Notation3 (N3) Logic

AI on graphs: deriving knowledge through N3 reasoning

N3 extends RDF

```
:lisa :isDaughterOf :homer.
```
"Lisa is the daughter of Homer."

Every RDF triple is valid in N3

Should the semantics always be the same?

Reasoning on RDF graphs

```
{?x :isDaughterOf ?y. ?z :isSonOf ?y}
                          => {?x :hasBrother ?z}.
```
"The daughter and the son of the same person are siblings."

You can write rules and use them to derive new knowledge

How expressive should these rules be?

Talk about graphs

```
:lisa :says {:lisa :hasBrother :bart}.
```
"Lisa says that her brother is Bart."

You can refer to other graphs

How do we align with RDF*?
What is the relation to TriG?

Use quantifiers

```
@forAll :x. @forSome :y. :x :loves :y.
```
"Everyone loves someone."

Quantifiers help you to express more complex situations

Is this expressivity needed or does it add unnecessary complexity?

Functions on graphs

```
{ :lisa :isDaughterOf :homer.
  :bart :isSonOf :homer
} log:includes {
  :bart :isSonOf :homer
}.
```
"The first graph contains the second as a sub-graph."

Different built-in functions can help you to better operate on graphs.

Which built-ins do we need?

Join the discussion! *Send us your feedback!*

You can help to make Notation3 a standard!

Join our W3C community group: https://www.w3.org/community/n3-dev/

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