Elvion Hackathon 2026

Reversible Actions for Irreversible Mistakes

Domain: Open Innovation
Team name: Idea Tribe

Problem Statement

01 Users perform critical digital actions every day such as:

- Sending emails
- Deleting files or data
- Uploading incorrect documents
- Pushing unintended code changes

02 Many of these actions are irreversible once executed. A single accidental click can lead to:

- Permanent data loss
- Privacy or security issues
- Professional or reputational damage

03 Most applications do not provide a universal or reliable “undo” mechanism for such critical actions.

04 Existing undo features, if available:

- Are limited in time
- Work only within specific applications
- Are inconsistent across platforms

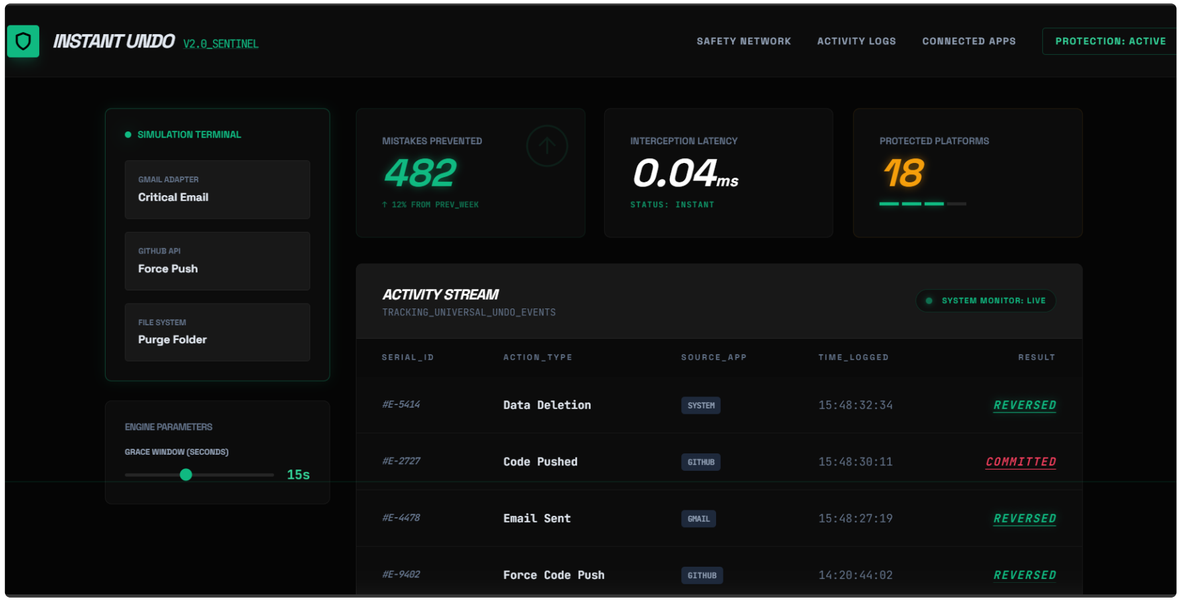
05 Users currently have no system-level safety net to recover from accidental critical actions.

06 There is a strong need for a universal solution that can:

- Intercept critical actions
- Provide a short grace window
- Allow users to undo mistakes before permanent consequences occur

Our Solution

- Our solution is a two-layer system consisting of a browser extension and a supporting web application.
- Prevents irreversible digital mistakes by giving users a short undo window for critical actions:
  - Sending emails
  - Deleting files
  - Pushing code
- **Key Idea: Actions are paused temporarily before they are finalized, giving users a chance to cancel mistakes.**



How It Works

01

Browser Extension – “The Interceptor”

- Runs in the user’s browser.
- Detects critical actions before they execute (email send, file delete, git push).
- Pauses the action and sends metadata to the Web App.
- Receives final decision from Web App: **Undo → cancel, Commit → allow execution.**

02

Web App

- Receives action metadata from the extension.
- Starts a grace window timer (5–30s).
- Decides whether to Undo or Commit the action.
- Executes actions safely via adapters:
- Email → send
- File → soft delete → hard delete if timer expires
- Git push → pre-receive hook
- Logs all actions and generates statistics.

Feasibility

- Uses standard browser extension APIs to intercept and control user actions in **real web applications.**
- **Does not require any modification** to **existing platforms** or backend systems.
- Lightweight design ensures minimal performance overhead during normal usage.
- **Scalable architecture** allows support for **multiple applications** and action types.
- Web application enables centralized logging and monitoring without complex infrastructure.

Innovation

- Introduces a **universal, application-independent undo** mechanism for critical digital actions.
- Converts traditionally irreversible actions into reversible ones using a **temporary execution delay.**
- Shifts error handling from **post-failure recovery to pre-execution prevention.**
- Enables consistent undo behavior across different platforms through a **single interception system.**
- Focuses on preventing digital damage, not just warning users before actions.

Features

01

Safe & Reversible Actions

- All critical digital actions are temporarily paused before execution.
- Users can undo mistakes in real time (emails, file deletes, code pushes).

02

Two-Layer System Architecture

- **Browser Extension:** Intercepts user actions before they execute.
- **Web App:** Handles timers, decisions, and executes actions safely.

03

Grace Window Timer

- Configurable delay (5–30 seconds) before action is committed.
- Smart rules allow longer undo windows for high-risk actions.
- Ensures users can prevent mistakes immediately after they occur.

03

Flexible & Extensible

- Easily add support for new action types via adapters.
- Can integrate with multiple apps or services without changing them.

04

Logging & Analytics

- Tracks actions undone or committed.
- Provides insights into user mistakes and system usage.
- Helps improve the system and demonstrate impact.

06

Platform Approach

- Works across multiple apps and action types.
- Not limited to emails, files, or Git — future-proof for any digital system.

Tech Stack

Browser Extension

- JavaScript
- Chrome Extension APIs
- Content Scripts

Web Application

Backend

- Node.js
- Express.js
- REST APIs
- WebSockets (Socket.io)

Frontend

- React.js
- HTML / CSS

Data & State Management

- In-Memory Store (JavaScript Map / Redis)
- JSON

Action Execution (Simulation)

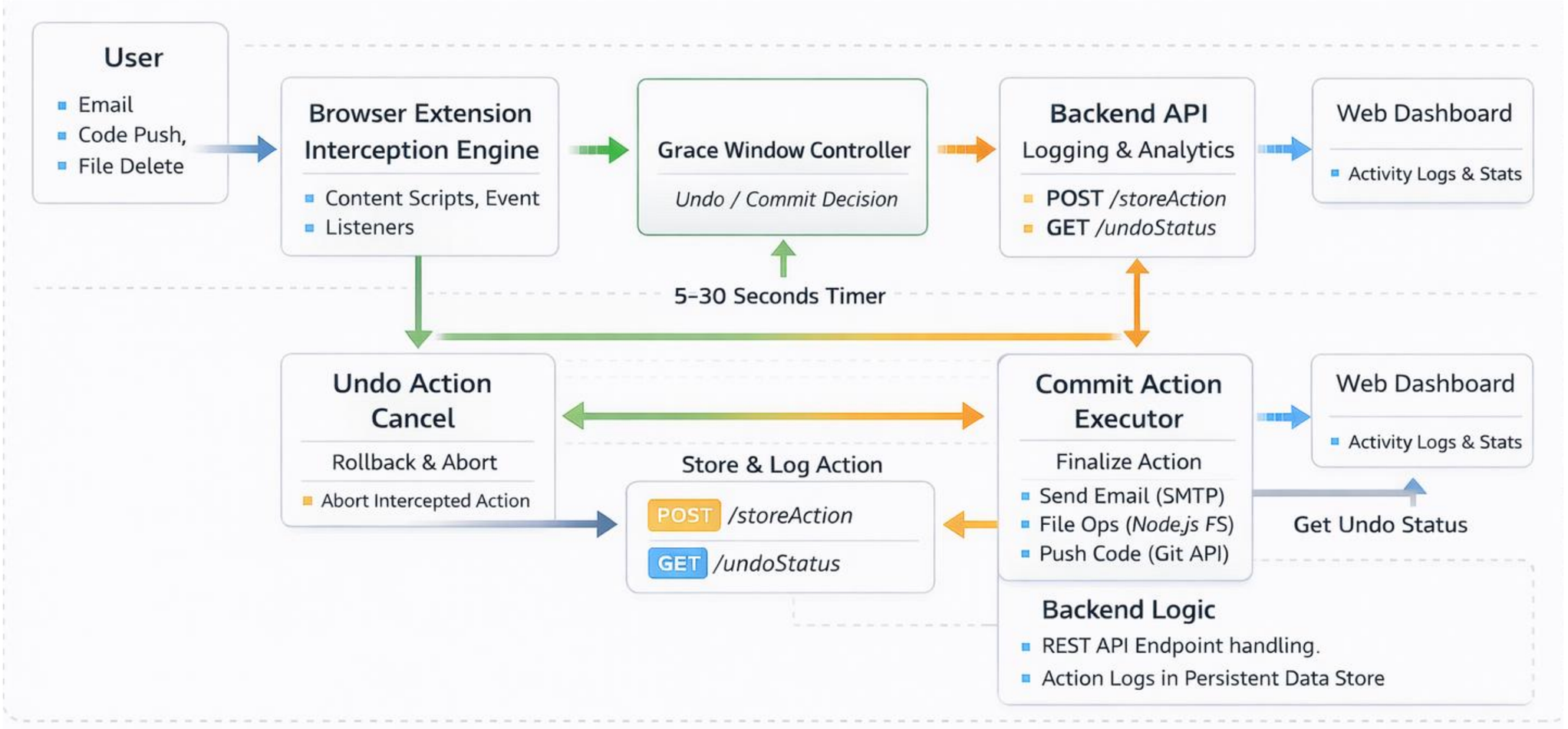
- SMTP (Mock Email Sending)
- Node.js File System (fs)
- Git Hooks (Local / Simulated)

Tools & Platform

- Git & GitHub
- Postman

Prototype Link (Github Repo Link): https://github.com/Devyani-Patil2/Elvion-Hackathon-Project.git

Architecture Diagram



Contact Details

Team Name: Idea Tribe

Team Leader Name: Devyani Patil
Email: devyani22006@gmail.com

Member 2:
Name: Kalyani Patil
Email: kalyani132006@gmail.com

THANK YOU!