MOBINT – an advanced platform supporting integration and analysis of mobile data coming from various sources

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Who we are?

Centre of Security Technologies
Faculty of Computer Science

Since 2007 development of various R&D projects mostly for law enforcement

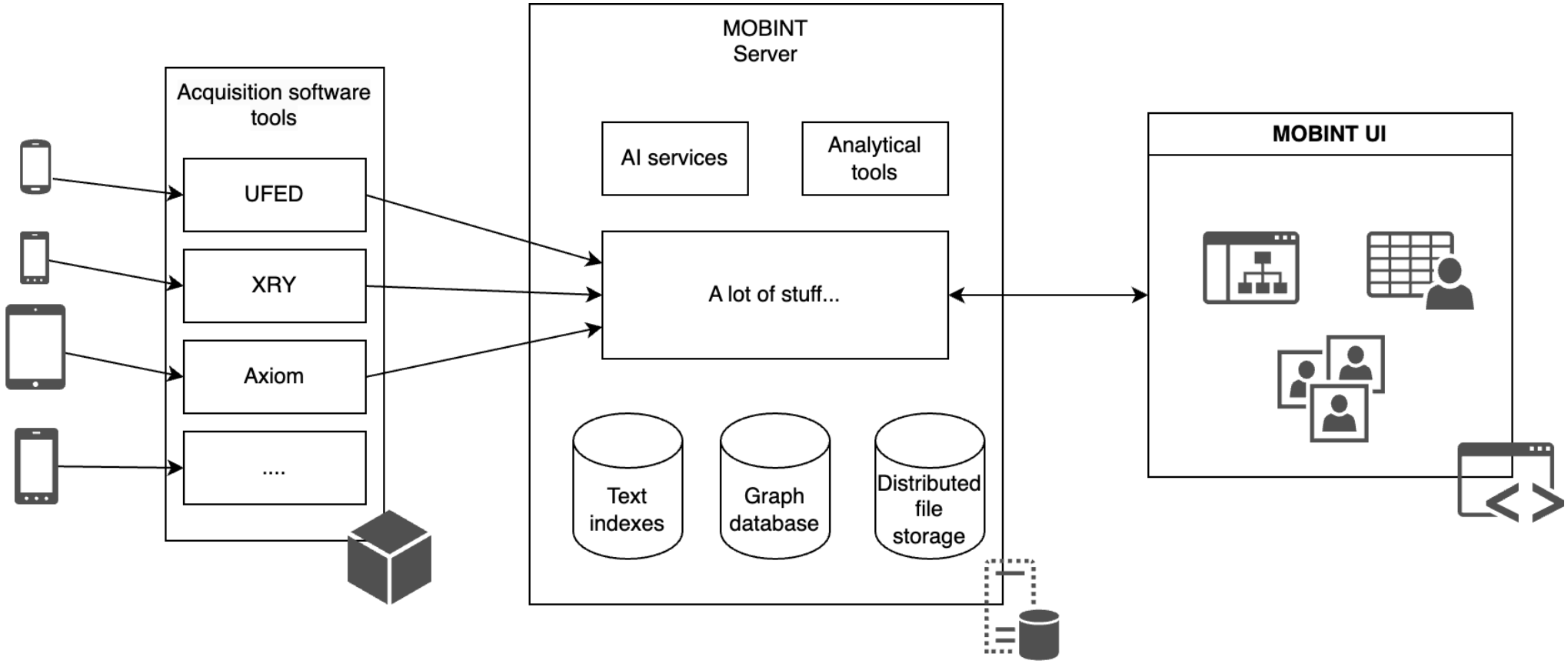
Areas of research:

- Data modelling and analysis
- Artificial intelligence
- OSINT
- Digital forensic

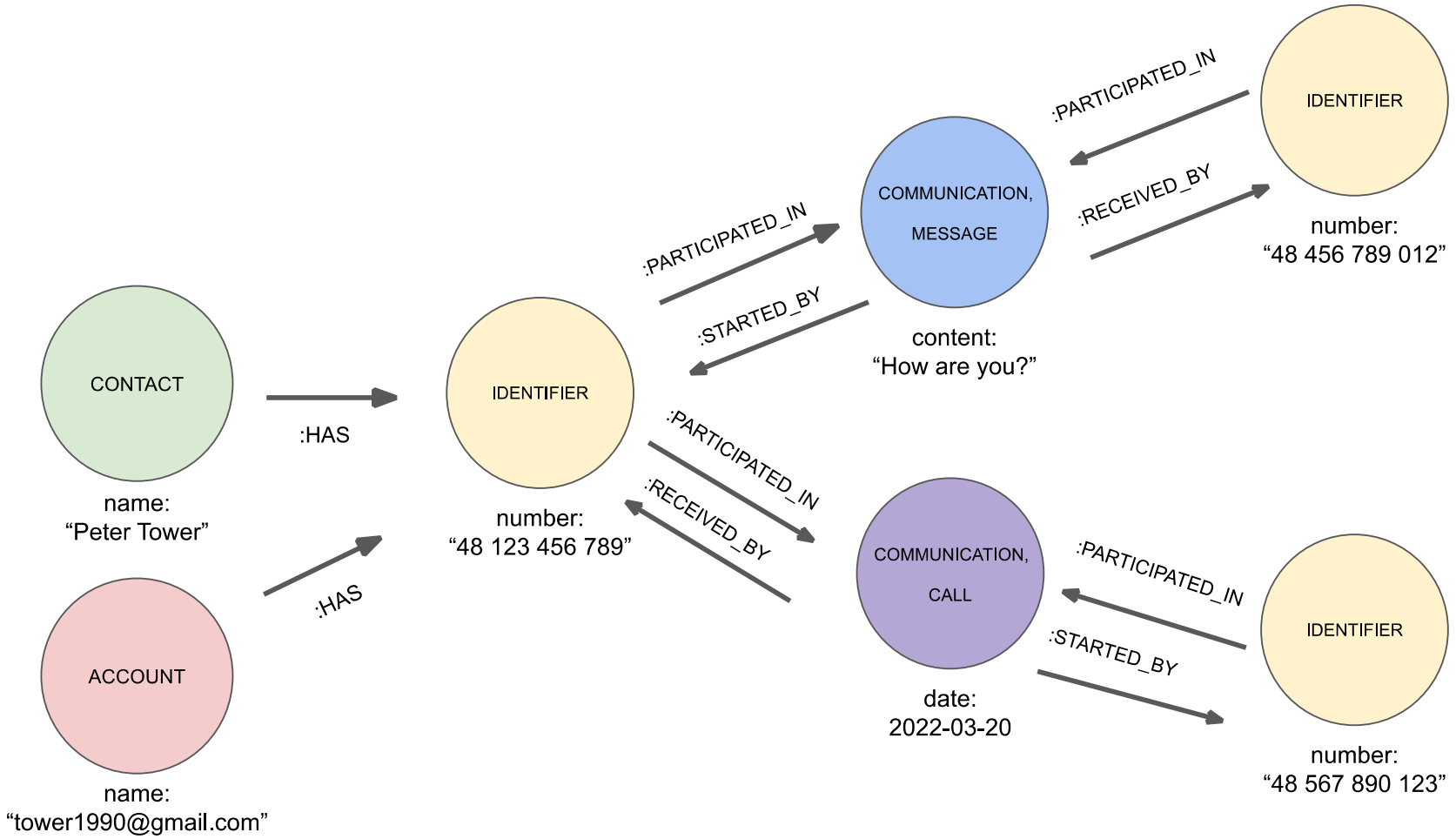
Key goals of MOBINT platform

- Integrate data coming from many devices (using heuristics to ”connect” information between various data sources)
- Combine and „understand” information from various applications and devices (to see structural, time-based or geographical corelations)
- Extract and search data using dedicated data sources and AI tools

MOBINT – the concept



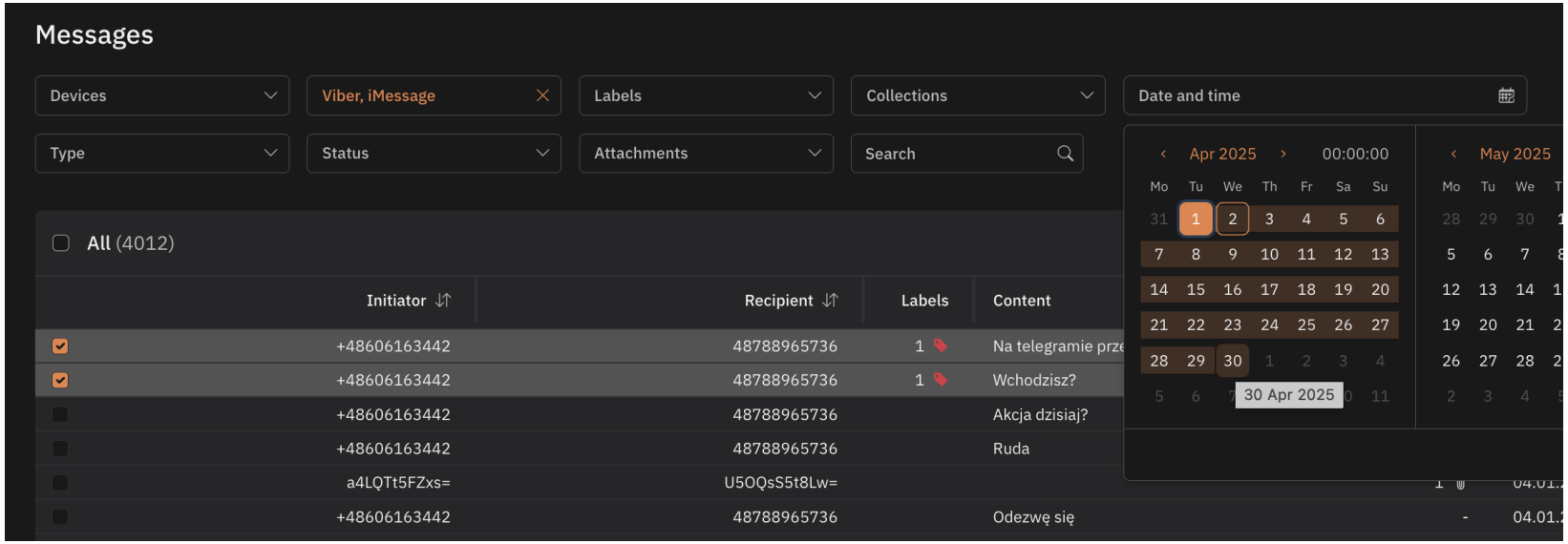
Model for mobile communication



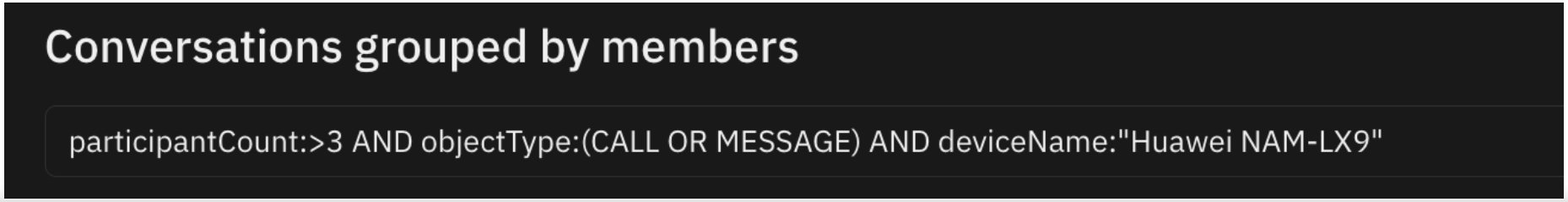
Data filtering

- Simple MFU filters
- Advanced queries with auto-suggestions

Convenient filters adjusted to model communication model



Group calls or messages from a particular device



An example of AI tools – named entity recognition

Max Verstappen says it "was not a mistake" that he liked a comment on social media describing Red Bull's decision to demote Liam Lawson as "a panic move" and "close to bullying".

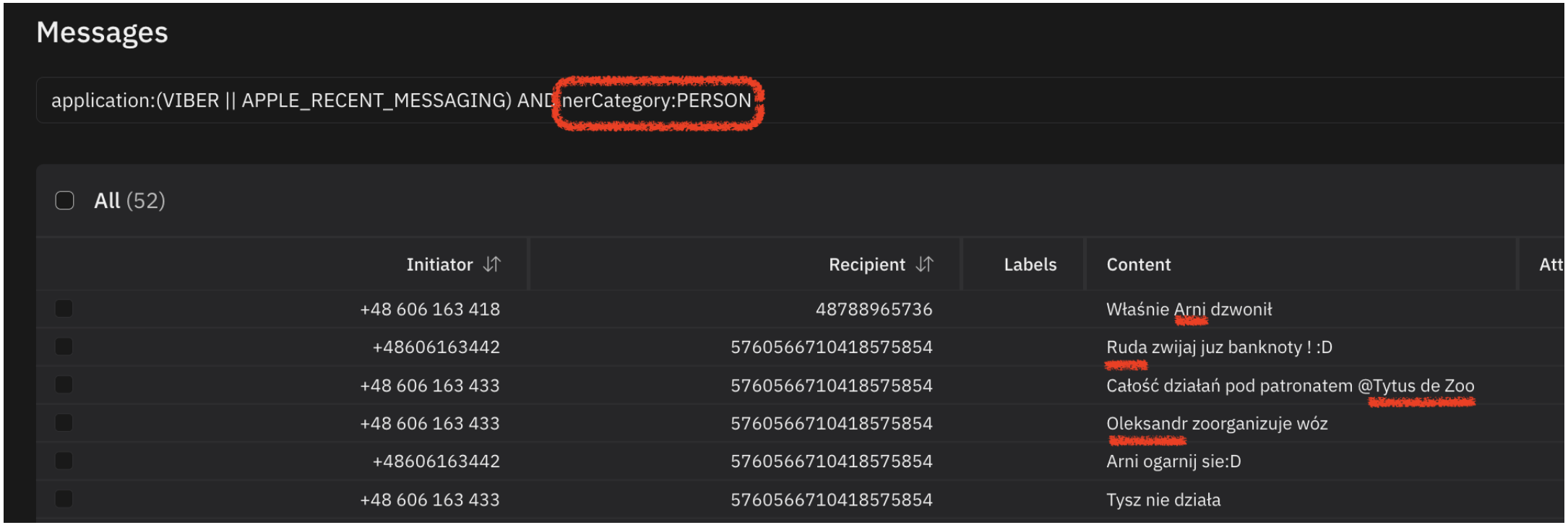
The remarks were made by Dutch former Formula 1 driver Giedo van der Garde, a friend of the Verstappen family, on Instagram, external after Red Bull moved New Zealander Lawson down to their second team Racing Bulls in a swap with Japan's Yuki Tsunoda just two races into the season.

Red Bull's Verstappen said: "I liked the comment, the text, so I guess that speaks for itself, right?"

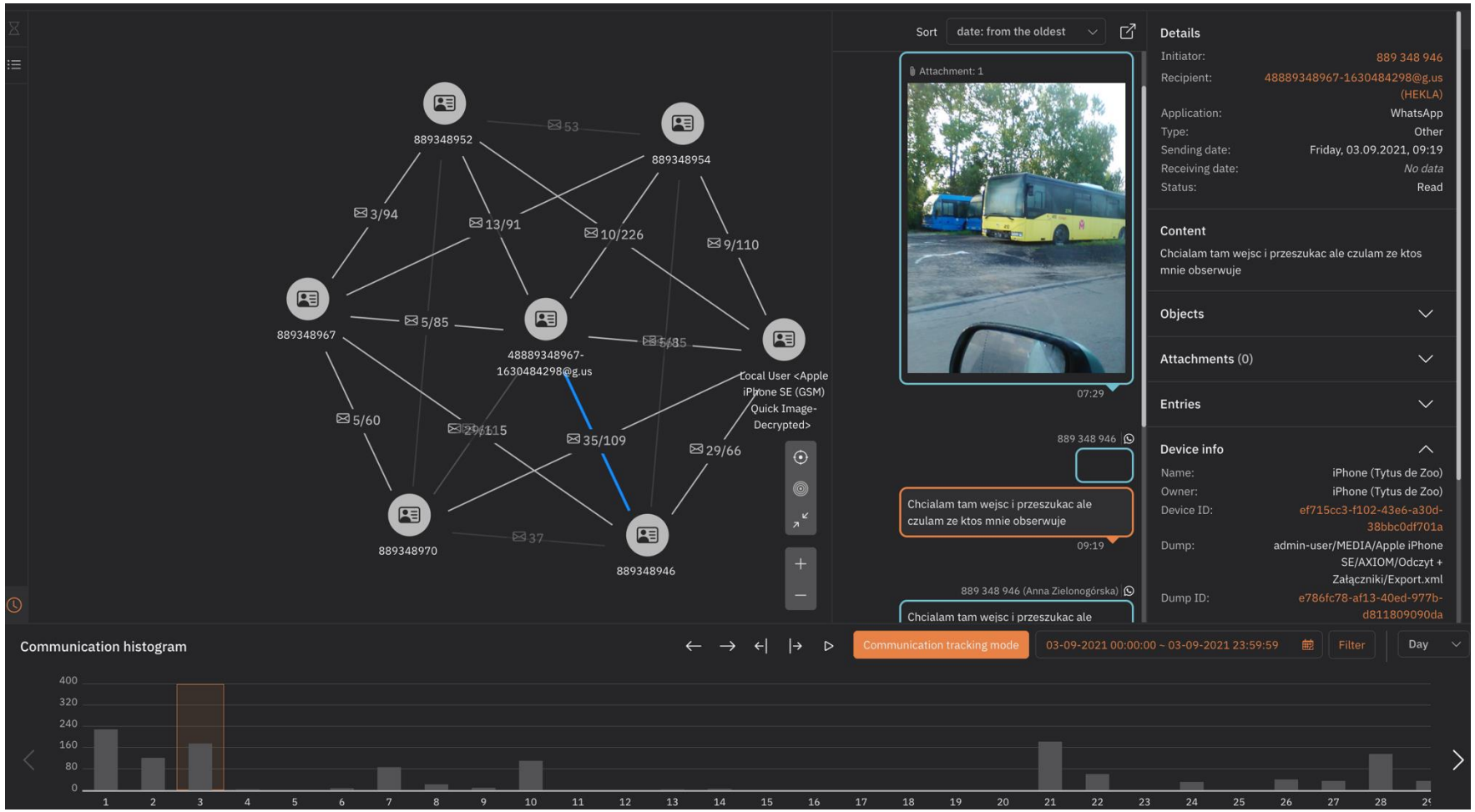
- Country (2)
  - China (1)
  - Japan (1)
- City (1)
  - Suzuka (1)
- Organization (6)
  - Red Bull (8)
  - Racing Bulls (3)
  - BBC (2)
  - BBC Radio (1)
  - Ferrari (1)
  - Instagram (1)
- Person (15)
  - Lawson (10)
  - Tsunoda (6)
  - Verstappen (5)
  - Liam (2)
  - Max (1)
  - Max Verstappen (1)
  - Nico Hulkenberg (1)

Utilizing NLP AI tools to extract data

Example of named-entity recognition applied for text messages



Graph visualisation and exploration



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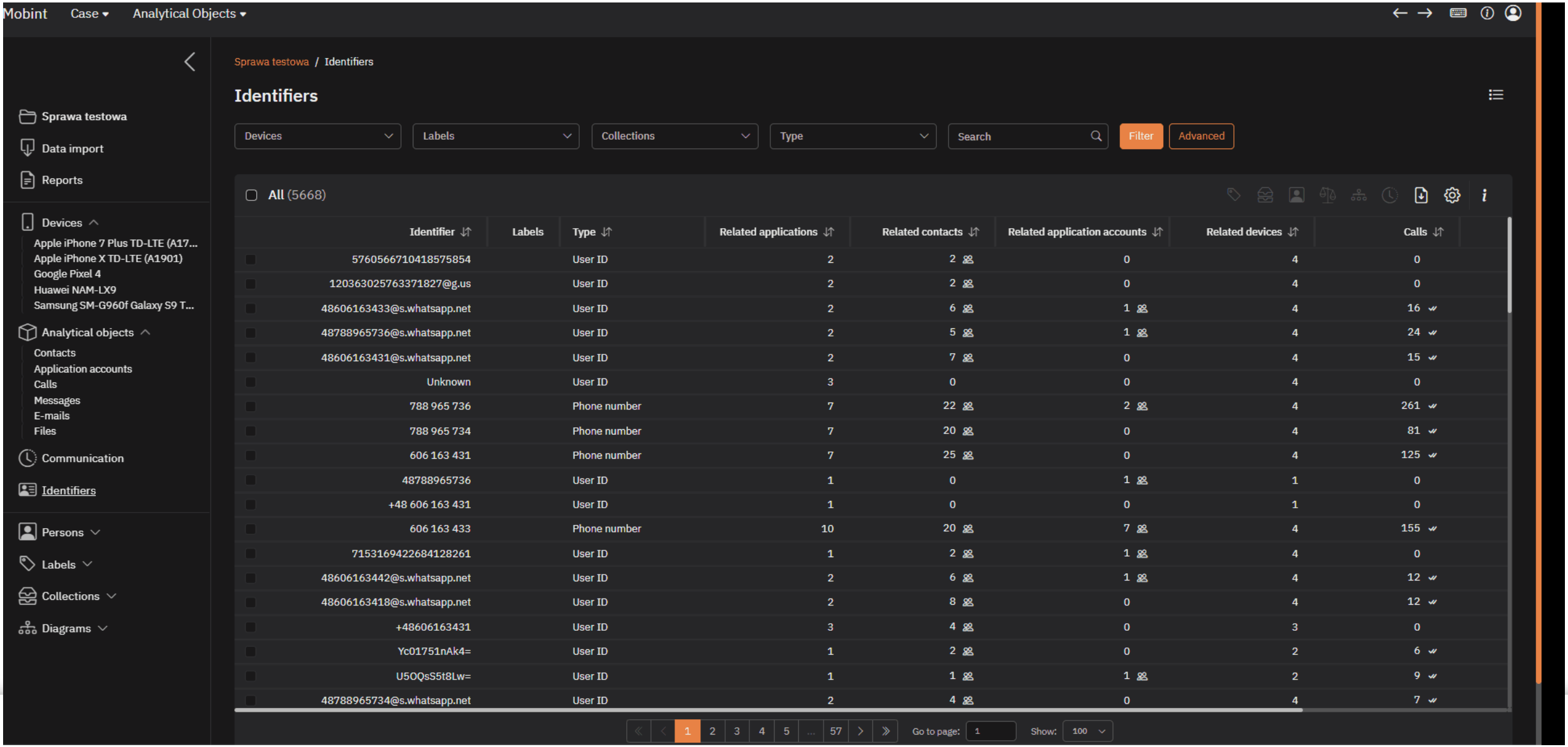
How it works?



Where we are?
Where we go?

- Work in progress
  - any contacts and ideas appreciated
- Future work
  - extraction data from various document types
  - extending AI tools especially to analyse multimedia files and text extraction
  - applying social network analysis metrics to extract actors of communication (based on graph model)

Thank you for your attention!

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