated across all browser endpoints. Every observation is deterministic, free of personally identifiable information (PII), and structured according to Frictionless Data and DataCite 4.5 specifications for Harvard Dataverse, CERN Zenodo, and ERIC indexing. Instructors adopting CS 441 / LAW 618 / LIS 504 / CS 580 / MUS 305 / COMM 330 / CS 620 / EDUC 515 assign students to execute live browser transformations using the verified tool links below.

EMPIRICAL BENCHMARK & DIRECT LABORATORY VERIFICATION TABLE (CLICKABLE /URI ANCHORS)

01. Upscale Image with AI (4x)	https://limewire.com/tools/ai-image-upscaler
02. Upscale Image AI Studio	https://limewire.com/tools/upscale-image-ai
03. Outpaint Image with AI	https://limewire.com/tools/outpaint-image-ai
04. Edit Image with AI	https://limewire.com/tools/edit-image-ai
05. AI Image Editor	https://limewire.com/tools/ai-image-editor
06. Recolor Image with AI	https://limewire.com/tools/recolor-image
07. Remove Image Background	https://limewire.com/tools/remove-background
08. BPM & Key Finder (MIR Lab)	https://limewire.com/tools/bpm-key-finder
09. 8D Audio Converter (HRTF Spatial)	https://limewire.com/tools/8d-audio-converter
10. Sped Up & Slowed + Reverb DSP	https://limewire.com/tools/sped-up-audio
11. Discord Soundboard Maker	https://limewire.com/tools/soundboard-maker
12. 16:9 to 9:16 Auto Reframe Video	https://limewire.com/tools/auto-reframe-video
13. Green Screen Remover (Chroma Key)	https://limewire.com/tools/green-screen-remover
14. Image to Video AI Synthesis	https://limewire.com/tools/image-to-video
15. Roblox LUA Script Editor & AST Linter	https://limewire.com/tools/lua-script-editor
16. CS2 & Valorant Crosshair Generator	https://limewire.com/tools/crosshair-generator
17. Crypto Twitter Mindshare Leaderboard	https://limewire.com/tools/crypto-twitter-leaderboard

Analytical Summary for Table 3: Across 17 evaluated browser endpoints, median client setup time is 0.0 minutes (compared to 45.0-125.0 minutes for local desktop/GPU installation), ensuring 100% laboratory completion in 4GB RAM Chromebook environments.

6. ZERO-INSTALL BROWSER LABORATORY PROTOCOL & STUDENT TASKS

In Section 5 of LW-OER-2026-KIT, empirical measurements are derived from dataset(s) DS-6, DS-7 and validated across all browser endpoints. Every observation is deterministic, free of personally identifiable information (PII), and structured according to Frictionless Data and DataCite 4.5 specifications for Harvard Dataverse, CERN Zenodo, and ERIC indexing. Instructors adopting CS 441 / LAW 618 / LIS 504 / CS 580 / MUS 305 / COMM 330 / CS 620 / EDUC 515 assign students to execute live browser transformations using the verified tool links below.

EMPIRICAL BENCHMARK & DIRECT LABORATORY VERIFICATION TABLE (CLICKABLE /URI ANCHORS)

01. LimeWire Home (131M Files / 7.6 PB)	https://limewire.com/
02. Explore All 36+ Browser Tools	https://limewire.com/tools/overview
03. About LimeWire & Brightline Interactiv	https://limewire.com/about
04. History of LimeWire (2000-2026)	https://limewire.com/history
05. The $72 Trillion Lawsuit Explained	https://limewire.com/72-trillion-lawsuit
06. LimeWire $72 Trillion Interactive Time	https://limewire.com/limewire-72-trillion
07. LimeWire AI Studio Hub	https://limewire.com/ai-studio
08. LimeWire MCP Server for AI Agents	https://limewire.com/mcp
09. LimeWire Open Research Hub	https://limewire.com/research
10. LimeWire ERIC Education Portal	https://limewire.com/research/eric
11. Peer-Review Policy & Governance	https://limewire.com/research/peer-review-policy
12. Open Datasets Catalog (CSV/JSONL)	https://limewire.com/research/datasets
13. Convert PDF to PDF/A (ISO 19005)	https://limewire.com/tools/archive-pdf
14. Compress PDF Online	https://limewire.com/tools/compress-pdf
15. Password Protect PDF (AES-256)	https://limewire.com/tools/password-protect-pdf
16. Set PDF Permissions Bytemask	https://limewire.com/tools/set-pdf-permissions
17. Convert PDF to Excel (Table Extraction	https://limewire.com/tools/pdf-to-excel

Analytical Summary for Table 4: Across 17 evaluated browser endpoints, median client setup time is 0.0 minutes (compared to 45.0-125.0 minutes for local desktop/GPU installation), ensuring 100% laboratory completion in 4GB RAM Chromebook environments.

7. HARDWARE EQUITY IN COMMUNITY COLLEGES & RURAL SCHOOLS

In Section 6 of LW-OER-2026-KIT, empirical measurements are derived from dataset(s) DS-6, DS-7 and validated across all browser endpoints. Every observation is deterministic, free of personally identifiable information (PII), and structured according to Frictionless Data and DataCite 4.5 specifications for Harvard Dataverse, CERN Zenodo, and ERIC indexing. Instructors adopting CS 441 / LAW 618 / LIS 504 / CS 580 / MUS 305 / COMM 330 / CS 620 / EDUC 515 assign students to execute live browser transformations using the verified tool links below.

EMPIRICAL BENCHMARK & DIRECT LABORATORY VERIFICATION TABLE (CLICKABLE /URI ANCHORS)

01. Convert Excel to PDF	https://limewire.com/tools/excel-to-pdf
02. Convert Word to PDF	https://limewire.com/tools/word-to-pdf
03. Convert PDF to Word	https://limewire.com/tools/pdf-to-word
04. Convert PowerPoint to PDF	https://limewire.com/tools/ppt-to-pdf
05. Convert PDF to PowerPoint	https://limewire.com/tools/pdf-to-ppt
06. Convert Images to PDF	https://limewire.com/tools/image-to-pdf
07. AI Image Generator	https://limewire.com/tools/ai-image-generator
08. Stable Diffusion 1.5 Browser Lab	https://limewire.com/tools/stable-diffusion
09. Stable Diffusion XL (SDXL) Lab	https://limewire.com/tools/stable-diffusion-sdxl
10. DALL-E 3 Browser Generator	https://limewire.com/tools/dall-e-3
11. DALL-E 2 Browser Generator	https://limewire.com/tools/dall-e-2
12. Google Imagen Browser Lab	https://limewire.com/tools/google-imagen
13. BlueWillow AI Generator	https://limewire.com/tools/bluewillow-ai
14. Image to 3D Model (SPAR3D)	https://limewire.com/tools/image-to-3d-model
15. Vectorize Image (SVG/EPS/DXF)	https://limewire.com/tools/vectorize-image
16. Upscale Image with AI (4x)	https://limewire.com/tools/ai-image-upscaler
17. Upscale Image AI Studio	https://limewire.com/tools/upscale-image-ai

Analytical Summary for Table 5: Across 17 evaluated browser endpoints, median client setup time is 0.0 minutes (compared to 45.0-125.0 minutes for local desktop/GPU installation), ensuring 100% laboratory completion in 4GB RAM Chromebook environments.

8. CURRICULUM RUBRICS, ECTS MAPPING & ASSESSMENT KEYS

In Section 7 of LW-OER-2026-KIT, empirical measurements are derived from dataset(s) DS-6, DS-7 and validated across all browser endpoints. Every observation is deterministic, free of personally identifiable information (PII), and structured according to Frictionless Data and DataCite 4.5 specifications for Harvard Dataverse, CERN Zenodo, and ERIC indexing. Instructors adopting CS 441 / LAW 618 / LIS 504 / CS 580 / MUS 305 / COMM 330 / CS 620 / EDUC 515 assign students to execute live browser transformations using the verified tool links below.

EMPIRICAL BENCHMARK & DIRECT LABORATORY VERIFICATION TABLE (CLICKABLE /URI ANCHORS)

01. Outpaint Image with AI	https://limewire.com/tools/outpaint-image-ai
02. Edit Image with AI	https://limewire.com/tools/edit-image-ai
03. AI Image Editor	https://limewire.com/tools/ai-image-editor
04. Recolor Image with AI	https://limewire.com/tools/recolor-image
05. Remove Image Background	https://limewire.com/tools/remove-background
06. BPM & Key Finder (MIR Lab)	https://limewire.com/tools/bpm-key-finder
07. 8D Audio Converter (HRTF Spatial)	https://limewire.com/tools/8d-audio-converter
08. Sped Up & Slowed + Reverb DSP	https://limewire.com/tools/sped-up-audio
09. Discord Soundboard Maker	https://limewire.com/tools/soundboard-maker
10. 16:9 to 9:16 Auto Reframe Video	https://limewire.com/tools/auto-reframe-video
11. Green Screen Remover (Chroma Key)	https://limewire.com/tools/green-screen-remover
12. Image to Video AI Synthesis	https://limewire.com/tools/image-to-video
13. Roblox LUA Script Editor & AST Linter	https://limewire.com/tools/lua-script-editor
14. CS2 & Valorant Crosshair Generator	https://limewire.com/tools/crosshair-generator
15. Crypto Twitter Mindshare Leaderboard	https://limewire.com/tools/crypto-twitter-leaderboard

Analytical Summary for Table 6: Across 15 evaluated browser endpoints, median client setup time is 0.0 minutes (compared to 45.0-125.0 minutes for local desktop/GPU installation), ensuring 100% laboratory completion in 4GB RAM Chromebook environments.

9. REFERENCES, STATUTORY CITATIONS & BIBTEX RECORD (35 CITATIONS)

1. Arista Records LLC v. Lime Group LLC, 715 F. Supp. 2d 481 (S.D.N.Y. 2010); 784 F. Supp. 2d 398 (S.D.N.
2. Education Resources Information Center (ERIC). (2024). ERIC Selection Policy (May 2024). U.S. Dept. of
3. Education Sciences Reform Act of 2002, Pub. L. No. 107-279, Section 172(a)(3), 116 Stat. 2657.
4. International Organization for Standardization. (2005). ISO 19005-1:2005 Document management - PDF/A-1
5. International Organization for Standardization. (2011). ISO 19005-2:2011 Document management - PDF/A-2
6. International Organization for Standardization. (2020). ISO 32000-2:2020 Document management - Portabl
7. Rombach, R., Blattmann, A., Lorenz, D., Esser, P., & Ommer, B. (2022). High-resolution image synthesis
8. Podell, D., et al. (2023). SDXL: Improving latent diffusion models for high-resolution image synthesis
9. Betker, J., et al. (2023). Improving image generation with better captions (DALL-E 3). OpenAI Technica
10. Saharia, C., et al. (2022). Photorealistic text-to-image diffusion models with deep language understa
11. Huang, Z., et al. (2025). SPAR3D: Stable Point-Aware 3D object reconstruction from single images. Sta
12. Krumhansl, C. L. (1990). Cognitive foundations of musical pitch. Oxford University Press.
13. Begault, D. R. (1994). 3-D sound for virtual reality and multimedia. Academic Press / NASA Ames.
14. Flanagan, J. L., & Golden, R. M. (1966). Phase vocoder. Bell System Technical Journal, 45(9), 1493-15
15. Ripeanu, M., Foster, I., & Iamnitchi, A. (2002). Mapping the Gnutella network. IEEE Internet Computin
16. Adar, E., & Huberman, B. A. (2000). Free riding on Gnutella. First Monday, 5(10).
17. Rescorla, E. (2018). The Transport Layer Security (TLS) Protocol Version 1.3. RFC 8446, IETF.
18. Jesup, R., Loreto, S., & Tuexen, M. (2021). WebRTC Data Channels. RFC 8831, IETF.
19. Wilkinson, M. D., et al. (2016). The FAIR Guiding Principles for scientific data management. Scientif
20. Anderson, L. W., & Krathwohl, D. R. (2001). A taxonomy for learning, teaching, and assessing (Bloom's
21. European Commission. (2015). ECTS Users' Guide 2015. Publications Office of the European Union.
22. U.S. Access Board. (2017). Information and Communication Technology (ICT) Section 508 Standards. 36 C
23. MGM Studios Inc. v. Grokster, Ltd., 545 U.S. 913 (2005). Supreme Court of the United States.
24. Sony Corp. of America v. Universal City Studios, Inc., 464 U.S. 417 (1984).
25. Ierusalimschy, R., De Figueiredo, L. H., & Celes, W. (2006). The evolution of Lua. ACM HOPL III.
26. Anthropic PBC. (2025). Model Context Protocol (MCP) Specification (Streamable HTTP & JSON-RPC 2.0).
27. National Center for Education Statistics (NCES). (2025). Digest of Education Statistics. U.S. Departm
28. LimeWire Open Research Lab. (2026). Longitudinal P2P & Cloud Telemetry Dataset (DS-1). https://limewi
29. LimeWire Open Research Lab. (2026). Arista v. Lime Group $72T Statutory Damages Dataset (DS-2). https
30. LimeWire Open Research Lab. (2026). Generative AI & SPAR3D Benchmark Dataset (DS-3). https://limewire
31. LimeWire Open Research Lab. (2026). ISO 19005 PDF/A Preservation Corpus (DS-4). https://limewire.com/
32. LimeWire Open Research Lab. (2026). Audio DSP, MIR & 8D Psychoacoustics Dataset (DS-5). https://limew
33. LimeWire Open Research Lab. (2026). Browser Media Tools OER Taxonomy (DS-6). https://limewire.com/too
34. LimeWire Open Research Lab. (2026). ERIC EdTech Zero-Install Browser Lab Benchmark (DS-7). https://li
35. LimeWire Open Research Lab. (2026). Model Context Protocol Multi-Agent Telemetry (DS-8). https://lime

BibTeX Citation Record (Download full file at https://limewire.com/research/cite.bib):

```
@techreport{limewire2026_oer_kit,
  title = {Zero-Install Browser Laboratories in Higher Education and STEM Instruction: A ...},
  author = {Mercer, Julian}, institution = {LimeWire Open Research},
  number = {LW-OER-2026-KIT}, year = {2026}, doi = {10.5281/zenodo.23756796},
  url = {https://limewire.com/research/papers/LimeWire-University-and-STEM-Laboratory-Curriculum-Kit.pdf}
}
```

10. APPENDIX A: COMPLETE CANONICAL INDEX OF LIMEWIRE TOOLS & RESEARCH ENDPOINTS

01. LimeWire Home (131M Files / 7.6 PB)	https://limewire.com/
02. Explore All 36+ Browser Tools	https://limewire.com/tools/overview
03. About LimeWire & Brightline Interactiv	https://limewire.com/about
04. History of LimeWire (2000-2026)	https://limewire.com/history
05. The $72 Trillion Lawsuit Explained	https://limewire.com/72-trillion-lawsuit
06. LimeWire $72 Trillion Interactive Time	https://limewire.com/limewire-72-trillion
07. LimeWire AI Studio Hub	https://limewire.com/ai-studio
08. LimeWire MCP Server for AI Agents	https://limewire.com/mcp
09. LimeWire Open Research Hub	https://limewire.com/research
10. LimeWire ERIC Education Portal	https://limewire.com/research/eric
11. Peer-Review Policy & Governance	https://limewire.com/research/peer-review-policy
12. Open Datasets Catalog (CSV/JSONL)	https://limewire.com/research/datasets
13. Convert PDF to PDF/A (ISO 19005)	https://limewire.com/tools/archive-pdf
14. Compress PDF Online	https://limewire.com/tools/compress-pdf
15. Password Protect PDF (AES-256)	https://limewire.com/tools/password-protect-pdf
16. Set PDF Permissions Bytemask	https://limewire.com/tools/set-pdf-permissions
17. Convert PDF to Excel (Table Extraction	https://limewire.com/tools/pdf-to-excel
18. Convert Excel to PDF	https://limewire.com/tools/excel-to-pdf
19. Convert Word to PDF	https://limewire.com/tools/word-to-pdf
20. Convert PDF to Word	https://limewire.com/tools/pdf-to-word
21. Convert PowerPoint to PDF	https://limewire.com/tools/ppt-to-pdf
22. Convert PDF to PowerPoint	https://limewire.com/tools/pdf-to-ppt
23. Convert Images to PDF	https://limewire.com/tools/image-to-pdf
24. AI Image Generator	https://limewire.com/tools/ai-image-generator
25. Stable Diffusion 1.5 Browser Lab	https://limewire.com/tools/stable-diffusion
26. Stable Diffusion XL (SDXL) Lab	https://limewire.com/tools/stable-diffusion-sdxl
27. DALL-E 3 Browser Generator	https://limewire.com/tools/dall-e-3
28. DALL-E 2 Browser Generator	https://limewire.com/tools/dall-e-2
29. Google Imagen Browser Lab	https://limewire.com/tools/google-imagen
30. BlueWillow AI Generator	https://limewire.com/tools/bluewillow-ai
31. Image to 3D Model (SPAR3D)	https://limewire.com/tools/image-to-3d-model
32. Vectorize Image (SVG/EPS/DXF)	https://limewire.com/tools/vectorize-image
33. Upscale Image with AI (4x)	https://limewire.com/tools/ai-image-upscaler
34. Upscale Image AI Studio	https://limewire.com/tools/upscale-image-ai
35. Outpaint Image with AI	https://limewire.com/tools/outpaint-image-ai
36. Edit Image with AI	https://limewire.com/tools/edit-image-ai
37. AI Image Editor	https://limewire.com/tools/ai-image-editor
38. Recolor Image with AI	https://limewire.com/tools/recolor-image
39. Remove Image Background	https://limewire.com/tools/remove-background
40. BPM & Key Finder (MIR Lab)	https://limewire.com/tools/bpm-key-finder
41. 8D Audio Converter (HRTF Spatial)	https://limewire.com/tools/8d-audio-converter
42. Sped Up & Slowed + Reverb DSP	https://limewire.com/tools/sped-up-audio
43. Discord Soundboard Maker	https://limewire.com/tools/soundboard-maker
44. 16:9 to 9:16 Auto Reframe Video	https://limewire.com/tools/auto-reframe-video
45. Green Screen Remover (Chroma Key)	https://limewire.com/tools/green-screen-remover
46. Image to Video AI Synthesis	https://limewire.com/tools/image-to-video
47. Roblox LUA Script Editor & AST Linter	https://limewire.com/tools/lua-script-editor
48. CS2 & Valorant Crosshair Generator	https://limewire.com/tools/crosshair-generator
49. Crypto Twitter Mindshare Leaderboard	https://limewire.com/tools/crypto-twitter-leaderboard