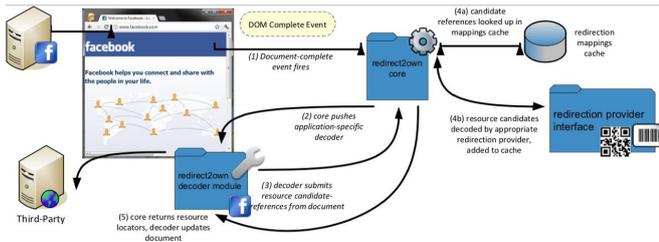


Redirect2Own: A new approach to protect the intellectual property of user-uploaded content

23 October 2018, by Ingrid Fadelli



Credit: Kontaxis, Keromytis and Portokalidis.

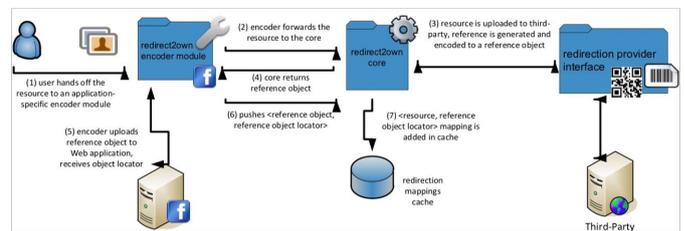
Every day, millions of users upload content on social media media platforms, including text, pictures and videos. While the creators of this content typically retain intellectual property (IP) rights once it is shared online, they often grant services hosting the content a broad license to use it, possibly in undesirable ways.

For example, Facebook claims a transferable, sub-licensable and royalty-free license on all user-provided [content](#), which is applicable worldwide. This particularly affects photographers and other creative professionals whose work is shared online, taking away their right to decide where it will be featured.

Researchers at Columbia University, Georgia Institute of Technology and Stevens Institute of Technology have devised a new method to safeguard intellectual property (IP) rights of content uploaded online. Their approach was recently presented in a paper [pre-published on arXiv](#).

"Our research was motivated by the fact that users frequently need to agree to terms of service (TOS), which grant excessive rights to services, before being able to share pictures through them,"

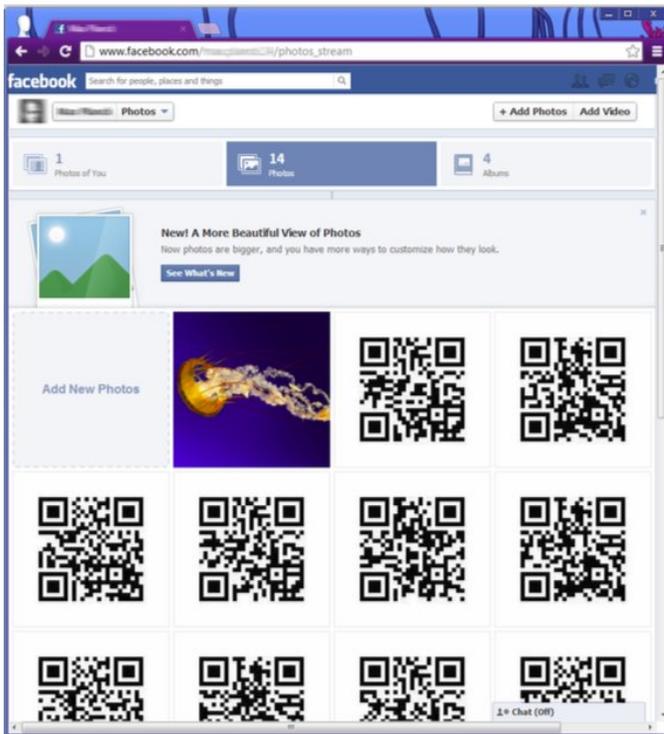
Georgios Portokalidis, one of the researchers who carried out the study, told *Tech Xplore*, "Our goal was to investigate new techniques that would allow users to share their photos through such services, while actually hosting their pictures in services with more favorable terms or on their own servers."



Credit: Kontaxis, Keromytis and Portokalidis.

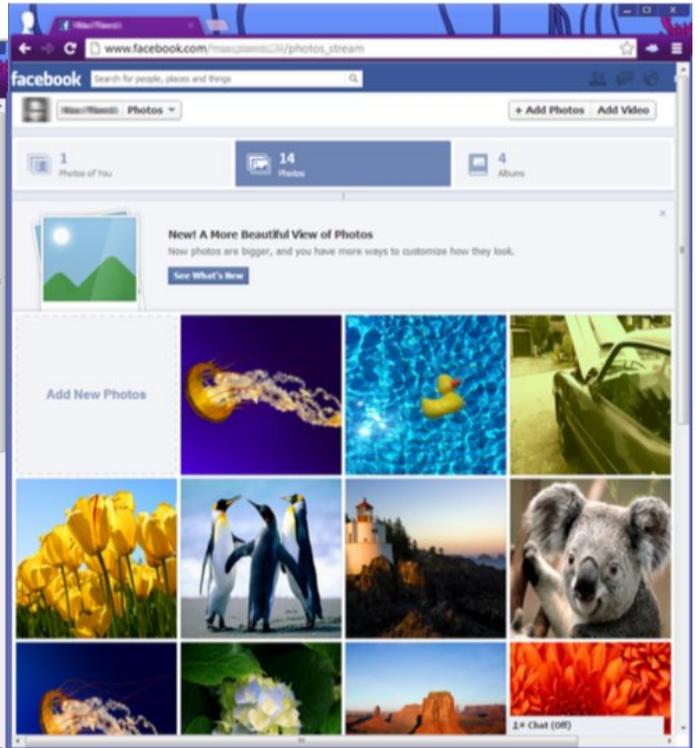
The approach proposed by Portokalidis and his colleagues builds on technologies such as QR codes, which can effectively encode information in images, as well as browser extensions that can transparently modify website content. Essentially, their design works by decoupling [user data](#) from social networking services, without incurring any loss of functionality to the user.

"Our approach is based on uploading QR codes instead of the original pictures on the social networking services," Portokalidis said. "These QR codes contain the encoded location of the actual picture. A browser extension transparently identifies these QR codes and replaces them with the original picture, as users browse them on [social networking sites](#). The same extension can be used to transparently intercept uploads to a service (e.g., Facebook), uploading the pictures instead to a more favorable second service (e.g., Flickr). The first service gets QR code images instead."



Credit: Kontaxis, Keromytis and Portokalidis.

In other words, this approach keeps user data and content off [social networking](#) platforms, for instance in third party sites or servers that host user-generated content with more favorable terms of [service](#). Concurrently, however, indirection schemata are seamlessly integrated into the social media services, without requiring cooperation from the server.



Credit: Kontaxis, Keromytis and Portokalidis.

This allows users to access their off-site content easily, just as they would if it was hosted on the platform itself. The researchers have applied this design to an extension for the Chrome web browser, called Redirect2Own. The [code](#) of this extension is open-source and its software can be downloaded for free.

"Our study demonstrates that such a design, employing redirection, is feasible and incurs negligible overhead," Portokalidis said.

More information: Redirect2Own: Protecting the intellectual property of user-uploaded content through off-site indirect access.

arXiv:1810.04779v1 [cs.CR].

arxiv.org/abs/1810.04779

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