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Throughout the assignment we distinguish between the two scenarios in the specific point we make. If the points don't have any specifications, they apply to both scenarios. We identified the difference in the two scenarios mostly in the legal sense (if encryption is involved, there would be more serious legal consequences), but we think that the scenarios are similar in the ethical and moral sense.

- A. Identify the main ethical question or questions faced by the main character ("you") in the scenario. This will certainly include "what should you do?", but there may be other interesting questions to consider.

Both scenarios:

What should we do? Is it our moral obligation and responsibility to report the bug directly to Instatoonz? Does Instatoonz's unfair treatment of previous kind-hearted individuals reporting bugs mean that it is morally acceptable to not report this bug? Is protecting the privacy of all Instatoonz users worth the risk of complicated and costly legal troubles we could face? Is it morally acceptable to leave Instatoonz's users suffer the cost of privacy caused by our inactions due to the company's demonstrated aggression towards friendly bug-reporting individuals? Is it our moral obligation to uphold the Code when Instatoonz demonstrated no sign of respecting the Code themselves?

Encryption scenario:

If the bug involved encrypted material, is it morally justified to break the anti-circumvention laws for the good cause?

- B. For each stakeholder (or category of stakeholders) in the scenario, identify the stakeholder's relevant rights.

Both scenarios:

Stakeholders: "Us", Instatoonz, Instatoonz users.

- "Us": legally, not much. The right to ask for permission for a pentesting. Despite not asking for permission before finding the bug, we could ask permission first and report
- Instatoonz: The right to their property. The right to the privacy of their program. The right to decline pentesting requests. The right to protect their business(???) The right to take legal action on persons violating their user agreement. The right to their encrypted music

- Instatoonz users: the right to their privacy. The right to the service they signed up for when they chose to use Instatoonz.
- C. List any information missing from the scenario that you would like to have to help you make better choices.
- The number of Instatoonz users or the size of the company. A large company with lots of users would mean greater attention from both potential attackers and the media in the general public. Gaining the support of the public through the media and take the moral high ground of protecting the privacy of hundreds of millions of users would help us
 - The details of the users agreement that everyone read so very carefully when choosing to use Instatoonz.
 - The advice of legal experts and their interpretation of relevant laws
 - How competent are we to deal with this nasty bug
 - How did we discover this bug? Were we going into legally grey areas (without permission) when we discovered that bug or did we come across the bug randomly without doing anything dodgy
- D. Describe your possible actions, and discuss the likely consequences of those actions.

First of all, consult legal experts on the issue before any further decisions. By doing so we can have better understanding of the situation and not do anything dumb.

- Do what the first guy did and report it privately. What could possibly go wrong? We might get sued, but hopefully they would drop the charge again. It's the most straightforward thing to do and avoid involvement from the outside.
- Anonymously report the bug to some large and trustworthy institution that will take the matter into their competent hands and be ready to face the possibly legal consequences of reporting the bug to Instatoonz. We would possibly get out of trouble's way, but there could be legal consequences if our identity was discovered. Also, the trusted institution has to be chosen carefully, because if they are not trustworthy they could use the knowledge of the bug to their advantage and attack Instatoonz.
- Publicly reveal the bug, so that we can have the public on our side if things get messy. But attackers would be made aware of this vulnerability, which could lead to a lot of leaked information and we could face legal (and moral) consequences if that happened.
- Pretend that we've never come across this bug and not do anything about it. Hopefully someone with a kind heart will come across this and report this to

Instatoonz themselves. However, we do leave the system vulnerable to potential attacks in the meantime which challenge our moral beliefs.

The options below are mostly for satirical purposes. While they are indeed possible options one could take, they are not recommended or endorsed by the authors

- If the bug does not involve encrypted material, we could take advantage of the bug and blackmail Instatoonz for the damage they've done to their customers. This would probably violate several moral and civil laws and principles, but it is a possible action option nonetheless. Please do not try this at home.
- Apply to work as a programmer for Instatoonz and fix the problem myself! No legal troubles involved and nobody's rights are violated! Alternatively, befriend a current employee and friendly suggest to them about the possibility of a bug and let them "realize" it and fix it themselves. This option might take a while, which would leave Instatoonz vulnerable, and is probably counterproductive to our goal but it is still an option available for us.

E. Discuss whether the ACM Code of Ethics and Professional Conduct offers any relevant guidance.

- Going through the Code helps identify the shortcomings in the actions of both us and Instatoonz. For example, it states that Instatoonz should make public good its central concern, however based on the case from the past they sue the person reporting the bug rather than focusing on solving the problem in their software.
- As to us, we violated the privacy of Instatoonz by doing security research without their approval. Without the approval, we also worked in an area outside of our competence, which goes against the Code.
- If the bug we are dealing with involves the encrypted music protected by the DMCA and our actions might break that law, the Code also states that "Computing professionals must abide by these rules unless there is a compelling ethical justification to do otherwise." If we judge that there is indeed a "compelling ethical justification" to address the issue by breaking the law then we should be allowed to do so, according to the Code.
- Other aspects of the Code also guided our thought process, such as the discussions about being honest, being fair, confidentiality, competency, etc.

F. Describe and justify your recommended action, as well as your answers to any other questions you presented in part A.

- First of all, receive consulting advice from legal experts on the issue.

- Get involved with trusted third-party professionals. Ideally, we can anonymously report the bug to some larger, trustworthy, and competent institution that will privately report the bug to Instatoonz. This third-party would know better about how to address the issue and be better prepared at facing potential legal consequences of reporting the bug to Instatoonz. By taking this option, we do not ignore the issue and fulfill our obligation, without damaging our rights and interests. However, as mentioned above, we need to pick the third-party professionals carefully so that the issue will indeed get resolved quickly and correctly.
- If we were unable to forward the issue to a third-party, or if the bug doesn't involve encryption, we would choose to report it anonymously with the backing from legal experts. We would also be prepared to get the public involved if things get messy, so that public pressure and opinion can protect our rights if we are trapped in legal scenarios?
- Answers to questions from part A:
- Is it our moral obligation and responsibility to report the bug directly to Instatoonz?
 - It is probably our moral obligation to do something with this bug. How to address it is a more delicate subject, and reporting it directly might not be in the best interest to both ourselves and potentially for the customers of Instatoonz
- Does Instatoonz's unfair treatment of previous kind-hearted individuals reporting bugs mean that it is morally acceptable to not report this bug?
 - Morally, we should still report the bug, but the approach of Instatoonz suggests that the consequences of doing so might be worse than we thought. Hence, it would be understandable if we chose not to report the bug, but our moral beliefs might be challenged.
- Is protecting the privacy of all Instatoonz users worth the risk of complicated and costly legal troubles we could face?
 - Yes, in terms of moral values, but we should try to avoid the legal troubles as much as possible by being smart about how we report the bug.
- If the bug involved encrypted material, is it morally justified to break the anti-circumvention laws for the good cause?
 - In terms of the Code of Ethics, it is okay to break laws when there is "compelling ethical justification" to do so. Whether the consequences of breaking such laws are worth it is a more complicated matter that depends on the specifics of the situation, such as whether our actions could be among the exceptions in DMCA or how much of a "good cause" we are achieving by potentially breaking the law.

- Is it morally acceptable to leave Instatoonz's users suffer the cost of privacy caused by our inactions due to the company's demonstrated aggression towards friendly bug-reporting individuals?
 - It is immoral from the Instatoonz point of view, as they left their users unprotected and probably breaking their privacy terms in the process. From "our" point of view, it is more complicated and we have yet to come up with a decisive agreement on this question.
- Is it our moral obligation to uphold the Code when Instatoonz demonstrated no sign of respecting the Code themselves?
 - Everyone should play by the rules. Just because they are not doesn't justify us to not uphold it. We should not lower our standards to their level. It feels unfair but that's just our moral high ground