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Parental control applications often misbehave posing privacy threats for children and even parents

The researchers Álvaro Feal (IMDEA Networks Institute), Paolo Calciati (IMDEA Software Institute), Dr. Narseo Vallina-Rodríguez (IMDEA Networks Institute), Dr. Carmela Troncoso (Spring Lab EPFL), and Dr. Alessandra Gorla (IMDEA Software Institute) have won the "Prize for the research and Personal Data Protection Emilio Aced" given by the Spanish data protection agency (AEPD), for the paper "Angel or Devil? A Privacy Study of Mobile Parental Control Apps."

Parental control apps are used by parents to **monitor the use that their children make of their mobile phones**, and to block access to certain features. These apps are **highly intrusive** by definition, as they can track the actions and movements of the children's phone (and thus of the child). Therefore, the use of parental control apps can have implications on the privacy of both children and parents.

The study

Existing recommendations by official bodies (such as SIP4 by the European Commission) do not take privacy into consideration, benchmarking only features such as price, capabilities, or usability. To assess such privacy risks, Álvaro, Paolo, Narseo, Carmela and Alessandra relied on a combination of static and dynamic analysis to study **46 parental control apps**.

In their work, the researchers found that almost **75% of the apps contain data-driven third-party libraries** for secondary purposes (namely advertisement, social networks, and analytic services) and that 67% of the apps share private data without user consent, including apps recommended by public bodies, such as IS4K (Internet Segura For Kids by INCIBE).

They also found that **these apps were not transparent** about their data collection practices, as 80% of the apps that share data with third parties do not name them in their privacy policy.

Conclusions

The researchers have presented the first multi-dimensional study of the parental control apps ecosystem from a privacy perspective. With their findings, they open a debate about the privacy risks introduced by these apps. Does the potential of parental control apps for protecting children justify the risks regarding the collection and processing of their data? This is worrisome, as **current legislation (such as the GDPR) protects children's data** from being accessed without clear parental consent. So, given the potential risks of this type of software, they

recommend parents to rely on non-technical solutions when possible and to have privacy in mind when choosing one of these applications.

They believe that public bodies should take privacy into account when recommending a given parental control app to raise awareness and **encourage developers to follow privacy-by-design principles**. The researchers from the IMDEA Networks Institute, IMDEA Software Institute and EPFL stress that it is fundamental to complement current benchmarking initiatives with a security and privacy analysis to help parents to choose the best application while taking these aspects into consideration.

Source(s): IMDEA Networks Institute

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About us

IMDEA Networks Institute, promoted by the Regional Government of Madrid, is a research organization on computer and communication networks whose multinational team is engaged in cutting-edge fundamental science and technology. As a growing, English speaking institute located in Madrid, Spain, IMDEA Networks offers a unique opportunity for pioneering scientists to develop their ideas. IMDEA Networks has established itself internationally at the forefront in the **development of future network principles and technologies**. Our team of highly-reputed researchers is designing and creating today the networks of tomorrow.

Some keywords that define us: 5G, Big Data, blockchains and distributed ledgers, cloud computing, content delivery networks, data analytics, energy-efficient networks, fog and edge computing, indoor positioning, Internet of Things (IoT), machine learning, millimeter-wave communication, mobile computing, network economics, network measurements, network security, networked systems, network protocols and algorithms, network virtualization (software defined networks – SDN and network function virtualization – NFV), privacy, social networks, underwater networks, vehicular networks, wireless networks and more…

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