COVERWALL

**SYSTEM & USER FLOW OVERVIEW**

**1. School Administration Server Flow:**

**1.1 Signup & Onboarding:**

* User visits the landing page and chooses to sign up.
* System captures user details (school, district, role, etc.) and registers the user.
* An email/SMS verification process is initiated.
* Once verified, the user can log in and is directed to the dashboard.

**1.2 User Management:**

* Admins can add, edit, or remove users (teachers, students).
* Teachers can bulk upload student data.
* Profile management options are available for all users.

**1.3 Video Management:**

* Teachers submit YouTube video links for embedding.
* The link is sent to the Central Server for processing (scraping, iframe embedding).
* Once processed, the video is embedded within the platform, ensuring students can't navigate away.

**1.4 Content Policy Management:**

* Admins or teachers set up content policies.
* Policies are synchronized with the Central Server for enforcement.

**1.5 Dashboard & Metrics:**

* Admins and teachers can view statistics about student activity, video views, etc.
* AI insights, if available, are displayed.

**1.6 Billing & Sales:**

* Schools can view their subscription status, renew, or upgrade.
* Transaction history and invoices are available.

**2. Central Server Flow:**

**2.1 Proxy System:**

* Desktop agent sets the proxy configuration on the student's machine.
* All web requests from the student's machine are forwarded to the Central Server.
* The server checks the request URL against the school's policy and the master policy.
* If the URL is allowed, the request is forwarded to the destination; if not, it's blocked.

**2.2 Video Processing:**

* When a teacher submits a YouTube link, the server scrapes the video page.
* The server processes the video for iframe embedding, ensuring no navigation away from the video.
* The processed video link is sent back to the School Administration Server for embedding.

**2.3 AI/ML Analysis:**

* Videos or web content can be analyzed for appropriateness using AI/ML models.
* Insights and risk scores are generated and sent back to the School Administration Server.

**2.4 Software Agent Management:**

* The server can push updates or configurations to the desktop agents.
* Agent health and activity are monitored.

**2.5 System Health & Metrics:**

* The server monitors its health, load, and performance.
* Metrics are available for administrators to view.

**2.6 Security & Policy Enforcement:**

* The server enforces content policies set by schools.
* Additional security measures like URL filtering, IDS, and anti-malware are in place.