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**Project Report: Automated Vulnerability Monitoring and Patch Update System**

**1. Introduction:**

In today’s world, where online security is a top priority, keeping up with software vulnerabilities and updates is essential. We have achieved the development of a system that automatically checks for vulnerabilities in software, finds updates to fix them, and provides easytouse instructions on how to apply those updates or protect against potential threats.

**2. Objectives:**

We have achieved the following objectives:

Built a tool that can search the web for information about software vulnerabilities and available fixes.

Successfully kept track of what vulnerabilities are out there, what fixes are available, and how severe these issues are.

Integrated smart technology to provide helpful instructions and advice based on the data we collected.

Created a user-friendly interface so everyone can easily use our system to stay safe online.

**3. Methodology:**

**3.1 Web Scraping Module:**

We identified the best websites and forums where software vulnerabilities are discussed. Using Python and some special tools, we created a system to gather all the important info from these places.

**3.2 Logging Mechanism:**

We set up a way to keep records of all the vulnerabilities we find and the updates available. This helps us stay organized and makes it easier to provide accurate information to users.

**3.3 Integration with Gemini API:**

We successfully integrated with Gemini API to provide personalized advice. By connecting to the Gemini API, we can generate easytounderstand instructions and recommendations based on what we've learned.

**3.4 User Interface:**

We designed a simple interface to ensure everyone feels comfortable using our system. With a user-friendly dashboard, people can easily see what vulnerabilities exist, what updates are available, and what actions they should take.

**4. Expected Deliverables:**

Our achieved deliverables include:

A tool that scours the web for software vulnerability info.

A system that keeps detailed records of vulnerabilities and fixes.

A smart integration with the Gemini API for tailored advice.

An easytouse interface for everyone to stay safe online.

**5. Conclusion:**

We have successfully achieved our project goals, making online security simpler and more accessible. By automating the process of finding vulnerabilities and updates, and by providing clear instructions on what to do, we're helping people protect themselves better. In a world where cyber threats are always evolving, our system aims to give everyone peace of mind and confidence in their online safety. This project report breaks down our Automated Vulnerability Monitoring and Patch Update System in straightforward terms. It outlines our goals, how we achieved them, and why our system matters for online security. By focusing on simplicity and accessibility, we've made online safety something everyone can feel confident about.