



AUTOMATED DETECTION, CATEGORISATIONS, AND DEVELOPERS' EXPERIENCE WITH HONESTY VIOLATIONS IN MOBILE APPS

Dr Kashumi Madapme, Dr Humphrey O. Obie, Hung Du,
Dr Mojtaba Shahin, Idowu Ilekura, Professor John Grundy, Dr Li Li,
Dr Jon Whittle, Dr Burak Turhan and Dr Hourieh Khalajzadeh

EXTENSION OF WORK BY THE TEAM WHICH RECEIVED
A DISTINGUISHED PAPER AWARD, MSR 2022 CONFERENCE

At a glance



Background

Values like honesty, responsibility, fairness and privacy are important in society. However, software systems can ignore or even violate them, leading to negative consequences.



Goal

Investigate violations of 'honesty' in apps and strategies to fix them.

'Honesty' is an essential component of trust but frequently violated, causing major reputational risks for businesses.



Strategies

- Develop and evaluate 7 machine learning models.
- Analyse app reviews.
- Survey and interview mobile app developers.

Key outcomes



ML models for violation detection

We developed machine learning models to automatically detect honesty violations from app reviews by users, enriching feedback for developers.



Categories of honesty violation

We identified 10 categories of honesty violation in apps including false advertising, unfair refund and cancellation policies, deletion of reviews, impersonation and more.



Causes and solutions to violations

We identified 7 key causes behind honesty violations in apps and 8 strategies to avoid or fix them.

Further insights



Honesty violation categories in mobile apps

- Unfair cancellation and refund policies
- False advertisements
- Delusive subscriptions
- Cheating systems
- Inaccurate information
- Unfair fees
- No service
- Deletion of reviews
- Impersonation
- Fraudulent-looking apps



Reasons behind honesty violations included maximising revenue, beating competition and poor engineering practices such as designing and testing.



Proposed strategies to address violations include strengthening the design, development and testing of apps, embedding moral standards into practices and being transparent with users.



Automatic detection helps businesses better retain customers, minimise reputational risks, identify violations, improve developer satisfaction and produce find trustworthy apps for users.

Learn more

To discover more about this project, contact [Dr Kashumi Madampe](#) or scan the QR code.



Acknowledgements

This project is funded by the Australian Research Council Laureate Fellowship FL190100035 and DP200100020.

