

CIS 212

4/23/2018

Internet Outages

I attended “Internet Outages: Reliability and Cyber Security” by John Heidemann of USC and ISI. He started the talk by presenting the story of Hurricane Harvey and the subsequent internet outages in Houston, Texas. Heidemann then transitioned to talk about pre-revolution Egypt. Leading up to the revolution, the government shut down the internet in an attempt to halt the revolution. During yearly exams in Iraq, the government shuts down internet access in order to prevent cheating. Heidemann used these to explain the growing importance of an emerging field, the study of internet topology. By measuring the internet through pings and then analyzing the mountains of data this process produces, experts are able to track government interference of internet access, as well as natural disasters and their impact on internet infrastructure. This process is tricky because it must be done in a way that does not interfere with the internet as it exists or its users, while still getting an accurate estimation. While firewalls exist, they are surprisingly infrequent, and Heidemann’s team was able to get an accurate estimation of the topography of the internet. When applied to the corresponding geographic regions, we can visualize when many regions “sleep”. Interestingly enough, the United States and much of western Europe do not have peaks or valleys of activity, and are almost always active. This process is useful for tracking natural disaster recovery and quantifying their impacts, and for tracking and studying government policy.

I enjoyed the talk and I agree with Heidemann’s position. Tracking internet outages is a brilliant way to track natural disasters, as well as the subsequent recoveries. It also has the potential to become an extremely useful tool in politics, granting the ability to track things like government crackdowns, cyber-attacks, etc. Overall, I think this talk covered all of the key points and was not lacking any relevant information.