उपभोक्ता मामले विभाग
DEPARTMENT OF CONSUMER AFFAIRS
सत्यमेव जयते

G20 भारत 2023 INDIA

Dark Patterns Buster Hackathon 2023

Azadi Ka Amrit Mahotsav

Dark Patterns Buster Hackathon (DPBH-2023)

Round 3 Grand Finale @ IIT(BHU), Varanasi

(Feb.17, 2024)

KaleidoCrew

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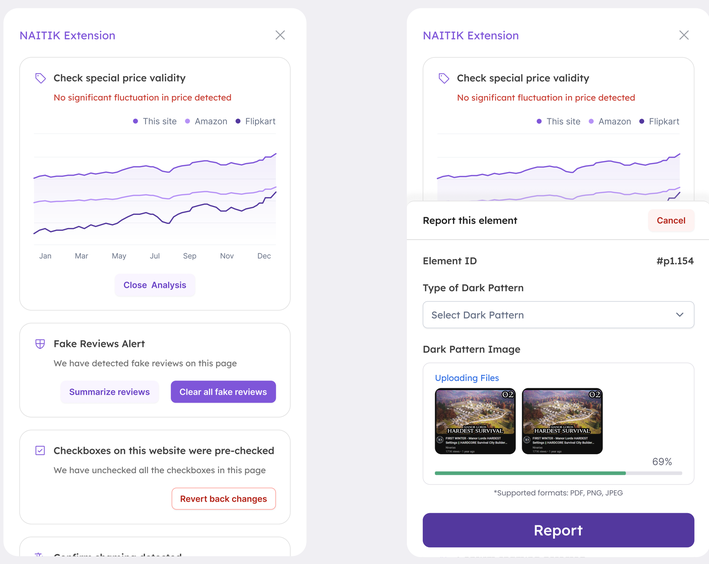
Introduction

NAITIK helps in detecting the underlying dark patterns in a website using cutting-edge technologies such as LLMs and low-latency web scrapers.

Due to the architecture being divided into microservices, you can build your own extension using our backend api!!



Frontend of our extension

LLM Model used - RoBERTa

Parameters count

5 Million — Too little parameters to make informed decisions — 270 Million — **355 Million Parameters** Perfect for our use case — 500 Million — Too much computational use — 13 Billion

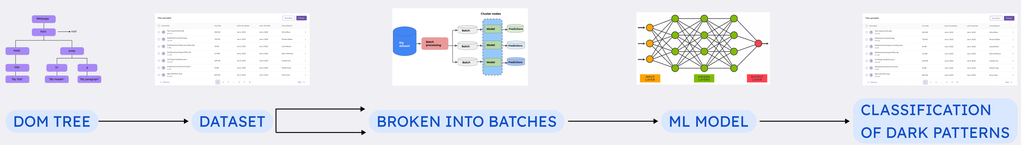
Accuracy percentage

0% — Can be used in varied test environment but gives pretty inaccurate results — 95% — 97% — Too much refined and fails in varied test environment — 100%

Perfect for our use case

96.2% - Our model accuracy

Admin Panel



NAITIK Extension

Techstack

Frontend Stack

HTML, CSS, React, TS

Backend Stack

Flask, Python, SQLite

Web-Scrapers

BeautifulSoup, Selenium

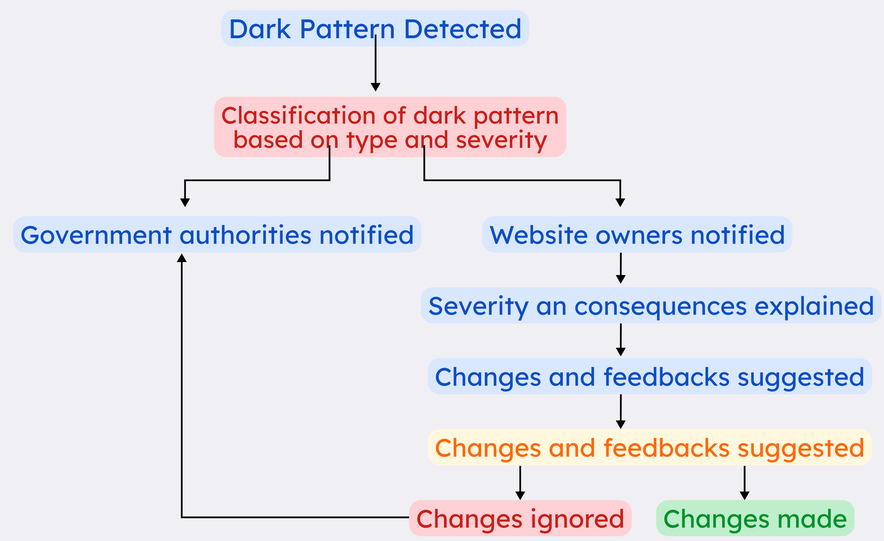
Dark Patterns Detected

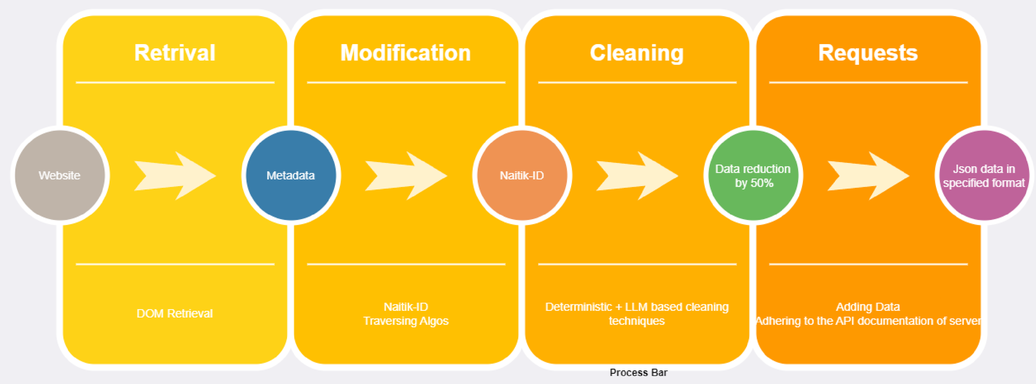
1. Forced Action
2. Misdirection
3. Obstruction
4. False Scarcity
5. Basket Sneaking
6. Social Proof
7. False Urgency

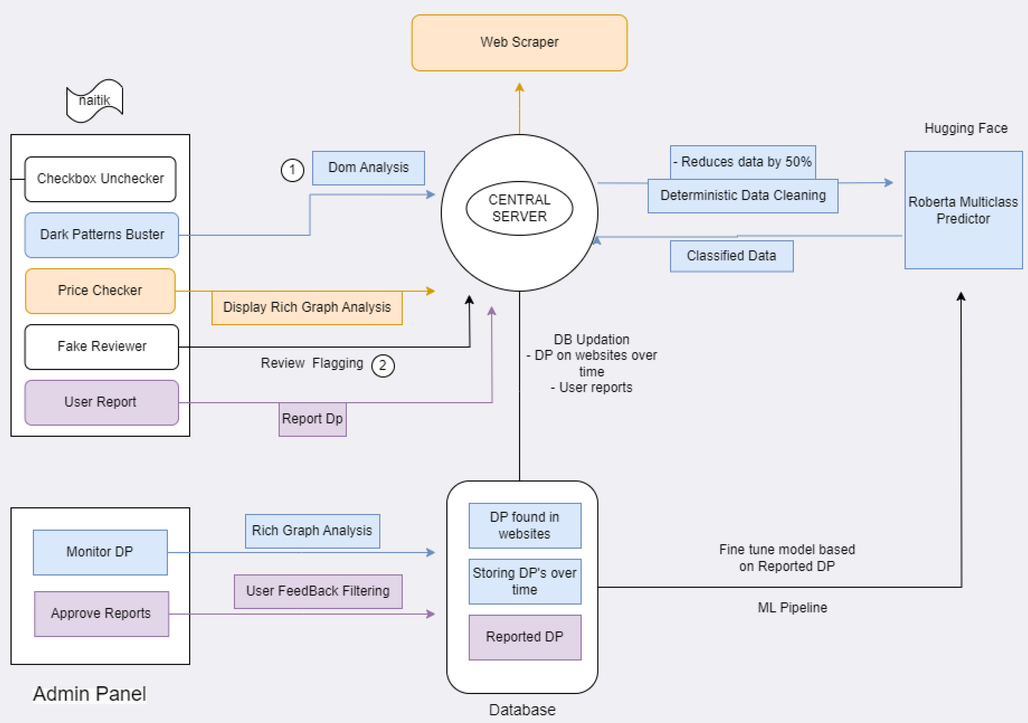
Additional features

1. Fake Reviewer
2. Checkbox Unchecker
3. Price analysis

Bringing authorities and stakeholders together

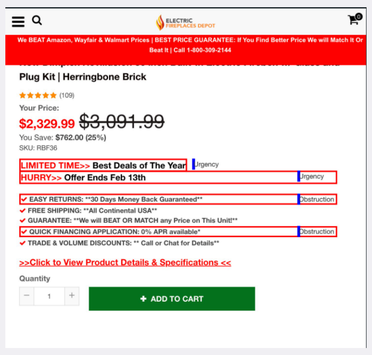




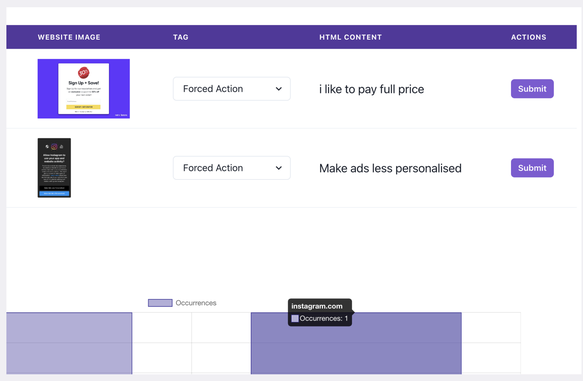


Use Cases

Automatic Detection

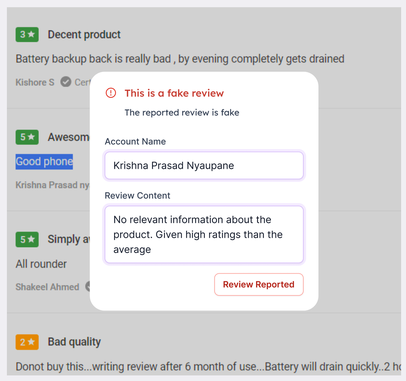


Reporting dark patterns



Price Validity across time

Fake Review Analysis



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