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**The Kronos Incident: The Kidnapping**

**Introduction**

The objective of this project it to bring law enforcement up to date on the current organization of the Protectors of Kronos and how that organization changed over time, as well as to characterize the events surrounding the kidnapping of GAStech employees.

**Research Question**

There were three main problems that needed solving in this project. First, it was important to provide a clear analysis of the structure of the Protectors of Kronos network. This included finding the leaders and extended network. It was also important to look at the structure of the organization and how it’s progressed over time. Finally, it was crucial to investigate the potential connections between the Protectors of Kronos and GAStech.

Second, a timeline was needed to know all the key events that happened across the dates of January 20th and 21st of 2014. This was key to bring law enforcement up to date, as well as to help answer the last question.

Finally, to help assist with the investigation, two possible explanations of why the GAStech employees went missing were presented. Each scenario needed to have sufficient evidence to seem plausible.

This project is useful to help investigate a kidnapping and to help speed up the process of finding the true cause of this crime. It could help to save lives, as well as help resolve this situation more quickly.

**Dataset**

The data provided consisted of numerous text-based files that dealt with the kidnapping of the GAStech employees. The two least helpful items provided were the map of Kronos and the PDF chart describing the GAStech organization.

The data files used the most include, an Excel file containing GAStech employee records, email headers within GAStech for the weeks leading up to the kidnapping, resumes and short biographies of some of the GAStech employees, historical reports of the Protectors of Kronos throughout its development, and many relevant current and historical news reports from multiple sources.

These data sources were collected to help find patterns and hints about the Protectors of Kronos as a group, their history, their ties and gripes with GAStech, the GAStech employees, their backgrounds, socialization patterns, and information about the events surrounding the kidnapping.

Using these sources, it is possible to make predictions and hypotheses about suspects and reasonings for the kidnappings. This will in turn help law enforcement complete their job quicker and more efficiently.

**Data Munging**

The data munging and wrangling procedures were by far the most intensive part of the project. While importing Excel based documents into a DataFrame was simple, the import process became more difficult when dealing with the longer form text and word documents.

Some of the difficulty came from deciding how to store the data, as some of the formatting seemed to be incompatible with a traditional DataFrame. The three regular DataFrames involved the employee record database, the resumes, and the email headers.

With the employee DataFrame, the only addition made was the creation of the Full Name. This was created to help make it easier to search throughout the different datasets. The employee resume DataFrame was a bit more complex to create. Using re and docx to access the word documents, the names were pulled from the file name and the contents were cleaned to just include the text. These features were appended to separate lists and then zipped into a DataFrame. The last simple DataFrame created was of the email headers. This was a similar process as the employee DataFrame. After the data was loaded, two columns were added to show the full names of who sent the email and the recipients of that email.

Using the email header DataFrame, the two columns containing just the names were extracted to a new DataFrame and then grouped by the name of the sender. This created one column with a name and the second column including a list of recipients they’ve emailed. It is important to note that this list contains duplicates. From the DataFrame, two lists were created to contain first the names, and then the list of recipients. Finally, a dictionary was created iterating through those lists to create a key and value style formatting.

With the historical documents being long-form text, it was important to pull out phrases rather than just keywords. Using re, docx, and the Rake function, the texts were individually searched for important phrases and keywords. They were then given a score to help show its relative importance compared to the other words and phrases. The two documents were saved in separate DataFrames to help isolate the data and more easily create visuals later.

Finally, the article data was stored in list form. This was more helpful than a DataFrame, though there might have been a better way. By opening the text file of each article included in the folder, they were then filtered to find the specific date that the kidnappings occurred. This made it easier to filter based on keywords, as well as keep the text in its entirety. This decision was made because the articles were all very short and context is important in an investigation. While the Rake function was helpful in pulling important phrases, there was some concern for information getting lost, as well as the process for storing that information.

The main challenges with this portion of the project were figuring out how to store the different types of data and then understanding the various text-based tools needed to pull and clean up the data.

**Data Exploration**

The initial data exploration conducted first looked at the two historical documents. First, after finding important phrases and words, two Word Clouds were created to highlight the words that stood out the most. When analyzing the visuals, it showed that the earlier days of the Protectors of Kronos were more focused on health, water, and grassroots efforts. They worked with the government and were more of a social movement. As time went on, the visual showed that the group turned into more of an activist political group. Protests and rallies were more prevalent and there was more of a militant atmosphere to the organization.

After looking into the historical documents, the next stage was to find any potential suspects. Based on a keyword search, lists of names were created, merged, and then sorted for duplicate values, as they’d be more likely to be a suspect if they were in various categories.

First, it was important to look at employees with the same last names as those associated with the Protectors of Kronos. Next, as members of the POK were more likely to be from Kronos, all employees born in Kronos were added to a list. A key date in the Protectors of Kronos history was the stepping down of the first leader, Henk Bodrogi. Anyone starting their employment in or after 2009 were more suspicious and more likely to be plants in the organization. Finally, the employees working in security were more likely to have some sort of control in this operation.

After making the lists based on each suspicious category, all the lists were combined and only those with multiple occurrences in the list stayed. This presented the final suspect list which contained thirteen names.

Based on the final suspect list, the next logical step was to check the email headers sent from the suspect list. Though most seemed normal and unrelated to the events that occurred on January 20th and 21st, a few stood out to be somewhat eye-catching.

Finally, like the historical reports, Word Clouds were made for each resume of the suspects. This gave a bit of insight into the kinds of interests and skills the potential criminals had upon joining the GAStech family.

**Data Analysis**

Overall, the historical document data was able to give a good picture of the overall structure of the Protectors of Kronos, the leaders, important members, organizational changes, and clues to potential connections with GAStech. Along with the initial visual exploration, the phrases were sorted to only include those with scores higher than 3. This made the list shorter and cut out the less important single word entries.

The connections were then furthered by analysis of suspicious characteristics based on phrases, as well as the email interactions of all suspects. Based on the information collected from the first part of the analysis and the exploratory keyword search, the next logical step was to create a matrix of count interaction between employees. To build this matrix, the initial email interaction dictionary was used, and a count of each column was added until the full row was complete. After each row was finalized, it was added to the matrix until every row was added.

Finally, the key events by keyword search in the articles were able to present an accurate timeline. Keywords such as ‘kidnapping’, ‘jet’, ‘fire alarm’, ‘helicopter’, and ‘GAStech’ were used to find articles related during the two days in question. Though there was a bit of a manual process to read through the selected articles, it seemed to be more helpful to get all the information and context, rather than to pick out key phrases and miss information that might not seem as pertinent. This analysis was helpful in determining the entire timeline for the two days, as well as a small list of confirmed missing people.

**Data Evaluation and Visualization**

The entire evaluation and visualization process might seem repetitive; however, it was helpful to go over the information a second time and determine certain conclusions. Additionally, a few more visualizations were added to help evaluate the data analysis created.

First, to find the structure of the Protectors of Kronos, the key phrases for the ten-year historical report were printed out. The higher ranked phrases were located closer to the top of the list and the data was cut off to exclude unimportant phrases and keywords. From this, it was easy to pick out important names, their titles, and the beginnings of the organization. The Word Cloud created helped visualize the overall vibe of the group at the start.

Next, the same process was done to the five-year historical report. This helped to complete the list of important names, as well as the progression of the organization as the years passed. The Word Cloud, again, helped visualize the changes and new focuses of POK in the later and more recent years.

Based on the information collected from the historical data, keywords were easy to choose to evaluate the GAStech employees and their potential ties to the Protectors of Kronos. The members with similar last names were the first and most obvious choice to investigate. While it’s not always the case, many times associations last through family ties. As the Protectors of Kronos are protecting their own land, it made sense to check for the employees who were born in Kronos. From the historical reports, it was discovered that after the health minister passed in 2009, the first leader of the POK stepped down and was followed by Elian Karel. At this time, recruiting was heavily enforced, and potential plants were placed in helpful positions of power. Therefore, looking for employees whose start dates are in 2009 or after would be more helpful. And finally, as a big part of kidnapping depends on being in the right place at the right time, the security team is a big giveaway into potential suspects. After combining the list and searching for names occurring more than once, the final list is created.

The next step is to look at the interaction frequency between all the employees. Using the matrix created, a heatmap was shown highlighting stronger socialization patterns between the employees. As there were many employees, it was a bit difficult to determine anything from this visual. Instead, a second heatmap was made to highlight the interactions between the suspects. This was a much more informative visual and was easy to draw ties between the employees.

Additionally, a component of interest was the job titles of each suspect. After looking at this information, it was clear that this group of individuals could pull off a kidnapping together based on their expertise and department accessibilities.

After looking at the interactions, the suspicious email subject lines were a helpful next clue. There were five subject lines from the suspects that raised some questions regarding patrol schedules, the preparations for the VIP visit, interaction with reporters, and an email regarding the ‘Defenders of Kronos’.

Finally, to create the timeline, a few keywords were searched within the article lists created. The output gave each article that contained the keyword. As mentioned before, this was a bit of a manual process, but the decision to keep all the information in, due to the size of the articles, paid off well. This information also helped verify missing personnel, as well as give an idea of potential other missing persons.

At the end of this analysis and evaluation, it was easier to draw conclusions and answer the important questions needed to help the police with their investigation.

**POK Structure**

When the Protectors of Kronos started, it was a small grassroots program fighting for stricter environmental laws. The leader, Henk Bodrogi, worked with the government to bring this social movement to light and to help improve the country they loved. The organization gained more popularity when Juliana Vann was killed due to toxicity pollution. This event was tied to GAStech polluting the river.

When Cesare Nespola, the health minister, died, Henk Bodrogi stepped down and Elian Karel was appointed. POK started to recruit more heavily particularly young men. The Protectors of Kronos were still very peaceful but started to get involved with activism and protests.

When Elian Karel died, Silvia Marek took over. The organization became more militant and criminal. New members were radicalized, and the group became less peaceful.

Some important members that stood out within the POK include Isia Vann and Valentine Mies. The potential connections between the POK and GAStech lie in the hands of Isia Vann, Cornelia Lais, Emile Arpa, Varro Awelon, Inga Ferro, Albina Hafon, Cecilia Morluniau, Hideki Cocinaro, Minke Mies, Henk Mies, Loreto Bodrogi, Edvard Vann, and Henne Osvaldo.

Based on email interactions, most of the suspects could have been working together to conspire this kidnapping. With their job and expertise, this would have been an easy operation to execute for the group.

**Timeline**

On the 20th of January at 10:00 AM, a fire alarm went off in the GAStech building. Shortly after, a helicopter leaves during the evacuation. The executives are unreachable currently, though it is typical security protocol for them to make their way to a safe location, like the capitol building. Around this time, the Abila fire department arrives and clears the potential threats.

A GAStech employee informs the authorities that the fire alarm was pulled in response to a bomb threat. Additionally, several men dressed in black were spotted before the alarm was pulled.

Around 5:48 PM, two private jets with a total of 14-16 passengers between the two took off at Abila Airport. One was headed for Rome and was found to be unassociated. The others destination was unknown at that time.

At 7:00 PM, Edvard Vann was released from his 6-hour questioning. He indicated that POK might be involved but denied his own connections.

At 8:00 PM, the police confirmed that a suspected 14 GAStech employees were kidnapped.

On the 21st of January at 9:00 AM, the police confirm that 10 GAStech employees were kidnapped and that the CEO, Sten Sanjorge Jr., was safe in his home country of Tethys.

At 12:45 PM, the Protectors of Kronos took responsibility for the kidnapping and demanded a $20 Million ransom from Sanjorge Jr.

**Possible Explanations**

After Juliana Vann’s death, while the Protectors of Kronos gained popularity, not much progress was made policy wise. GAStech was never held accountable for their actions, and something needed to be done. Isia Vann, a known POK member and relative to Juliana Vann, had been working for GAStech for many years. After 2009, when Elian Karel took over, many POK members got jobs within GAStech to gain control within the company. The suspects in the case were crutial employees, involved in perimeter control, site control, janitors, truck drivers, or the assistant to the security group manager. This meant they had knowledge of the security, facilities, patrol schedules, and transportation. Many of their internal emails were related to these topics. On January 20th at 10:00 AM, the fire alarm was pulled to create chaos within the building. The four executives, that were in a meeting, thought they were being escorted to the capitol building via helicopter, but instead were double-crossed by one of the suspects and taken to an unknown location. The remaining six employees were taken by the group of men dressed in black and put into a truck. The driver then left and drove them to an unknown location – potentially the same location as the executives. All suspects worked together to ensure things went according to plan. The employees taken were all born in Tethys, the ‘invading country’ as the Kronos protectors see it. Conveniently, they let the CEO, Sten Sanjorge Jr., escape to his own home. This allowed the Protectors of Kronos to claim responsibility, scare him, and demand a $20 Million ransom for environmental damages. At last, GAStech would be held accountable.

Another possible explanation could be a win-win double-agent plot. As shown in both the articles and the historical documents, many of the original members were concerned about the direction the Protectors of Kronos were taking. Isia Vann, while being a longtime member, felt this way. On the other hand, GAStech had a large activism group after them, hurting their image and haunting them for their past mistakes. Working together, the CEO and Isia, along with other security personnel, devised a plan to get back control of the POK and help GAStech improve the way they were seen in the public eye. Similarly, the 10 ‘kidnapped’ employees were taking via helicopter and truck to a safe but unknown location. ‘Conveniently’, the CEO made an escape. Isia, working with POK, convinced Silvia Marek, who lost control of the organization, to take responsibility for the kidnapping and demand a large ransom. This would help control the POK members who were radicalized, as the police would put a firmer grasp on the unmanageable POK members. Additionally, this would help ease the reputation of GAStech and allow them to pay for their past mistakes.

**Conclusion**

If this project was sent to the police to help with their investigation, the first potential explanation would be the more logical and likely. Overall, this project was difficult to navigate but fun to investigate.