**Project: AntiWebNSFW – Automated NSFW Detection and Lock System**

This project is a complete system for detecting NSFW (Not Safe for Work) content in web traffic and enforcing access restrictions on the local device. It is built around three core components:

**1. detector\_service.py – Content Analysis Service**

* A **FastAPI** service that detects NSFW content in both text and images.
* Uses **NudeNet** for image detection and **Tesseract OCR** to extract and scan text within images.
* Supports keyword-based filtering for explicit terms.
* Stores encrypted configuration (thresholds, blocked classes, expiry) with **Fernet encryption**.
* Provides REST endpoints:
  + POST /analyze → Analyzes text or base64-encoded images.
  + POST /lock → Locks the device for a set duration.
  + GET /status → Returns the current lock status.

**2. nsfw\_proxy\_addon.py – Web Proxy Filter**

* A **mitmproxy addon** that intercepts and analyzes HTTP traffic.
* Extracts text and images from HTML responses:
  + Text is scanned for explicit words.
  + Images (URLs or base64 data URIs) are analyzed through the detector\_service.
* If NSFW content is detected:
  + Calls the /lock endpoint to enforce a lock.
  + Replaces the original web page with a **blocked page message**.

**3. overlay\_lock.py – Device Lock Overlay**

* Enforces a **system-wide lock** when NSFW content is detected.
* Implements multiple blocking mechanisms:
  + **Keyboard suppression** with the keyboard library.
  + **Cursor jail** to trap the mouse at screen center.
  + **Win32 BlockInput API** to freeze user input.
  + A **fullscreen Tkinter overlay** displaying a red warning and countdown timer.
* Reads the lock state from a shared file and releases all restrictions automatically when the timer expires.

**Future Enhancements**

To evolve beyond the local system and provide a richer user experience, the project roadmap includes:

* 🌐 **Web Page & Portal**
  + Official project site with a **description, live demos, and documentation** before download.
  + User dashboard to manage settings remotely.
* 🗄 **Database Integration (MySQL)**
  + Structured database to manage **admins, moderators, and users**.
  + Role-based access for better control and monitoring.
* 🧠 **Custom Model Training**
  + Enhance NSFW detection with **project-specific AI models**.
  + Continuous improvement based on feedback and new datasets.
* 💰 **Donation Scheme**
  + Allow users to support the project’s growth.
  + Options for sponsors or contributors to fund further development.
* 🏆 **Gamification Features**
  + **Achievements system** (e.g., “7 Days Clean Surfing” badge).
  + **Encouragement & rewards system** to motivate users to stay on track.
  + Positive reinforcement instead of just punishment.

⚡ **In short:** AntiWebNSFW aims to become more than just a blocking tool — it’s a self-regulation and community-driven system combining **AI detection, web management, and gamified motivation** to create a healthier digital environment.