HACKATHON CLUB
FUELING INNOVATION WITH EVERY LINE OF CODE.

sru
SR UNIVERSITY

Topic   : RE-DACT
Domain   : Cyber security
Team ID   : 168
Team name   : Supreme Squad.
Team members   : Saipavan(2303A51834)
                           Rahul(2303A510H2)
                           Karthik(2303A51939)
                           Nikhil(2303A51934)
                           Nagashiva(2303A51945)

Objective

- Easy-to-use and secure redaction/anonymization tool.
- Supports user-defined gradational redaction levels.
- Compatible with diverse input formats (text, images, PDFs, videos).
- Generates synthetic data while preserving logical structure.
- Works both online and offline with full user data control.

Problem Statement

- Manual redaction is time-consuming, error-prone, and inefficient.
- Declassification is tedious, often lacking standard tools.
- Existing tools lack flexibility in redaction levels and format support.
- Need for secure, scalable, and user-friendly anonymization systems.

Existing system

- Manual and existing redaction tools have limited format support (mostly text or PDFs).
- Redaction is often fixed — no flexibility for user-defined levels of anonymization.
- Usability is low; most tools require technical knowledge or manual scripting.
- :Existing tools may store or cache input data, raising privacy/security concerns.
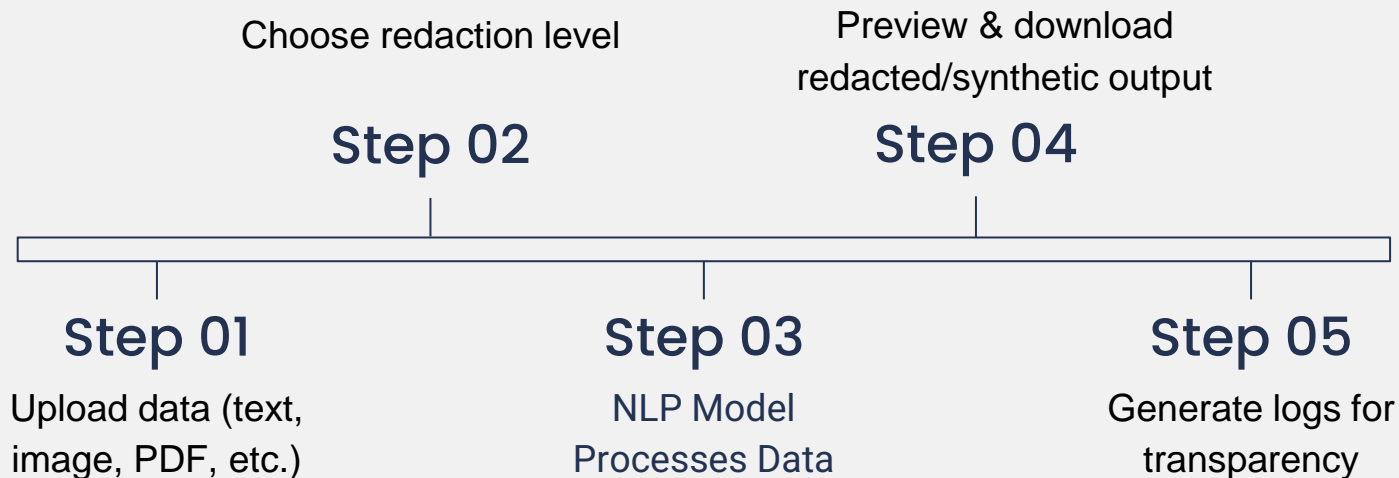- Custom scripts are error-prone and time-consuming to maintain or reuse.

Proposed system

- ML/NLP-based customizable redaction engine.

- Gradation scale to allow fine-tuned anonymization.

- Outputs preserve structure while removing identifiers.

- Can generate realistic, anonymized synthetic datasets.

- Available in web-based and offline versions with full user control.

Workflow

Choose redaction level

Preview & download
redacted/synthetic output

Step 02

Step 04

Step 01

Upload data (text,
image, PDF, etc.)

Step 03

NLP Model
Processes Data

Step 05

Generate logs for
transparency

System Architecture

Tech Stack

Languages (Python(NLP), JavaScript

Data Base : SQLite

Zero data retention

Cloud Compatible with AWS

API's used : OCR,NER,ML

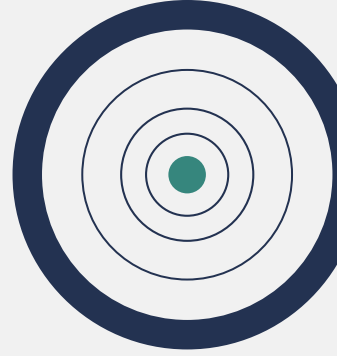Diagram analysis of final Output

Key points to cover

1. Show the system's technical structure.
2. Use a layered or block diagram.
3. Label different components and their interactions.
4. Keep the explanation brief and precise.
5. Maintain a clean and organized layout.

Conclusion & Future Scope

Conclusion:

- RE-DACT provides a scalable, secure, and customizable redaction platform.
- Allows safe sharing and analysis of anonymized data.
- User-centric, efficient, and format-flexible.

Future Scope:

- Add video/audio redaction capabilities.
- Mobile app version.
- Blockchain-based redaction traceability.
- Auto-learn redaction preferences from usage patterns.