Intellectual Property Law
Fall 2010 – Michael Risch
Final Exam

This is a take-home exam. You have eight (8) hours from the time you download the exam to complete and upload the answer. If you experience technical difficulties, please follow registrar office directions or contact the registrar. I recommend that you do not download the exam at a time when the due time will be outside of business hours of the law school.

You may use any written materials you desire for the exam, but you may not receive help from any person. Note that the exam will be held during the first week, but there may be make-up exam days. You must be careful not to disclose any details of the exam to your classmates, or discuss any aspect of the exam (or your answer!) until after I post a Blackboard announcement notifying you that you may do so. Page two of this exam is a confirmation that you understand this – please print, sign, and turn in to Karen DiBattista at some point before Dec. 23.

Make sure that your exam number appears on each page, which is most easily done with a header or footer.

This exam includes a strict word limit of 4000 words, which is approximately 13-15 pages of a proportionally-spaced font, or many fewer pages with smaller margins. I am grading each exam all at once, so feel free to refer to a prior answer if relevant. NOTE: You do not have to use all of the words available – the questions can be answered in less space than allotted.

Do not rely on page limits; you should count words using your word processor's "properties" menu item (word counts are sometimes in the bottom bar of the word processor as well). You may divide the word limit among the different questions however you wish, **but I will stop reading after the word limit is reached**.

Your exam must be typed, with double spacing on 8.5 x 11 paper size and reasonable font and margin size. Please begin the answer to each question at the top of a new page.

Intellectual Property Law Final Exam, Fall 2010.

I _____, confirm that I have obeyed and will obey the Villanova University School of Law Code of Conduct with respect to the above exam, and that I have not discussed and will not discuss any part of the exam, its contents, or my answer with any of my classmates until after I am notified that I may do so.

Dated:_____ Signed: _____

___ Initial here if Prof. Risch may publicly post some or all of this answer (without your name associated with it)

Please return to Karen DiBattista in Room 260 by 5PM on Dec. 23, 2010. I cannot give you a grade without it.

Intellectual Property Law Final Exam
Fall 2010

The questions are weighted as follows: Question 1, 66 points and Question 2, 27 points for a total of 93. The other 7 points are participation and writing requirement. If any of your answers depend on facts not stated in the problem, feel free to identify which facts would be helpful, and how they would affect resolution of the issue. You may refer to answers to prior questions. Remember your word limit. **I WILL STOP READING WHEN I REACH THE LIMIT**.

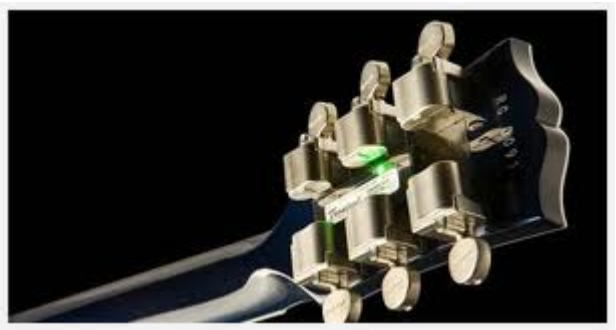
ALL PEOPLE, WEBSITES, AND EVENTS ARE FICTIONAL. DO NOT RELY ON ANY CASES, STATUTES, CLAIMS OR OTHER ARGUMENTS THAT ARE NOT BASED ON ASSIGNED READINGS OR CLASS DISCUSSION – YOU DO NOT NEED TO DO RESEARCH TO COMPLETE THIS EXAM.

DO NOT ASSUME THERE IS ANY PRIOR ART OTHER THAN THAT DISCLOSED (IF ANY) IN THIS EXAM.

The Automatic Guitar Tuner

I.P. Law (IP for short) is a long time guitar enthusiast. However, IP's musical ear is not so great, so IP has always looked for a better way to tune a guitar. On January 1, 2010, IP was using the guitar tuning web site http://www.howtotuneaguitar.org/. The tuning web site plays the tone of each string so the user can match the physical guitar string to the sound played by the computer.

While tuning the guitar, inspiration struck IP – any guitar lover would want a product that "listened" to the guitar string and turned the knobs automatically to adjust the strings until the right tone was achieved. IP searched the market, and found that automatic guitar peg turners existed in 2007. A picture of what existed is below – the mechanical gears automatically tighten or loosen the guitar string to adjust its pitch.



IP also found long existing computer recording equipment that would record sound of a guitar string (or any other sound) and then convert that into a digitized form that could be used by a computer program. All that remained was some way to tie the two components together.

IP spent the next six months writing computer software to do just that. The software:

1. Used the recording equipment to convert a guitar string's sound into a digitized computer format;
2. Compared the recorded sound with the expected pitch of the guitar string (for example, E);
3. Sent a signal to the automatic peg turner to tighten or loosen the string to adjust the pitch (without the guitar player having to turn the peg);
4. Displayed a message to the user to pluck the string again; and
5. Repeated the process until the guitar string matched the expected pitch, at which point it displayed a message that the string is in tune.

IP completed the software on July 1, 2010, but didn't tell anyone about it. IP used the completed automatic tuner at home for a month. On August 1, 2010, IP posted the following status update on his Facebook page: "I'm playing my guitar better than ever because I've developed a better way to tune it! Let me know if you are interested in buying it!" Assume that 250 of IP's Facebook friends read the message, but nobody so much as commented, let alone asked to buy anything. No one other than IP's Facebook friends had access to the status update.

IP also built a second prototype device. IP gave the second automatic tuner to IP's twin sibling, Evil Twin (ET for short). ET was also a guitar player; ET even regularly played in clubs.

When IP gave the automatic tuner to ET on September 1, 2010, IP told ET, "Please don't give this tuner to anyone else or even tell anyone else about this automatic tuner. I plan to sell it soon." ET responded, "Whatever."

ET tested out the product backstage for a couple weeks to see if it worked, and was amazed how well the device worked. In fact, ET kept using it and has never stopped. ET first used the automatic tuner on stage on September 15, 2010. Eventually, ET decided that the automatic tuner would be a great product to sell. While the recording device and the automatic peg turner were available on the market, ET did not have any of the

software. ET gave IP's device to a computer programmer with instructions to re-create the software.

The computer programmer played with the device a while on a guitar to see how it responded to different guitar string pitches (for example, by plucking different strings and by making the strings far out of tune or nearly in tune). Using this method of testing, the programmer was able to independently write new software that duplicated nearly all of the functionality found in IP's software.

However, the programmer could not determine just how IP's software performed the comparison of the actual guitar's pitch to the "in tune" pitch that was desired. Thus, the programmer used a tool to decompile IP's software and see how IP solved that problem. The programmer included about 5 lines of source code from IP's software in ET's version – the lines that made the comparison.

Except for the 5 lines of software in common, ET's source code was different from IP's software even though it operated in a similar manner. In addition, the displays to the user look different. Further, ET's software did not display anything if the guitar was in tune; the software simply did nothing. The computer programmer assumed that the guitar player would not need such notification.

On December 1, the programmer delivered a working product to ET.

Meanwhile, IP worked on a commercial version of the automatic tuner, which IP now called "AUTOTUNE." On November 1, 2010, IP delivered the first AUTOTUNE package to a customer.

IP discovered that ET was selling ET's "knockoff" to ET's musician friends on September 1, 2011. That day, IP filed for a copyright registration on the software (making sure to follow copyright office procedures that keep the public from seeing the software's source code). The registration was granted soon thereafter.

Further, on September 7, 2011, IP filed for a patent (making sure that the patent disclosure did not include the software's source code). The patent was granted on Jan. 1, 2013. The patent specification and its one claim, read as follows:

> I have invented an automatic guitar tuner. I made it by combining automatic peg turners that are available in specialty stores, electronic components that record and digitize the sounds a guitar makes, and software that I

wrote to compare the sound made by a guitar string and the expected pitch that the guitar string should sound like.

I claim:
An automatic guitar tuner, comprising:

1. A recording and digitizing component for recording a plucked guitar string and converting the sound to a digital format;
2. Computer software for comparing the recorded sound to an expected sound;
3. Computer software for notifying the user if the sounds match or alternatively sending a signal to a peg turning component to adjust said guitar string; and
4. A peg turning component for turning a guitar tuning peg in accordance with said signal sent by the computer software.

QUESTIONS

1. (66 points) IP comes to you on January 2, 2013, complaining that ET is still selling ET's version of the automatic guitar tuner. Write a memo advising IP of:

    a. The theories IP might assert against ET in a lawsuit,
    b. The defenses to those theories IP is likely to see, and
    c. The strengths and weaknesses of each.

    You need not follow the above order in your answer, and can group and organize the answer in any way you wish. You need not address remedies.

2. (27 points) When IP begins selling AUTOTUNE, IP is sued by the Antares Audio Tech, the owner of "AUTO-TUNE," a trademark that has been used for more than 15 years and registered within the last five years. AUTO-TUNE is a product that automatically modifies the vocal pitch of a singer. It can be used in a variety of ways. First, it changes a singer's voice to match the appropriate pitch. (I hypothesize that it is a likely reason why Taylor Swift sounds great on CD and terrible live.) Additionally, it can be used for interesting vocal effects, like those used in Cher's song "Believe" and much of T-Pain's music. What is AUTO-TUNE's (the plaintiff's) best arguments in favor of trademark liability, and what is IP's best defenses? You need not address remedies.