Uncloaking terrorist networks pdf





@article Krebs2002UncloakingTN, titled Uncloaking Terrorist Networks, author of V. E. Krebs, First Monday magazine, {2002}, volume {7} V. E. KrebsPublished 2002Computer ScienceFirst MondayThempts the display of secret networks using data available from news sources on the World Wide Web. In particular, we are investigating the network surrounding the tragic events of September 11, 2001. Using publicly available data, we can map a part of the network focused on the 19 hijackers who died. This map gives us some insight into a terrorist organization, but it is incomplete. Proposals are offered for further work and research. Slashdot Clothes is back! SHOP NOW!. | Do you develop on GitHub? You can continue to use GitHub, but automatically sync your GitHub releases with SourceForge quickly and easily using this tool and take advantage of SourceForge improvements. | Follow Slashdot on LinkedIn × 1404689 story posted by Roblimo on Tuesday September 03, 2002 at 08:25 a.m. from the overthe-top bosses-with-AK47s department atlantageek writes: First Monday there is an article titled Uncloaking Terrorist Networks. Author Valdis E. Krebs discusses his relationship to unravel the terrorist networks. We were all shocked by the tragic events of 11 September 2001. In the continuous stream of news and analysis, one phrase - the terrorist network - was constantly repeated. Everyone talked about this concept and described it as amorphous, invisible, cheerful and... We were all shocked by the tragic events of 11 September 2001. In the continuous stream of news and analysis, one phrase - the terrorist network - was constantly repeated. Everyone talked about this concept and described it as amorphous, invisible, cheerful and scattered. But no one could create a visual effect. As a consultant and researcher in organizational networks, I intended to map this network of terrorist cells that have so affected our entire lives. My goal was to uncover network models that would reveal the preferred methods of al- qaeda's stealth organization. If we know what model organizations they prefer, we can know what to look for as we search for them in countries around the investigation became public. We soon learned that there were 19 hijackers they were on and passports of which country they used to get to America. As more information about past hijackers was uncovered I decided to map the link of three strengths (and soy of comparable thickness). The strength of the tie will largely be governed by the amount of time, along with a couple of terrorists. Those who live together attending the same school or the same classes/training will have the strongest ties. Those who travel together and participate in meetings together, together, moderate strength and medium thickness. Finally, those who were recorded as having one trade together, or a casual encounter, and no other links, I classified as weak connections that were shown with the finest links on the net. The network was created iteratively as the data became available. Every day I checked the main news sources for updates. Figure 1 shows my computer screen during this process. The browser window shows the news, another window shows the connection between one of the hijackers and an accomplice. A link to this article located in Valdis Krebs is no longer available. No answer has been chosen. Please select a minimum of 0 replies (s) and a maximum of 2 responses (s). /main-polls/40-what-change-are-you-most-excited-about-inlinux-5-9?task-poll.vote-format-json Not a game-changer for me. (0 votes / 0%) I'm happy with the performance improvement it offers. (1 vote / 100%) id:140,title:Not a game-changer for me.,votes:0,type:x,order:1,pct:0,resources: I,id:141,title:I'm happy with the performance improvement it offers.,votes:1,type:2,pct:100, resources:#ff5b00.#4ac0f2.#b80028.#eef66c.#60bb22.#b96a9a.#62c2cc rgba (74,192,242.0 .7),rgba (184.0.40,0.7), rgba (98,194,204,0.7) 350 VIEW MORE POLLS This document looks at the display of secret networks using data, available from news sources on the World Wide Web. In particular, we are investigating the network surrounding the tragic events of September 11, 2001. Using publicly available data, we can map a part of the network focused on the 19 hijackers who died. This map gives us some insight into a terrorist organization, but it is incomplete. Proposals are offered for further work and research. Introducing content and collecting background prevention or prosecution? We were all shocked by the tragic events of 11 September 2001. In the continuous stream of news and analysis, one phrase - the terrorist network - was constantly repeated. Everyone talked about this concept and described it as amorphous, invisible, cheerful and scattered. But no one could create a visual effect. As a consultant and researcher in organizational networks, I intended to map this network of terrorist cells that have so affected our entire lives. My goal was to uncover network models that would reveal the preferred methods of alcountries around the world. I soon realized that I would be Project group, like legal, I have outlined hundreds of consulting assignments. Project teams, both in order to comply and in clandestine areas, face challenges, information to share information, funding for receipt and allocation of funds, timetables for their implementation and achievement of their goals. My data sources have been publicly published by information reported in major newspapers such as the New York Times, Wall Street Journal, Washington Post, and Los Angeles Times. As I followed the investigation, it was obvious that investigators would not release all relevant network/relationship information and in fact could be releasing misinformation to deceive the enemy. I soon realized that the data would not be as complete and accurate as I was used to cartography and organizational network by social media theorists who studied secret, secret or illegal networks. I found three excellent works that formed a working basis for the knowledge that I would use to continue this project. Malcolm Sparrow, 1991) examines the application of social media analysis to criminal network that I soon encountered. Incompleteness - the inevitability of missing nodes and connections, which investigators will not reveal. Fuzzy boundaries - difficulty in deciding who to include and who not to include. Dynamic - these networks are not static, they are constantly changing. Rather than looking at the presence or lack of communication between the two faces, Sparrow suggests looking at waxing and weakening the strength of the tie depending on the time and task. Wayne Baker and Robert Faulkner (Baker and Faulkner, 1993) offer to review archival data to obtain data on relationships. The data they used to analyze illegal price-fixing networks were mostly court documents and affidavits. These figures included reports of observed interpersonal relationships between different witnesses. Bonnie Erickson, 1981) shows the importance of reliable previous contacts for the effective functioning of a secret society. The 19 hijackers appeared to have been from a network that formed as they were completing terrorist training in Afghanistan. Many of them were school buddies many years ago, some lived together for years, and others were related. Deep trusted connections, which were not easily visible to outsiders, intertwined with this terrorist network together. Within a week of the attack, information about the investigation became public. We soon learned that there were 19 hijackers they were on and passports of which country they used to get to America. As more information about the investigation became public. We soon learned that there were 19 hijackers they were on and passports of which country they used to get to America. As more information about past hijackers they were on and passports of which country they used to get to America. the link (and the corresponding thickness). The strength of the tie will be largely adjusted by the sum of the same classes/training will have the strongest bond. Those who travel together and participate in meetings together will have moderate-strength and moderate thickness connections. Finally, those who were recorded as having one trade together, or a casual encounter, and no other links, I classified as weak connections that were shown with the finest links on the net. I started my mapping project after seeing several summaries of data on hijackers in major newspapers (Sydney Morning Herald, 2001; Washington Post, 2001). These data collections contained information about nodes/hijackers and their relationships/relationships. Two to six weeks after this event, it appears a new relationship or node has been added to the network on a daily basis. Several false stories have emerged about a camera in Detroit. These stories, originally reported with great fanfare, were proven false within one week. This made me very cautious about adding a link or node to the network. The network was created iteratively as the data became available. Every day I checked the main news sources for updates. Figure 1 shows my computer screen during this process. The browser window shows the news, another window shows network mapping and software measurement. I would add nodes and links to the map as I read the news accounts. Figure 1 shows the connection between one of the hijackers. I originally studied previous trusted contacts (Erickson, 1981) - these connections formed long ago through life and learning together. The network is self-organized (through a network layout algorithm) in the shape of a snake - as far as is appropriate, I thought. Many pairs of crew members were beyond the observability horizon (Friedkin, 1983) apart - many on the same flight were more than a stone's throw from each other. The strategy to keep cell members removed from each other and from other cells minimizes network damage if a cell member is captured or otherwise compromised. Osama bin Laden even described the plan in his infamous video, which was found in Afghanistan. In the transcript (U.S. Department of Defense, 2001) Osama bin Laden mentions: Those who were trained to fly did not know others. One group of people didn't know the other group. Network metrics for the network in Figure 2 are in Table 1. For a small network of less than 20 knots, we see a long average length of 4.75 steps. Several hijackers are divided into more than 6 steps. From this metric and bin Laden above we see that secret trading networks are effective for secrecy. Table 1: Small World Network Metrics Clustering Ratio Average Length Of Path Contacts 0.42 2.79 However, work needs to be done, plans must be met. How does a hidden network achieve its goals? Thanks to the judicious use of the transitions of paths (Watts, 1999) in the network. Meetings were held that linked remote parts of the network to coordinate tasks and report progress. Once the coordinate tasks and report progress. Once the coordination was completed, the retwork of hijackers took place in Las Vegas. Ties with this and other meetings are shown in gold in Figure 3. Six (6) labels have been temporarily added to the network to collaborate and coordinate. These labels have reduced the average journey time on the network comes together with these labels, all pilots are in a small clique - the ideal structure for effective coordination of tasks and activities. There is a constant dynamic between keeping the network hidden and actively using it to achieve goals (Baker and Faulkner, 1993). The 19 hijackers did not work alone. They had other accomplices who were not on the planes. These accomplices were the conductors of money, as well as providing the necessary skills and knowledge. Figure 4 shows the hijackers and their network district - their direct accomplices. Figure 4 After one month of investigation there was general knowledge that Mohamed Atta was the ring leader of this conspiracy. Again, bin Laden confirmed Atta's leadership role in the video network (U.S. Department of Defense, 2001). Looking at the chart it has most connections. In Table 2 we see Atta scoring the highest scores in all indicators of the centrality of the network - degrees show Atta's online activity. Proximity measures its ability to access others online and control what happens. Betweenness shows its control over the flow on the network - it plays the role of a broker in the network. These indicators support his status as a leader. Table 2: Hijacker Network Neighborhood Degrees Possibly False Identity Card Between Proximity 0.361 Mohamed Atta 0.587 Mohamed Atta 0.295 Marwan Al-Shehi 0.252 Essid Sami Ben Hemais 0.466 Marwan al-Shehi 0.213 Hani Khanjour 0.232 zakarias Moussaoui 0.445 Hani Khanjour 0.180 Essid Sami Ben Hemais 0... 154 Navaf Alhazmi 0.105 Jamal 0 bin al-Shibh 0.164 Ramzi bin al-Shibh 0.105 Jamal 0.105 0.401 Wail Alshehri 0.0.0.6026 115 Saeed Bahaji 0.023 Abdul Aziz Al-Omari 0.399 Ahmed Al Khaznawi 0.098 Khalid al-Mihdhar 0.022 Hamza Algamdi 0.017 ziad Jarrah 0.391 Agus Budiman 0.098 Kalid al-Mihdhar 0.028 Hamza Algamdi 0.017 ziad Jarrah 0.391 Agus Budiman 0.098 Khalid al-Mihdhar 0.028 Khalid al-Mihdhar 0.028 Khalid al-Mihdhar 0.028 Khalid al-Mihdhar 0.098 Khalid al-Mamun Darkazanli 0.098 Wail Alshehri 0.013 Salem Alhazmi 0.389 Mustafa Ahmed Al-Hisawi 0. 082 Abu Katada 0.012 Lotfi Raisi 0.389 Munir El Motassadek 0.082 Abu Katada 0.012 Said Algamdi 0.389 Munir El Motassadek 0.082 Abu Katada 0.012 Lotfi 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Opening a new conspirator or two, or uncovering new connections between existing nodes can change who comes out on top at the center of the measure. We should be wary of incomplete data. Social media analysis (SNA) is now more successful in the prevention of criminal activity. SNA has a long history of applying evidence in both fraud and criminal conspiracy cases. As was evident since 9/11, as soon as investigators knew who to look at, they quickly found connections among the hijackers, and also found several accomplices of the hijackers. We have to be careful with the guilt of the association. Communication with the terrorist does not prove the guilt, but it invites to the investigation. The big question remains - why was this attack not predicted and prevented? Everyone expects the intelligence community to uncover these secret plots and stop them before they are executed. Conspiracy is sometimes foiled and criminal networks are destroyed. But it's very difficult to do. How do you discover a network that focuses on secrecy and stealth? Hidden networks often do not behave like normal social networks (Baker and Faulkner, 1993). Conspirators do not form many connections outside their immediate cluster and often minimize the activation of existing connections within the network. Strong links between previous contacts, which often formed many years ago in schools and training camps, bind these cells. However, unlike conventional social networks, these strong connections remain mostly dormant and therefore hidden to outsiders. In a normal social network, strong connections reveal a cluster of network, strong connections can appear to be weak connections. The less active the network, the more it is to discover. However, the hidden network has a goal to achieve. Network members must balance the need for secrecy and stealth with the need for secre periods of activity, and increased connectivity, that they may be most vulnerable to opening up. There was no communication between members of the hijackers' network and outsiders. It was often reported that the hijackers' network and outsiders. It was often often one of them spoke from the whole group. Eliminating border links reduces the visibility of the network and the likelihood of network leaks. The se connections have made the network very stable. These ties were firmly in place as the hijackers made their way to America These strong connections were rarely active - they were mostly invisible during their time in America. It was only after the tragic event that intelligence from Germany and other countries revealed the clear center of this brutal network. The dense sublayer of previous confidants has made the network of hijackers secretive and resilient. While we don't know all the internal connections of the network. Concentrating both unique skills and connectivity in the same nodes makes it easier for the network to operate once it's opened. Peter Clerks (Klerks, 2001) is an excellent argument for targeting those nodes on the network that have unique skills. By removing the necessary skills from the project, we can do maximum damage to the mission and objectives of the project. It is possible that those who have unique skills will also have a unique connection online. Thanks to their unique human capital and high social capital, pilots have become the richest targets for removal from the network. Unfortunately, they were not detected in time. To paint an accurate picture of a hidden network, we need to identify tasks and trust between the conspirators. The same four relationships that we often card in many business organizations would tell us a lot about illegal organizations. This data is sometimes difficult to unearth with collaborating clients. With secret criminals, the task is enormous and may be impossible to complete. Table 3 below lists several project networks and possible sources of data on undercover employees. Table 3: Relationship Mapping Networks/Network Data Sources 1. Trust prior contact in family, district, school, club or organization. Public and court records. The data can only be accessed in the suspect's home. 2. Records of phone calls, emails, chats, instant messages, visits to the Site. Travel records. Human intelligence: observing meetings and attending general events. 3. Cash and bank account resources and money transfer records. The template and location of credit card use. Previous court records. Human intelligence: monitoring visits to alternative banking resources such as Hawala. 4. Website strategy and goals. Videos and encrypted discs delivered by courier. Travel records. Human intelligence: monitoring visits to alternative banking resources such as Hawala. 4. Website strategy and goals. Videos and encrypted discs delivered by courier. course, the general network researcher will not have access to many of these sources. The best sources of the researcher may be public litigation, which contains most of this data (Baker and Faulkner, 1993; U.S. Department of Justice, 2001). The best solution to breaking up the network may be to identify possible suspects, and then, by sampling a snowball, map their individual personal networks - to see who else they lead to and where they intersect. To find these suspects, it seems that the best method for different intelligence agencies is to aggregate their individual information into larger emerging maps. Sharing information and knowledge provides a better picture of the dangers you may be at risk In my search for data I came across many news accounts where one agency, or country, had data that others would find very useful. To win this fight against terrorism it seems that the good guys must build a better network of information and knowledge sharing than the bad guys (Ronfeldt and Arquilla, 2001). About the author, Valdis Krebs runs his own firm orgnet.com, which provides software and social media analysis services to the consulting community. He has been cartography and measuring human networks in adaptive organizations, industry clusters/ecosystems, and network vulnerabilities. Email

valdis@orgnet.com Confessions An earlier version of this article was originally published in Volume 24, number 3 (2001) of Connections, the official journal of the International Social Network Analysis and appears here with the kind permission of connections and international Network analysis of social networks. Author © 2001, INSNA and Valdis E. Krebs. Links by Wayne E. Baker and Robert R. Faulkner, 1993. Social Conspiracy Organization: Illegal Networks in heavy electrical equipment, American Sociological Review, Volume 58, number 6 (December), page 837-860. Bonnie Erickson, 1981. Secret societies and social structures, social forces, 60, No 1 (September), page 188-210. Linton C. Freeman, 1979. Central role in social networks: networks: Clarification, Social Networks, Volume 14, page 215-239. Noah Friedkin, 1983. Observation Horizons and Limits of Informal Control in Organizations, Social Forces, Volume 62, p. 54-77. Peter Clerks, 2001. The network paradigm applies to criminal organizations, Connections, Volume 24, number 3, page 53-65. Valdis E. Krebs, 2001. Network metric. A guide for InFlow 3.0 users. Valdis E. Krebs, 1996. Visualization of human networks, release 1.0 (February), page 1-25. David Ronfeldt and John Arkilla. 2001. Networks, Volume 6, number 3, 2002. Tom Stewart, 2001. Six Degrees of Mohamed Atta, Business 2.0 (December), page 63, and 1640,35253,FF.html, access March 25, 2002. Malcolm K. Sparrow, 1991. Application of network analysis to access on 125 March 2002. The indicfment against Mr. Moustani (September 22), in . U.S. Department of Defense. 2001. The transcript of bin Laden's video (13 December) gained access to access on 25 March 25, 2002. March 25, 2002. Networks, Pynamics and Small World Phenomenon, American Journal of Sociology, Volume 13, Number 2, p. 493-527. An editorial on the story, received on 20 March 2002; March 25, 2002. Image copyright ©2002, First Monday Uncloaking terrorist networks Valdis E. Krebs First Monday, Volume 7, Number 4 (April 2002), URL:

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