

## Blocking of Random Chat Apps at Home Routers for Juvenile Protection in South Korea

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**Abstract :** Numerous anonymous chat apps that help people to connect with random strangers have been released in South Korea. However, they become a serious problem for young people since young people often use them for channels of prostitution or sexual violence. Although ISPs in South Korea are responsible for making inappropriate content inaccessible on their networks, they do not block traffic of random chat apps since 1) the use of random chat apps is entirely legal. 2) it is reported that they use HTTP proxy blocking so that non-HTTP traffic cannot be blocked. In this paper, we propose a service model that can block random chat apps at home routers. A service provider manages a blacklist that contains blocked apps' information. Home routers that subscribe the service filter the traffic of the apps out using deep packet inspection. We have implemented a prototype of the proposed model, including a centralized server providing the blacklist, a Raspberry Pi-based home router that can filter traffic of the apps out, and an Android app used by the router's administrator to locally customize the blacklist.

**Keywords :** deep packet inspection, internet filtering, juvenile protection, technical blocking

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