



Cortex Shield

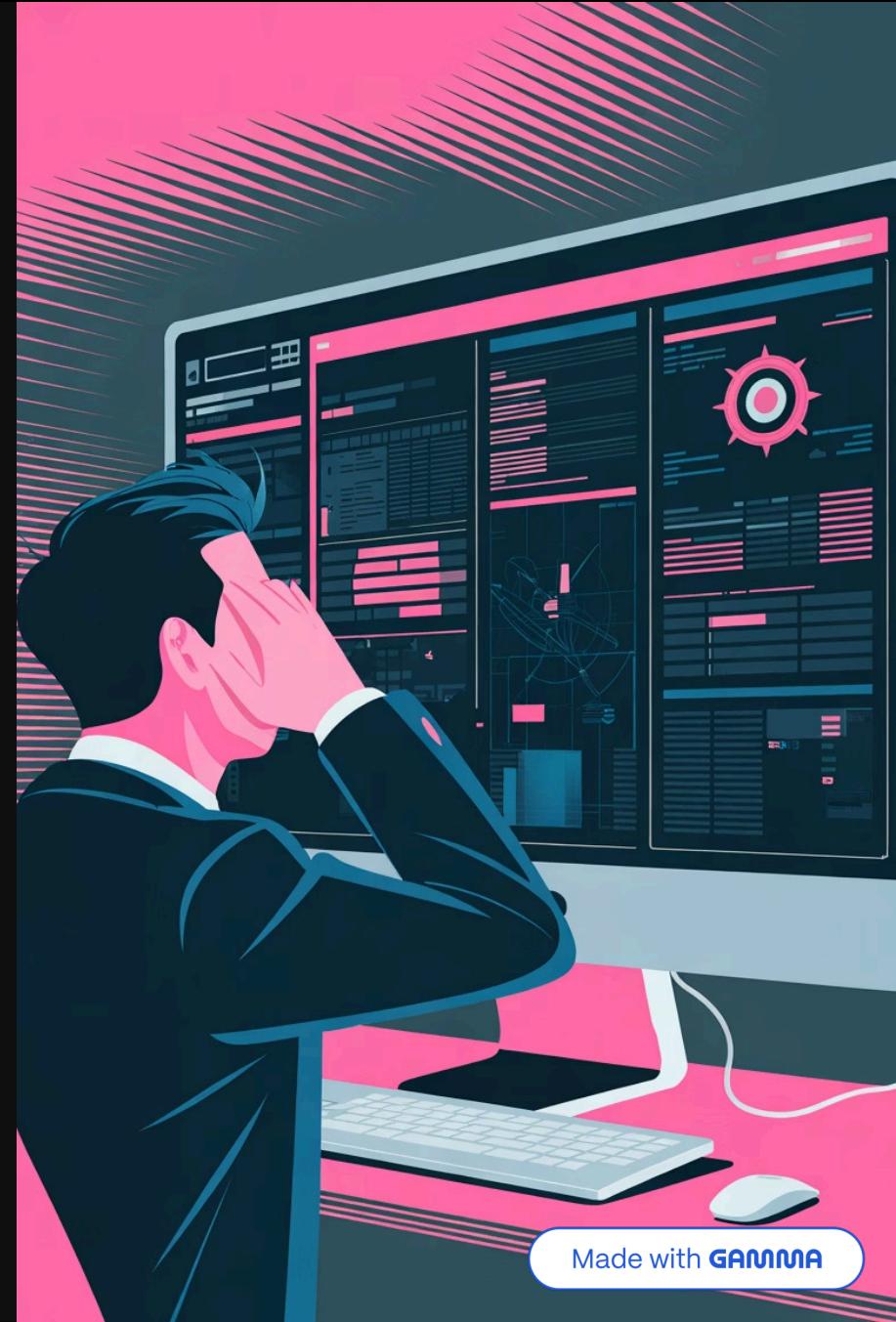
AI-Powered Security Analysis Toolkit

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The Problem We're Solving

Organizations and individuals face unprecedented security challenges in today's digital landscape. Let's examine the critical barriers preventing widespread security adoption.



The Cybersecurity Accessibility Crisis

Four critical barriers are leaving millions vulnerable to cyber threats:



Complexity Crisis

Traditional security tools demand deep technical expertise with complex interfaces that intimidate non-technical users and create adoption barriers.



Fragmentation Issue

Organizations need multiple specialized tools with no unified platform, forcing security teams to juggle disconnected solutions.



Accessibility Gap

Enterprise tools cost thousands of dollars annually, leaving small businesses and individuals without adequate protection.



Slow Response

Manual analysis takes hours or days, allowing critical vulnerabilities to remain unnoticed and exploitable.

- **The Core Problem:** No single, user-friendly, AI-powered platform provides instant, comprehensive threat analysis accessible to everyone—until now.

Our Solution Approach

Cortex Shield reimagines cybersecurity by combining cutting-edge AI with intuitive design, making enterprise-grade protection accessible to everyone.





Cortex Shield: AI-Powered Security for All

We've built a comprehensive solution that addresses each barrier with intelligent design:

01

AI-First Architecture

Powered by Google Gemini 2.5 Pro for context-aware threat detection with natural language explanations in plain English. Advanced text and image analysis capabilities provide comprehensive coverage.

02

Unified Platform

Nine specialized security modules integrated into a single, seamless interface with session-based history tracking. No more juggling multiple tools.

03

User-Centric Design

Zero technical knowledge required. Beautiful glassmorphism UI with 3D effects and a flexible 3-theme system (Default, Light, and Dark modes) adapts to user preferences.

04

Open & Accessible

100% free and open-source with no subscriptions or hidden costs. We believe security should be a right, not a privilege.

Technology Powering Innovation

Cortex Shield leverages a modern, carefully selected technology stack designed for performance, security, and scalability.



Made with GAMMA

Modern, Scalable Architecture

Frontend Technologies

- **HTML5/CSS3 + JavaScript (ES6+)** for responsive interfaces
- **Tailwind CSS** for utility-first styling and rapid development
- **Three.js** for immersive 3D particle backgrounds
- **Axios** for reliable HTTP communication

Backend Technologies

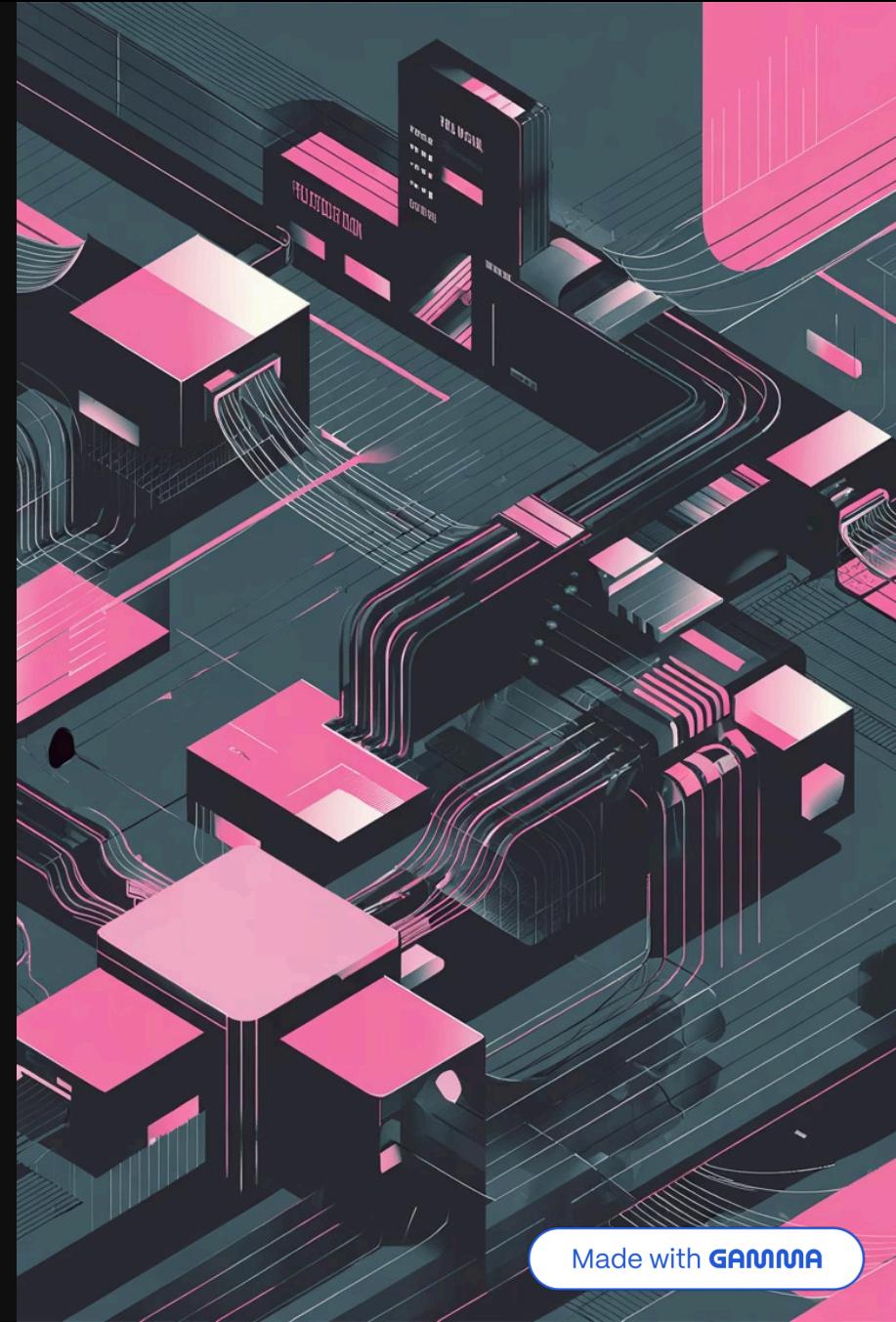
- **Node.js 18+** with Express.js framework for robust APIs
- **Multer** for secure file upload handling
- **CORS + Helmet** for enhanced security

AI & External Services

- **Google Gemini 2.5 Pro** — Advanced text and vision AI analysis with context-aware threat detection
- **VirusTotal API** — Multi-engine malware detection leveraging 70+ antivirus engines

Development Tools

- **Git** version control for collaboration
- **VS Code** with Live Server for development
- **Nodemon** for hot reload capabilities



System Architecture Overview

Our architecture follows a clean, layered approach that ensures security, performance, and maintainability:





High-Level Design



User Interface Layer

Landing Page → Dashboard → Module Selection provides intuitive navigation with responsive design and 3D visual effects.



Frontend Layer

UI Manager, Theme Controller, and Three.js renderer work with the API Client, State Management, and Module Controllers to deliver seamless experiences.



Backend Layer (Express.js)

CORS, Helmet, and Body Parser provide security. Multer handles uploads while Routes and Error Handling ensure robust API operations.



AI & Security Services

Gemini AI API and VirusTotal API provide powerful analysis capabilities with multi-engine threat detection and intelligent insights.



- Data Flow:** User Input → Validation → API Request → AI Analysis → Formatted Response → Visual Display with real-time feedback



Core Features in Action

Let's explore how Cortex Shield's nine specialized modules work together to provide comprehensive, accessible security analysis for users of all technical levels.