



Building an antenna database

Data preparation, analysis and information extraction



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Outline

- Scenario description
 - Personas
 - Specific and generalized queries
- Dataset generation procedure
- Cleaning procedure
 - Merging & cleaning
 - Relevant key points
- Ontology proposal
- Conclusions

Scenario description: Personas

- Expert Engineer
 - Specific attributes required
- Student Engineer
 - Few specific features
- Cable Guy
 - *“I only need an antenna to watch TV...”*



Scenario: Specific Queries - 1

| Persona | Real world action by Persona | System action |
|-----------------|--|---|
| Expert engineer | Give me all the antennas that work at 850 MHz. | A page with a list of antennas working at 850 MHz. |
| Expert engineer | Give me all the antennas that have a maximum dimension of 85 mm. | A page with a list of antennas having a maximum dimension of 85 mm. |
| Expert engineer | Give me all the antennas that have 8 dB of gain. | A page with a list of antennas having a gain of 8 dB. |
| Expert engineer | Give me all the antennas that support GSM protocol. | A page with a list of antennas supporting GSM protocol. |
| Expert engineer | Give me all the antennas that have right hand circular polarization. | A page with a list of antennas having right hand circular polarization. |

Scenario: Specific Queries - 2

| Persona | Real world action by Persona | System action |
|------------------|--|---|
| Student engineer | Give me all the antennas that work at 850 MHz. | A page with a list of antennas working at 850 MHz. |
| Student engineer | Give me all the antennas that support 10 W power. | A page with a list of antennas supporting 10 W power. |
| Student engineer | Give me all the antennas that have a maximum dimension of 85 mm. | A page with a list of antennas having a maximum dimension of 85 mm. |

Scenario: Specific Queries - 3

| Persona | Real world action by Persona | System action |
|----------------|---|--|
| Cable guy | Give me all the antennas that have a TV-SAT application. | A page with a list of antennas having a TV-SAT application. |
| Cable guy | Give me all the antennas that have SMA Male connector. | A page with a list of antennas having SMA Male connector. |
| Cable guy | Give me all the antennas that have a price range from 10 euros to 50 euros. | A page with a list of antennas having a price range from 10 euros to 50 euros. |

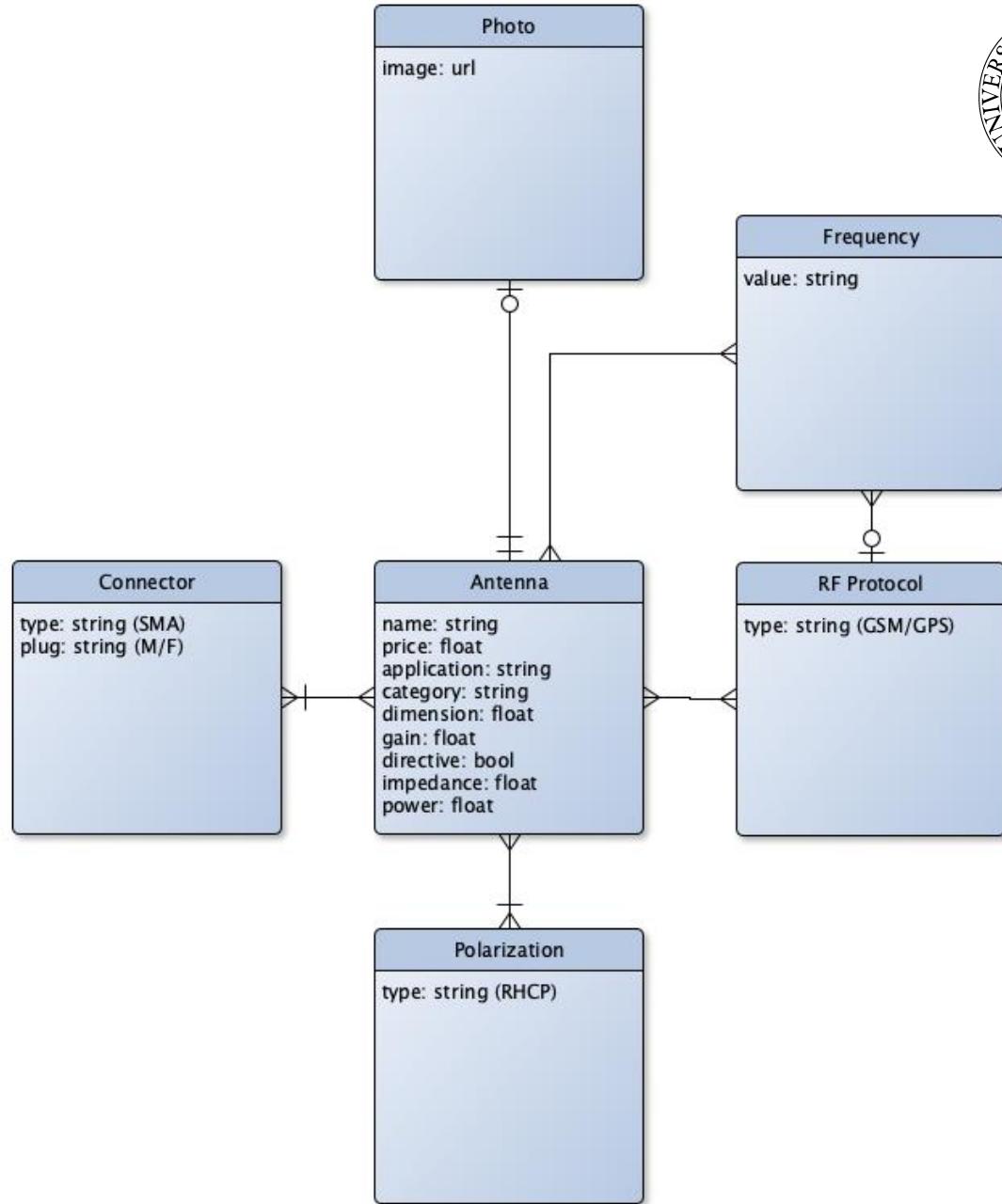
Scenario: Generalized Queries

- **Starting point:** specific action queries
- **Procedure:** complete the list using our knowledge for the entire possible scenario
- **Ending point:** list of generalized queries



Dataset Generation - 1

The *Entity-Relationship* diagram generated checking e-commerce website

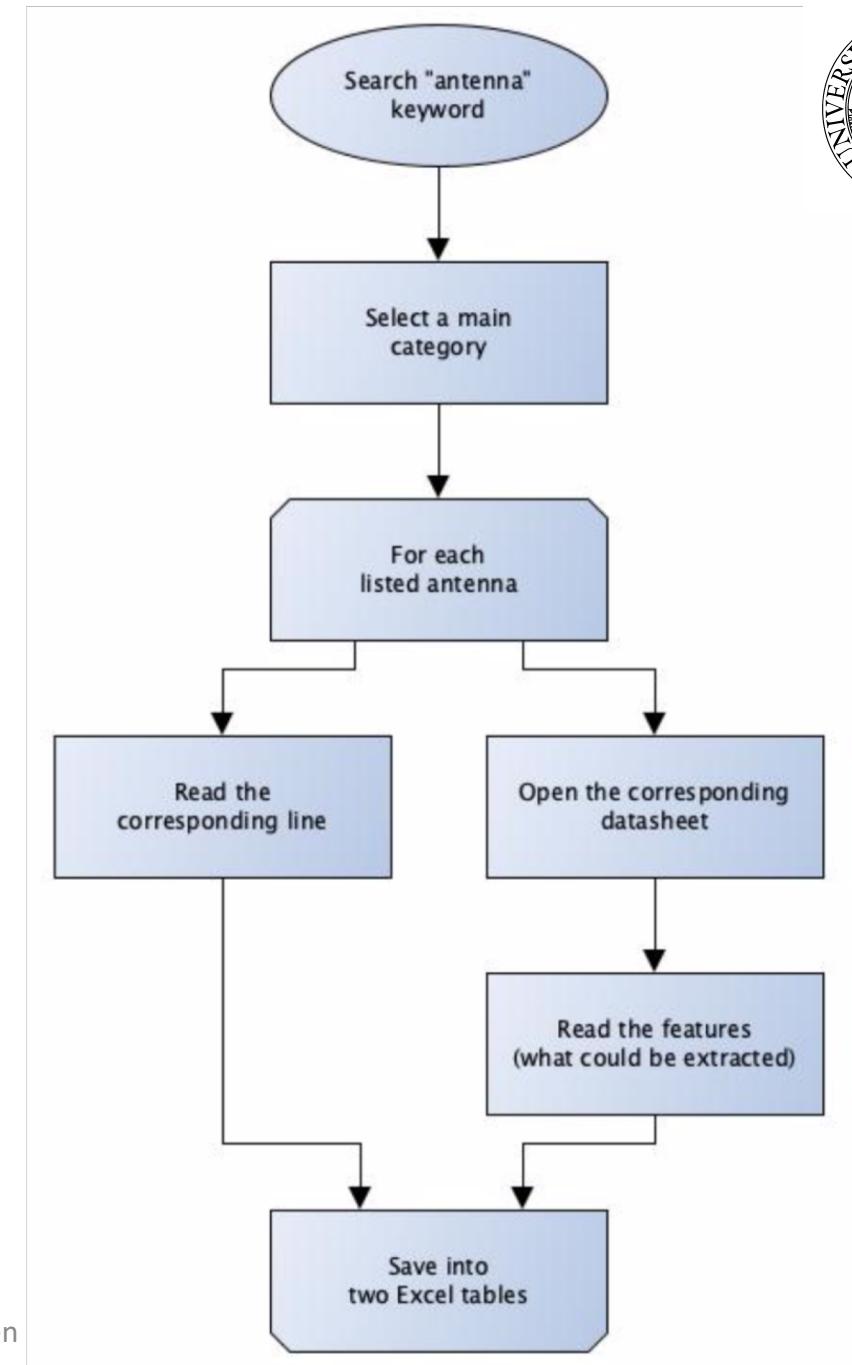


Dataset Generation - 2

Please note: **THIS IS NOT A FLOWCHART**

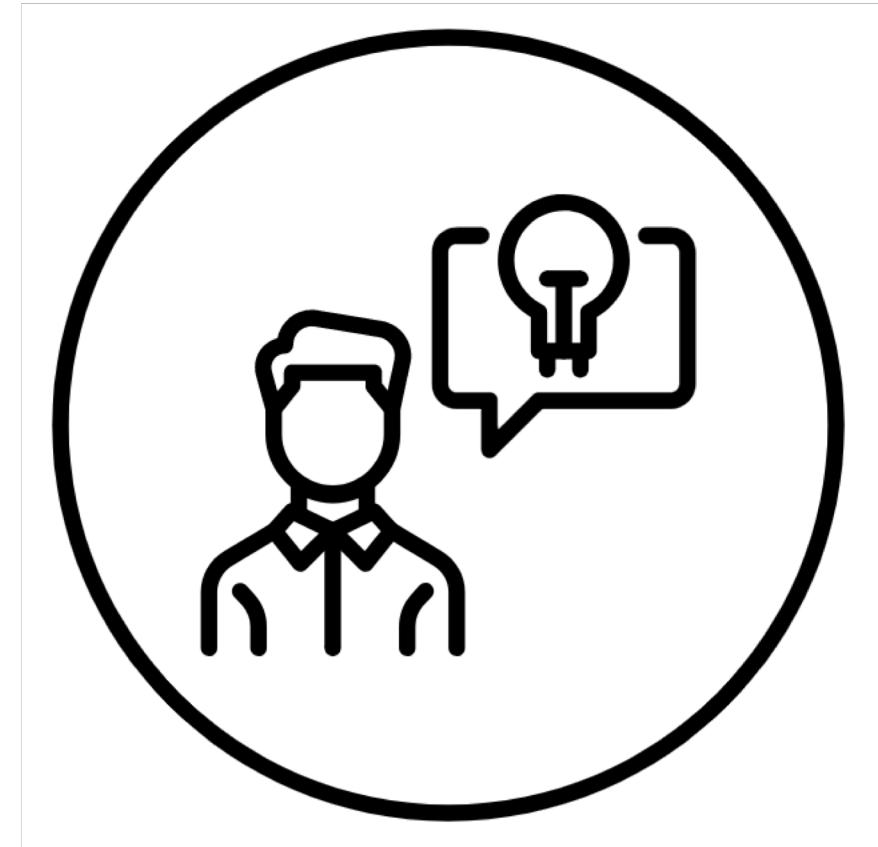


e-Commerce website considered:
RS Components

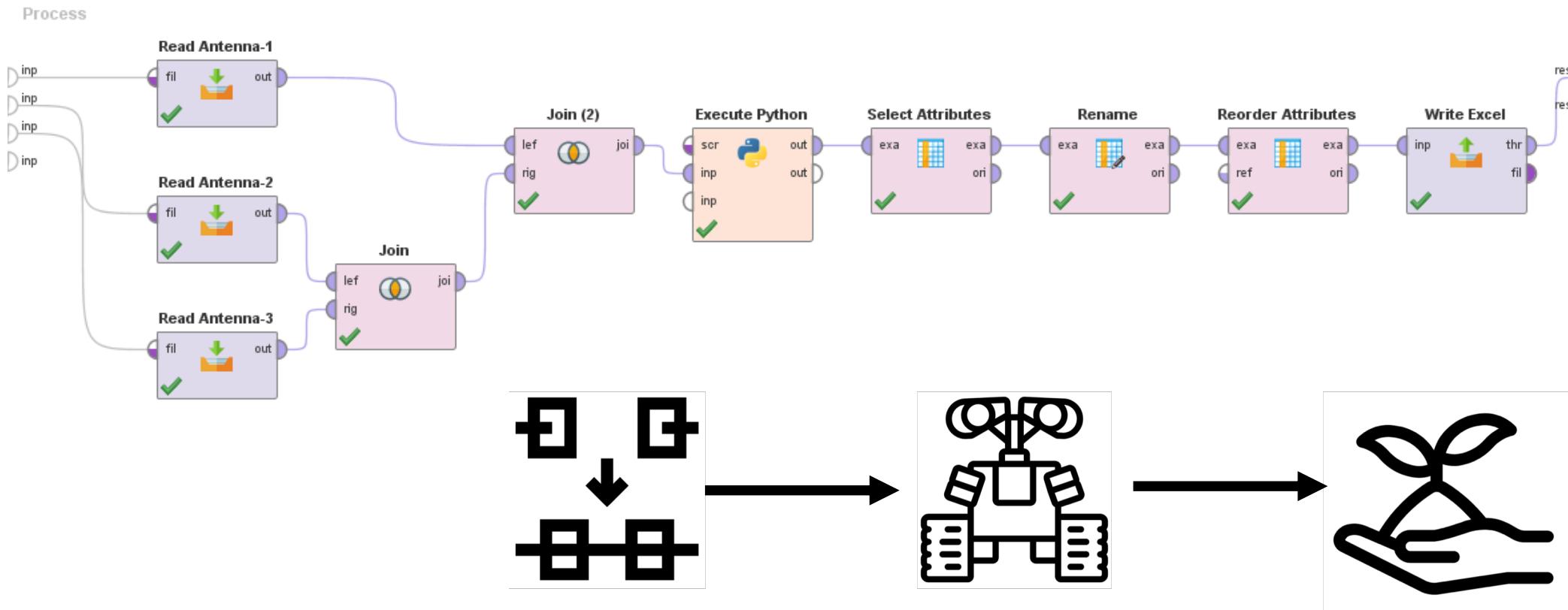


Dataset Generation: True Innovation

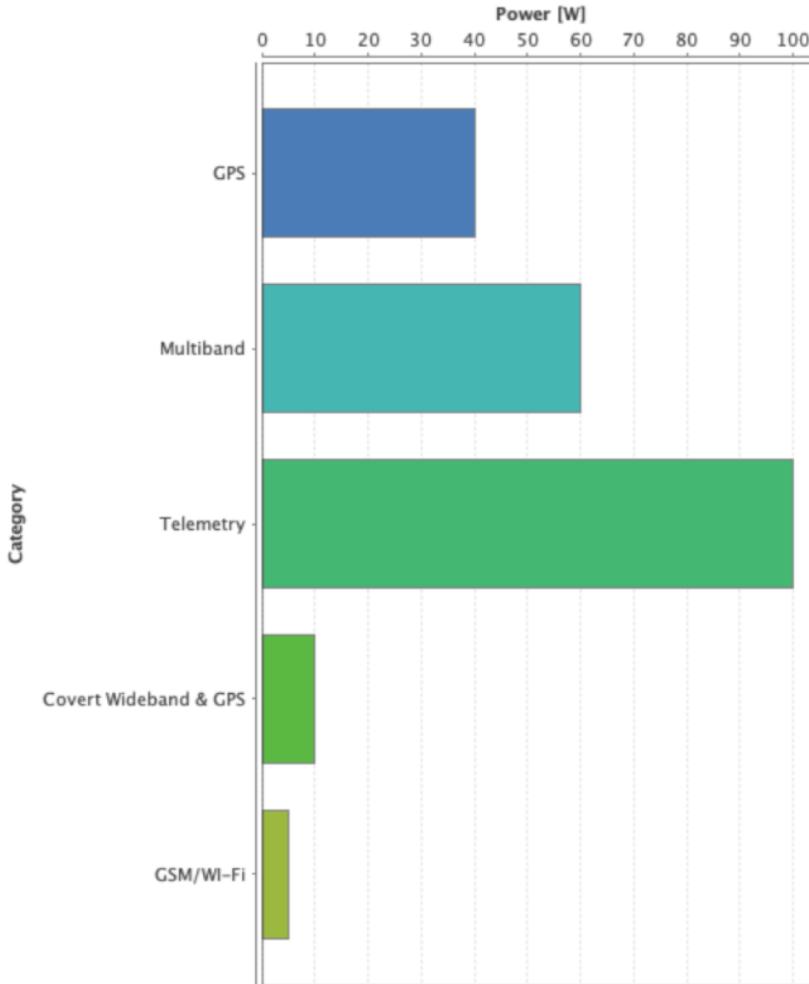
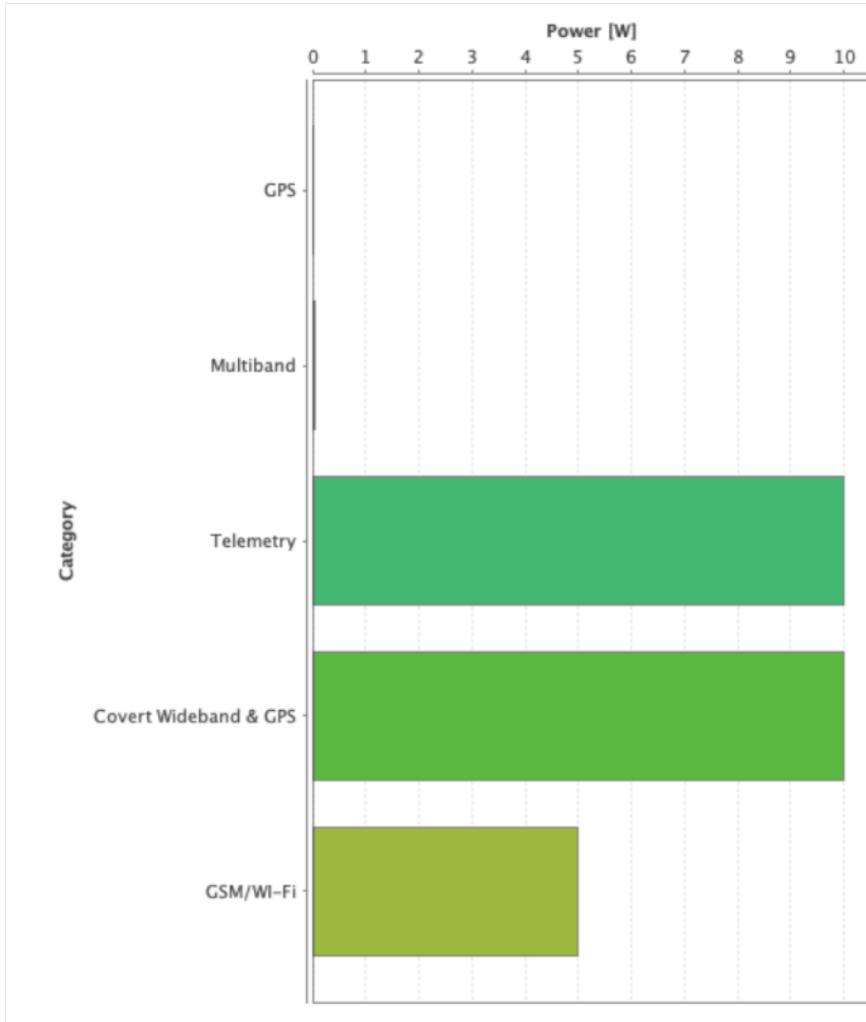
- Third dataset
 - Application of each antenna
 - Generated by the group (experts)
 - **Information creation!**



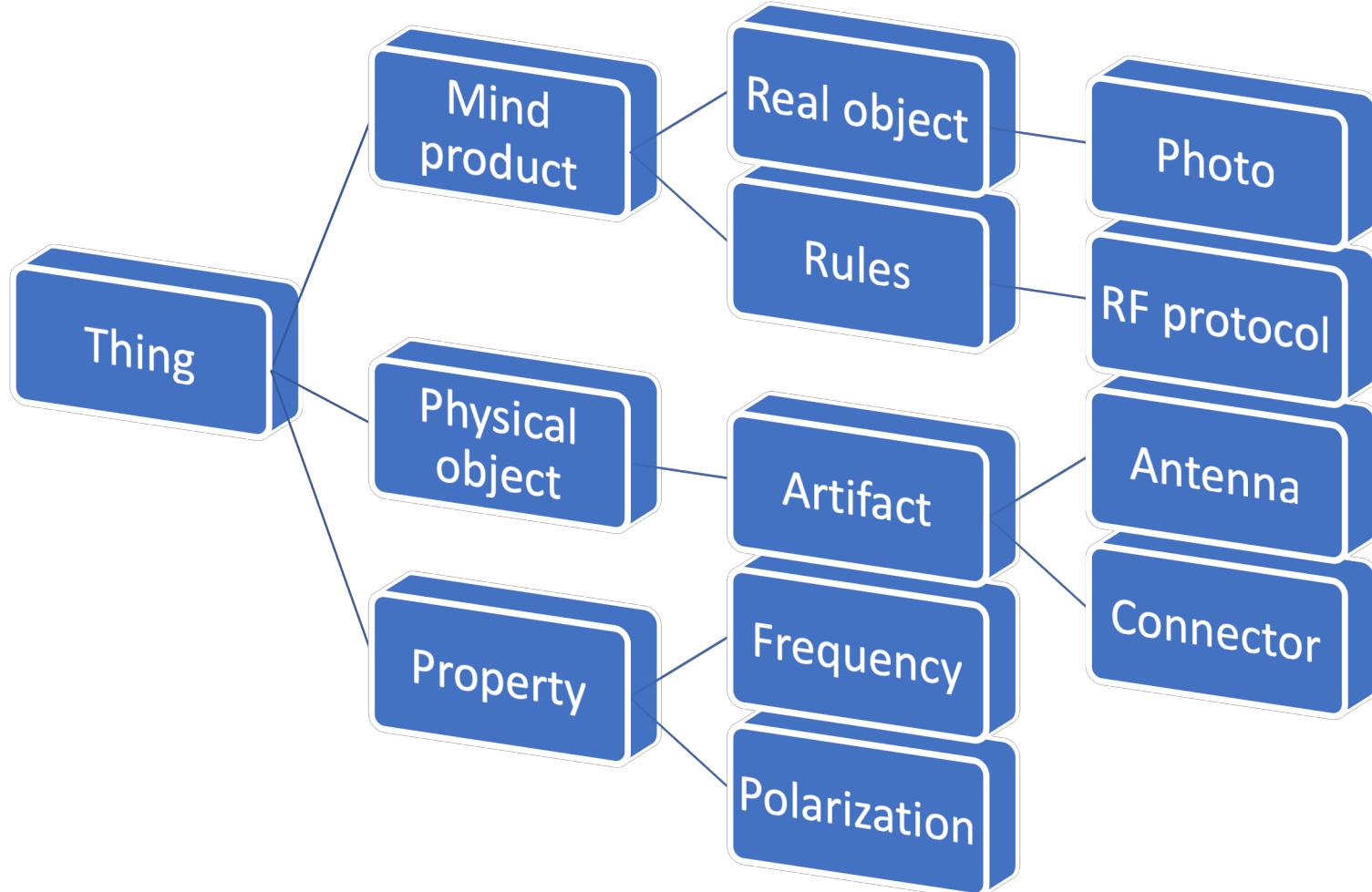
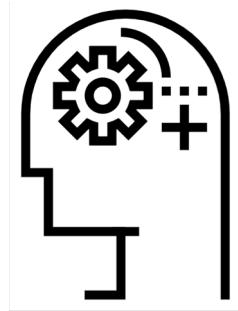
Merging & Cleaning Procedure



Relevant Key Points: Analysis

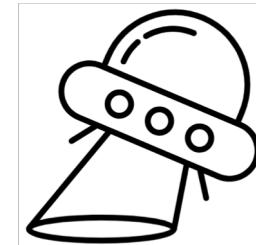
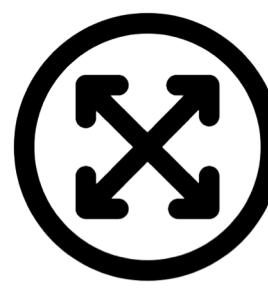


Ontology Proposal



Conclusions

- Many blank fields
 - Lack of information
- Scalability
- Future works
 - Increase the number of entries
 - Use other e-Commerce websites
 - Create a taxonomy of applications
 - Automate data retrieval





Thanks for listening!

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