

# Relating Intellectual Property Products to the Corporate Context



# Introduction

- Knowledge society
  - Business: utilisation of knowledge for profit
  - Academia: evaluation → funding
- White and grey literature
  - White IP is PR
  - Grey is the *real* IP of the organisation
- Open Access
  - White / grey distinction blurred
- QUESTION: How to relate IP to corporate context

# Hypothesis

## IP in Corporate Context Achieved by:

- **Hyperlinks**

- From white to grey publications (and data) completes the IP
- **IMPROVEMENT** → with typed hyperlinks = relationships

- **CRIS** (Current Research Information Systems)

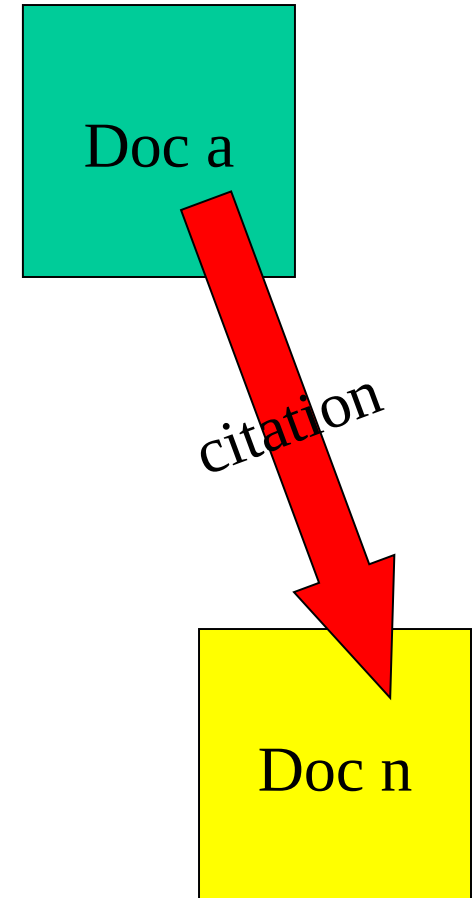
- Business (R&D) context for the IP
- **IMPROVEMENT** → CRIS as Corporate Data Repository

- **Metadata**

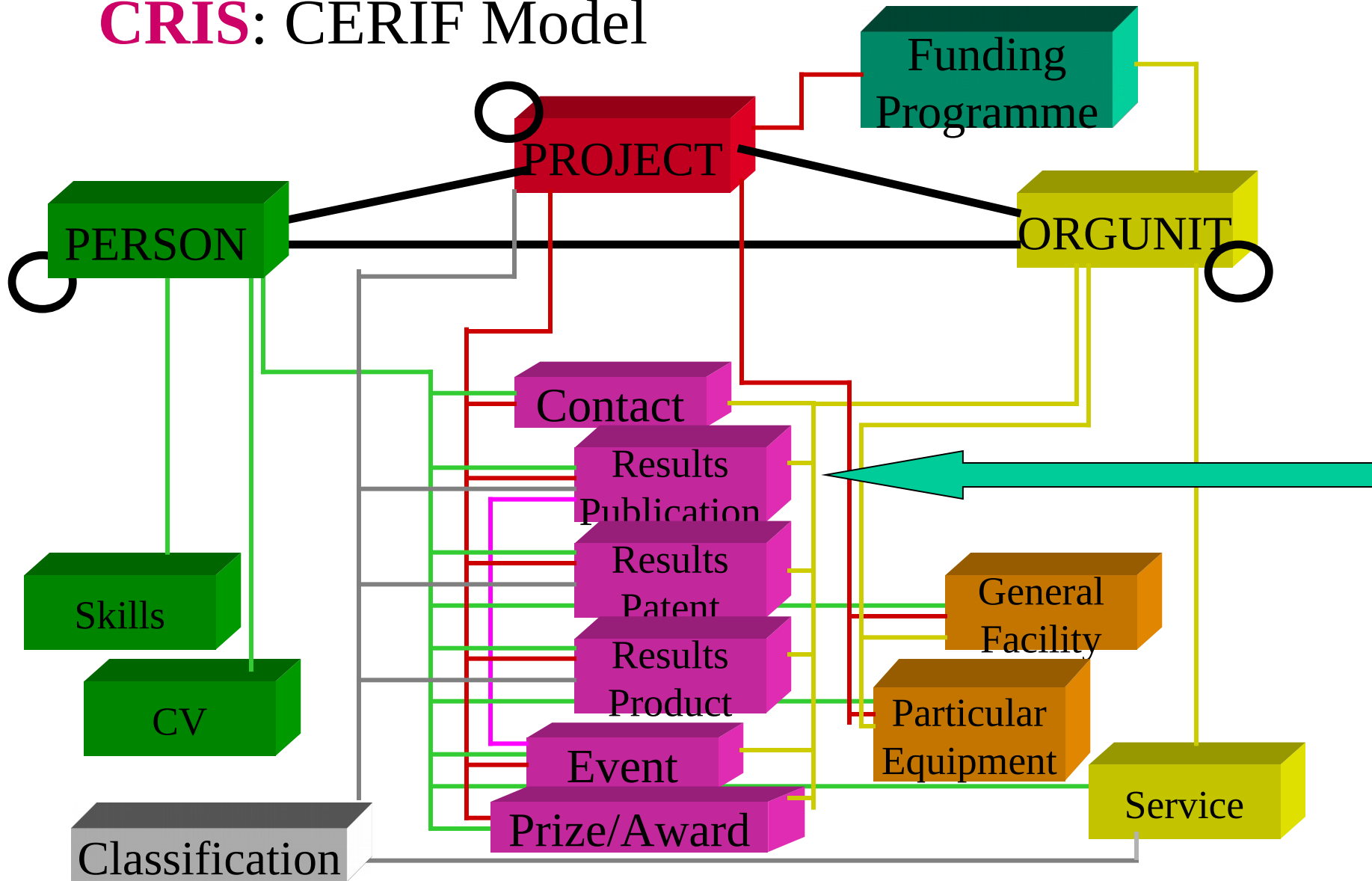
- Makes the IP understandable in context
- **IMPROVEMENT** → formal syntax and semantics

# Hyperlinks

- URL: simple anchor → target
- Can add additional parameters (restrictions)
- But really need **TYPED** hyperlinks
  - Where typing is
    - Role
      - e.g. doc <-> doc: citation | reference
      - e.g. doc <-> person: author | editor | reviewer
    - Start date/time, end date/time
- Equivalent to **relationships** in DBMS
- and to linkbase in some hypermedia systems
  - e.g. Hyperwave, Microcosm

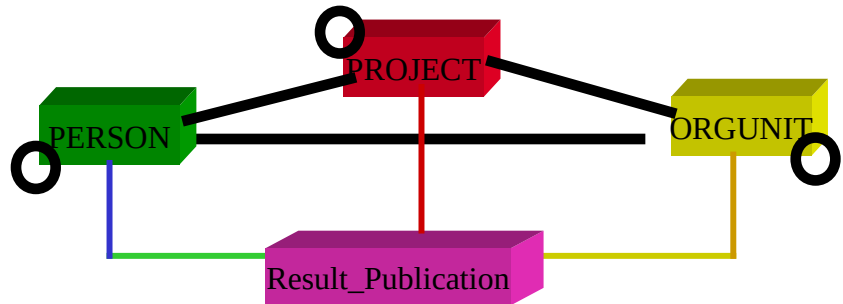


# CRIS: CERIF Model



# Secondary Base Entities: example: **RESULT\_PUBLICATION**

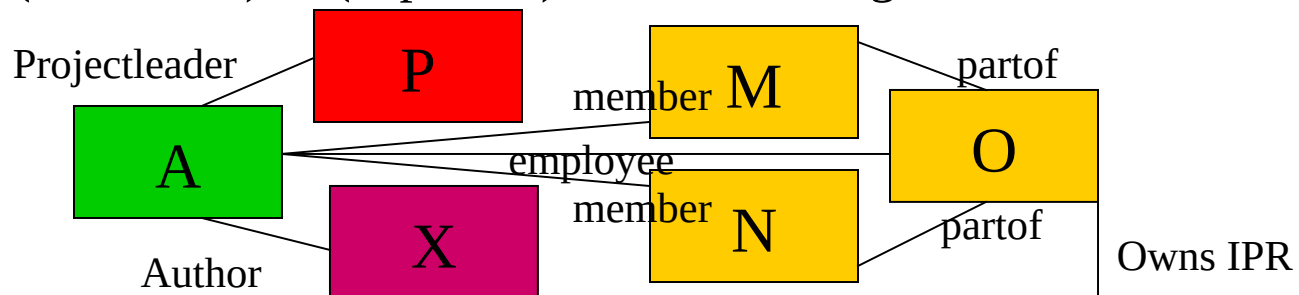
## CRIS



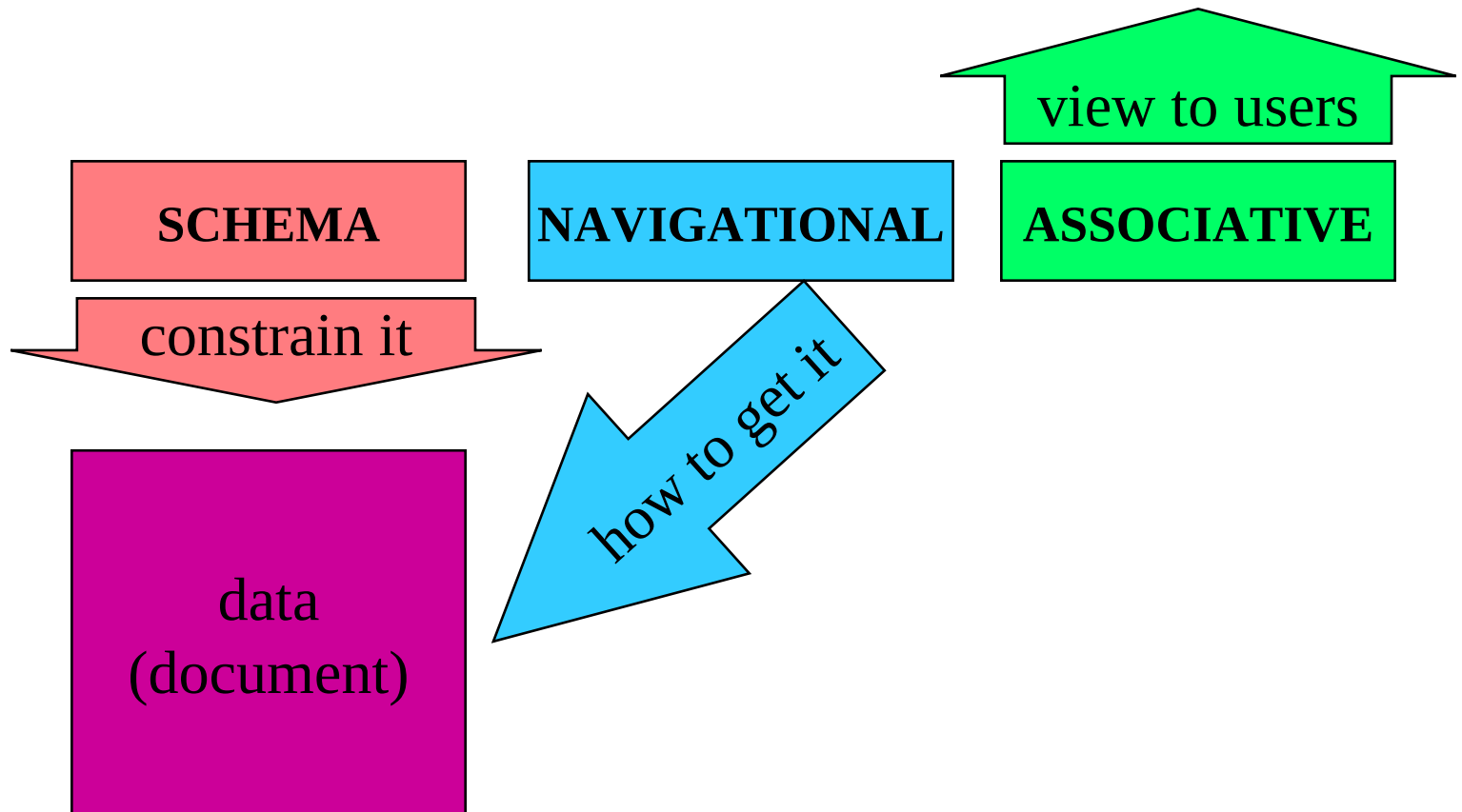
Can Express:

(where DT-date/time)

Person A	(DT1-DT2)	(is author of)	Publication X
Orgunit O	(DT1-DT2)	(is owner of IPR in)	Publication X
Person A	(DT1-DT2)	(is employee of )	Orgunit O
Person A	(DT1-DT2)	(is project leader of)	Project P
Person A	(DT1-DT2)	(is member of)	Orgunit M
Person A	(DT1-DT2)	(is member of)	Orgunit N
Orgunit M	(DT1-DT2)	(is part of)	Orgunit O
Orgunit N	(DT1-DT2)	(is part of)	Orgunit O



# Classification of **Metadata**



# Dublin Core

- **Associative Descriptive Metadata**
- 15 elements (<tag>.....</tag>)
- Problems:
  - Syntax not formal
    - How to format names of separate contributors in list
  - Semantics undefined
    - What is a creator compared with a contributor?
    - Surely source is a kind of relation
- machine readable **BUT NOT** machine-understandable
  - But recent addition of qualifiers helps (a bit!)



# Formalised DC

## (Proposed Jeffery GL4 1999)

- Formal syntax and semantics
- Language qualifier for each element
- Unique ID for the metadata record
- Creator, contributor → Person (with role and temporal interval)
- Subject → separated to subject (classification) and keywords
- Publisher → OrgUnit (with role and temporal interval)
- Source → removed, treated as relation (with role and temporal interval)
- Coverage → separated to spatial and temporal

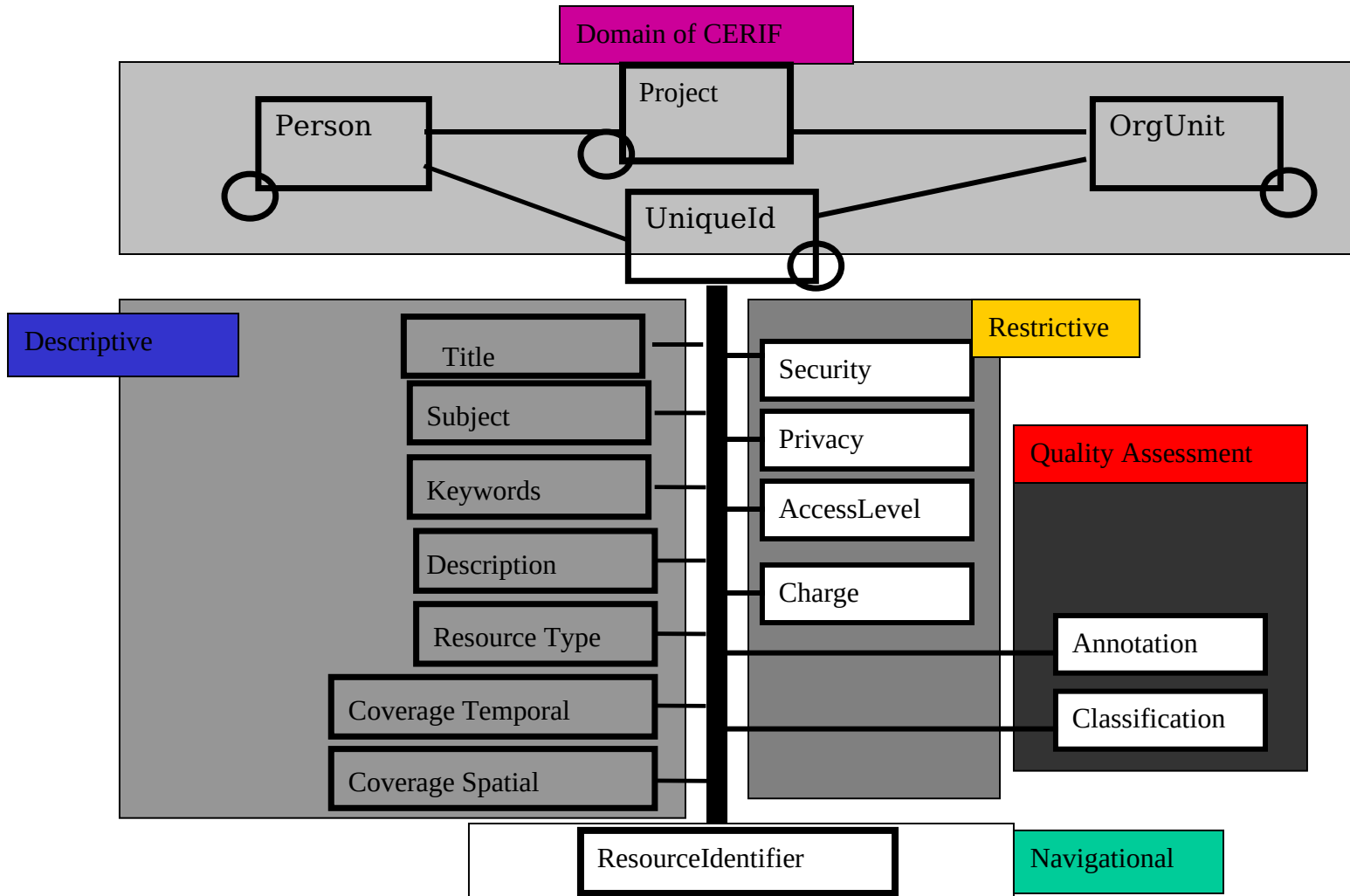
# Extensions

## (Jeffery & Asserson GL6 2004)

- Rights
  - Original extension proposal (1999) simple rights record
  - Here formalised to cover IPR, copyright, access restrictions (competition), charging
- Annotation
  - To allow democratic refereeing
- Classification
  - To permit multiple classifications to be annexed to the work

# Proposed Formalised DC

(improved **hyperlinks**, **CRIS**, **metadata**)



# Conclusion

- Improving
  - hyperlinks → typed hyperlinks (relationships)
  - CRIS → CDR
  - DC → Formal DC

- To allow machine-reasoning
- For the semantic web and web of trust
- For use in the GRIDs environment
  - Agents, brokers, metadata
  - Self-managing, self-healing



→ relates IP to corporate context (in R&D and business)