

AsTMa= 2.0

Pidgin English for Topic Maps
Knowledge Engineering

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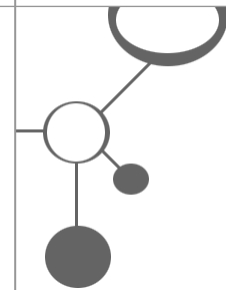
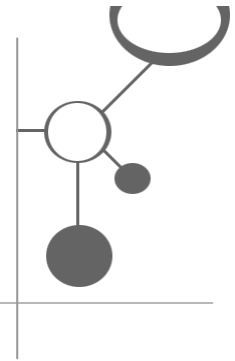
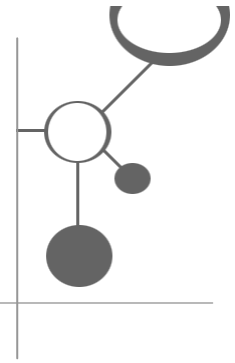


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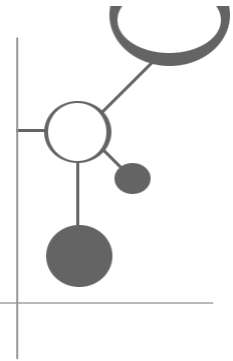
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 - Topics
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 - Templates
- Creating topic maps in Pidgin English
- Querying topic maps with AsTMa?
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Introduction



- AsTMa= is a textual Topic Maps syntax (like LTM and CTM)
- Minimalistic, powerful syntax with a small set of delimiters
- "Do What I Mean", not "Do What I Say"-principle
- AsTMa= 2.0 supports a formal, English-alike syntax, the Pidgin English

Dive Into AsTMa - Topics



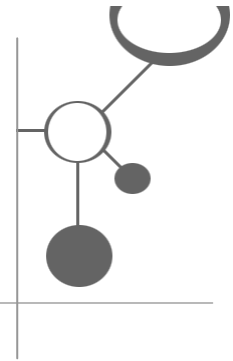
- Topic may be declared with a simple identifier, subject identifier, or subject locator

`john-lennon # Topic with an item identifier`

`http://en.wikipedia.org/wiki/John_Lennon # subj. ident.`

`= http://www.google.com/ # subject locator`

Dive Into AsTMa - Topics



- Assigning names / occurrences

```
john-lennon
```

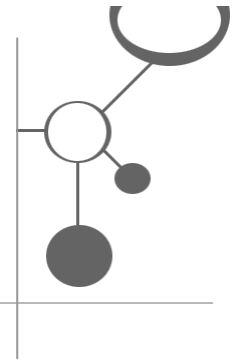
```
! John Lennon
```

```
! forename: John
```

```
! surname: Lennon
```

```
homepage: http://www.johnlennon.com/
```

```
shoesize: 42
```



Dive Into AsTMa - Topics

- Assigning names / occurrences

```
john-lennon
```

```
! John Lennon
```

```
! forename: John
```

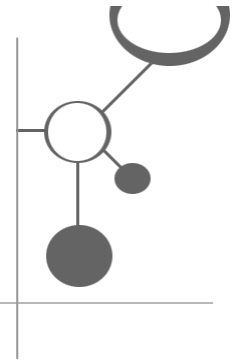
```
! surname: Lennon
```

```
homepage: http://www.johnlennon.com/
```

```
shoesize: 42
```

Names

Dive Into AsTMa - Topics



- Assigning names / occurrences

```
john-lennon
```

```
! John Lennon
```

```
! forename: John
```

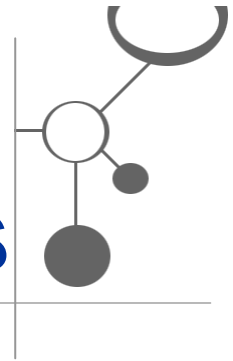
```
! surname: Lennon
```

```
homepage: http://www.johnlennon.com/
```

```
shoesize: 42
```

Occurrences

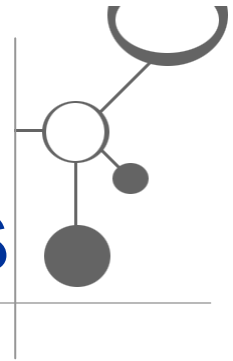
Dive Into AsTMa - Associations



```
member-of (group: TheBeatles
```

```
  member: john-lennon)
```


Dive Into AsTMa - Associations

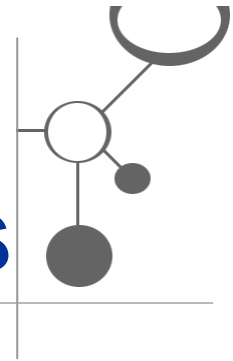


Association type

`member-of(group: TheBeatles`

`member: john-lennon)`

Dive Into AsTMa - Associations

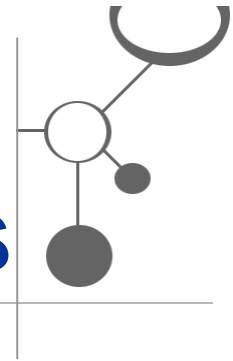


Association type

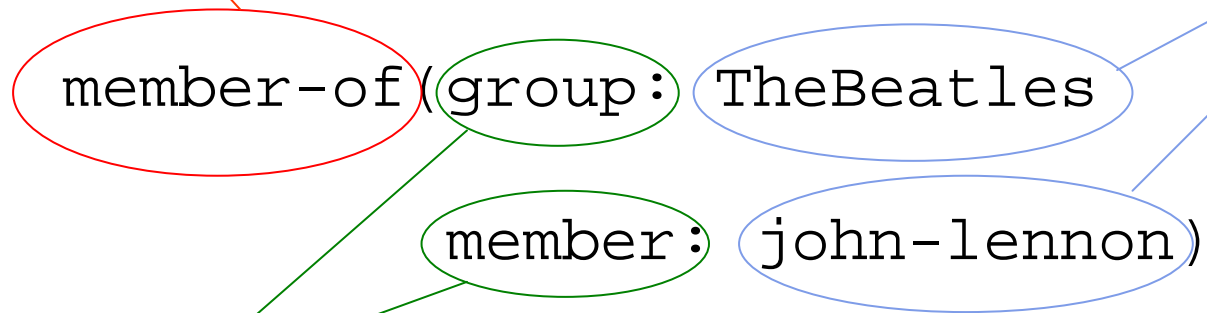
member-of (group: TheBeatles
member: john-lennon)

Role types

Dive Into AsTMa - Associations



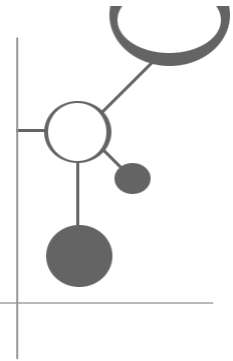
Association type



Role players

Role types

Dive Into AsTMa - Templates



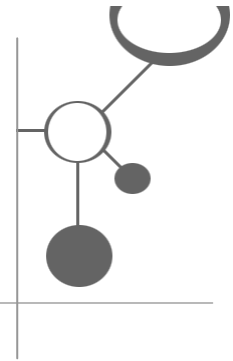
- Unique feature of AsTMa=
- Templates can be used to shorten the code

```
is-member-of isa astma:template
astma:body: " " "
    member-of(member: $_left,
              group: $_right)
" " "
```

```
# Invoking the template:
```

```
john-lennon is-member-of TheBeatles
```

Dive Into AsTMa - Templates



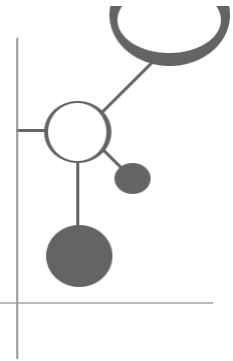
- Templates are not limited to associations
- Templates may contain any TM content
- Option to introduce more variables

```
plays-for isa astma:template
astma:body: " " "
    member-of(member: $_left,
              group: $_right,
              instrument: $playing)

    $_left isa person
" " "
```

```
paul plays-for TheBeatles playing piano
```

Dive Into AsTMa - Templates



```
plays-for isa astma:template
astma:body: " " "
    member-of(member: $_left,
              group: $_right,
              instrument: $playing)
```

```
$_left isa person
```

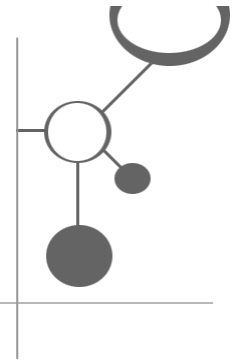
```
$_right isa music-group
```

```
plays(instrument: $playing
      artist: $_left)
```

```
" " "
```

```
paul plays-for TheBeatles playing piano
```

Pidgin English

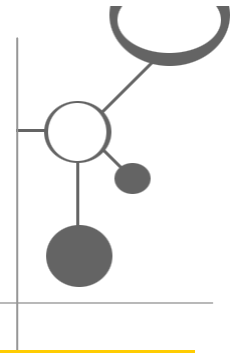


- Small set of keywords "and", "has" to chain statements

paul isa person and has shoesize 42 and
plays-for The-Beatles playing piano

- Relative clauses are introduced by a comma and a keyword ("who", "which")
- Relative sentences set the focus to the last topic

Pidgin English



paul-mccartney plays-for The-Beatles,

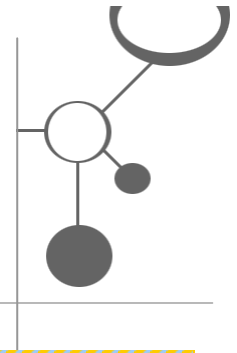
which isa music-group and which
is-located-in London,

playing piano

and has shoesize 42

Statements about the topic "paul-mccartney"

Pidgin English

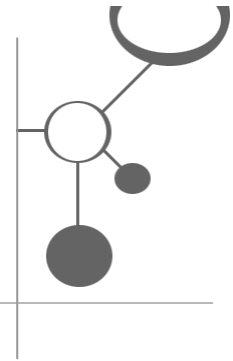


paul-mccartney plays-for The-Beatles,
which isa music-group and which
is-located-in London,
playing piano
and has shoesize 42

Statements about the topic "paul-mccartney"

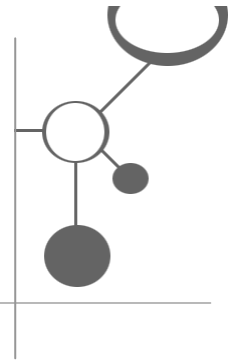
Statements about the topic "The-Beatles"

AsTMa? - Querying topic maps



- Provides a subset of TMQL
- Transformable into TMQL "select" statements or TMQL "path expressions"
- May be used by non-technical users
- Provides everything from AsTMa= (templates, relative sentences etc.)
- Query results are AsTMa= statements

AsTMa? - Querying topic maps



Question

```
$who isa person?
```

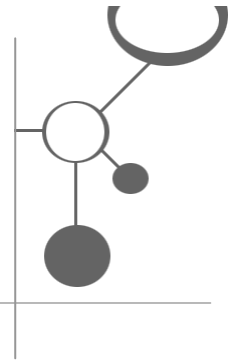
Answer

```
paul-mccartney isa person
```

```
john-lennon isa person
```

```
[...]
```

AsTMa? - Querying topic maps



`$who`

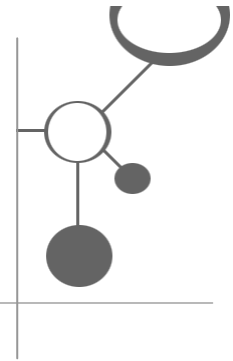
```
is-member-of (group: The-Beatles
              member: $who)
```

```
and $who plays drums?
```

Answer:

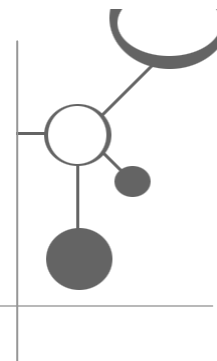
```
ringo-starr is-member-of (...)
```

Summary



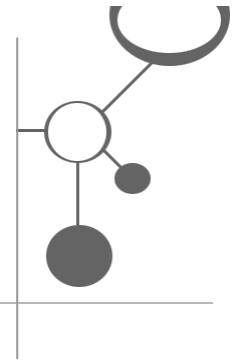
- AsTMa= is a minimalistic language
- Provides a formal English-alike syntax
- Can be understood by users who are not familiar with Topic Maps
- Useful for a domain language
- Simple queries possible

References



- R. Barta, L. Heuer
"AsTMa= 2.0 Language Definition", 2005
<http://astma.it.bond.edu.au/astma=-spec-2.0r1.0.dbk>
(not upto date)

Discussion



Questions?

Answers! 😊