anomify

OPTIMISING UX FOR ANOMALY DETECTION

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ABSTRACT

Anomify AI, an anomaly detection platform, leverages machine learning techniques to aid companies in identifying system outliers. However, many users felt confused and challenged during the anomaly detection process and dropped out of use. To reveal the problem of low usage rate, a novel user interface designs with reworked user flows and uniform design style were created to solve the existing user flow and user interfaces problems found from user researches. Afterwards, an online usability test showed the UIs with consistent structure enhanced the usability.

BACKGROUND & INTRODUCTION

Anomify faces an severe issue of low usage rate, up to 95% of users did not engage with the platform after registration. This project aims to address these challenges by focusing on improving the usability of the anomaly detection process to elevate the user experience, relieve information fatigue, increase user engagement, and demonstrate the value of Anomify to its users.

RESEARCH QUESTION

How can we enhance the UX and reduce the information fatigue of Anomaly Detection?

RESEARCH METHODOLOGY

1. Online Questionnaire
2. Eye Tracking Test
3. Contextual Interviews

1. Defined Information Architecture & Layout
2. Low-Fidelity Prototype
3. Online User Testing

1. Defined Design Style
2. High-Fidelity Prototype
3. Online User Testing

1. Data Analysis
2. Conclusion

PERSONAS

DATA ANALYST | AGE: 24

Challenges
1. Hard to get insights from the graph
2. Find outliers
3. Explain undefined data
4. Unfamiliar with the interface.
5. Unbalanced data
6. Lack of open source data.
7. Low false positive rates

Needs
1. Easy to find outlier
2. Ease-to-use monitoring system
3. Clear instruction and detection guidance
4. Find the required amount of data and right ML algorithms

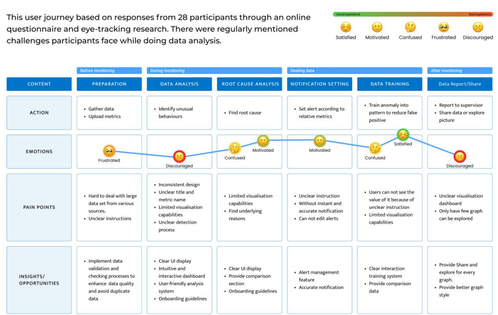
DEVELOPS ENGINEER | AGE: 30

Challenges
1. Not clear instruction and explanation to supply the source data to the system
2. Exception notification is not immediate enough
3. Unfriendly user interface
4. Manage large dataset
5. Define data name

Needs
1. Clear instruction and intuitive UI/UX.
2. Dark mode
3. Responsive web design

USER JOURNEY

This user journey based on responses from 28 participants through an online questionnaire and eye-tracking research. There were regularly mentioned challenges participants face while doing data analysis.

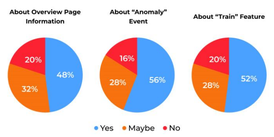


CHALLENGES & NEEDS

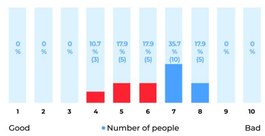
Based on responses from 28 participants through the online questionnaire.

INCONSISTENT DESIGN | LACK OF INTERACTIVE FEATURE | LACK OF EXPLANATION | LACK OF RWD | POOR VISUAL ACCESSIBILITY

USERS' COMPREHENSIBILITY



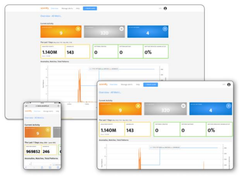
USABILITY SCORES : 63.2%



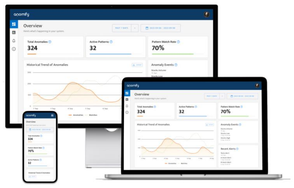
DESIGN DELIVERY

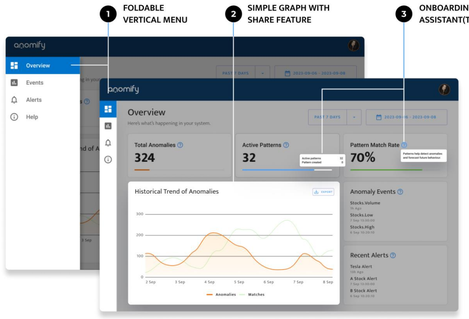
The new UIs defined a design style that includes a flexible grid to ensure design consistency and align with the Web Content Accessibility Guidelines (WCAG) and responsive web design(RWD). New features include ❶"Foldable vertical menu", ❷"Simple graph with share feature", and ❸"Onboarding assistant".

ORIGINAL - WITHOUT RWD



NEW - WITH RWD





DESIGN ITERATION

Prototype A adopted only the list-style display with the accordion menu. Prototype B introduced a grid-style display, and the detail page was displayed in multiple sections and a tab feature that toggles between the "related events" and "root causes" sections.

A/B TESTING

2 Prototypes 10 Users 5 Tasks

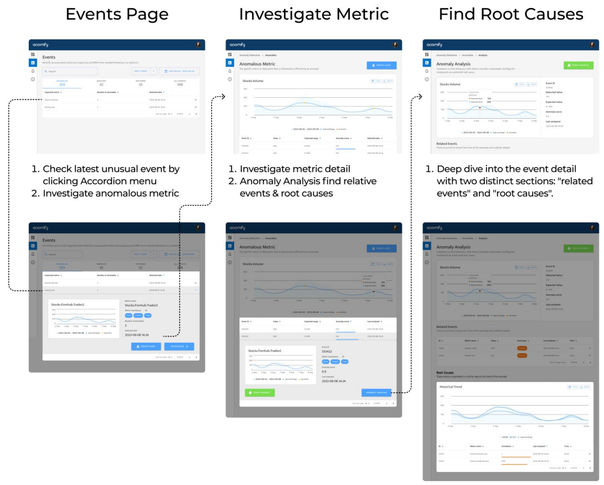
TASKS & USABILITY SCORES

Task\Prototype	A	B
1: Find anomalies	73	98
2: Analyse anomalous events	57	65
3: Find root causes	66	46
4: Train anomaly	83	83
5: Create an alert	87	68
	73	**72**

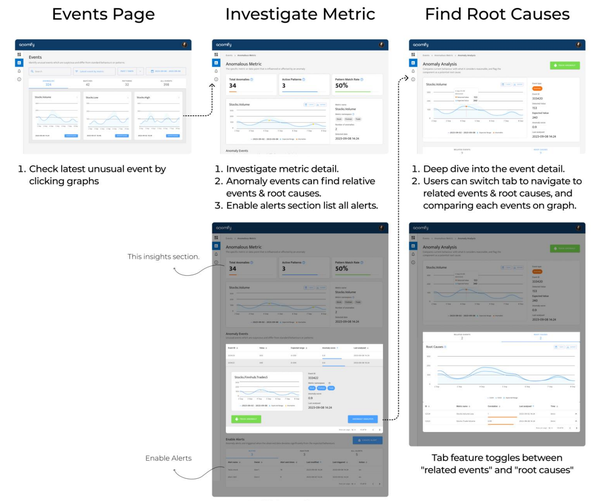
RESULT

The usability scores both A and B exceeded 70 scores above average System Usability Scale (SUS) and all participants successfully completed the tasks without dropping out. The AVG duration time was less than 42s on each task, and it showed superior progress in reaction time.

PROTOTYPE A



PROTOTYPE B



FEEDBACK

TEST A 73
"List format was intuitive and easier to follow!"
"The table of rows would benefit from investigating a large number of anomalies."

TEST B 72
"The visualisation of graphs is pleased eyes!"
"I found multiple-section structure easier to navigate and understand."

CONCLUSION

The result showed an improvement in product usability such as reducing reaction time, exhibiting confident interactions and notably positive responses. However, the results did not reveal a significant user preference between the two prototypes, 4 votes for A and 6 votes for B. For future improvement, combining both advantages to do the next iteration would be beneficial.