# PyShield Antivirus - Project Presentation

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## Project Overview:

PyShield Antivirus is a lightweight, Python-based antivirus application that provides real-time malware detection and a user-friendly graphical interface. It is designed to act as a security agent for MCP systems, capable of managing and neutralizing threats efficiently.

## Key Features:

✔ Real-Time Malware Detection – Quickly scans files and folders for threats.
✔ User-Friendly GUI – Built using Tkinter for easy operation.
✔ Secure Agent Functionality – Can manage threats centrally for MCP systems.
✔ PDF Report Generation – Exports detailed scan reports.
✔ Visual Charts – Displays scanning statistics.

## Built With:

- Python 3.10+ : Core programming language - Tkinter : For GUI - OS, hashlib : File handling and hash-based detection - PyInstaller : For creating standalone executables

## System Architecture:

| Component | Purpose |
|---|---|
| GUI (Tkinter) | User interface for scanning and reports |
| Hashing Engine | Detect malware based on known signatures |
| PDF Generator | Exports scan results as PDF |
| Chart Module | Displays scan statistics visually |

## Demo & Deployment:

- Demo Video: (Upload to YouTube or Google Drive and share link) - Executable: Built using PyInstaller for Windows systems. - Make sure the demo link is accessible and tested on multiple devices.

## Future Enhancements:

- Cloud-based malware signature updates - Real-time protection (background scanning) - Multi-platform support (Linux, macOS)

*Prepared for MCP Hackathon Submission*