

**Internet Law
Spring 2022
Final Exam**

This examination consists of **two questions** and **six pages**. Your answer has a limit of **2,000 words per question**, which will be strictly enforced. It is due by **11:59 PM on Thursday, May 19**. Please submit your answer using the instructions provided by the Law Registrar's office.

This exam will be **blind-graded**. You must not put your name or other identifying information anywhere on your answer. In addition, you must not compromise the anonymity of the grading in your communications with me. If you have any technical issues in taking the exam, you must discuss them with the registrar, not with me.

This is an **open-book** examination. You should not need to consult anything beyond the casebook, the slides, and your notes, but you can if you wish. You are free to discuss the general legal principles we have covered with anyone, including each other.

You are also free to post general **questions** about the material covered in the course or about the *facts* (not the law) in the problems on the exam in the designated discussion area on Canvas. I will answer all questions posted there before 11:59 PM on Friday, May 13.

Aside from the above, **you may not discuss the question** with anyone else until after I have returned your grades.

Your work on this examination is subject to the Cornell Code of Academic Integrity, the Law School Code of Academic Integrity, and the Campus Code of Conduct.

General Advice

Please make your answer as **specific** to the facts of the questions as you can. Generic statements or suggestions, such as “Make sure that all employees follow proper security practices,” will receive few or no points. Use **simple citations** (e.g. “*see Zeran*”) where appropriate. I include **spelling, grammar, clarity, and organization** in my grading. I appreciate the use of headings to organize your answer, but they’re not required. If you find the question **ambiguous** or need to **assume additional facts**, state your assumptions and explain how they affect your answer. No reasonable resolution of an ambiguity will be penalized.

You can assume for purposes of the examination that **present-day law** has been fully in effect at all relevant times. Unless otherwise noted, **all names are fictitious**. Please disregard any resemblance to actual persons, places, or institutions, unless they are specifically incorporated into a question.

Question 1: The Time-Wasting Machine

You are the Chief Legal Officer at Blurter, which is what Twitter is called in the alternate universe where this problem is set. Billionaire entrepreneur Eli Morlock, who is completely fictional, has just completed his acquisition of the company. Today is his first day on the job, and he has invited you to a meeting to discuss his ideas for the company. When you arrive, he is pacing excitedly around the room. You barely have time to sit down and pull out a pen and paper before he starts talking:

Blurter is the best service in the world, and we're going to make it even better. It's the global town hall, it's a billion-player game, it's the biggest party of all time. I want to make boatloads of money by making an app that's so much fun our users want to use it every minute they're awake, and when they finally fall asleep they're still dreaming about using it. So here are my ideas.

Privacy! What's up with that? It's a 20th-century concept. Who needs it any more? Not our users! I'll tell you what we're going to do. If you get a subpoena to identify one of our users, you just go ahead and comply. Give them everything we've got, right away. In fact, throw in their blurts and their direct messages, too. Send it all! Same goes for the police. If they want to know who one of our users is, you go ahead and give them everything we've got: name, email address, IP addresses used, blurts, DMs, the works.

Copyright takedown notices! How many of them do we get? Five million a year? That's ridiculous. We need to get Big Copyright to stop harassing us like this. First, I want you to start slow-walking everything you can. Just put a 48-hour hold on every takedown notice, and then process it like you normally do.

Next, we need to put a little fear in those copyright owners. Pick ten takedown notices, I'll let you choose which ones, and sue those lousy creeps for everything they've got!

If that doesn't work, I've got another idea. I own a private island in the Seychelles, and a few years ago, I convinced the government to repeal all their copyright laws. We'll reincorporate Blurter in the Seychelles, we'll declare the headquarters to be the underwater dome I built there, and then we can just ignore U.S. copyright law.

Ad blockers! We're never going to pay back the loans I took out to buy this company unless we can get our ad impressions up, and that means we need to declare war on ad blockers. See this report right here? It says that 20% of our users use SuperBlocker to view the site without seeing the ads. Put a line in the terms of service saying no ad blockers, and then SUE THEM!

Eddie Prendick! He made fun of me in third grade when I came to school with a bad haircut. Well, Eddie, I just deleted your account with 200,000 followers. You think you're a big-shot stand-up comedian? Well who's laughing now!

Vermont! I got a call while I was on my way over here from my team up there, and they said Vermont just passed a new hollow-earth denial law. Buncha kids going around telling people the Earth is hollow and we're all in danger of falling through the crust. So now it's illegal for a social network to carry any posts claiming the Earth is hollow. Also, apparently, it's illegal to take down any posts claiming it isn't hollow. Figure out what we should do about it.

Tractors! Look, I made some enemies when I made my third fortune disrupting the agricultural equipment market. Big Tractor has been looking for a way to get back at me ever since. Look, long story, but it's illegal for me or any company I own to display any images of a tractor to users in Brazil. I mean, like, not even once, or it's a million-dollar fine each time. But since Blurter doesn't have any servers or employees in Brazil, I figure we can just ignore this one, right?

You got all that? Great! Let's get on it! Have a memo on my desk by the time I get back from my daily gyrocopter flight.

Write a memorandum to Morlock of 2,000 words or fewer analyzing the legal risks to Blurter, if any, posed by the plans and events he has described to you. Advise him on what Blurter should do to best achieve his objectives in light of those risks.

Question 2: My Private Key is My Passport

You work in the Computer Crime and Intellectual Property Section of the Department of Justice, and you have just received an urgent call from Agent Mary Ogilvy at the Federal Bureau of Investigation. As part of a long-running investigation into the SETEC Group, an underground hacker organization, the FBI recently obtained a search warrant for a computer hosted by Playtronics, a cloud and infrastructure services company. The FBI left the server running but took a complete digital image of its contents.

The server's logs of messages exchanged among members of SETEC included an email from the address `werner_brandes@gmail.com` by someone identifying themselves as "Cosmo." Cosmo wrote:

I have devised a way to modify the finite-field code in the Astronomy library to compute RSA and ECDSA private keys in a matter of hours about for about \$100 worth of cloud computing power. If you provide me with a public key and transfer \$1 million worth of Bitcoin to [a Bitcoin address], I will provide you with the corresponding public key, as often as desired.

The Astronomy library is a software package to perform various mathematical computations efficiently. It was created by Donal Janek, an academic computer scientist, who uploaded its source code to GitHub two months ago and released it under the MIT license. According to GitHub's statistics, it has been viewed about two dozen times in total.

So far, the SETEC Group has paid Cosmo \$34 million to provide 34 private keys. In each case, SETEC gave Cosmo a public key, without saying what the public key was for. SETEC has used these private keys to attack some of the Internet's most important secure systems and protocols:

- HTTPS uses public-key encryption to secure traffic between users' computers and web servers. Cosmo supplied SETEC with the private key used by Stripe to encrypt payment information. SETEC used computers connected to public WiFi networks (e.g., at a Starbucks) to observe users' credit card numbers and the details of their transactions.
- HTTPS also uses public-key encryption to authenticate servers. Cosmo supplied SETEC with a private key used by the State Department, en-

abling SETEC to set up a server that impersonates the State Department server and tricks unsuspecting users into connecting to it. SETEC has used this access to read highly secret diplomatic messages exchanged between State Department officials.

- Bitcoin uses digital signatures to validate transactions. Cosmo supplied SETEC with a private key to an address controlled by investor Robert Bishop. SETEC used that private key to sign a transaction transferring Bitcoin worth \$56 million to an address that SETEC controls.
- DRM systems use digital signatures to authenticate decryption keys. Cosmo supplied SETEC with a private key that could be used to generate decryption keys for any encrypted media downloaded from the Google Play Store. SETEC has been using these keys to download and decrypt new book, movie, and music releases, which it then sells.
- Device makers use digital signatures to authenticate software updates. Cosmo supplied SETEC with a private key that could be used to sign iOS software updates, so that an iPhone would install whatever software was signed with the key. SETEC signed an update which it then installed on the phone of Lee Rhyzkov, a mergers and acquisitions lawyer at the law firm of Emery, Roskow, and Arbogast. SETEC has been using its advance knowledge of corporate mergers to engage in insider trading.

Agent Ogilvy would like your opinion on:

- What crimes, if any, the federal government can charge Cosmo and/or the members of SETEC with.
- What civil suits, if any, SETEC's victims could file.
- Whether and how the FBI can identify Cosmo.
- Whether the FBI will be able to convince or compel Janek to take down the Astronomy library from GitHub.
- Anything else the FBI should be doing.

Write a memorandum to Ogilvy of 2,000 words or fewer answering her questions. (You may find it useful to refer back to the cryptography primer at pages 40–45, the Note on DRM at pages 526–27, and the Note on Bitcoin at pages 714–17.)