Facebook Instant Games vs. Android Google Play Games: A Privacy Policy Showdown

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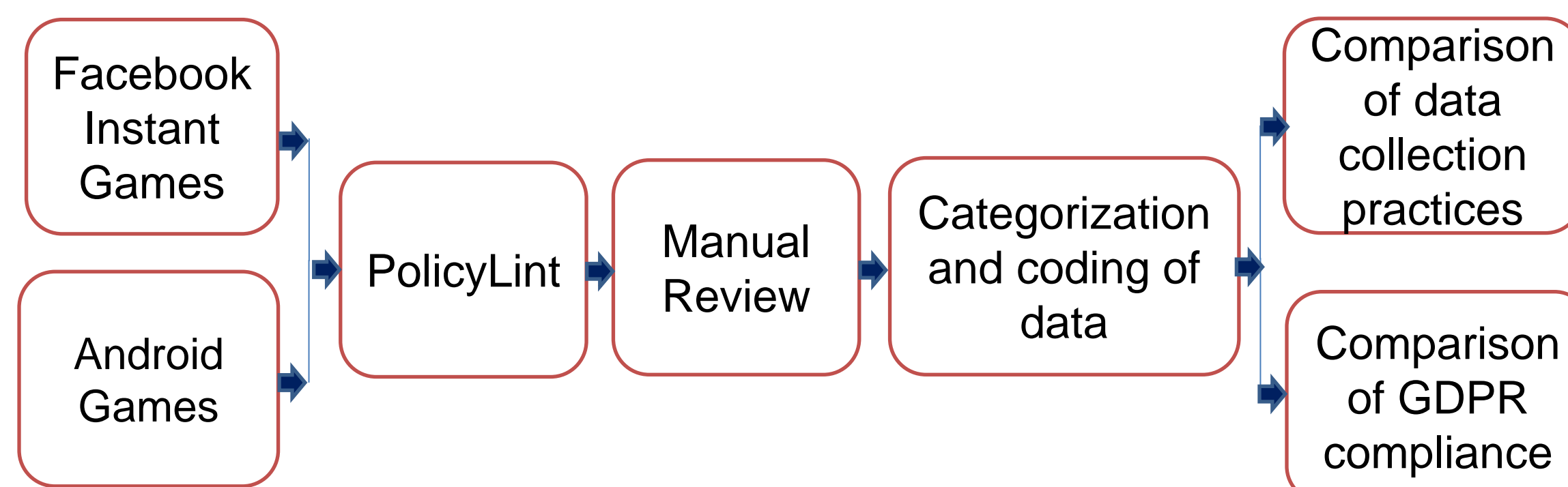ACSAC 2023
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Abstract: Given Facebook's grip on the massive trove of personal information -about 3.03 billion monthly active users, it is of utmost importance to investigate who else has access to such user data through the platform. Cross-platform HTML5 games are third-party applications that leverage the Facebook API to develop and upload their games to the Facebook Community. However, given the lack of access to their application code, they have received less scrutiny than their more visible Google Play counterpart, thus potentially raising some privacy concerns. For this reason, our work conducts a comparative analysis of Facebook Instant Games and mainstream Android Games privacy policies, evaluating the disparity in their data collection, sharing, and regulatory compliance.

Background

- 350 million users.
- Played over 30 billion times.
- Limited number of previous works
- PII, including name, profile photo, and location, are transmitted to third parties in 86% of the case

Methodology

Facebook Instant Games → PolicyLint → Manual Review → Categorization and coding of data → Comparison of data collection practices / Comparison of GDPR compliance

Android Games →

Data Categories

- **Personally Identifiable Data**: Name, address, phone, location, home address, date of birth, gender, IP address, device ID, payment card.
- **Usage Data**: Browser Information, usage time, cross-site tracking, cross-app tracking, cookies.
- **GDPR Aspects**: Right to access information, right to delete, right to opt out, notifying users of policy update and data breach, maintaining safeguards when transferring data outside the EU, purpose, data retention period

Data Coding

- The statements extracted from various policies were coded using binary 'Yes/No' values
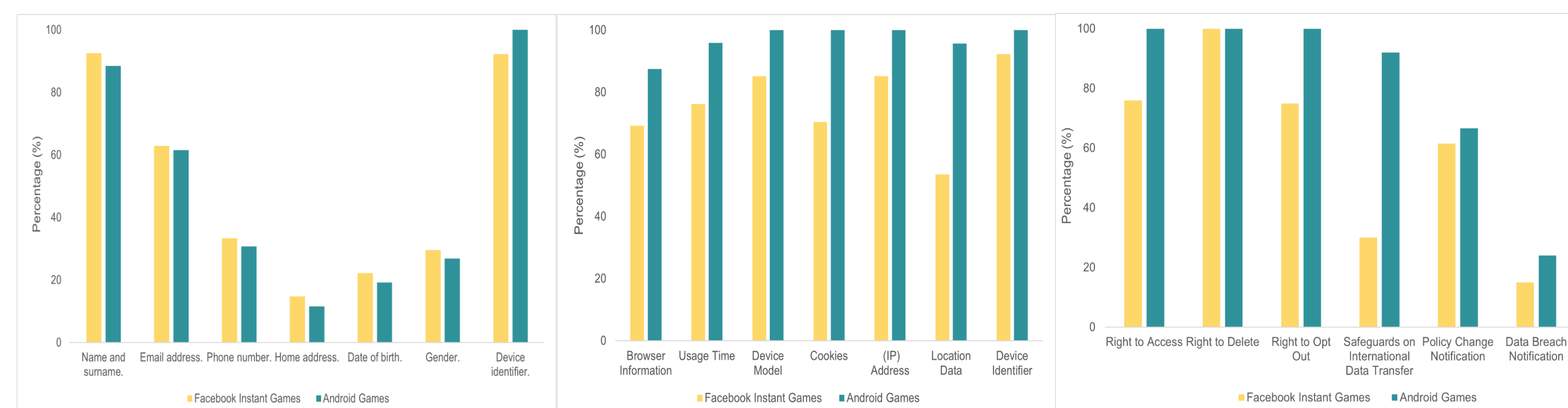- Only explicit mentions within the policy documentation were considered

Results

Contradictory statement :
- You have the right to request access into the data that we are processing on you, see Article 15 of the GDPR.
- The envisaged period for which the personal data will be stored
- Edaysoft will not store your personal data.

Figure 2: PolicyLint Result

a) PIIs collected by game developers

b) Usage data collected by developers

(c) GDPR compliance

Figure 3: Comparison between Instant Games and Facebook Games

- Access rights: !00% of Android and 74% of Instant games
- Opt-Out: 100% of Android and 75% of Instant games
- Safeguards: 92% of Android and 30% of Instant games
- Notifying on data breach: 24% of Android and 15% Instant games

Discussion

- 0 out of 27 instant games provided the users a consent box before the game started.
- App permissions in all instant games only mentioned collecting a user's profile picture, name, language selected, and friends list.
- Google's data safety section has a comprehensive list of type and purpose of collected data.

Conclusion

- Similar PII collection practices in both instant and Android games
- More Android games collect usage data than instant games
- Android game companies are better at offering GDPR-mandated user rights

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