ThinkBase for Teams

Andy Edmonds PhD, ThinkBase LLC

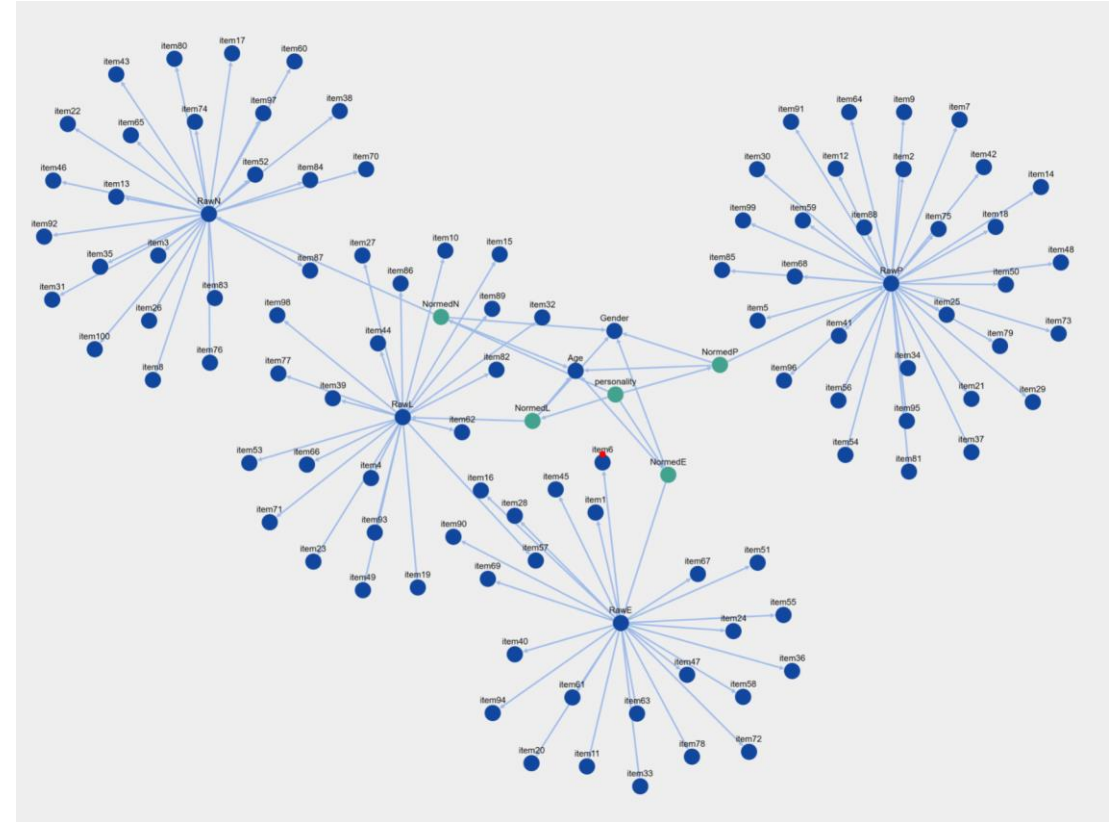# Knowledge is precious. How do you preserve it?

- A vital part of all successful organizations is their culture: the way they do things.

- Some of this is encapsulated in the organizations technical systems.
  - But such systems are often buggy, and always painfully slow to create and update.
  - Such systems can encapsulate hard and fast rules, but not heuristics.
  - They lack nuance, and they can only be applied to a small range of problems.

- While Deep Learning holds the promise of powerful solutions in the future, such systems can't explain themselves, can't be audited and can't be modified without expensive retraining.

Representing vital knowledge in the 21st century.

- The 20th century had *Expert Systems* as an attempt to encapsulate expert knowledge.
  - They failed because they were expensive to create, understood by few, and hard to update.
    - They linger on as equation solvers and medical triage systems.
  - The development of *Fuzzy Logic* based alternatives came too late to save them.
- Recently, the desire for non-neural alternatives has led to the growth of *Knowledge Graphs* as a way to represent the relationships and objects of knowledge graphically.

ThinkBase combines the best of non-neural AI

- Setting out to do everything transparently and auditably, ThinkBase combines *Knowledge Graphs* and *Fuzzy Logic Expert Systems*.

- You can describe the elements of a piece of knowledge graphically, and then annotate it with fuzzy-logic rules, to give you a dynamic system you can interrogate.

Machine Learning is not limited to Deep Learning

Big tech companies have dominated ML, so it's natural to think their expensive and proprietary models are the only choice.

In fact there are many kinds of non-neural Machine Learning.

ThinkBase uses our own proprietary technology to machine learn our Knowledge Graphs directly from data.

Research* has shown that such techniques are more effective than deep learning for the business tasks ThinkBase is designed for.

*Léo Grinsztajn, Edouard Oyallon, Gaël Varoquaux. Why do tree-based models still outperform deep learning on typical tabular data?. NeurIPS 2022 Datasets and Benchmarks Track, Nov 2022, New Orleans, United States. ffhal-03723551v2f

Natural Language Processing is not limited to Deep Learning either

ThinkBase for teams allows users to interrogate the Knowledge Graphs you have created through the Chat interface.

Big Tech companies imply that intent processing – the process of working out what the user is asking – can only be done with ML.

ThinkBase uses our own proprietary non-neural *Natural Language Processing* to make intent processing simple and part of the Knowledge Graph model.

Teams specifics

Our Teams app forms part of a larger system for creating, maintaining and reusing Active Knowledge Graphs.

Teams is perfect for our product because:

- It is directed at our central market: business and professional knowledge reuse.
- It offers a Chat interface for Knowledge Graph reuse
- And a Tab interface for Knowledge Graph Creation and editing.

We will first offer a creator license, allowing graph creation.

- Followed by a much cheaper per-seat user license for graph reuse
- And finally, an enterprise license offering machine learning and direct API access to our GraphQL-based SaaS system