Anveshak

Real-time Cybersecurity Threat Detection for Critical Infrastructure

The Detector/Explorer

Team: BruteForce Coders | SIH ID: SIH25127 | Theme: Blockchain & Cybersecurity

Explore Solution

View Demo

Critical Infrastructure Under Siege

Prime Targets

Nuclea rplants face constant cyberattack threats. Critical infrastructure remains vulnerable.

Outdated Systems

Legac ymonitoring cannot detect advanced threats. Real-time protection is essential.

Disaster Prevention

Immediat edetection prevents catastrophic failures. Every second counts in cybersecurity.

- **Nuclear facilities require next-generation threat detection to prevent cyber disasters**

Anveshak: Our Solution

Real-Time Detection

Continuous monitoring platform identifies threats instantly. Advanced algorithms analyse patterns.

Comprehensive Monitoring

Track sserver logs, network activity, and user behaviour. Complete visibility across infrastructure.

Anveshak transforms cybersecurity monitoring with blockchain-verified threat detection.

Intelligent Dashboard

User-friendly interface with instant alerts. Clear visualisation of security status.

How Anveshak Works

Log Collection

Gathers data from servers, networks, and users continuously.

Blockchain Integrity

Logs hashed and stored on blockchain for verification.

Alert Generation

Incidents flagged immediately when threats are detected.

Dashboard Display

Visual interface shows statistics, warnings, and system status.

Advanced Threat Detection

Unusual Login Patterns

Identifies suspicious access attempts and irregular user behaviour patterns.

- **Multiple failed login attempts**
- **Off-hours access patterns**
- **Geographic anomalies**

Data Transfer Monitoring

Tracks suspicious file movements and unauthorised data access attempts.

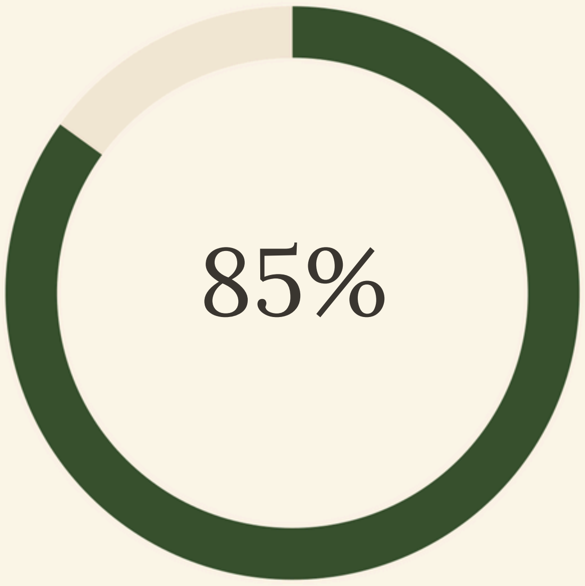
- **Large file transfers**
- **Unusual data patterns**
- **Unauthorised access**

Immediate Breach Flagging

Instant alerts when potential security breaches are detected.

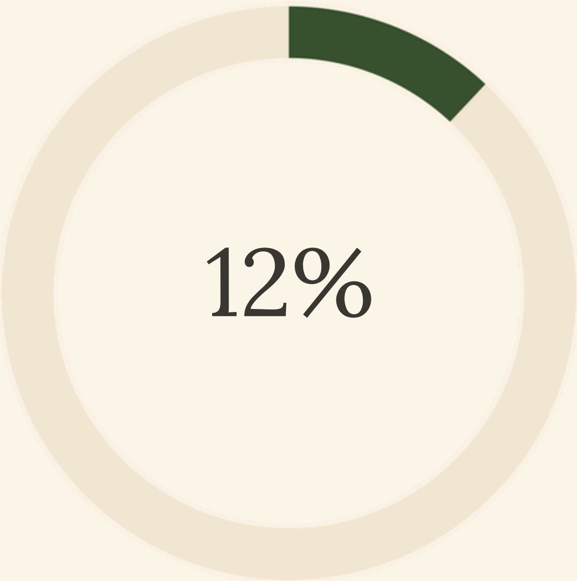
- **Real-time notifications**
- **Severity classification**
- **Response recommendations**

Traffic Light Dashboard System



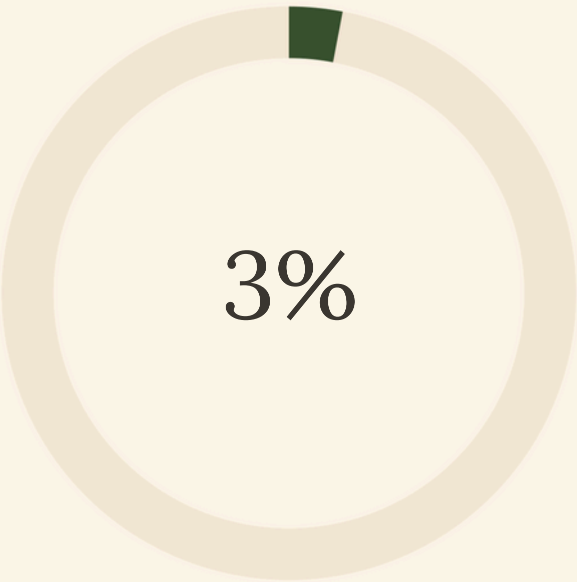
Green - Safe

System operating normallywith no detected threats.



Yellow - Warning

Potential threats detected requiring attention.



Red - Critical

Immediate action required for security breaches.

Dashboard Features

- **Simple, actiona blealerts**
- **Live log feed display**
- **System statistics overview**
- **Incident history tracking**

Clear visual indicators ensure rapid threat assessment and response.

Robust Technology Stack

Frontend Dashboard

Interactive monitoring interface

Alert System

Real-time notifications and warnings

Blockchain Layer

Ethereum Sepoliaforlog integrity

Database

MongoDB for logs and incidents

Backend

Node.js +Express foundation

Secure authentication with OTP + JWT protection

Live Demonstration

01

SampleLog Display

View normal system operations and log entries in real-time.

02

Simulated Attack

Trigger cyberattack

simulation to demonstrate threat detection capabilities.

03

Dashboard Response

Watch alerts activate and
traffic lights change to red status.

04

Real-Time Alerts

Experience livenotifications and incident reporting system.

■ **Interactive demonstration showcases Anveshak's immediate threat response capabilities**

Feasibility & Challenges

Open-Source Solution

Low-cost,scalable implementation for any organisation.

Cross-Sector Adaptability

Suitable for finance, government, and healthcare sectors.

Proven Technology

Built on stablished blockchain and monitoring frameworks.

Challenge Solutions

Challenge	Solution Rules-
False Alerts	Rule based detection algorithms.
Blockchain speed	Private test blockchain validation.
Implementation Cost	Open-source, scalable architecture

Securing Tomorrow's Infrastructure

Nuclear Facilities

Critical infrastructure protection

Financial Sector

Banking system security

Government Systems

Public sector cybersecurity

Anveshak Core

Real-time threat detection for all

Healthcare Networks

Patient data protection

Anveshak: The future of cybersecurity is here

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