

1. Demystifying illegal mobile gambling apps

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Abstract: Mobile gambling app, as a new type of online gambling service emerging in the mobile era, has become one of the most popular and lucrative underground businesses in the mobile app ecosystem. Since its born, mobile gambling app has received strict regulations from both government authorities and app markets. However, to the best of our knowledge, mobile gambling apps have not been investigated by our research community. In this paper, we take the first step to fill the void. Specifically, we first perform a 5-month dataset collection process to harvest illegal gambling apps in China, where mobile gambling apps are outlawed. We have collected 3,366 unique gambling apps with 5,344 different versions. We then characterize the gambling apps from various perspectives including app distribution channels, network infrastructure, malicious behaviors, abused third-party and payment services. Our work has revealed a number of covert distribution channels, the unique characteristics of gambling apps, and the abused fourth-party payment services. At last, we further propose a "guilt-by-association" expansion method to identify new suspicious gambling services, which help us further identify over 140K suspicious gambling domains and over 57K gambling app candidates. Our study demonstrates the urgency for detecting and regulating illegal gambling apps. © 2021 ACM. (0 refs)

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