

MOOC / Open-Course Platform - Architecture Checklist

Pressure-test all six planes of an open-course platform - open enrolment and scale, video-egress economics, grading at scale, credentials, and the analytics funnel - before you commit a budget.

A. Open enrolment & scale

- Stateless, auto-scaling registration tier sized for unpredictable enrolment spikes
- Identity verification only at the paid certificate boundary - not for every learner

B. Content & video at scale - the cost center

- Video offloaded to a CDN, never origin; adaptive, mobile-first bitrate ladder defined
- Egress modelled per course run; multi-CDN / value-CDN strategy chosen to cut \$/GB

C. Learning experience

- Modular reusable content + a standalone forum service; offline download for weak networks

D. Assessment & grading at scale

- Auto-grading for objective items and code; peer assessment for open-ended work
- External tools / proctoring via LTI 1.3 + grade passback; bias-tested; paid exams only

E. Credentials & monetization funnel

- Entitlements separated from enrolment; global payments; freemium tiers defined
- Tamper-evident credentials (Open Badges 3.0 / W3C Verifiable Credentials) - cite the version

F. Analytics

- xAPI / Caliper pipeline to a warehouse from day one; completion is not watch-time, defined explicitly