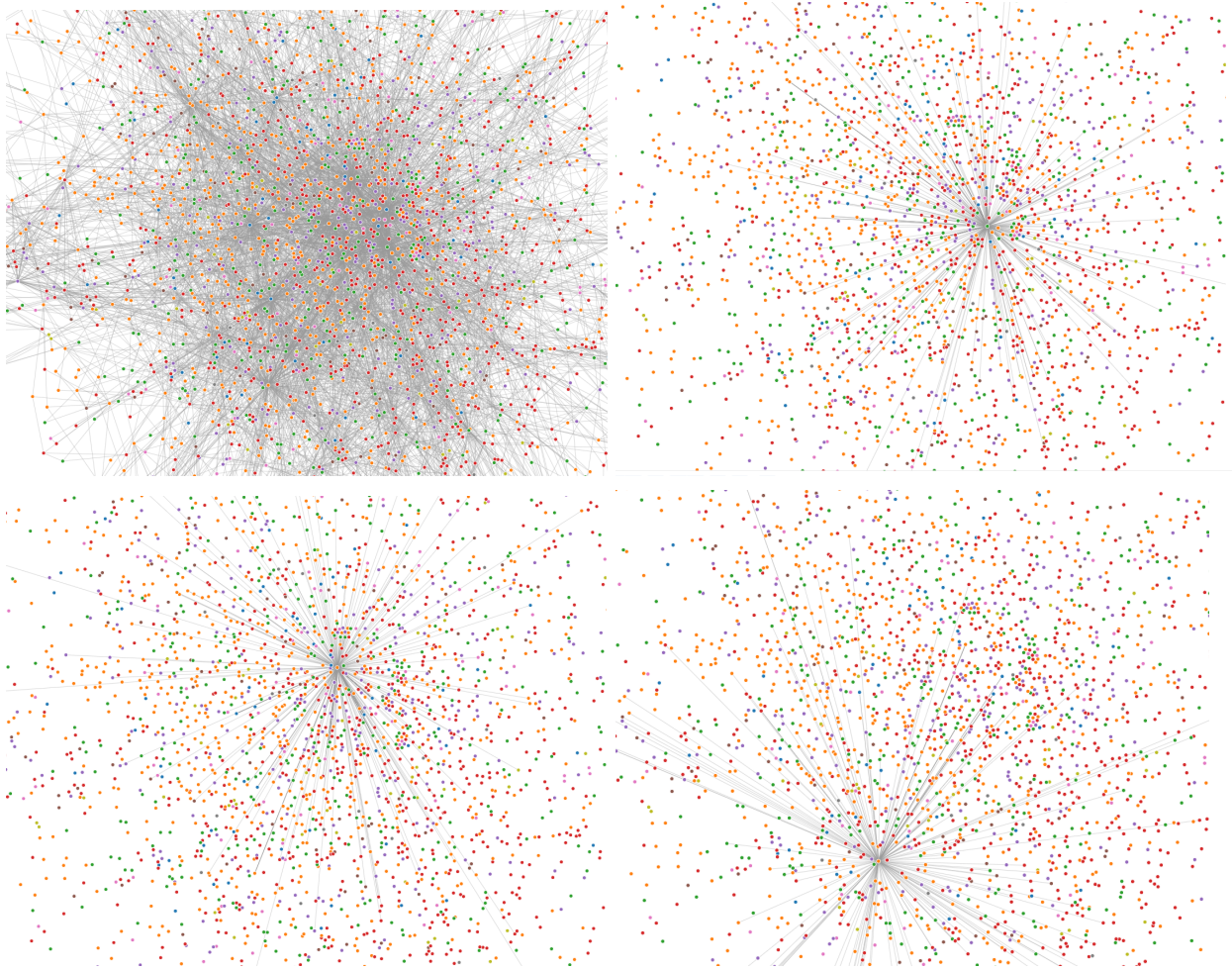


Visualization Assignment 1

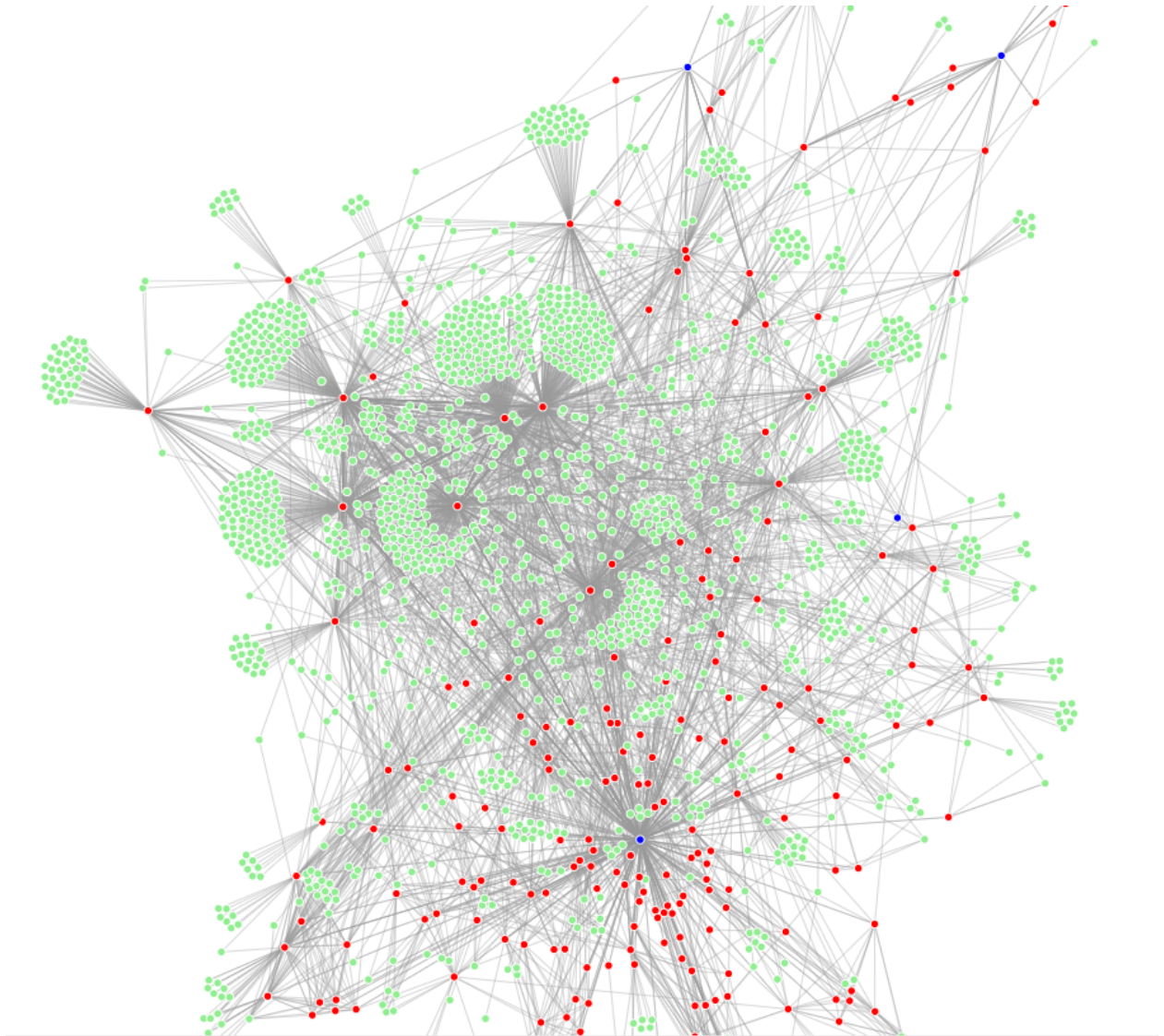


Images clockwise - entire graph, Ocean Fisheries LLC, 979893388, 341411

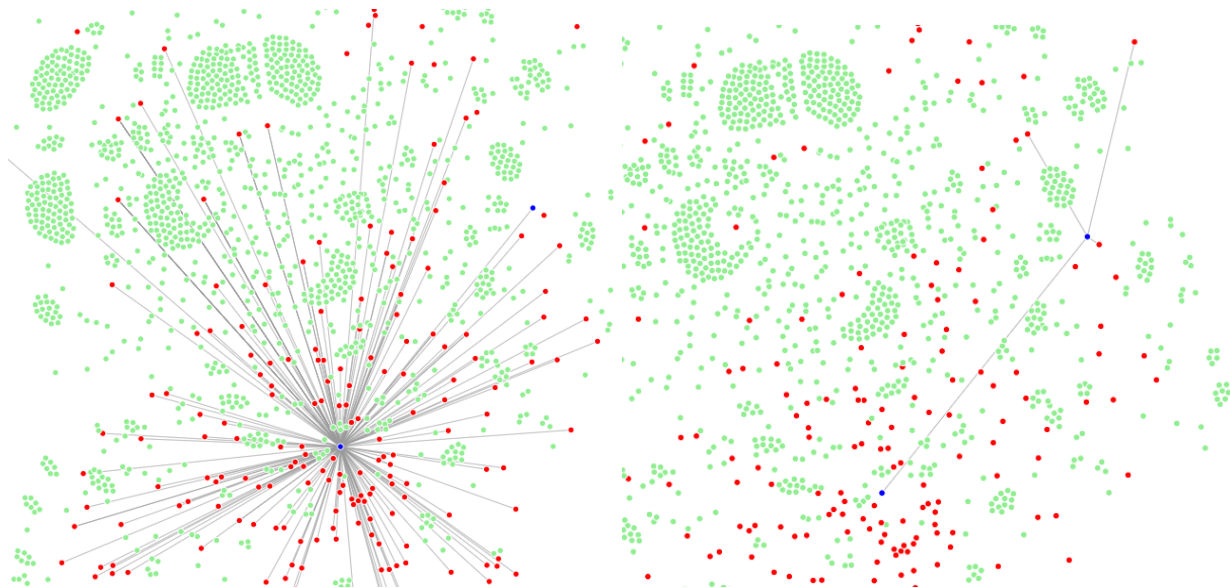
The first image shows us the whole network graph. It's like a map that helps us see how different entities, like organizations, people, and businesses, are connected. We can see who is talking to who and how much they interact. This big picture can help us understand the overall network.

The next few images focus on particular nodes, namely 'Ocean Fisheries LLC', '979893388', and '341411'. These nodes have a lot of connections. By zooming in and hovering over these nodes, we can see more about their specific links. This close-up view helps us spot any unusual patterns or behaviors which could be signs of illegal activities.

So, these visuals give us two ways to look at the data. We get an overview with the big network graph, and then we can dive into the details with the focused node images. Both views are helpful in their own way, and together they help us to better understand the network and spot any potential issues.



Graph showing suspected entities and its 2nd order links





Graph showing 979893388 & Oceanfront Oasis Inc Carriers node with its adjoining nodes

The second visualization we're looking at narrows down the focus to our suspected entities and their second-order connections. This graph allows us to observe the suspected entities, depicted in blue, and their immediate and second-order connections, shown in red and light green respectively.

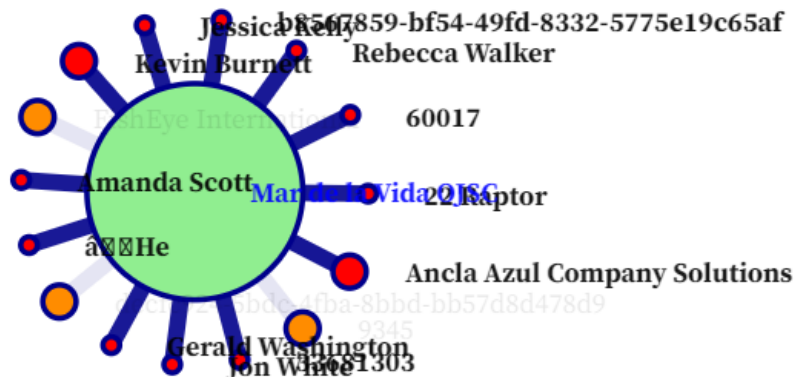
For the suspected entity '979893388', it's immediately noticeable that its associated nodes, or connections, are particularly influential, given their extensive further connections. Many of these immediate connections are notable organizations like 'Ocean Fisheries LLC', 'Faroe Island Shrimp Shark', and 'Seaspray Wave SRL Solutions'. Given these associations with reputable entities, it's reasonable to infer that '979893388' is engaged in legitimate fishing business. The risk of reputation damage and loss of connections with influential entities implies a lower probability of illegal fishing activities.

In the case of 'Oceanfront Oasis Inc Carriers', this entity has a connection with '979893388' and possesses a relatively smaller and seemingly authentic network of connections. This lends credence to the idea that it's likely operating within the confines of the law.

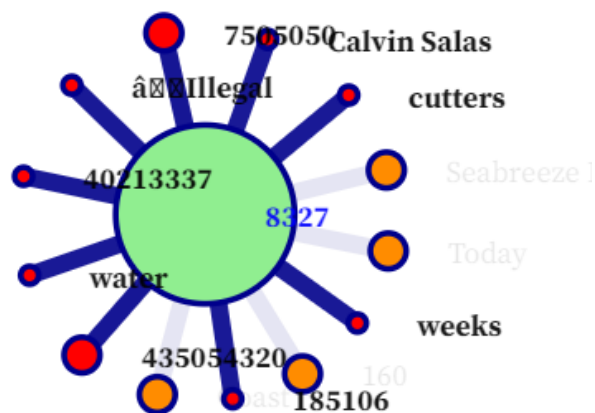
However, when we consider 'Mar De La Vida OJSC' & '8327', the picture is less clear. Their immediate connections link to further entities, creating a more complex network. With this level of complexity and interconnectivity, it's challenging to draw concrete conclusions about their involvement in potential illicit activities solely based on this diagram. Further investigation is required for a definitive assessment.

entity	firstOrderDegree	secondOrderD...
other	integer	integer
all values: "other"		
0 Mar de la Vida OJSC	16	275
1 979,893,388	178	5,060
2 Oceanfront Oasis Inc Ca	5	318
3 8,327	14	374

This table shows the first and second order degrees of the suspected entities, as discussed earlier the 979893388 entity has quite a high number of second order linkages, this makes us to think that it might not be illegal fishing entity



Detailed view of suspected entity Mar De La Vida OJSC and its neighbors



Detailed view of 8327 suspected entity and its neighbors

Our third visualization gives us a closer look at the suspected entities and their immediate neighbors. Using a dropdown menu, we can select an entity of interest and examine its connections in detail. The size of the central node corresponds to the degree of connections, providing an indication of its influence or reach within the network.

By clicking on a suspected node, it turns blue, with outgoing links leading to red nodes and incoming links from orange nodes. This color-coding facilitates a more intuitive understanding of the interactions and associations of the selected entity.

Through this visualization, we gain insight into 'Mar De La Vida OJSC' and '8327'. Specifically, 'Mar De La Vida OJSC' is linked to individual persons, who are possibly partners or owners. These links, as discussed earlier, extend to reputable entities, reducing the likelihood of involvement in illicit activities.

However, '8327' paints a different picture. Its connected nodes are largely impersonal, represented by random numbers or unfamiliar names. Notably, there's a connection to a potentially illicit entity, increasing the suspicion around '8327'. Thus, of all the entities we've examined, '8327' seems to be the most likely candidate for involvement in illegal fishing activities.

```
weights
entity: "8327"
minWeight: 0.1186
maxWeight: 0.90779465
avgWeight: 0.8176168473333335
```

Our analysis extends further to examine the weight of the links associated with the suspected entity '8327'. In network analysis, link weight can often be interpreted as the strength or intensity of the connection between nodes.

For '8327', we observe a significant variation in the link weights, ranging from a minimum of 0.1186 to a maximum of 0.90779465. Such a wide spread could be an indicator of potential illicit activities. Generally, in a legal, well-established business network, links between entities are strong and consistent, reflecting stable business relationships and interactions.

However, the variability observed in '8327's' link weights hints at inconsistency in its connections. This could suggest that '8327' is trying to maintain both strong and weak links within its network, perhaps as a strategy to balance between its illicit activities and maintaining a semblance of legitimacy. This adds another layer of suspicion to '8327' and bolsters our earlier conclusions about its likely involvement in illegal fishing activities.

In conclusion, by utilizing visual analytics, we're able to assess the relationships and connections of suspected entities. Each visualization brings us a step closer to understanding the context around these entities. We've found that '979893388' and 'Oceanfront Oasis Inc

Carriers' seem to operate within a network of reputable entities, suggesting legitimate business activities. 'Mar De La Vida OJSC', though connected to a wider network, also appears to maintain a profile consistent with legal operations. However, '8327' stands out due to its links to impersonal entities and a potential illicit connection, pointing to a higher likelihood of illegal fishing involvement. It's crucial to note, though, that these conclusions are based on visual analytics and require further investigation for definitive evidence.