
FINAL EXAMINATION

Limited open-book. Three hours.

Write your exam number here: _____

All exam materials (including this booklet and your response) must be turned in at the end of the period. You will not receive credit unless you return this booklet with your exam number written above. Do not turn the page until instructed to begin.

Notes and Instructions

1. Assume that today's date is December 10, 2014.
2. You may write anywhere on the examination materials – e.g., for use as scratch paper. Only answers and material recorded in the proper places, however, will be graded.
3. Your goal is to show your mastery of the material presented in the Torts I course and your skills in analyzing legal problems. It is upon these bases that you will be graded.
4. During the exam: You may not consult with anyone – necessary communications with the proctors being the exception. You may not view, attempt to view, or use information obtained from viewing materials other than your own.
5. After the exam: You may discuss the exam with anyone, except that you may not communicate regarding the exam with any enrolled member of the class who has not yet taken the exam, and you must take reasonable precautions to prevent disclosure of exam information to the same.
6. Unless expressly stated otherwise, assume that the facts recited herein occur within one or more hypothetical states within the United States. Base your exam answer on the general state of the common law and typical statutory law in the United States, including all rules, procedures, and cases as presented in class, as well as, where appropriate, the theory and history discussed in class, plus any hypothetical laws presented in the facts. It is appropriate, if you wish, to note differences between minority and majority approaches in your answer, as well as statutory or other differences among jurisdictions.
7. Note all issues you see. More difficult issues will require more analysis. Spend your time accordingly.
8. Organization counts.
9. Read all exam question subparts before answering any of them – that way you can be sure to put all of your material in the right place.
10. Feel free to use abbreviations, but only if the meaning is entirely clear.
11. **Bluebooks:** Make sure your handwriting is legible. I cannot grade what I cannot read. Skip lines and write on only on one side of the page. Please use a separate bluebook for each subpart.
12. **Computers:** Please clearly label each subpart of your answer.
13. This exam is “limited open book.” The only materials to which you may refer during the exam, other than this exam booklet, scratch paper provided as part of the exam administration, and any special references specifically authorized by the Dean of Students office, are: (a) the authorized copy of the Torts Wypadki, which will be distributed to you in the exam session, and (b) a “reference sheet,” consisting of a single 8.5-inch-by-11-inch sheet of paper, upon which anything may be written and/or printed, including on both sides, front and back, (c) sticky tabs labeled with subject headings to insert into the wypadki, if you so choose. You may not consult or access any other piece of paper, including, but not limited to, a copy of the Torts Wypadki that you have printed out yourself. No materials may be shared during the exam.
14. This exam will be graded anonymously. You may not waive anonymity. Do not write your name on any part of the exam response or identify yourself in any way, other than to use your examination I.D. number appropriately. Self-identification on the exam or afterward will, at a minimum, result in a lower grade, and may result in disciplinary action.
15. Good luck!

Drones

AT JUST 16 YEARS OF AGE, Ai Ann Dinson was doing PhD-level work in computer science. Having taken advantage of every MOOC (“massively open online course”) she could access, Ai had devoured subjects like data analysis, parallel processing, machine learning, statistical inference, applied cryptography, algorithms, software testing/debugging, functional hardware verification, and dozens more subjects. And she hadn’t even finished high school yet.



FIG. 1: Ai’s drone takes to the sky.

One Friday, Ai happened upon a toy store that was going out of business. Inside she found a whole box of remote-controlled helicopters for just \$10. Curious about what she might be able to build with them, she purchased the lot, took them home and immediately started taking them apart, combining them with a powerful processor, and adding code that she composed in a creative frenzy. By Sunday afternoon, she had a fully functional unmanned aerial vehicle – better known as a UAV or drone.

What is a drone? Some might say that it’s a glorified remote-controlled aircraft or helicopter. But what differentiates a true drone from a regular remote-controlled hobbyist machine is that a drone has at least some capacity to fly by itself – either according to a pre-programmed flight plan, or, if it is more advanced, by making on-the-fly decisions about how to move and where to go.

Using all her MOOC-acquired knowledge, Ai had made a true drone. She named it the “HeliHawk.” And that Sunday afternoon, she took it out in the backyard to see if it would work as designed. It wasn’t a nice day – the Minnekota skies were turning dark with threatening clouds. But Ai didn’t think she could wait to take her new creation for a spin. And, at least for the moment, it wasn’t raining. So Ai opened up her laptop. The control interface she’d created showed a satellite-image-based map of her neighborhood along with a series of command buttons and data-filled boxes. She keyed in an altitude of 12 feet, selected the *go there* function, and using the satellite-image map she clicked on a point in her front yard.

ZZZZZZZZ! SWOOSH! The HeliHawk buzzed to life, hopped up 12 feet into the air, and then climbed above Ai’s house and out of sight. Ai sprinted around the

side of her house to find the HeliHawk hovering precisely over the point Ai had clicked on her map.

Ai was beside herself with delight – her drone worked! She now selected the *path* function and drew a yellow line on the satellite image: Across the street and up the driveway of the Jaspersons' house close to their front door, then sideways across their front yard to the alley, then into the unfenced backyard of the Kialuhfs' house. There, she placed a red dot in the path to program the drone to make a brief touchdown and then jump back into the air. Then her yellow line continued, directing the drone to cruise over the Kialuhfs' bird feeder, return over the alley, and head back across the street to its starting point in Ai's front yard. More boldly, she set the altitude at just five feet.

Execute. As soon as Ai clicked the command, the HeliHawk obediently followed the exact path she had laid out. It was wonderful to watch – until it got above the bird feeder. Suddenly the drone veered off course. It hopped over a fence and into the backyard of a retired married couple, Lara Lopez and Mel Morgenthau. The drone hit Lara on the head, knocking her off her balance so that her head impacted a tree, rendering her unconscious. And the drone's furious buzzing frightened a squirrel a few feet away in a tree. That squirrel leapt straight on to Mel's face, where it bit Mel on the nose before jumping off. Mel – who had a life-long fear of squirrels – passed out from the terror.

Ai felt panicked watching all this from the drone's remote six-camera panoramic video feed. Should she call 911? Ai quickly dismissed the thought. Those calls were always traced and recorded, and it would put Ai in a huge amount of trouble. Plus, Lara and Mel didn't look all that hurt, and Ai really wanted to get the HeliHawk out of their yard. So she gave the drone a reboot-and-return command. Like a restarting computer, the drone went dark and silent for a moment, and then woke back up. Dutifully, it returned to Ai, who immediately took it to the shed in her backyard – which she used as a laboratory – and she set about looking for the glitch.

Unfortunately, Lara and Mel were out cold. They were still passed out in their backyard when the dark sky opened up to let loose a torrential downpour. The rain soaked Lara and Mel straight through their clothes, and Mel did not wake up until many hours later. Shivering uncontrollably, Mel crawled over to Lara and tried to rouse her. Unable to do so, Mel managed to get into the house and call 911.

At the hospital, Lara turned out to be fine from the impacts to her head, but doctors told her that the extended time in the cold rain had caused her to come down with a viral pneumonia for which there was no effective antiviral therapy. To help her body fight off the infection, Lara was hospitalized for several weeks and given supportive care. Because of a concern the squirrel might have been rabid, Mel was given a rabies vaccination, and he turned out fine.

Ai was oblivious to all of this. She was hard at work fixing the problem with the HeliHawk. Once she took a couple of minutes to think about it, she realized she had omitted to run a very simple bug check on her code – it was the kind of thing pretty much all programmers did with new code before running it – especially before relying on it in some capacity where people's safety was on the line. When she did

run the check, she found the error right away: It was an unmatched parenthesis. Because of that missing punctuation mark, the software had caused the program to generate an error that shut down three of the engines, sending the drone spiraling out of control.

Meanwhile, at the hospital, Lara and Mel had no recollection of how they had woken up soaked in their backyard. Their adult daughter, Natalie Nikau, an area high-school science teacher, decided to knock on doors in her parents' neighborhood to investigate. When she talked to a neighborhood girl who said something about a strange robot helicopter, Natalie's suspicions immediately centered on Ai. In the school district's close-knit science teacher community, Ai's brilliance – as well as her tendency toward smart-aleckness – was well-known.

That night Natalie decided to engage in a little fact-finding. Having heard that Ai had a backyard laboratory shed, Natalie waited until after midnight, then she snuck into the Dinson family's backyard. It was very dark, but Natalie found the shed. Inside was the drone, just as Natalie had suspected. Natalie then spent the next 45 minutes carefully detaching all the drones' wires and reattaching them in a different pattern. It wouldn't do the drone any permanent harm, but it would prevent Ai from flying the thing again until she figured out how to hook it back up. Satisfied with her work, Natalie proceeded to sneak back through the dark to get out of Ai's yard. But Natalie tripped on something in the dark. She fell forward. Something seemed to punch her in the side. And when she tried to get up, she couldn't. Feeling around in the dark, Natalie realized that she was impaled on rebar. Rebar is reinforcing steel, shaped as rods, that is used in construction. Once set up, concrete is poured around it, leaving a steel-reinforced concrete structure. The rebar Natalie fell on was from an unfinished skate ramp Ai had been building for her and her little brother. Although common practice at construction sites is to cap protruding rebar with orange disc-shaped (or square-shaped) safety devices, Ai had taken no such precautions with her project.

Natalie managed to work herself off the rebar and get back to her car, where she made it to the hospital. She ended up suffering some serious organ damage and required major surgery. But she survived.

The next day, Ai was surprised and disappointed to find out that the HeliHawk wasn't working. It took her several hours, but she managed to rewire it back to the way it was. Wondering who had sabotaged her machine, Ai drove to her best friend's house (sans the drone) to brainstorm a possible enemies list.

When Ai left the house, 11-year-old Bo Brandt Dinson made his way out to the shed. Bo idolized his sister, and wanted badly to fly the drone. Bo was good with computers, and, thanks to a huge number of hours playing video games, Bo had excellent hand-eye coordination.



FIG. 2: An example of capped rebar at a construction site.

§ 820.101 ALLOCATION OF FAULT IN TORT ACTIONS.

(a) Contributory fault shall not bar a recovery in an action by any claimant or the claimant's legal representative to recover damages for wrongful death or injury to person or property, if the contributory fault of the claimant is not more than fifty percent (50%) of the total fault of all actors. Any damages allowed shall be diminished in proportion to the amount of fault attributed to the claimant.

(b) Whether or not the claimant is free of fault, the court shall: (i) If a jury trial, direct the jury to determine the total amount of damages sustained by the claimant without regard to the percentage of fault attributed to the claimant, and the percentage of fault attributable to each actor; and inform the jury of the consequences of its determination of the percentage of fault. (ii) If a trial before the court without jury, make special findings of fact, determining the total amount of damages sustained by the claimant without regard to the percentage of fault attributed to the claimant, and the percentage of fault attributable to each actor.

(c) The court shall reduce the amount of damages determined under subsection (c) of this section in proportion to the percentage of fault attributed to the claimant and enter judgment against each defendant in the amount determined under subsection (d) of this section.

(d) Each defendant is liable only to the extent of that defendant's proportion of the total fault determined under paragraph (b)(i) or (ii) of this section.

FIG. 3: Minnekota Revised Statutes §820.101.

He decided to operate the HeliHawk in regular remote-control mode – a safer bet he figured, and more fun. Going out to the street in front of the house, Bo started up the machine, and using the video feed and a joystick, he piloted it up and down the street with glee.

Unfortunately, at the same time Bo was flying the HeliHawk, another remotely controlled drone was making its way into the neighborhood. This other drone belonged to Orinoco Online – a huge multi-billion-dollar internet retailer that was experimenting with drones as a way to deliver packages to consumers. Not yet confident enough to let their drones run by themselves, Orinoco had a team of pilots remotely operating the machines by video feed and joystick – the same way Bo was operating Ai's drone.

Having just a few minutes of flying under his belt, Bo decided to see how fast his sister's drone could go. He maneuvered the vehicle to the far north end of the street and then brought it zooming southward at full throttle. As it was passing Bo's position, he stopped paying attention to the video feed or where the machine was going. Just for a moment he stared at the spectacle of the drone gloriously racing through the air. At that very instant, the Orinoco drone was coming up the same street in the opposite direction, and the Orinoco drone pilot, bored from weeks of incident-free flying, was going full throttle without watching the path ahead.

BLAM!! The two drones hit each other head-on in a spectacular crash that turned both vehicles into a spray of metal and plastic parts. Bo took a piece of shrapnel in an arm. A neighborhood kid across the street, Paul Pliau, took a piece of shrapnel in the eye.

Paul's uncle Rodney Rendeltz saw what happened through the living room window. When Rodney rushed out, Bo tried to make a break for it. Rodney, though, was faster. He caught up to Bo, grabbed him, and told him to sit on the curb while he called Bo's parents.

“Move and I’ll spank you,” Rodney grunted.

Once Rodney called them, Ai and Bo’s parents came to the scene. They had no idea what their kids had been up to. But they were loyal and defensive, getting into a heated argument with Rodney. As the ambulance left with Paul, they all seemed to agree on just one thing: They would all see each other in court.

A later investigation could not determine whether the shrapnel pieces that hit Paul or Bo came from the Orinoco drone or the HeliHawk. Both drones were made out of off-the-shelf parts from the same toy-helicopter suppliers. At any rate, it was serious. Paul’s eye was severely hurt, and Bo suffered nerve damage in his arm. Also, it later turned out that Lara had never had viral pneumonia – it was bacterial. And had doctors run a simple, standard test, they would have known that a course of antibiotics would have quickly cured Lara, letting her go home weeks sooner.

Meanwhile, Ai was spending more and more time in her room. Her new obsession was looking for MOOCs on tort law.

QUESTION

Analyze the parties’ claims and liabilities, clearly labeling the subparts of your answer, as follows:

Subpart A: Discuss the possibilities, if any, for tort recovery in favor of Ai Ann Dinson.

Subpart B: Discuss the possibilities, if any, for tort recovery in favor of Bo Brandt Dinson.

Subpart C: Discuss the possibilities, if any, for tort recovery in favor of Lara Lopez.

Subpart D: Discuss the possibilities, if any, for tort recovery in favor of Mel Morgenthau.

Subpart E: Discuss the possibilities, if any, for tort recovery in favor of the Jaspersons and/or the Kialuhfs.

Subpart F: Discuss the possibilities, if any, for tort recovery in favor of Natalie Nikau.

Subpart G: Discuss the possibilities, if any, for tort recovery in favor of Paul Pliau.

Subpart H: If there is anything else you wish to discuss, which does not belong under any of subparts A through G, you may put it under this Subpart H.

Note that the subparts will not all be given equal weight. Divide your time among the subparts according to which ones require the most discussion and analysis. Plan ahead to put information where it belongs. Do not repeat the exact same analysis with substituted parties. Instead, you may, if appropriate, incorporate previously stated analysis by reference.

Suggested abbreviations for your answer:

Ai Ann Dinson	Ai or AA	Lara Lopez	LL
Bo Brandt Dinson	Bo or BB	Mel Morgenthau	MM
The Dinson parents	Ds	Natalie Nikau	NN
HeliHawk	HH	Orinoco Online	OO
The Jaspersons	Js	Paul Pliau	PP
The Kialuhfs	Ks		

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