

# FACEBOOK SAFETY & ADS OPTIMIZATION

An End-to-End Product Case Study

## ABSTRACT

This case study proposes AI-driven enhancements to improve user safety and ad relevance on Facebook. It focuses on detecting suspicious behavior in chats, increasing trust in Marketplace through an AI-based Trust Score, improving transparency with a “Why am I seeing this ad?” explanation, and providing clearer feedback during the report process. These solutions aim to reduce scams, increase trust, and deliver more relevant ads while maintaining user privacy and minimizing false positives

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Problem Statement:

Safety Problems

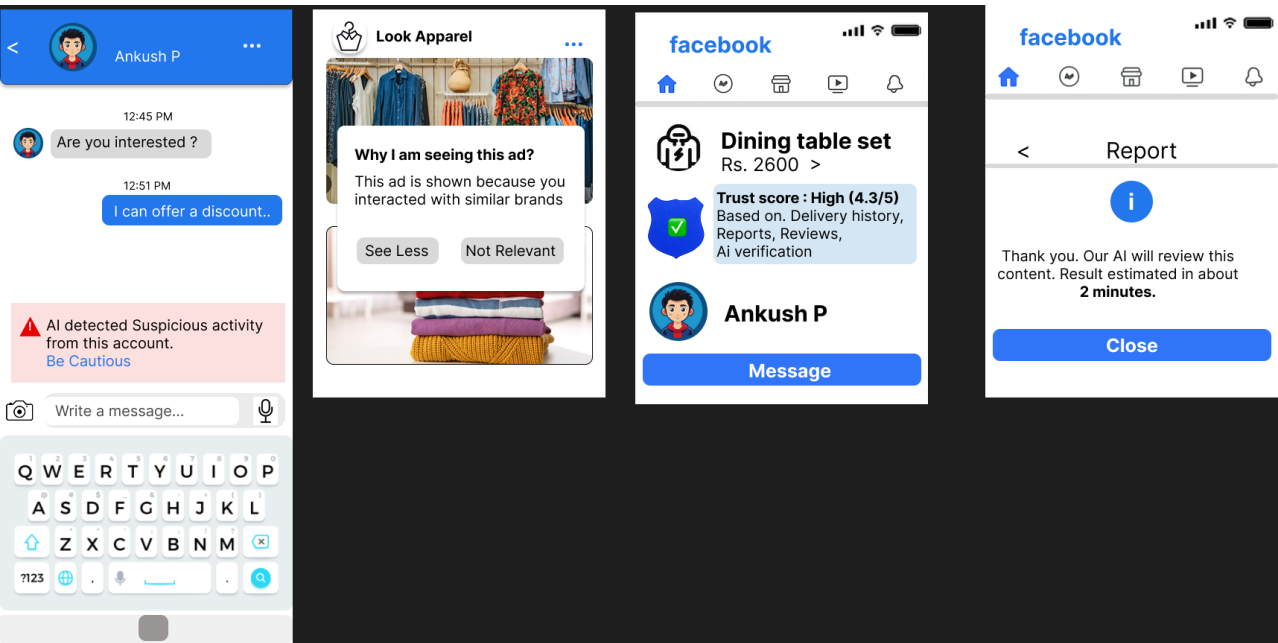
Facebook users often experience **scam messages**, especially in Marketplace chats where unknown sellers contact buyers with suspicious offers. Many **fake or low-credibility profiles** operate on the platform, making it hard for users to judge whether an interaction is genuine. In Marketplace, buyers have **no clear way to assess a seller’s trustworthiness**, leading to hesitation and failed transactions. Additionally, the **reporting process lacks transparency**—users do not know what happens after they report a message, post, or profile, which reduces confidence in Facebook’s safety system.

Ads Problems

Ads in the feed frequently feel **irrelevant, repetitive, or mismatched** with a user’s interests, creating frustration and fatigue. Users also **lack clarity about why specific ads are shown to them**, which makes the platform appear intrusive or overly targeted. Some ads may be **misleading, low-quality, or borderline scam-like**, reducing overall trust in Facebook’s advertising ecosystem and weakening the user experience.

User Personas

Persona	Needs	Pains
Casual Facebook User	Safe browsing, fewer scam interactions	Receives suspicious messages from unknown profiles
Marketplace Buyer	Trustworthy sellers, safer transactions	No clear way to verify seller credibility
Advertiser (Small Seller)	Reach a relevant target audience	Ads get marked irrelevant, reducing performance



## 4. Proposed Enhancements (AI + UX-Focused)

### 1. AI Scam Detection System

- Use AI models to detect scam-like behavior or suspicious message patterns in Marketplace and chats.
- Automatically flag or warn users if messages match scam patterns (“This message seems suspicious”).

### 2. Seller Trust Score

- Generate a **trust score** using AI — based on seller history, buyer reviews, and community feedback.
- Display badges like “Verified Seller” or “Trusted Seller” in Marketplace.

### 3. Smarter Ad Relevance (AI Personalization Transparency)

- Use generative AI to show users “**Why am I seeing this ad?**” in plain, human language.
- Provide an **Ad Feedback Assistant** — letting users easily say “Not relevant” or “Misleading” and improving ad targeting over time.

### 4. Improved Reporting Flow

- Add progress tracking (“Your report is being reviewed”).
- Notify users when action is taken — builds trust.

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## 5. Impact Metrics (Measurable Goals)

Goal	KPI	Expected Outcome
Improve safety	20% drop in scam reports	Safer user experience
Ad relevance	15% higher CTR (Click Through Rate)	More meaningful ads
User trust	25% increase in “report satisfaction”	Stronger engagement

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## 6. Risk Analysis

Risk	Mitigation
False positives by AI flagging real users	Include manual review option
Privacy concerns	Explain clearly how data is used

Risk	Mitigation
Advertiser dissatisfaction	Provide clearer feedback tools to help them retarget effectively

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## 7. Prototype (Figma)

You can show:

- **Screen 1:** Scam warning in chat
- **Screen 2:** Marketplace trust score
- **Screen 3:** Ad relevance “Why am I seeing this?” popup
- **Screen 4:** Report confirmation screen

You already have mockups — so just put these in Figma and link them as clickable flows.

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## 8. Tools & Storage

**Tools:**

- Figma (UI/UX design)
- Miro or Whimsical (user flow / journey map)
- Word or Notion (case study writing)
- Canva or PowerPoint (final presentation slides)

**Storage:**

- Export as PDF or upload to Notion/Google Drive/Behance
- Add link to your resume or LinkedIn portfolio (“Facebook Safety & Ads Enhancement — Product Case Study”)