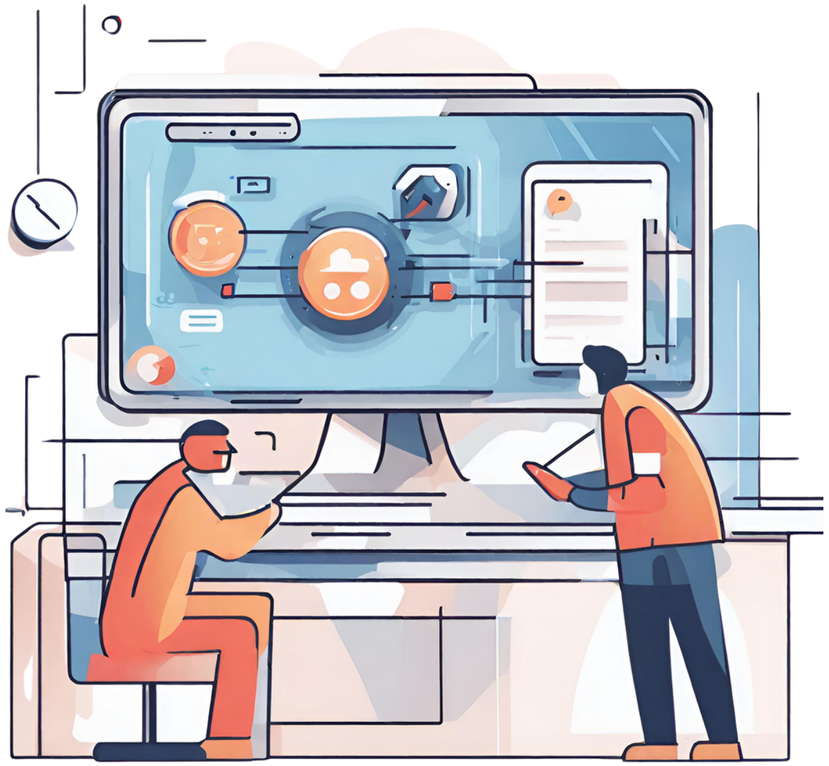
N.O.V.A.S

Nurturing Online Vigilance with Advanced Safeguards

DARK PATTERNS BUSTERS HACKATHON

PROBLEM STATEMENT

Design and prototype innovative app or software-based solutions that can detect the use, type, and scale of dark patterns on e-commerce platforms



Idea Description

Introducing NOVAS, a cutting-edge dark pattern detection software designed to elevate your online safety. This sophisticated tool redefines your digital experience by seamlessly integrating into mobile platforms and popular web browsers. NOVAS prioritizes user-centric design and employs advanced technology to empower users in effortlessly identifying and countering deceptive practices that pose a threat to their online well-being.

In an ever-evolving digital landscape, NOVAS stands as a beacon of transparency and security. The application's advanced semantic analysis meticulously dissects web content, revealing misleading terms and deceptive language patterns. Simultaneously, NOVAS utilizes state-of-the-art computer vision algorithms like YOLO to scrutinize UI elements, ensuring users can make informed decisions while navigating the complexities of the digital space.

NOVAS sets itself apart by fostering a sense of community vigilance. Its crowd-sourced database and collaborative user base form a dynamic network, swiftly identifying emerging threats in real-time. Beyond being a mere application, NOVAS serves as a proactive ally, empowering users to navigate the digital world with confidence, free from the shadows of online deception.

GOALS

WEB EXTENSION

Create a user-friendly, cross-platform web extension for detecting dark patterns, ensuring easy accessibility.

Mobile Application

Develop a user-friendly, cross-platform mobile application for detecting dark patterns, ensuring seamless accessibility.

Identification

Identify and Highlight misleading ui elements and text, block popups, auto deselect Cookies

Visual Analysis

Perform visual analysis to identify dark patterns in images and deceptive design elements.

Semantic Analysis

Perform semantic analysis in the identification of deceptive urgency, misdirection, and manipulative language patterns.

Crowd Sourcing

A CROWD-SOURCED DATABASE AND A COLLABORATIVE USERBASE to detect emerging dark patterns in real time

DEVELOPEMENT METHODOLOGY

Semantic Analysis

By parsing the DOM tree we identify terms that can mislead our users. This is accomplished with the help of Machine Learning Models and NLP methods on an ensemble of datasets.

Visual Analysis

Leveraging the power of computer vision we identify UI elements that can impair user's ability to make proper decisions. This is done by using algorithms such as YOLO.

Technology Stack

JS + CHROME API

We make use of the Chrome API built with Java Script allowing us to make a seamlessly integrated Browser Extension

Flutter

Flutter is an open-source UI SDK, used to build and create cross-platform mobile Applications.

SCIKIT LEARN

is a machine-learning library us employed for supervised classification task and data pre processing

FAST API

FastAPI web framework for building APIs, supporting asynchronous programming, automatic data validation.