## Internet Security – Week 1 Homework

1. Hedy Lamarr was an actress in Hollywood, during the period between the 1930s and 40s. George Anthiel on the other hand was a composer of experimental or innovative works. After becoming friends during WWII they became inventors.
2. They aimed and attempted to find a way to securely guide torpedos, as then-currently there was a risk of the guiding signal being jammed once the targeted ship discovered the frequency this signal was being sent on. Their idea solved the problem by spreading the control signal over a variety of frequencies under regular intervals, significantly recuding the chances that the victimised ship could jam or block all these signals at once.
3. Anthiel was obsessed with machinery, and constructed an early version of this system that features sixteen player pianos. This technique was then enhanced to make use of the piano rolls themselves, so that the markings on these could be used to maintain the ship and torpedo frequencies and still have properly tuned antennas. Lamarr contributed to this invention also, following Anthiel’s lead.
4. This invention was not adopted straight away, however by the time of the Cuban Missile Crisis these types of radios were commonly used on Navy ships, yet they were using electronic devices to maintain the frequencies instead of piano rolls.

References:

[[1]](#footnote-2)

1. Kiersz et al., “How A 1940s Actress And An Avant Garde Composer Pioneered A Powerful Communication Technology.” [↑](#footnote-ref-2)