SemaFor

Media manipulation detection and classification

Overview

Advanced user interface that uses AI technologies to automatically detect, attribute, and characterize falsified, multi-modal media assets to defend against large-scale disinformation attacks such as Deepfakes.

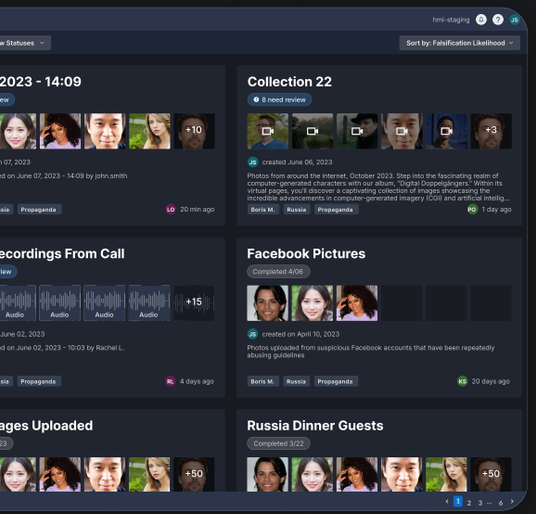
UI/UX Design | Software Integration | Dev Ops

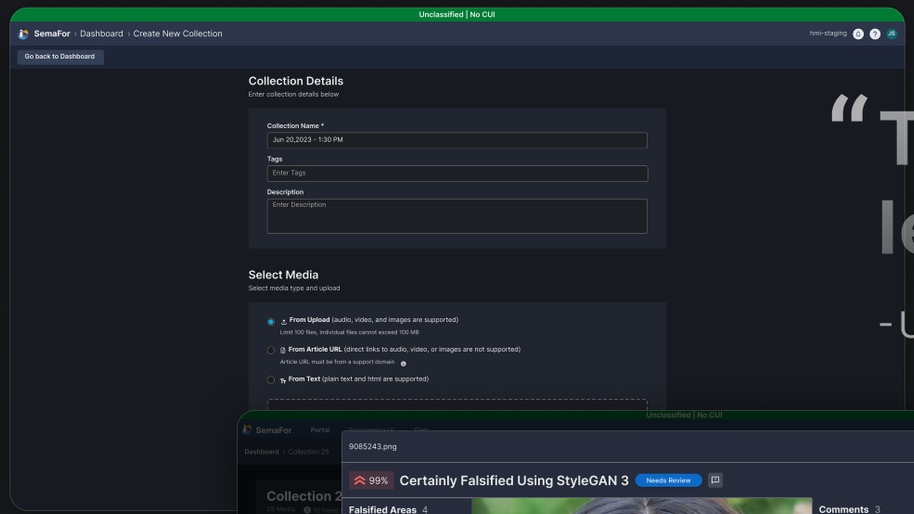
The Problem

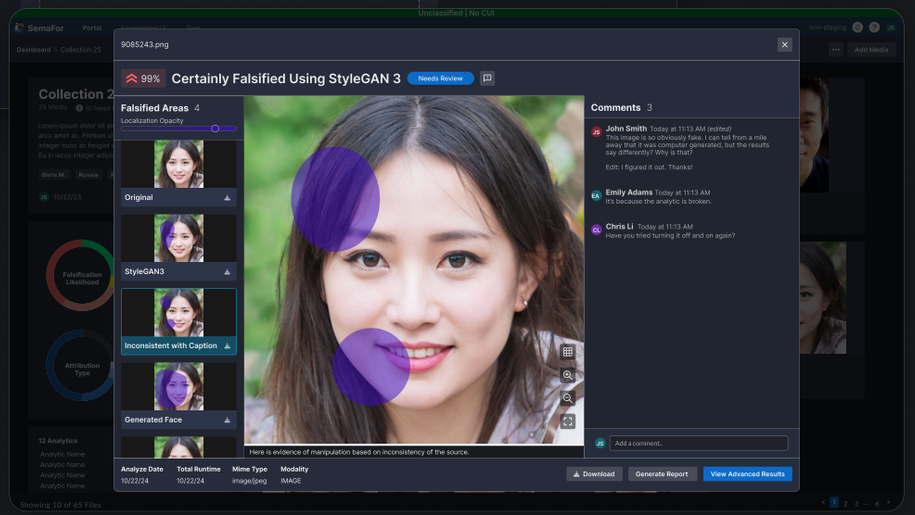
Advancements in media generation and manipulation technologies are quickly progressing, relying on detection techniques via the human eye is becoming inadequate for identifying manipulated media content.

Our approach

In our pursuit of an enjoyable experience for all users, we took the 'Crawl, Walk, Run' methodology, meticulously crafting and refining multiple versions of the MVP. Throughout the iterative process, we uncovered user pain points and behaviors, enabling us to enhance the application with invaluable insights and deliver a truly exceptional solution.



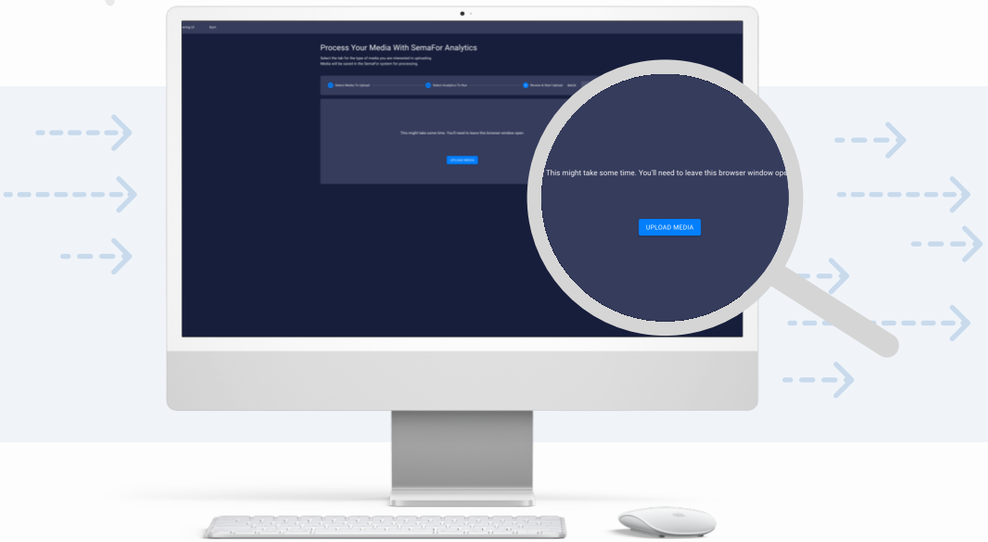




> "This is a generational leap forward"
>
> -User Interviewee

Pain Points

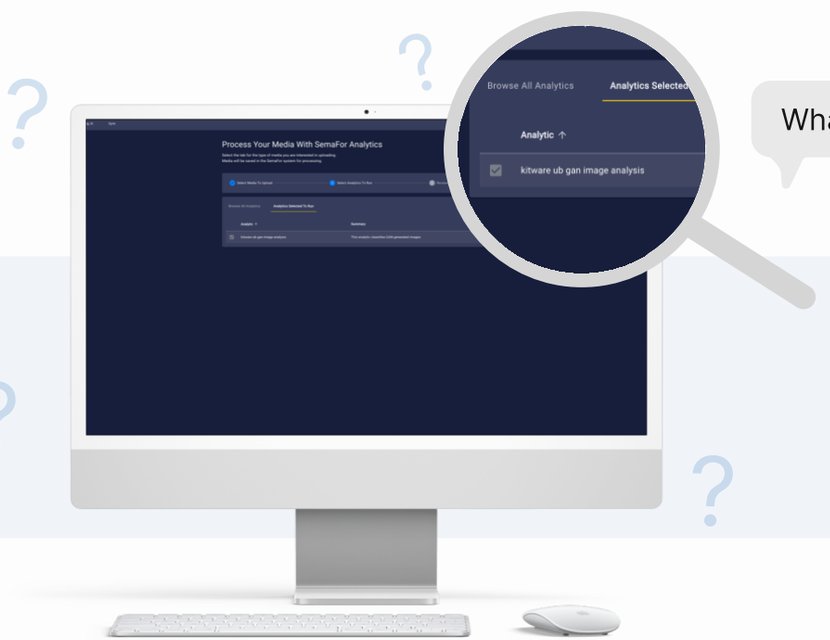
What is happening to my media?



Cumbersome Ingest Process

Ideally, data entry process should be seamless as it is intuitive. Users were confronted with an upload form that requires choosing arbitrary analytics that had no meaning and a lack of system feedback. This led to heightened friction in such a process not only fosters user fatigue but also significantly elevates the likelihood of errors.

What does this analytic mean?

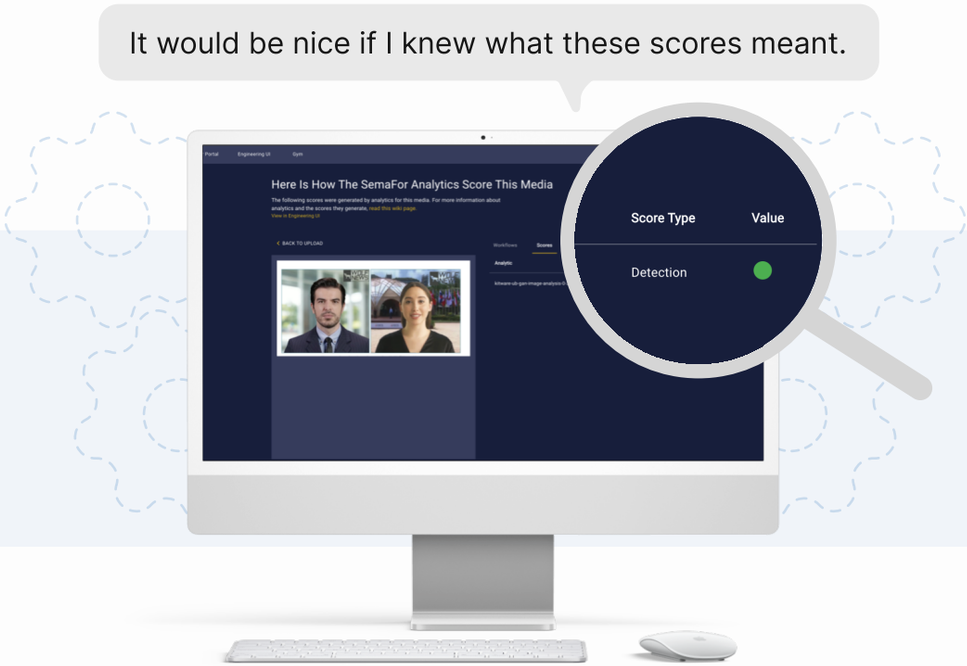


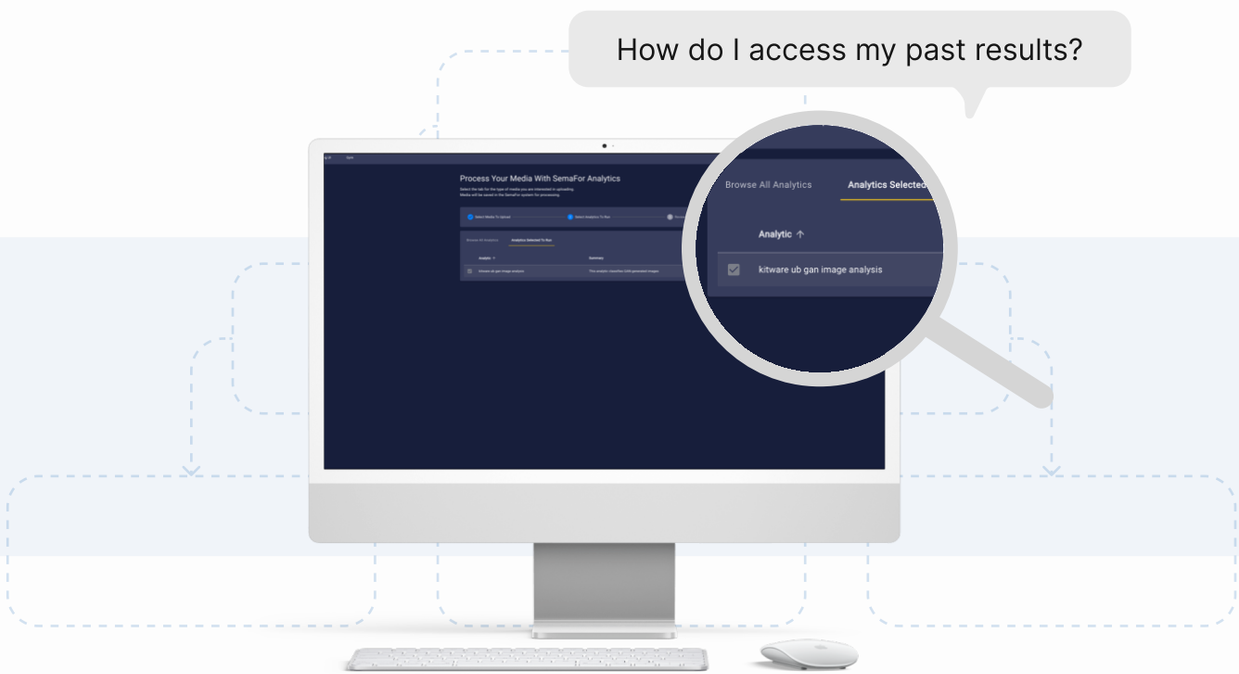
Overuse of Technical Jargon and Branded Terms

Technical terminology can be necessary to communicate concepts precisely; however, overusing technical jargon can hinder a user's efficiency in completing tasks and risk misinterpreting a result.

Lack of Actionable Intelligence

Users need actionable intelligence in SemaFor to help guide informed decision making when given a manipulated piece of media. We address this pain point by communicating human-readable results and enabling report generation.





Limited Organizational Structure

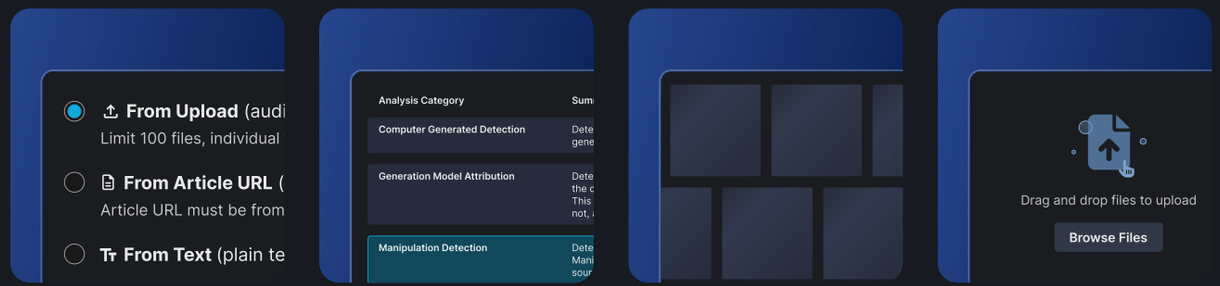
Another important pain point to address was the absence of clear hierarchy and categorization in the app. Users found it challenging to navigate through the app and find past results from older media.

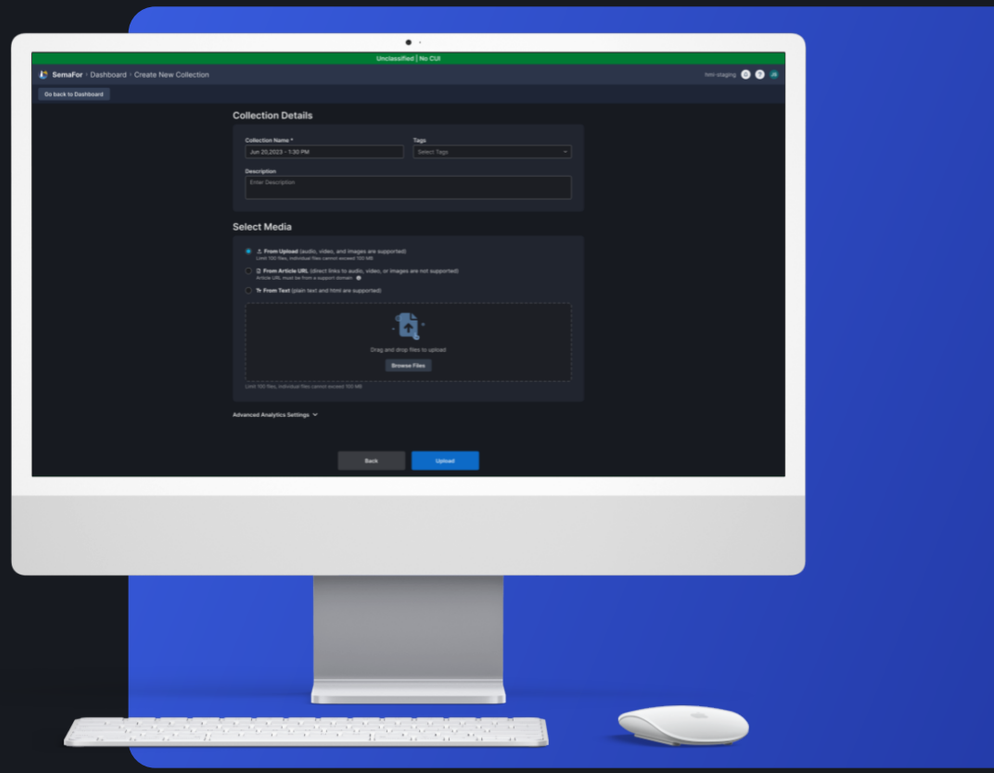
Simplifying Data Input Procedure

Streamlined data ingesting with customization and automated analytics selection

Another aspect of simplicity involves considering ways to minimize friction and streamline the path to achieving desired outcomes. To facilitate data ingestion into our system, we have implemented automation technologies that enable effortless customization of media collections and selection of relevant analytics.

- ✓ Organizational upload features such as tagging
- ✓ Providing multiple modalities to ingest
- ✓ Automated analytics selection
- ✓ Concise upload workflow
- ✓ Reduced cognitive load by hiding analytics



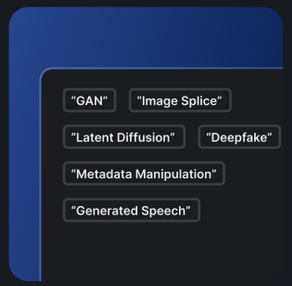


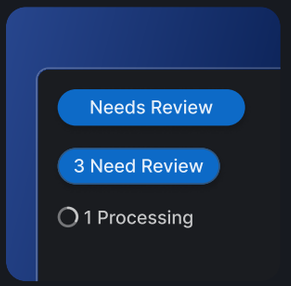
Easily Understand Complex Data

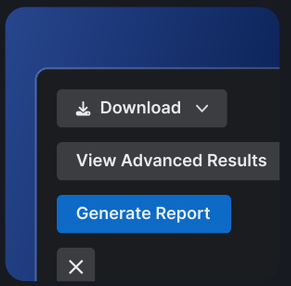
Simplicity is key to present complex data in a way users would understand

Throughout our design journey, **simplicity** remained the driving force behind our efforts. With each iterative step, we honed the interface to be increasingly user-friendly, enabling **seamless digestion** of the information produced by its algorithms and enhancing the overall **user experience.**

- ✓ Easily interpretable icons for showing likelihood scores
- ✓ Using localized visualizations as concrete evidence.
- ✓ Aiding users in making quick, informed decisions
- ✓ Avoiding using technical jargon
- ✓ Translating hard data to human-readable results
- ✓ Localized visualizations as concrete evidence.





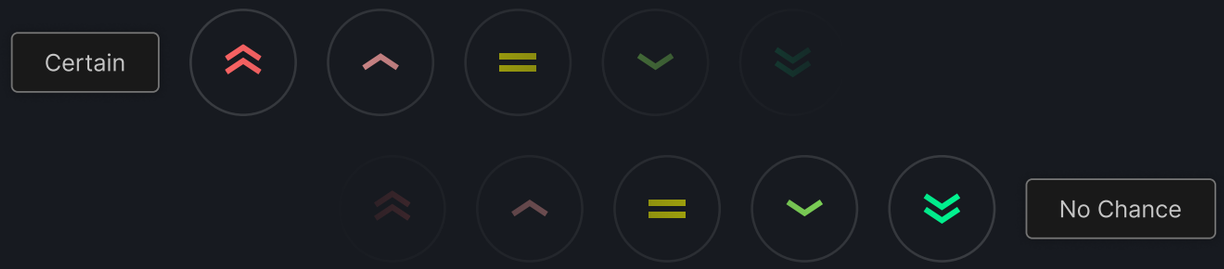


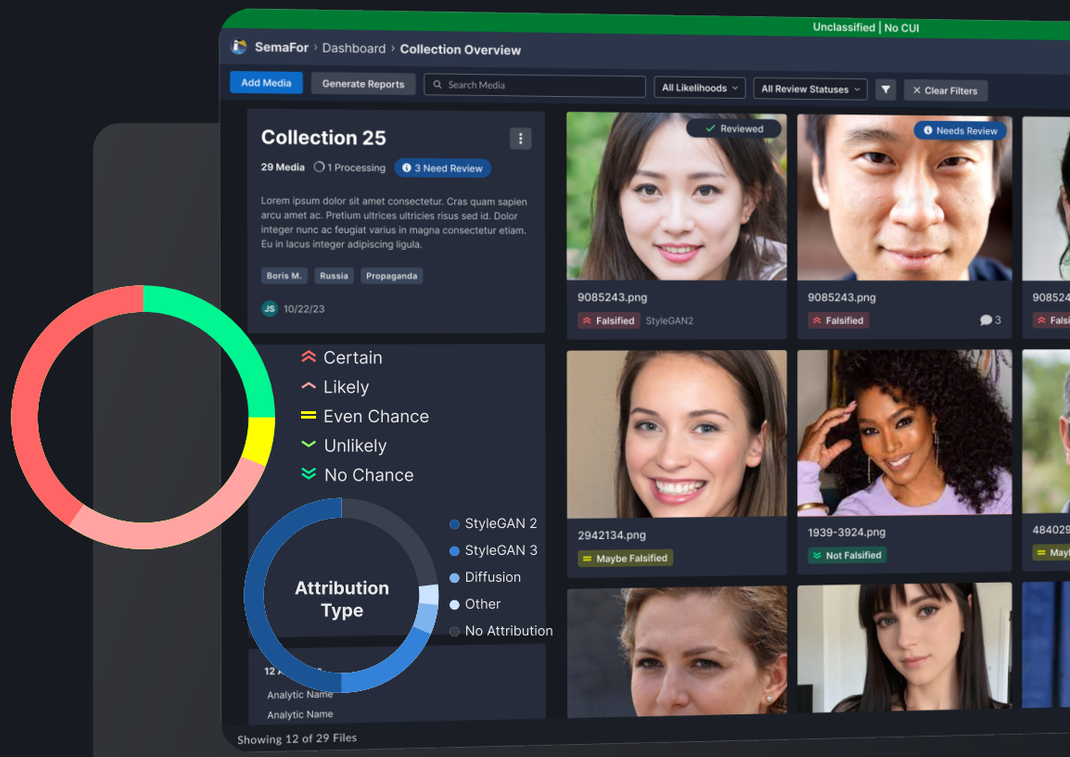
Tackling Inclusivity

Designing for one user, aiding for many

With consideration for 508 compliance, we proactively catered to the needs of color-blind users. To ensure inclusivity, we fine-tuned our color palette, integrated redundant visual cues to effectively communicate data results, and adhered to WCAG guidelines - guaranteeing an accessible and user-friendly experience for all users.

- ✓ AAA conformance throughout the application
- ✓ Utilizing redundant visual cues such as icons
- ✓ Color palette that provides sufficient contrast





Outcomes & Next Steps

The implemented version of SemaFor has garnered highly positive feedback, as analysts now have the ability to make **quick, informed decisions** based on human-readable data, rather than relying solely on hard data.

SemaFor has been featured on **CNN**: “Tech Experts Shows How Deepfake Images Could Inspire Real-World Panic”

Currently,

This project is still ongoing and we will continue to make SemaFor even better than the last version.

Let’s Collaborate to Build Your Solution!

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