LOCALIZATION ENGINEERING • CLASS 1 • MODULE 4

Respecting the Reader’s Time & Eyes

Basic arithmetic for on-screen temporal limits, human reading speed limits (CPS), and UI text expansion.

METRICS: TIMECODES • CPS • EXPANSION %

LESSON 4.1 • CADENCE OF TIME

Timecode Notation & Cue Duration Math

HH:MM:SS.mmm

Standard subtitle notation.

Hours, minutes, seconds, and precise millisecond timing.

Millisecond Scaling

1.0s = 1000ms

Translating human seconds into engine timing values.

Cue Duration Formula

Out-Time – In-Time

Determining exact visual exposure length for end users.

Human Reading Speed Threshold (CPS)

17 CPS

Maximum adult comfortable reading velocity limit (Total Characters ÷ Duration in Seconds)

LESSON 4.2 • HUMAN LIMITS

Designing for Reading Velocity

Text moving faster than human comfort creates fatigue and missed dialogue.

CPS Formula: Chars (with spaces) ÷ Duration(s).

CPL Boundary: Max 37 Characters Per Line on screen.



LESSON 4.3 • SPATIAL EXPANSION

Accounting for Target Language Expansion

+30% to +50%

EN → German / Polish Ratio

((T-S)÷S)×100

Expansion Percentage Formula

Overflow

UI Boundary Truncation Risk

CAPSTONE • PRE-FLIGHT DIAGNOSTIC

The 10-Question Pre-Flight Check

1. **Validate Encodings:** Confirm 100% UTF-8 status bar profile compliance.
2. **Audit Variables:** Verify placeholder regex integrity (\{[0-9]+\}).
3. **Calculate Comfort:** Execute CPS and text expansion verification math.

CLASS 1 COMPLETE • FOUNDATIONAL MASTERY

Ready for Class 2 Pipeline drops?

You have eliminated technical friction. Next: Practical Localization Engineering across real JSON, WebVTT, and LQA pipeline drops.

BRIDGE TO CLASS 2: PRACTICAL LOCALIZATION ENGINEERING

Image Sources



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