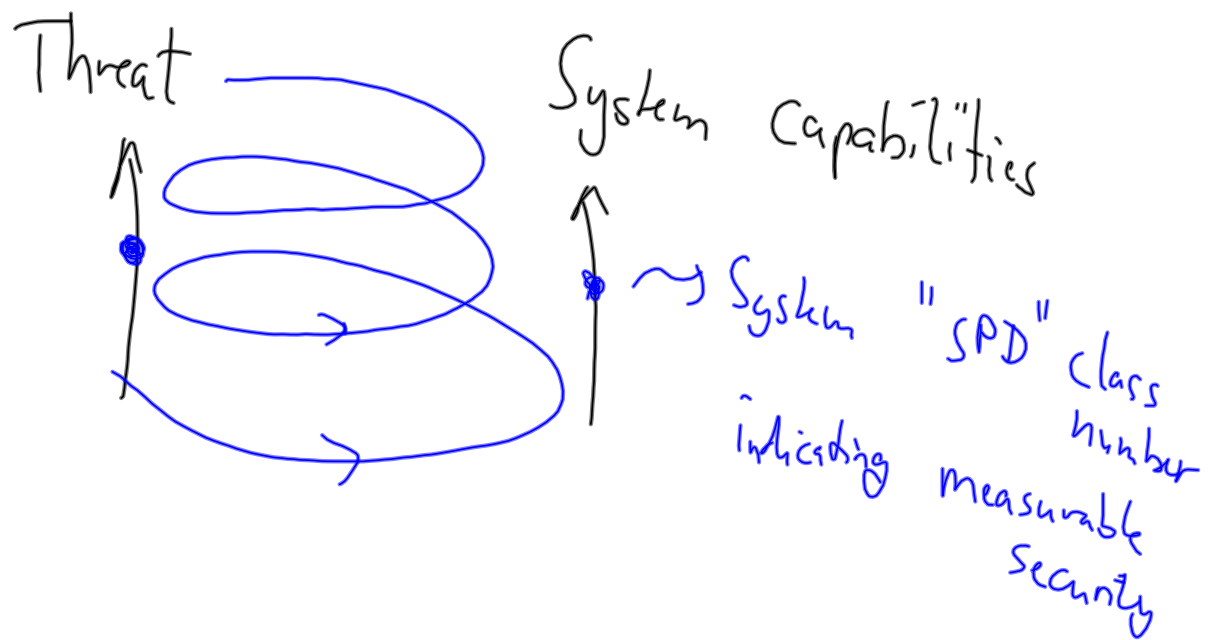


Today

- Express verbally our desired goal
Example: overview over courses which a student has
- implementation in SWRL
- Discussion on "rules" and limitations
- Further: more complex business rules
Example: % of usage of advanced class rooms

Composable Security



Running SWRL rules on y: x PSKIELD-public - pSHIELD x File:PSKIELD-arch.png - p x

pshield.unik.no/wiki/File:PSKIELD-arch.png

Vil du at Google Chrome skal lagre passordet? Lagre passord Aldri for dette nettstedet

File:PSKIELD-arch.png

JOSEF.NOLL MY TALK ADMIN LINKS MY PREFERENCES MY WATCHLIST MY CONTRIBUTIONS LOG OUT

Search Go Search

pSHIELD

- pSHIELD wiki
- pSHIELD Web
- Activities/Publications
- Prototypes/Demonstrations
- Public Deliverables
- new SHIELD

pSHIELD internal

- Final Review
- Deliverables
- Demonstrator
- Show & Outcome
- Action Items
- Important Links

pSHIELD work

- WP2
- WP3
- WP4
- WP5
- WP6
- WP7

Create (or edit)...

- Action Item
- Phone Conference
- Meeting
- User
- Deliverable
- Task
- Monthly Report (test)

External

- pSHIELD public
- UNIK's wiki
- CWI Norway

mediawiki links

- Wishlist
- TrackRecord
- Help
- Special Pages

File File history File links

discussion edit history delete move protect watch refresh

Handwritten notes:

- Semantics** (circled in red)
- System of Systems** (circled in green)
- Future Systems** (blue)
- Middleware** (blue)
- Network** (blue)
- Sensor** (blue)
- Security, Privacy, Dependability** (green)
- Measurable Security** (green)
- Overlay Security** (red)
- Security** (green)

No higher resolution available.
PSKIELD-arch.png (648 × 437 pixels, file size: 76 KB, MIME type: image/png)

File history

Click on a date/time to view the file as it appeared at that time.

	Date/Time	Thumbnail	Dimensions	User	Comment
delete all	current	14:53, 11 January 2011		648×437 (76 KB)	JosefNoll (Talk contribs block)

■ Upload a new version of this file
 ■ Edit this file using an external application (See the [setup instructions](#) for more information)

File:NSHIELD-process.png x PSHIELD-public - pSHIELD x File:PSHIELD-arch.png - p x

cwi.unik.no/wiki/File:NSHIELD-process.png

File:NSHIELD-process.png

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Go Search

file discussion view source history

File File history File links

from pSHIELD key concepts to nSHIELD outcomes

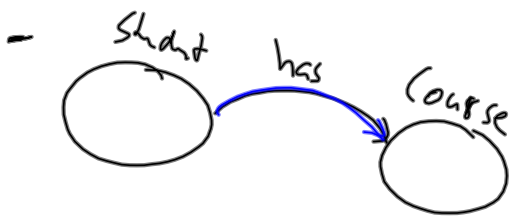
No higher resolution available.
NSHIELD-process.png (705 × 434 pixels, file size: 59 KB, MIME type: image/png)

File history

Click on a date/time to view the file as it appeared at that time.

	Date/Time	Thumbnail	Dimensions	User	Comment
current	11:30, 8 March 2013		705×434 (59 KB)	Josef.Noll (Talk contribs)	

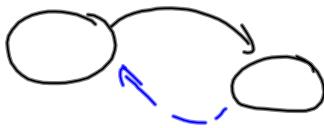
lessons learned from "first exercise on rules in ontologies"



Student(?s) $\wedge$ Course(?c) $\rightarrow$ Study(?s, ?c)

- Properties in ontology

"functional, symmetric, transitive, ..."



*1 "internal" properties

$\hookrightarrow$ implications

*1 Help

SWRL Query = SQWRL

$\wedge$ SQWRL: select(?s, ?c)

Protege 3.x vs 4.x Martin

SWRL in Protege 4.x Philip
↳ external reasoner

Properties of "internal reasoning" in Protege Jose

[[File: ~~Local Presence~~.owl]]

"or"
v

Rule 3:



~~and~~ not possible



limitations of ontologies & rules

SWRL: no "or"

KISS

Keep it simple, stupid

↳ make 2 rules

Ontology: meat

Owl is

Open world assumption → Everything which is not forbidden is allowed

Close world assumption

allowed to drive a car?

↳ nobody

valid driver license → drive a car

→ Only things which are explicitly allowed are allowed (everything is forbidden by default)

In security

⇒ open to everybody, except

x, y, z ✓

closed for everybody, open for holder of an id-card X
Alice, Jim, ...

new person (Bob)