

# Beware of website hackers: Developing an awareness video to warn for website hacking

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## Background

Websites that lack maintenance or professional care are **vulnerable for hackings**. We identified domains that are used by hackers to **redirect to fake shops**. To place the redirect on the website, a hacker needs **write access to the website data**.

We found that most **website owners are not aware** of this type of hacking, because the redirect is only apparent when **opening the link from a search engine**. The goal of our research was to

- (1) **find out if - and if so how - this type of hacking is described** in the scientific literature and in non-scientific sources of information (news articles, YouTube videos),
- (2) **identify advices that are given** on how to identify and remediate the hacking, and how to protect for future hackings,
- (3) **develop a video to raise awareness** for this type of hacking among website owners and stakeholders **based on the information we found**.

## Results

1. In general, participants **liked the video**, did not find any critical errors and mainly agreed that the most important information were presented



## Methodology

### Content analysis

- Based on **six keywords**, we searched for English and German speaking videos/articles about website hacking
- 45 videos, 39 news articles and 1 paper were analyzed.
  - » **Different terms** are synonymously used to describe the same type of hacking
  - » **Repercussions** on website owners (26.7%), and on users (8.9%) are rarely mentioned.
  - » 31.1% of the videos were identified as **commercial videos** advertising a product or a website service.
- Based on the findings from the content analysis we created a **three-minute explanatory video** using animated design.

### Evaluation

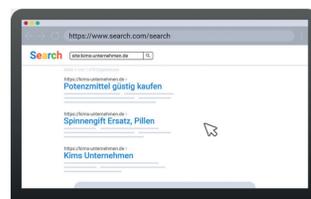
- We evaluated the content of the video **within four focus group interviews** with 13 domain experts.
- The interviews were conducted between **January 30, 2023, and March 3, 2023**.

2. Three of four groups discussed that the **identification of the hacking via the „site:“ search engine operator** is not prominent enough or will not be understood by the website owners.

We need to discuss whether it is enough to address this in the second video.



If you search the Internet explicitly for Kim's company website -



unusual entries appear, redirecting to a dubious online store.

„So, [...] the speaker is... um, familiar. [...] So I don't get stuck anywhere, because something irritates me. I find that it has a flow and... um I can watch it well.“  
[participant B, group 4]

„So from my point of view, the content is presented correctly. Thus, I don't know of any point that should or must be changed. [participant C, group 1]“

„And I don't think that if someone is not technically in the topic, that he will sit down at his computer and explicitly search for „site:“ and then his website.“  
[participant E, group 3]

„For me it would be important how a company would recognize [this], because they will seldomly search via Google and be redirected, but usually open their website directly.“ [participant D, group 2]

3. **Further information** on the remediation and preventive measures to protect for future hackings should be provided before the video is released.

The first video will not be released until the second video has been finished



Would you like to find out more about website hacking and learn how you can best protect yourself?



Then watch our second video or visit our website web-inspection.de.

„Um, but it wouldn't make much sense from my point of view to launch video 2 half a year later. So from my point of view, it has to be available [...].“  
[participant C, group 4]

„Well, I think it would be good to be able to immediately watch the second video [...].“  
[participant B, group 4]

4. The video should be **more specific to a target group**.

Future work needs to examine more closely whether and to what extent materials need to be adapted to specific target groups



„Well, I think I would be able to grasp [the content] more quickly, but that is certainly also a topic, which depends on the target group. Who has what kind of know-how?“  
[participant B, group 4]

„Otherwise, I also think, maybe a short version and a long version is a possibility, like for people who don't need an explanation how it works. You can make it a bit shorter, and for people who are less familiar with the topic more detailed [...].“ [participant B, group 4]