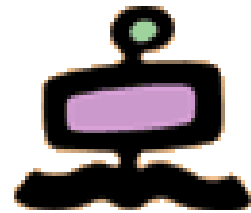


- Vittore Casarosa
  - Mail: [casarosa@isti.cnr.it](mailto:casarosa@isti.cnr.it)
  - Tel: 050 621 3115 (office) 348 397 2168 (mobile)
  - Skype: vittore1201
- “Ricevimento” at the end of the lessons or by appointment
- Final assessment
  - 70% oral examination
  - 30% project (development of a small digital library))
- Reference material:
  - Ian Witten, David Bainbridge, David Nichols, How to build a Digital Library, Morgan Kaufmann, 2010, ISBN 978-0-12-374857-7 (Second edition)
  - Material provided by the teacher
- **<http://cloudone.isti.cnr.it/casarosa/BDG/>**

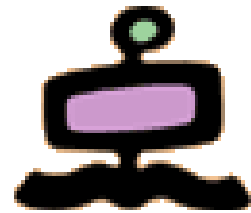


# Modules



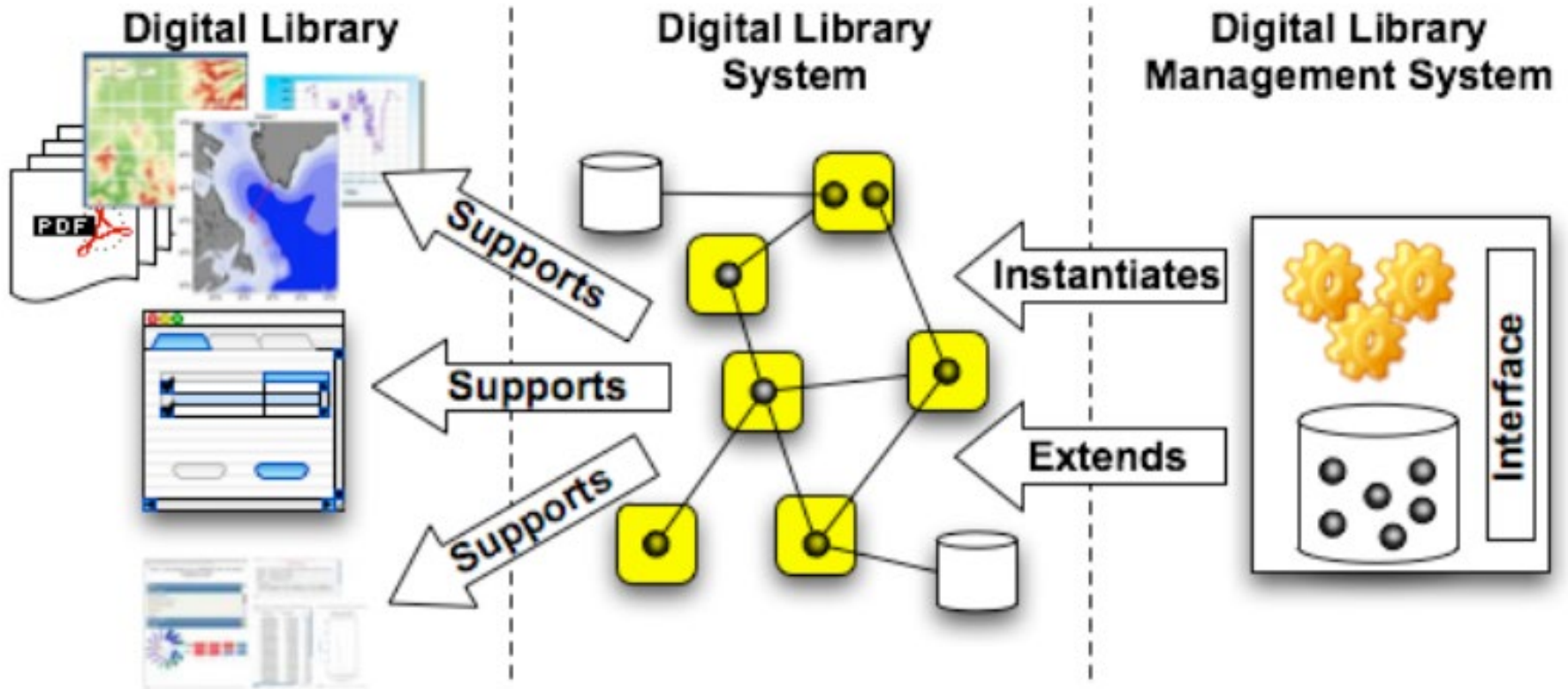
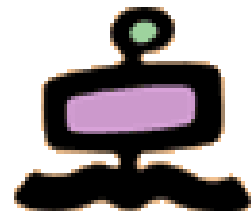
- Computer Fundamentals and Networking
- A conceptual model for Digital Libraries ←
- Bibliographic records and metadata
- Information Retrieval and Search Engines
- Knowledge representation
- Digital Libraries and the Web
- Hands-on laboratory: the Greenstone system

# Conceptual model

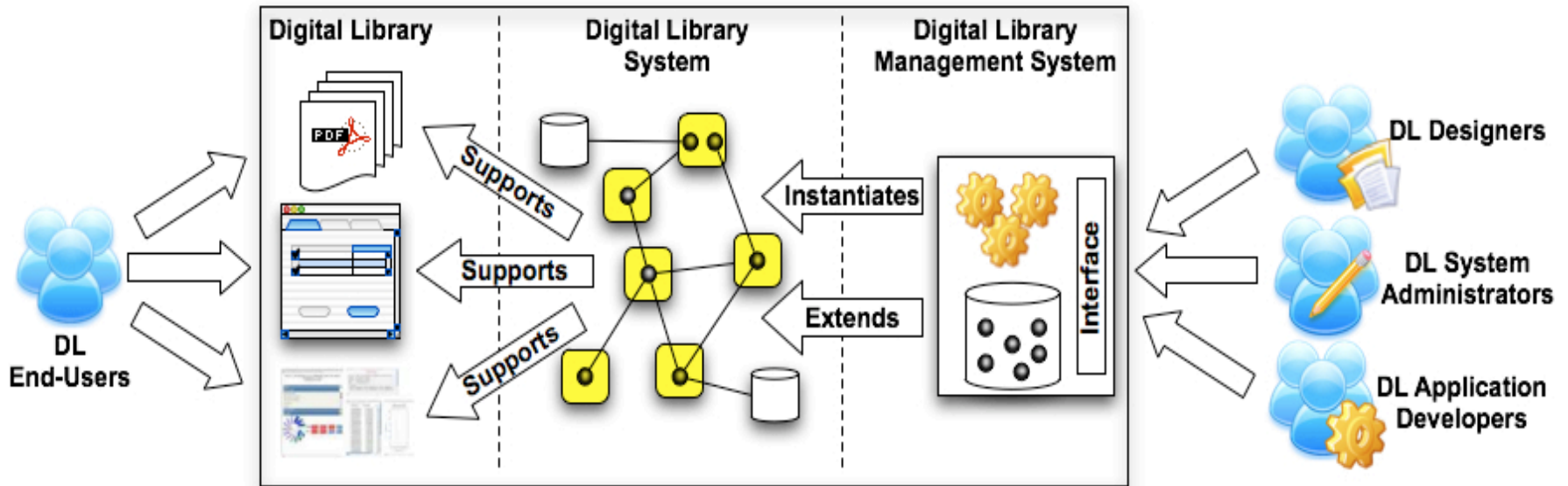
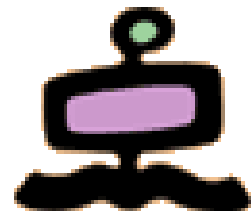


- A conceptual model for Digital Libraries
  - Entities of interest in the “Universe of Digital Libraries”
  - Basic concepts and actors in Digital Libraries
  - Conceptual maps of relationships in the Digital Libraries Universe

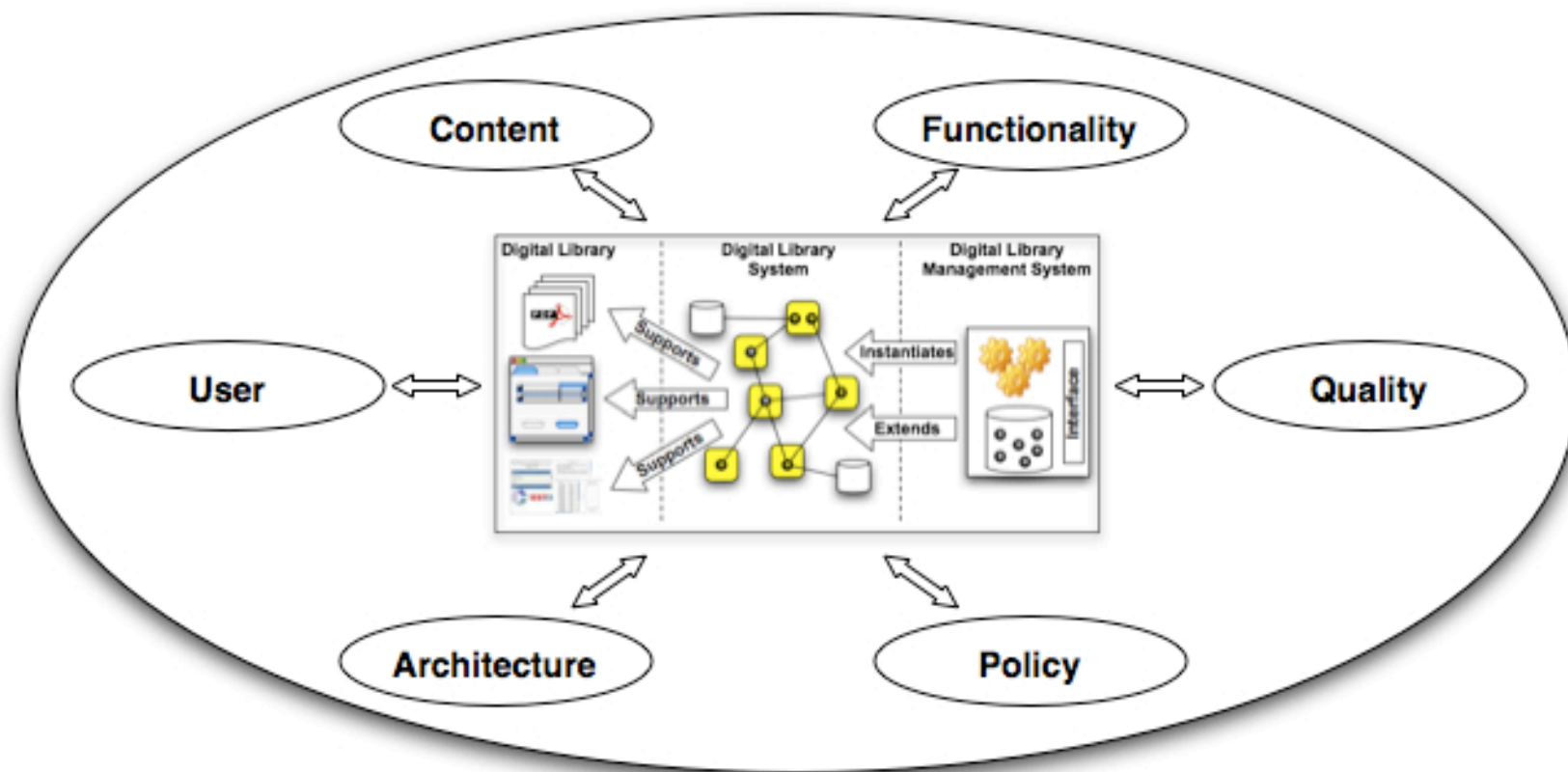
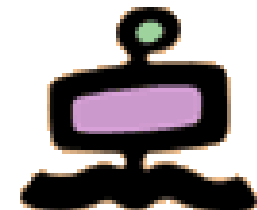
# A Three-Entity Framework



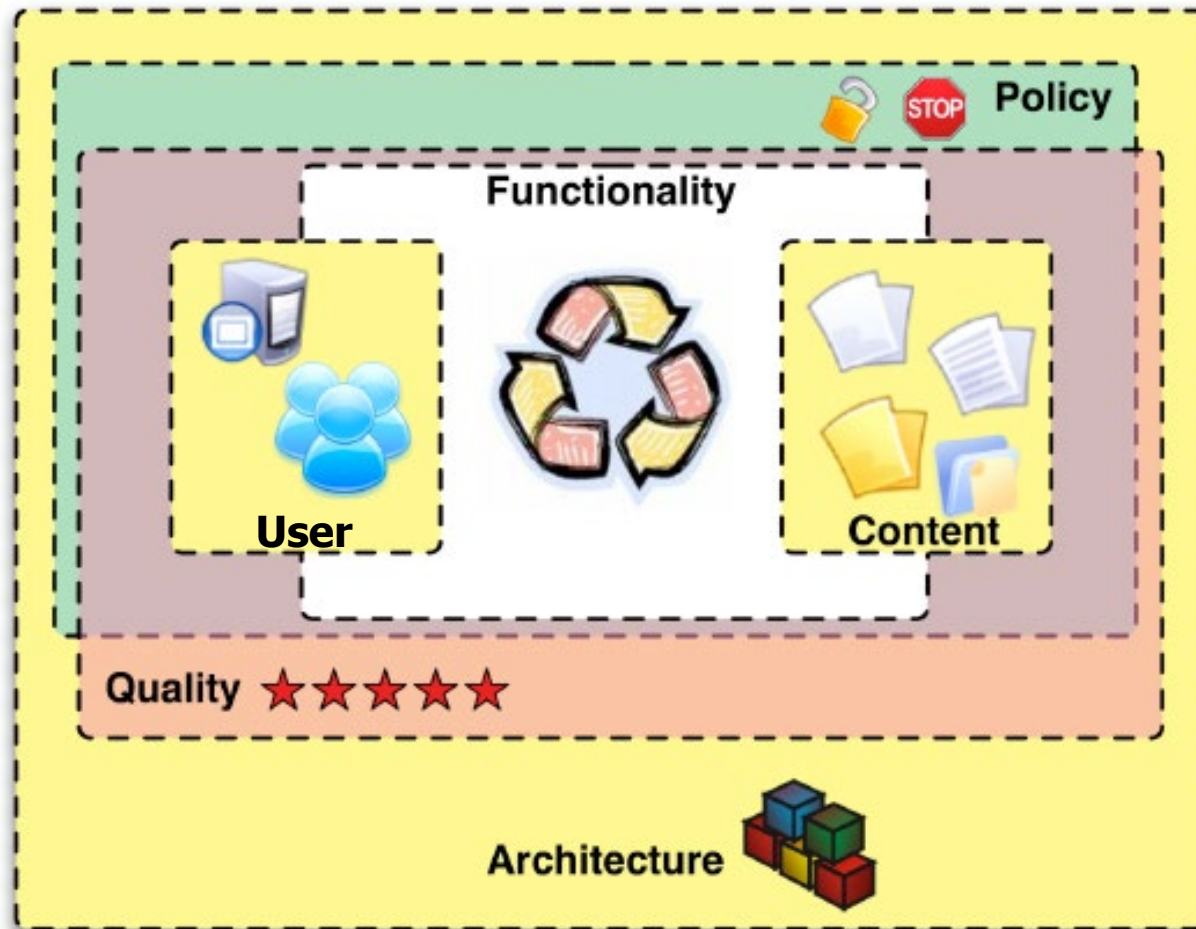
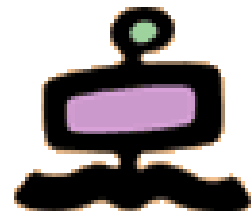
# Actors in the Digital Library



# Main concepts

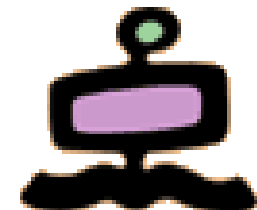


# Main concepts in DL





# The Digital Library Universe



## 3 Types of systems

- DL
- DL System
- DL Management Systems

## 6 Domains + 1

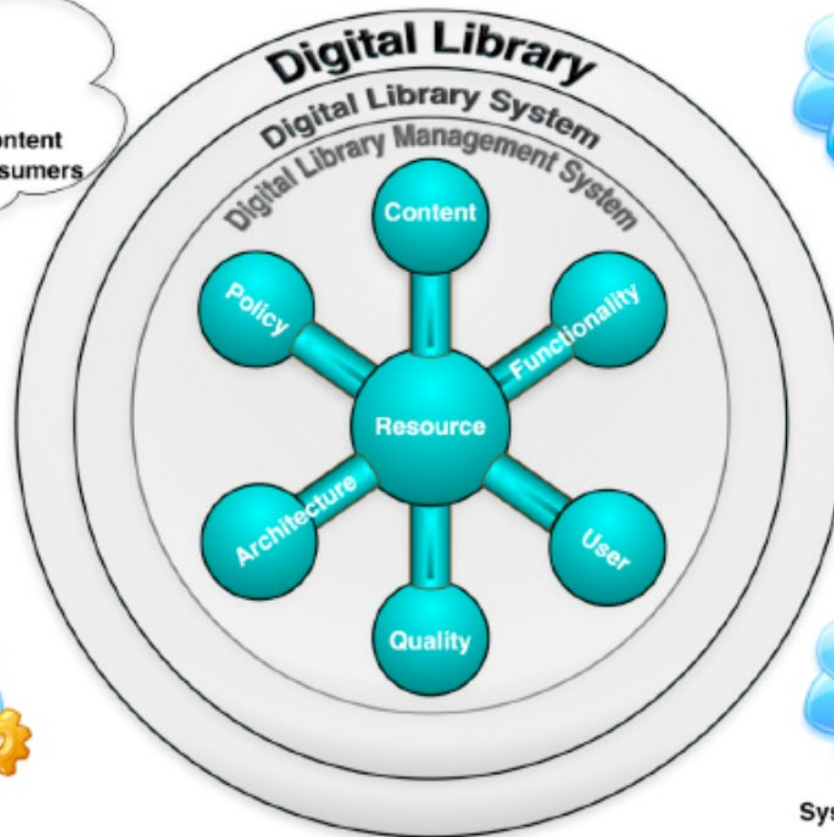
- Content
- User
- Functionality
- Policy
- Quality
- Architecture
- + Resource

## 4 Roles of Actors

- DL end-Users
- DL Application Developers
- DL Designers
- DL Systems Administrators



Application Developers



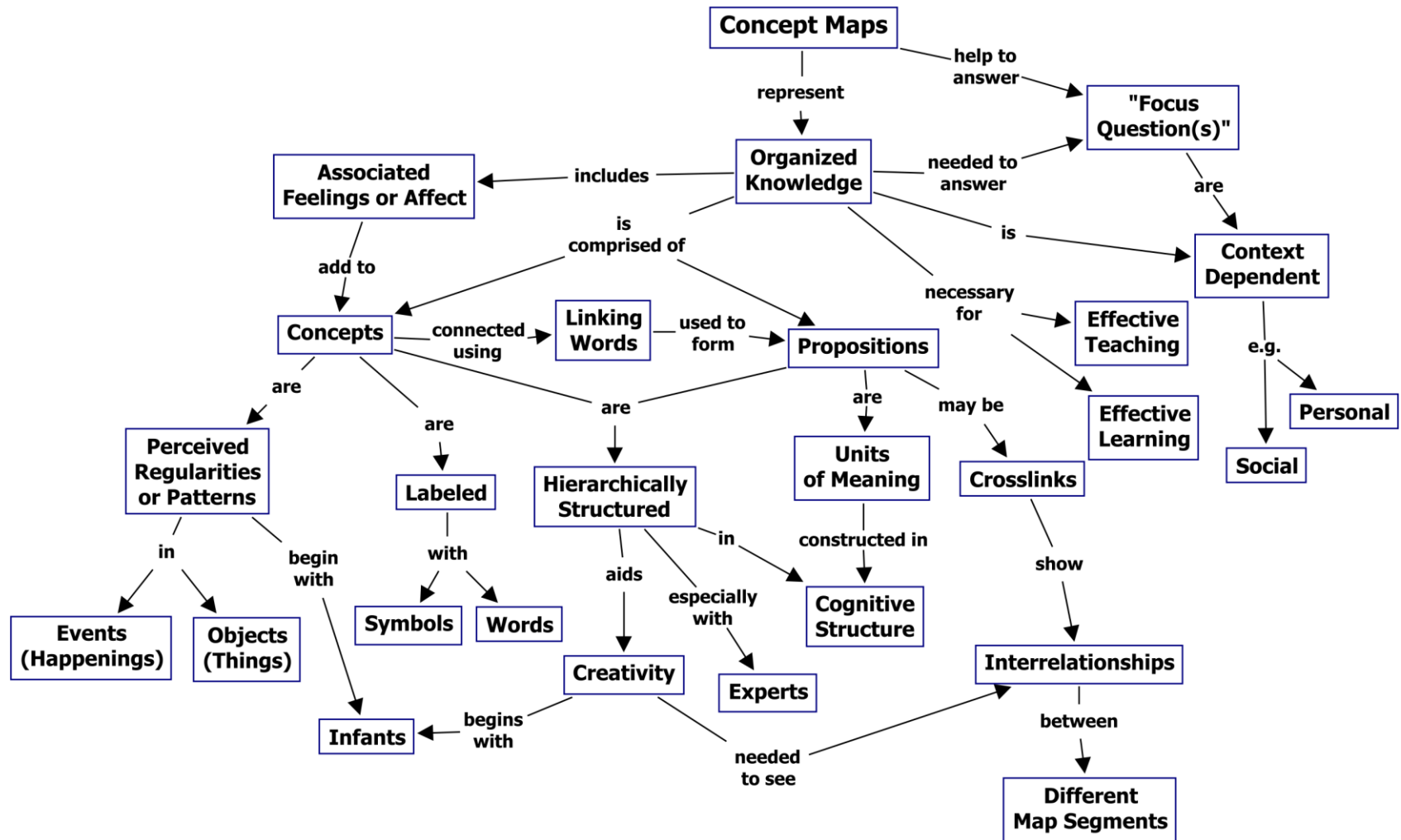
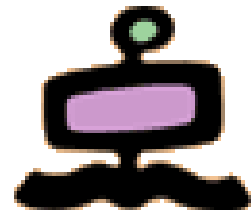
DL Designers



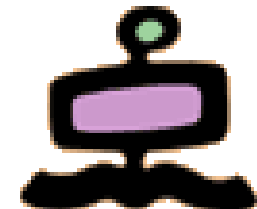
DL System Administrators



# Concept Maps

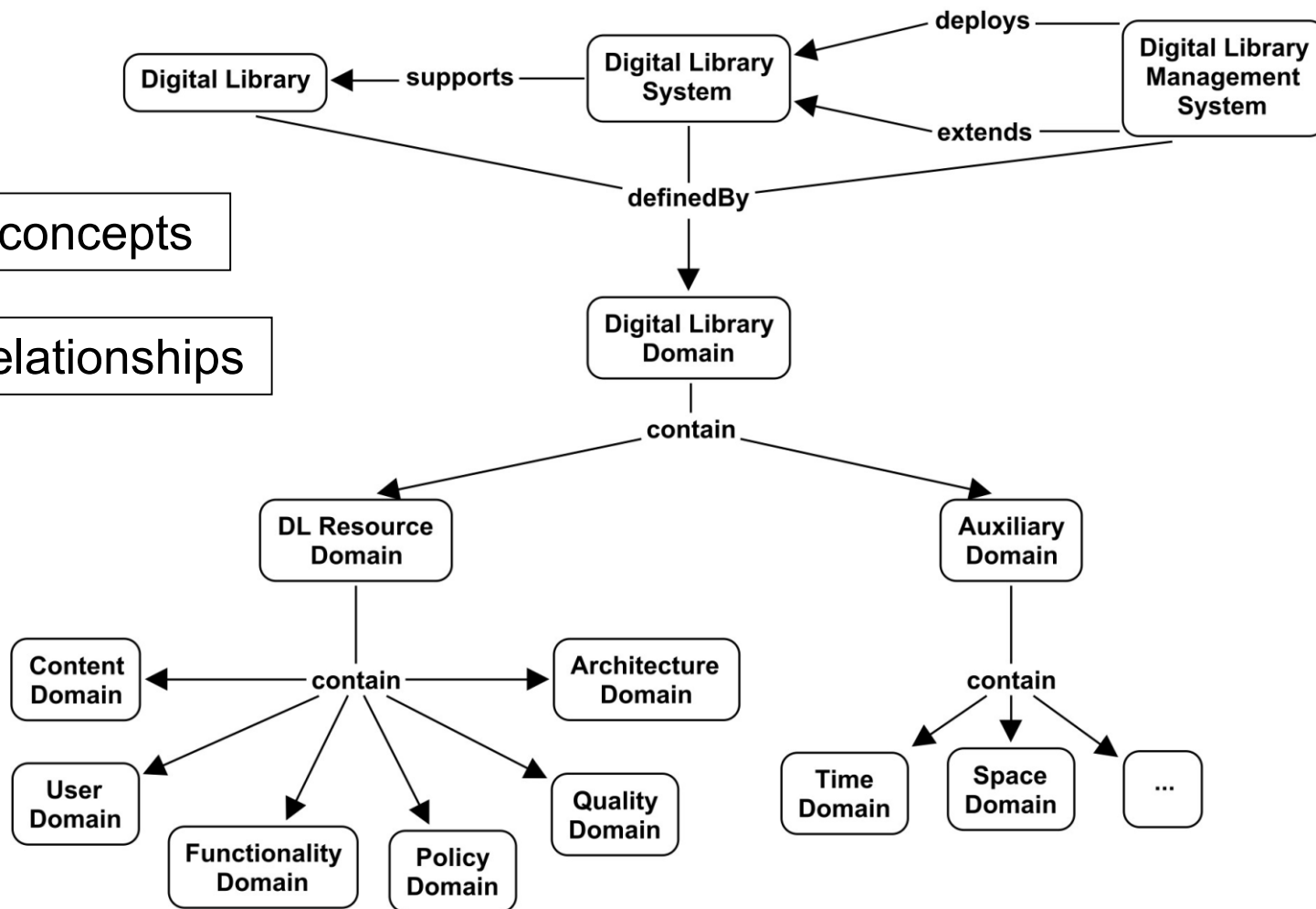


# Digital Library Domains

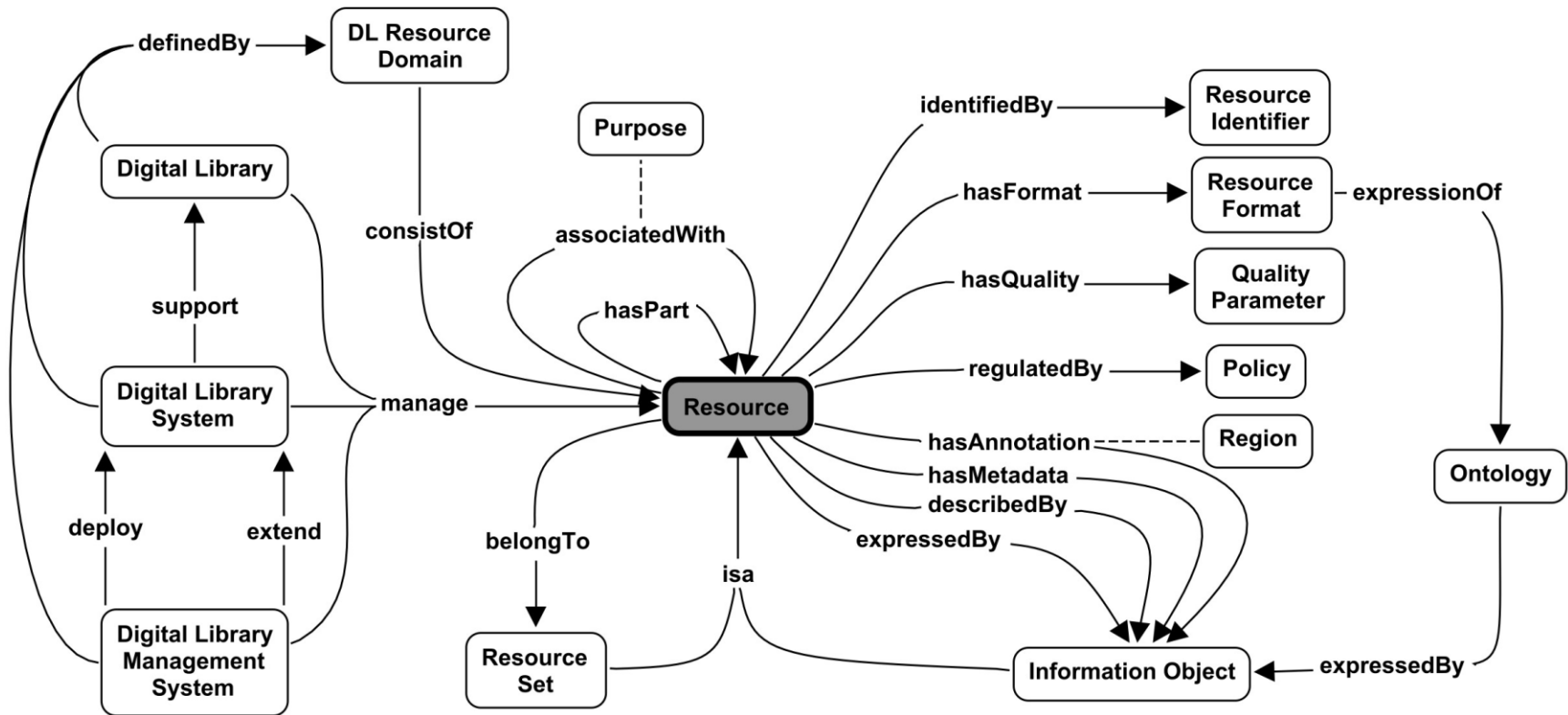
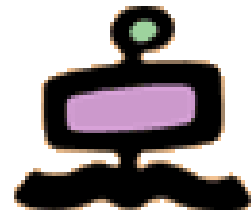


218 concepts

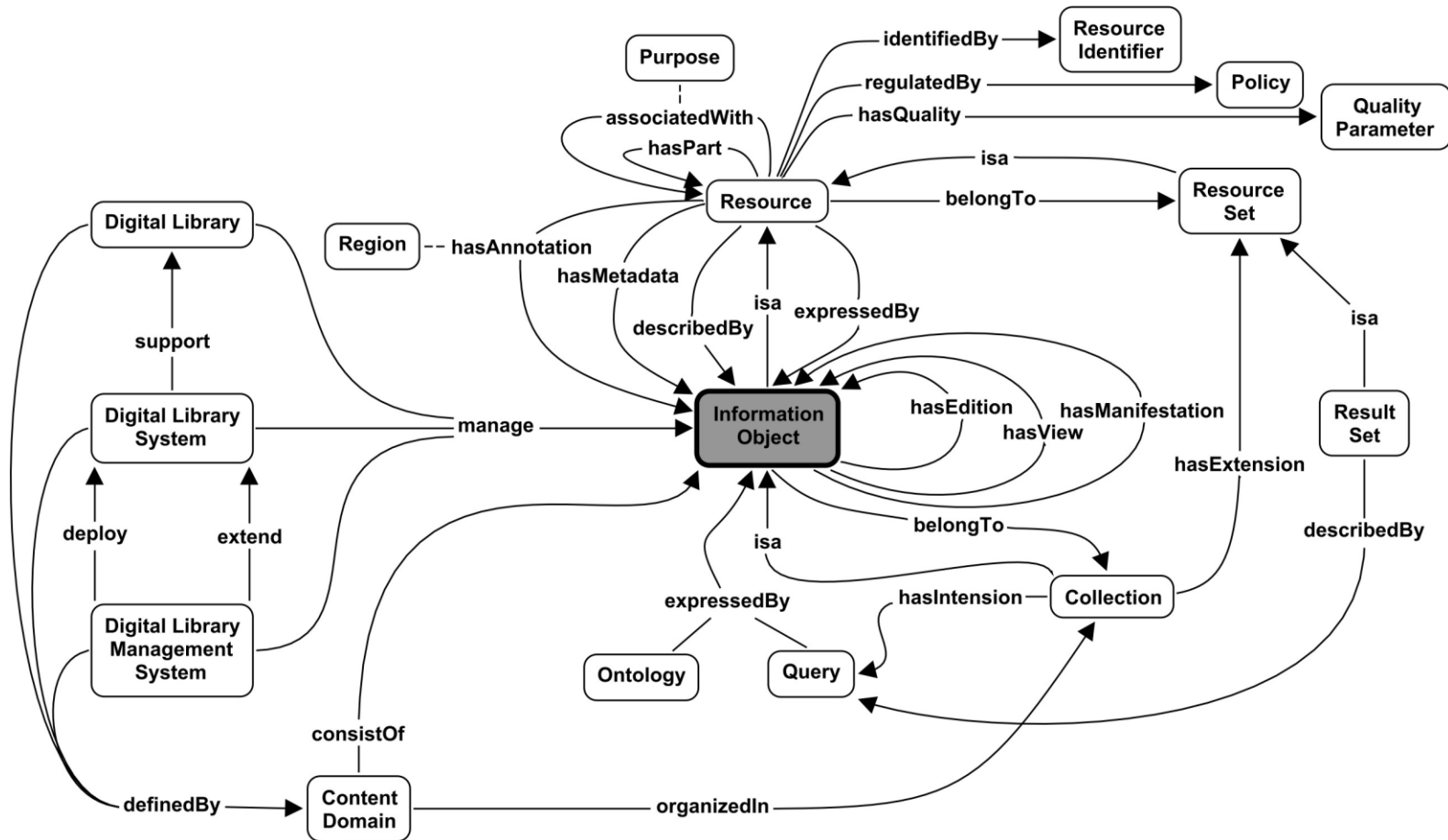
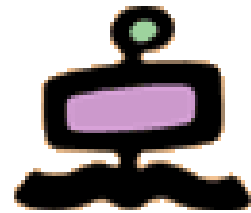
52 relationships



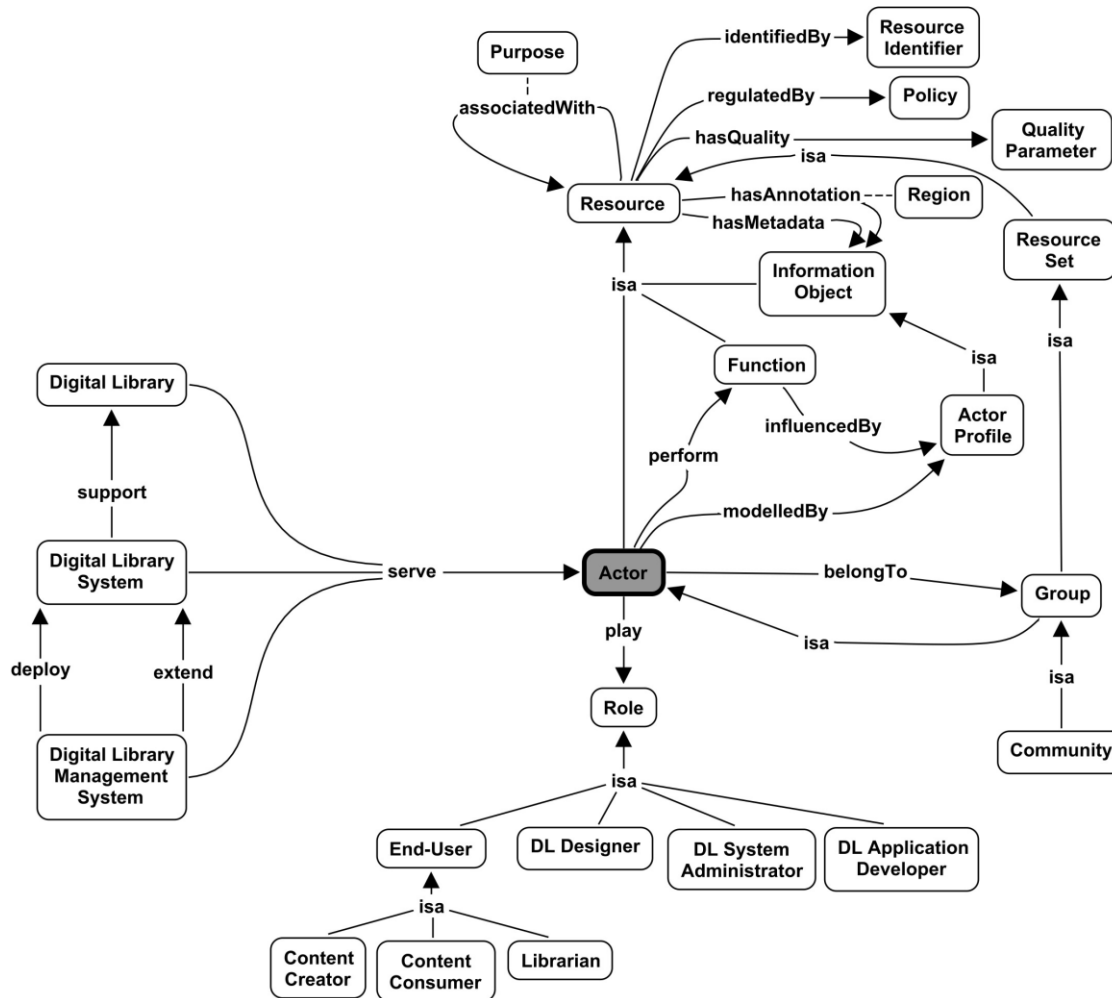
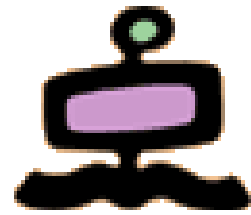
# The Resource Domain



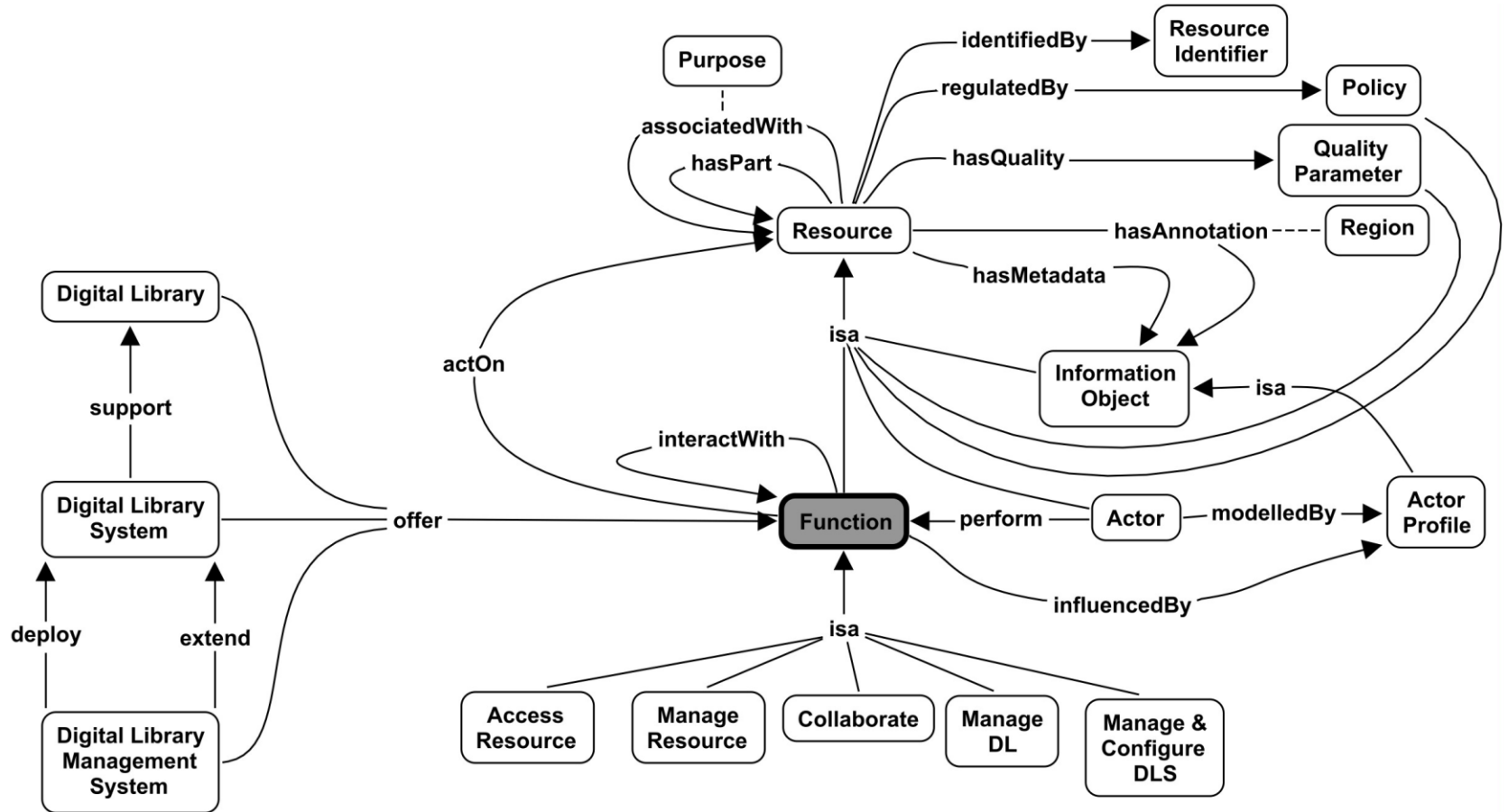
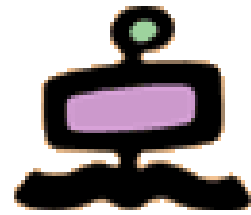
# The Content Domain



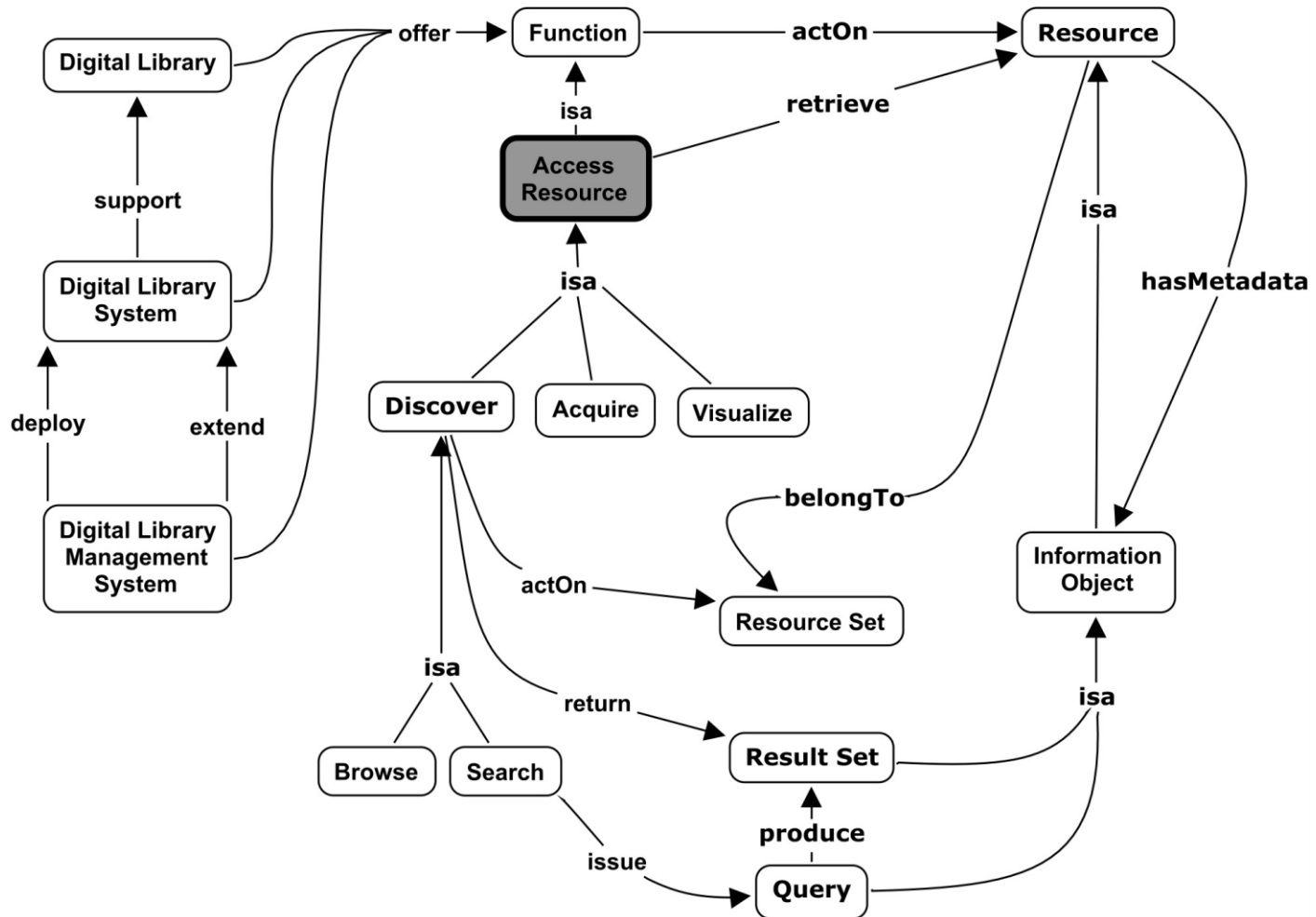
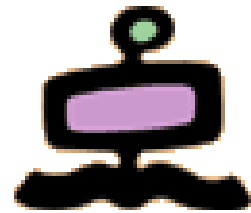
# The User Domain



# The Functionality Domain

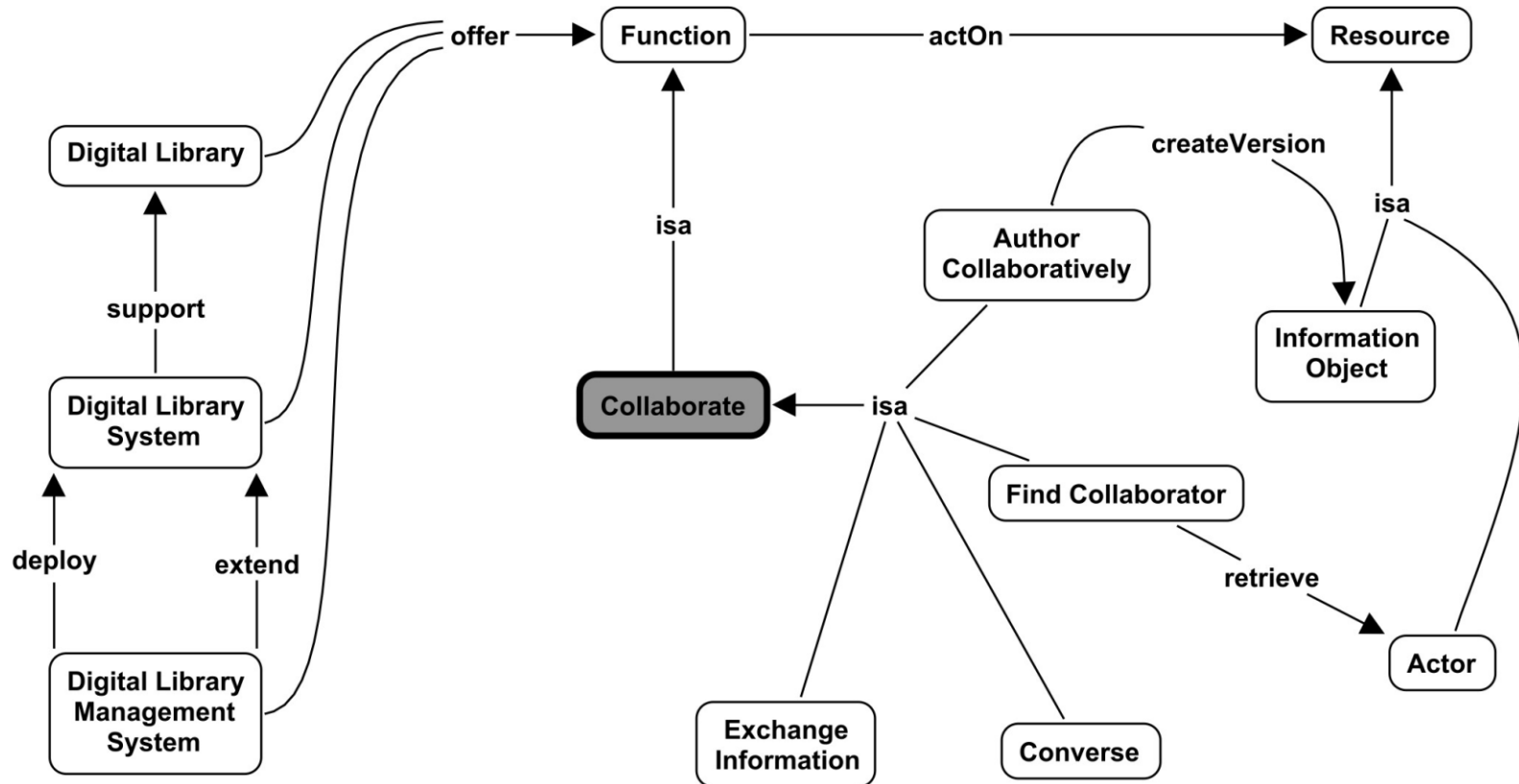
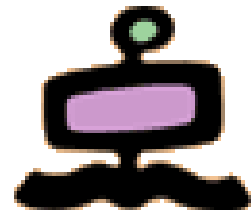


# Access Resource

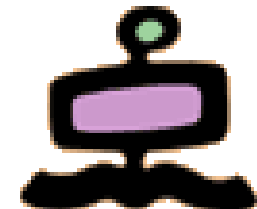




# Collaborate



# Main functions



## C32 Access Resource

C33 Discover

C34 Browse

C35 Search

C36 Acquire

C37 Visualize

## C38 Manage Resource

C39 Create

C40 Submit

C41 Withdraw

C42 Update

C43 Validate

C44 Annotate

C45 Manage Inform Object

C64 Manage Actor

C71 Manage Function

C72 Manage Policy

C73 Manage Quality Parameter

## C74 Collaborate

C75 Exchange Information

C76 Converse

C77 Find Collaborator

C78 Author Collaboratively

## C79 Manage DL

C80 Manage Content

C85 Manage User

C90 Manage Functionality

C92 Manage Quality

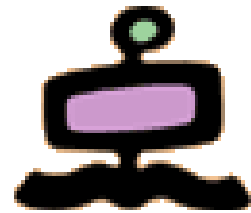
C93 Manage Policy Domain

## C94 Manage & Configure DLS

C95 Manage DLS

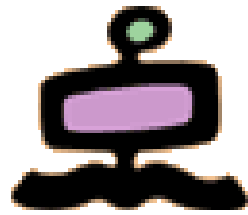
C104 Configure DLS

# Manage Information Object



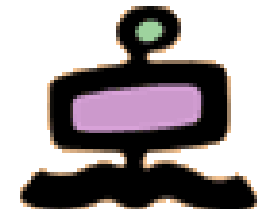
- C46 Disseminate
  - C47 Publish
- C48 Author
  - C49 Compose
- C50 Process
  - C51 Analyze
    - C52 Linguistic Analysis
    - C53 Qualitative Analysis
    - C54 Examine Preservation State
    - C55 Statistical Analysis
    - C56 Scientific Analysis
    - C57 Create Structured Representation
    - C58 Compare
  - C59 Transform
    - C60 Physically Convert
    - C61 Translate
    - C62 Convert to a Different Format
    - C63 Extract

# Manage Actor



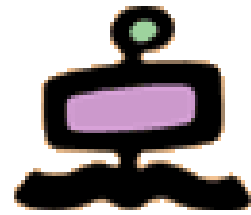
- C65 Establish Actor
  - C66 Register
    - C67 Sign Up
  - C68 Login
- C69 Personalise
  - C70 Apply Profile

# Manage DL



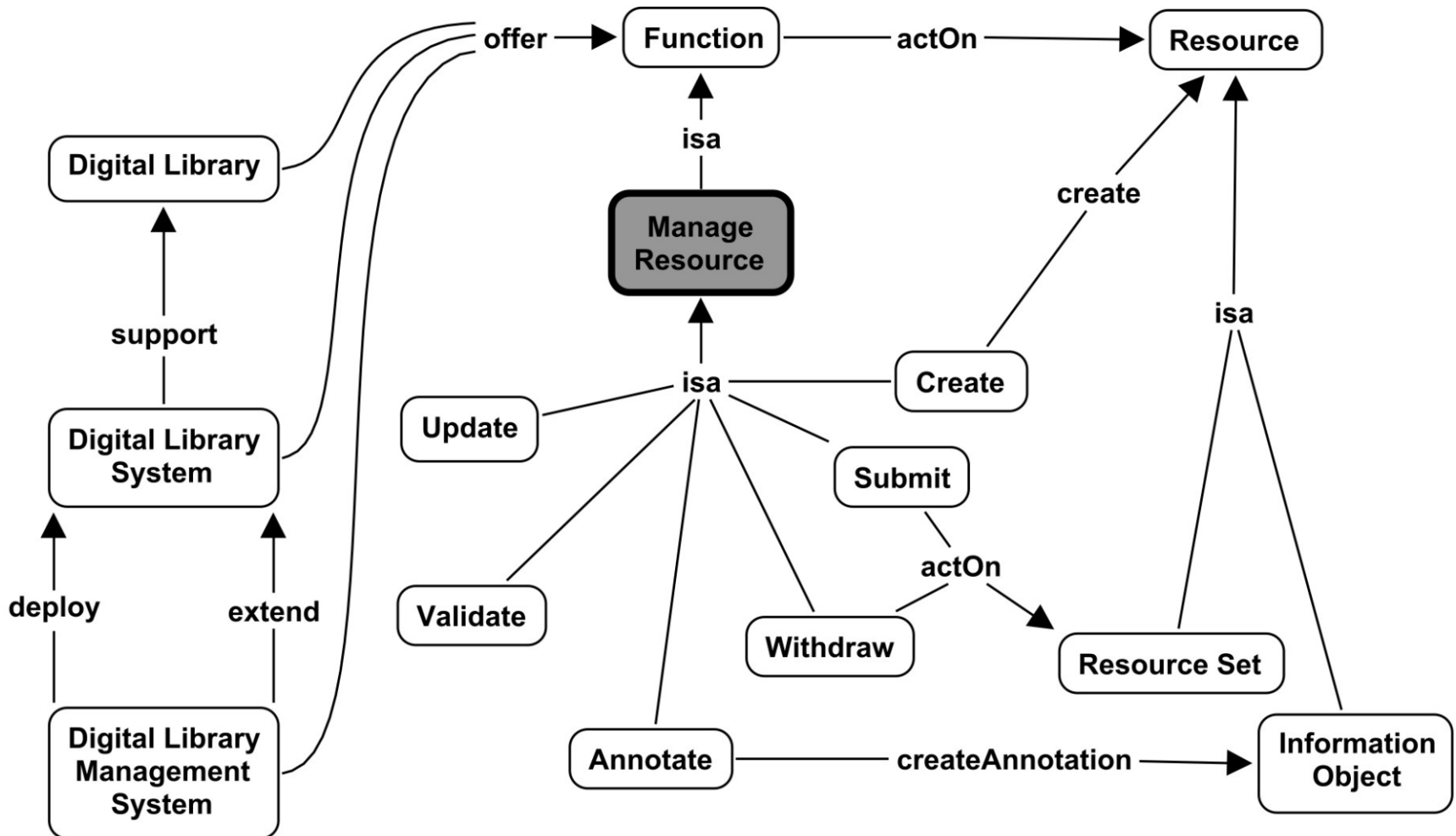
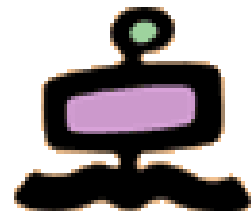
- C80 Manage Content
  - C81 Manage Collection
    - C82 Import Collection
    - C83 Export Collection
  - C84 Preserve
- C85 Manage User
  - C86 Manage Membership
  - C87 Manage Group
  - C88 Manage Role
  - C89 Manage Actor Profile
- C90 Manage Functionality
  - C91 Monitor Usage
- C92 Manage Quality
- C93 Manage Policy Domain

# Manage & Configure DLS



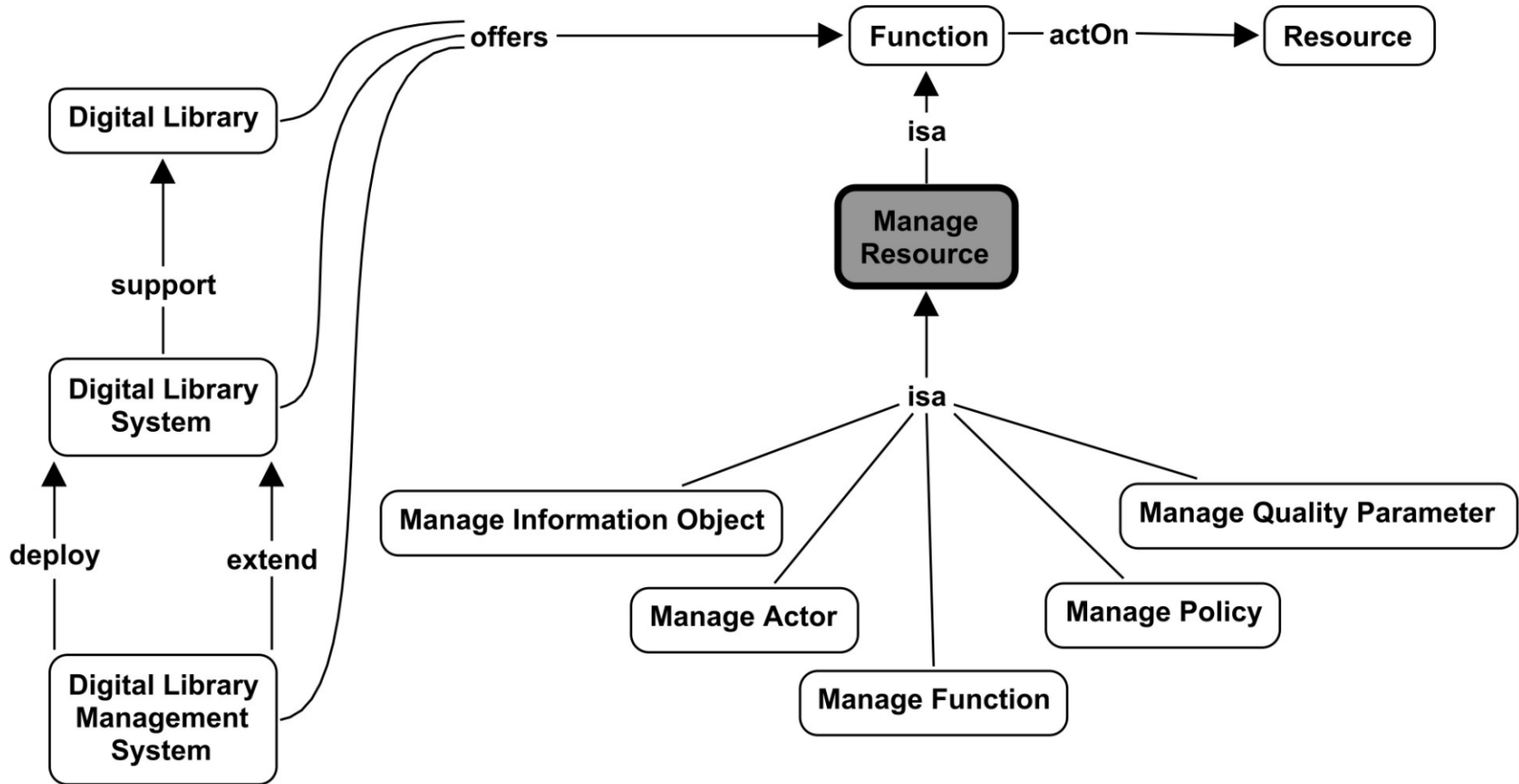
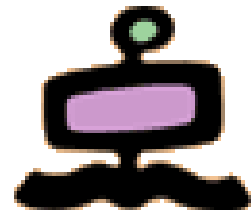
- C95 Manage DLS
  - C96 Create DLS
  - C97 Withdraw DLS
  - C98 Update DLS
  - C99 Manage Architecture
    - C100 Manage Architectural Component
    - C101 Configure Architectural Component
    - C102 Deploy Architectural Component
    - C103 Monitor Architectural Component
- C104 Configure DLS
  - C105 Configure Resource Format
  - C106 Configure Content
  - C107 Configure User
  - C108 Configure Functionality
  - C109 Configure Policy
  - C110 Configure Quality

# Manage Resource (1)

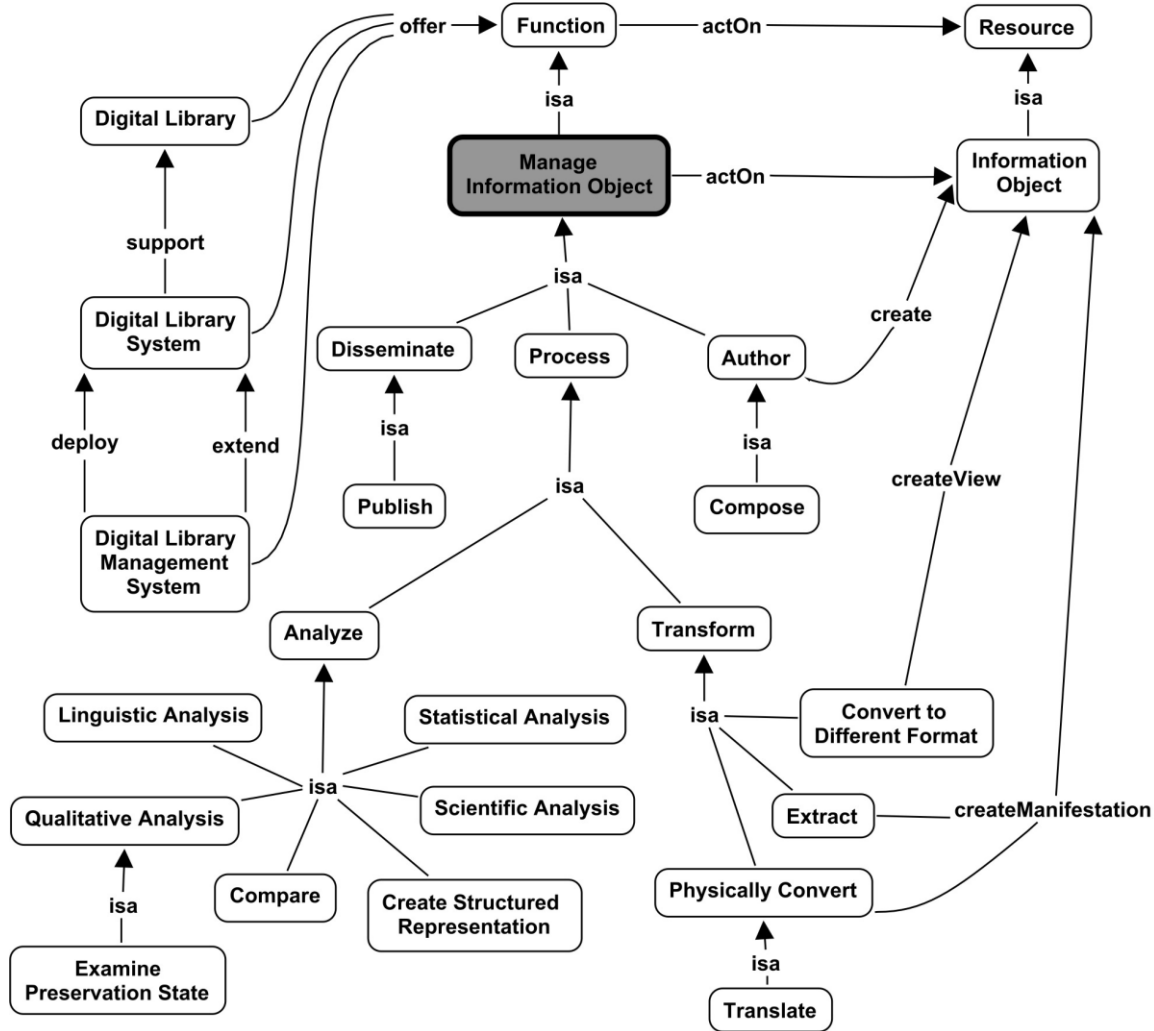
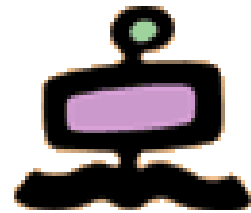




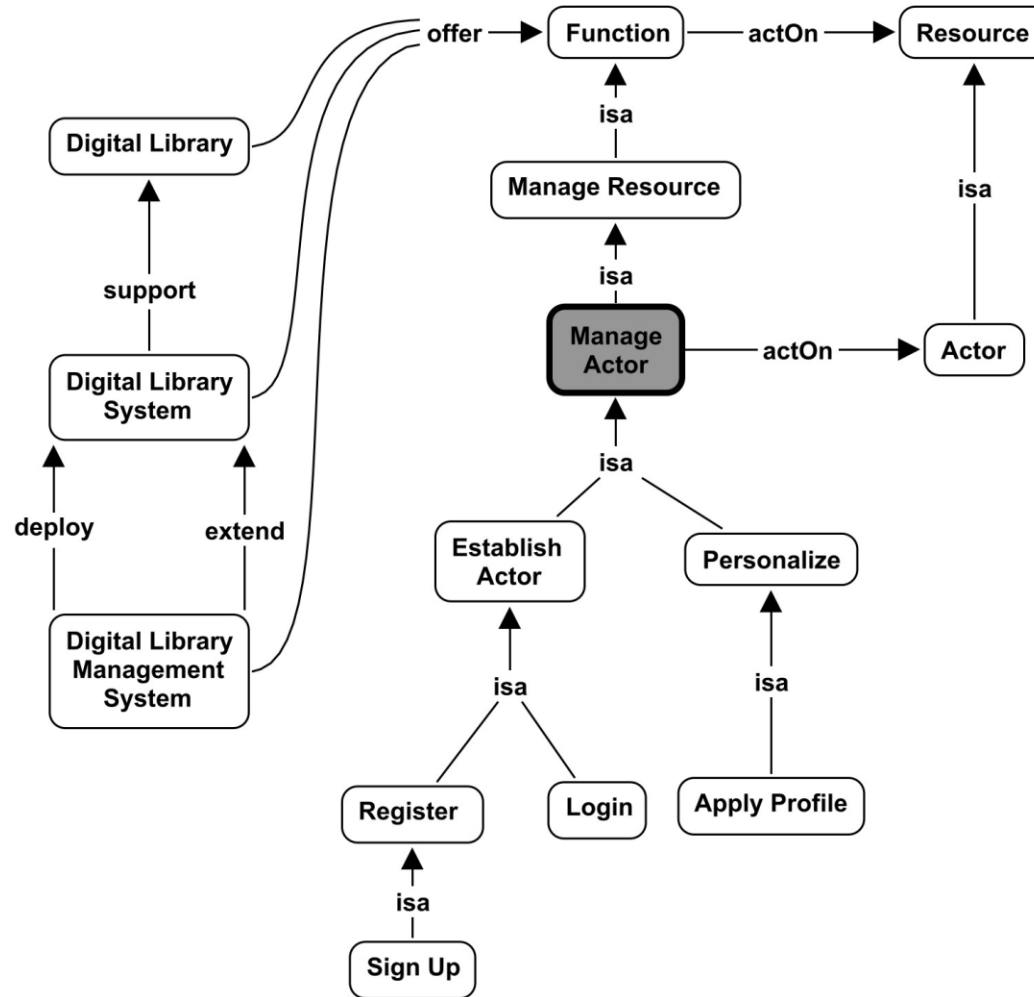
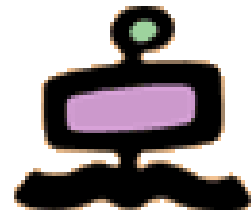
# Manage Resource (2)



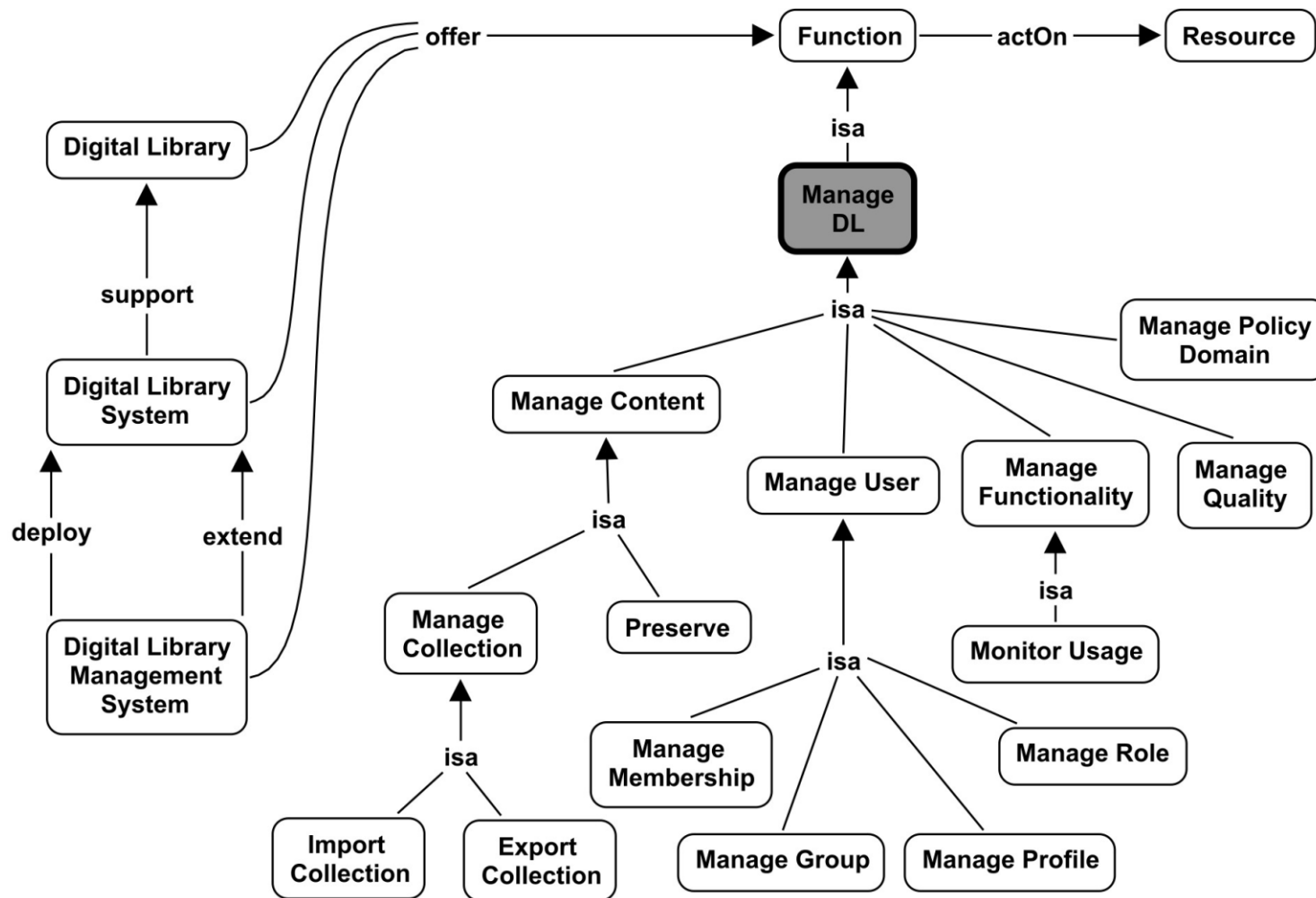
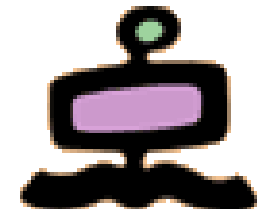
# Manage Information Object



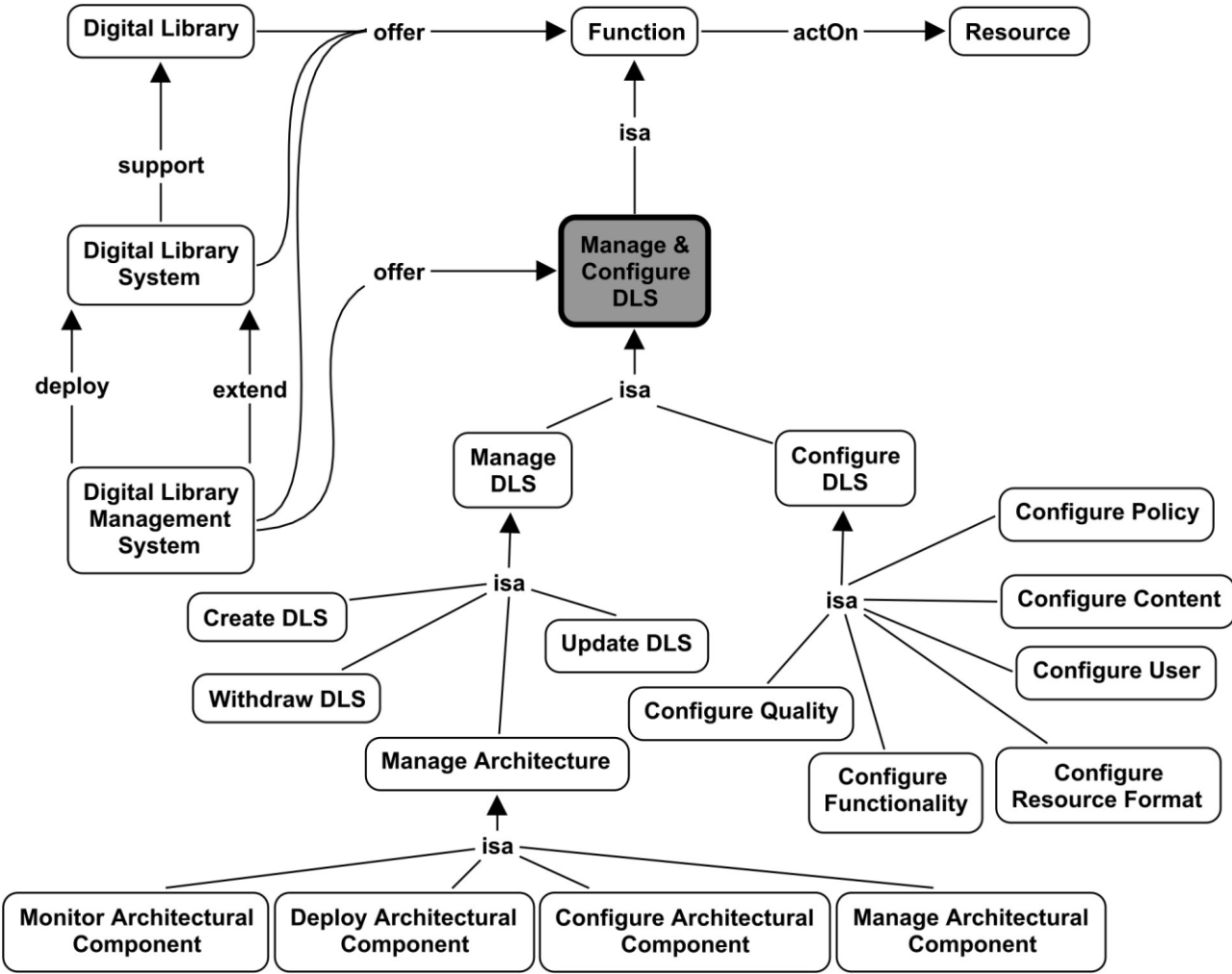
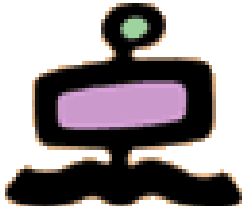
# Manage Actor



# Manage DL

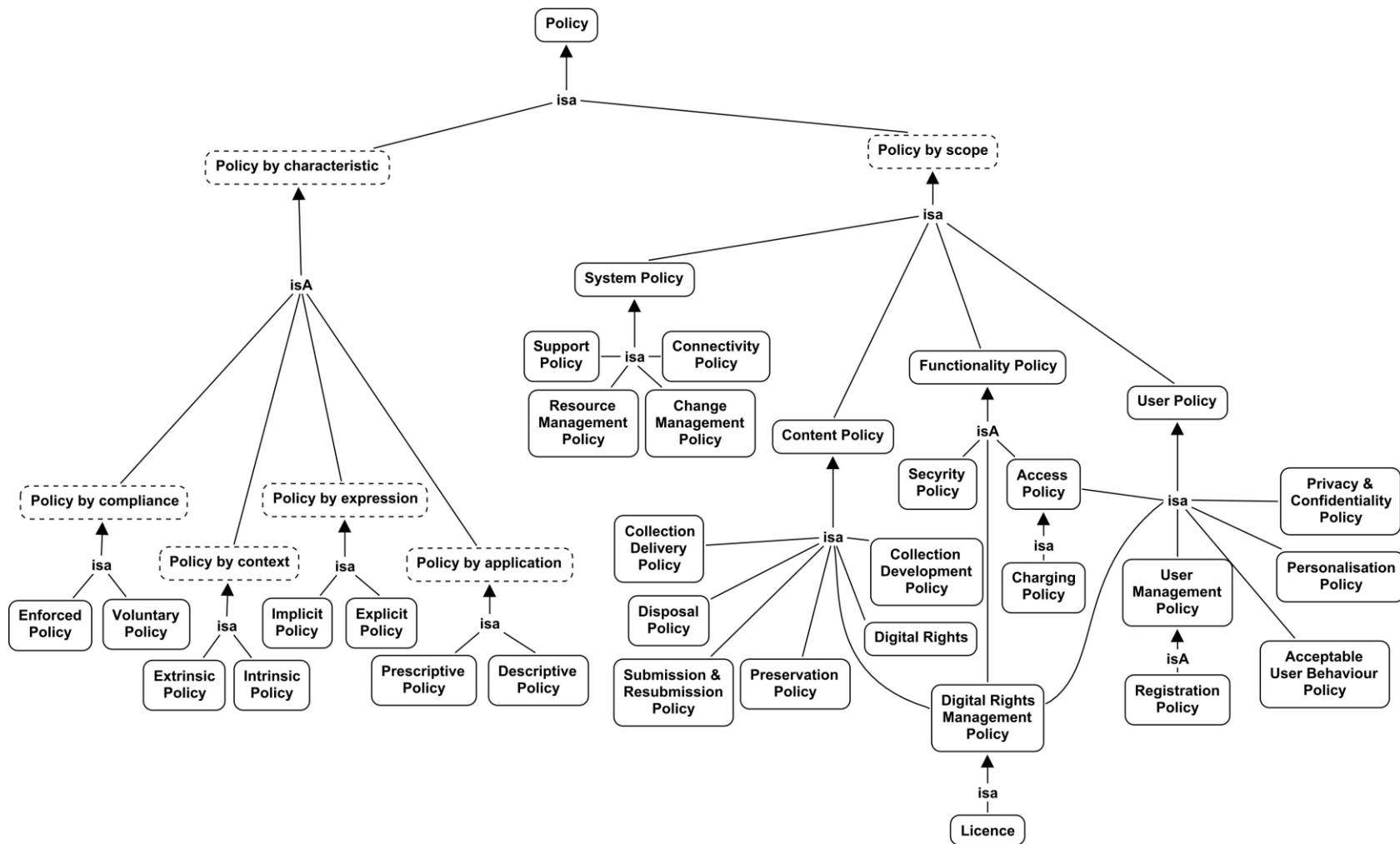
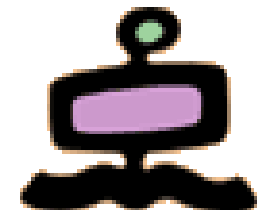


# Manage & Configure DLS



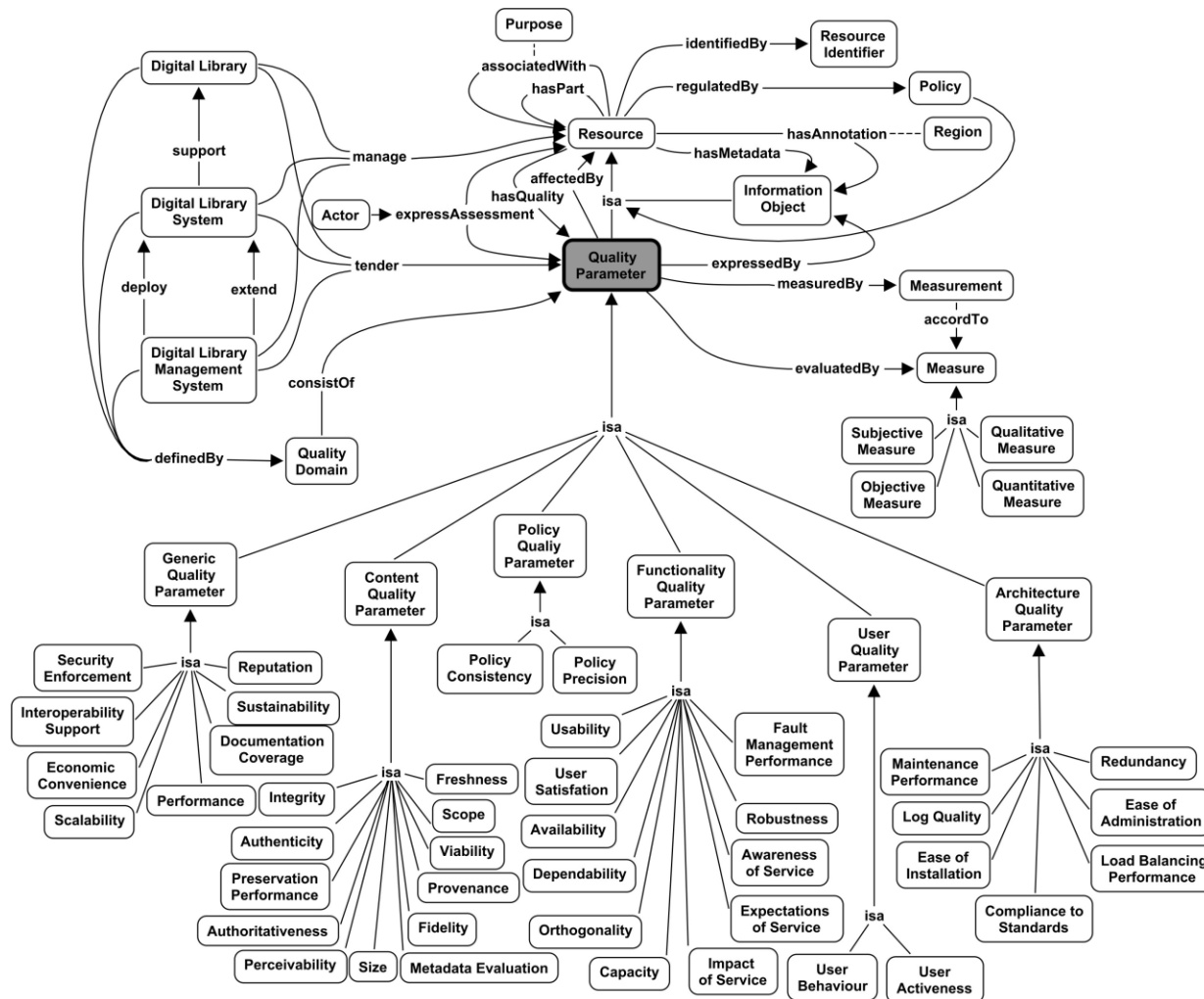
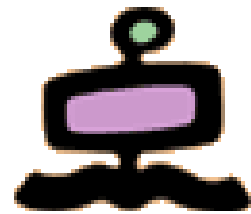


# Categorization of Policies

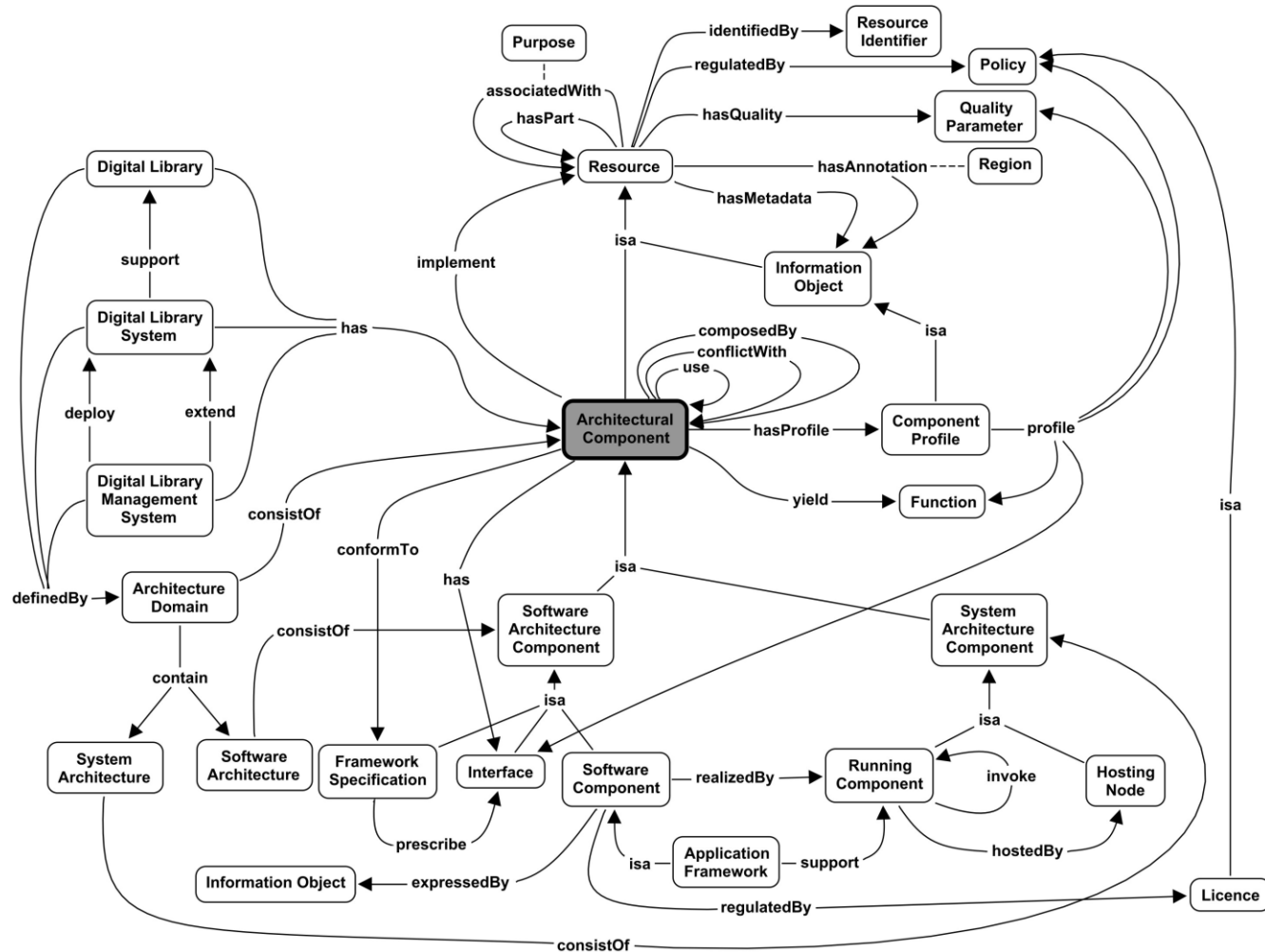
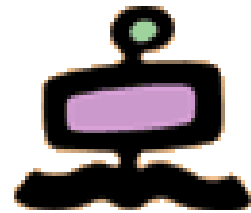




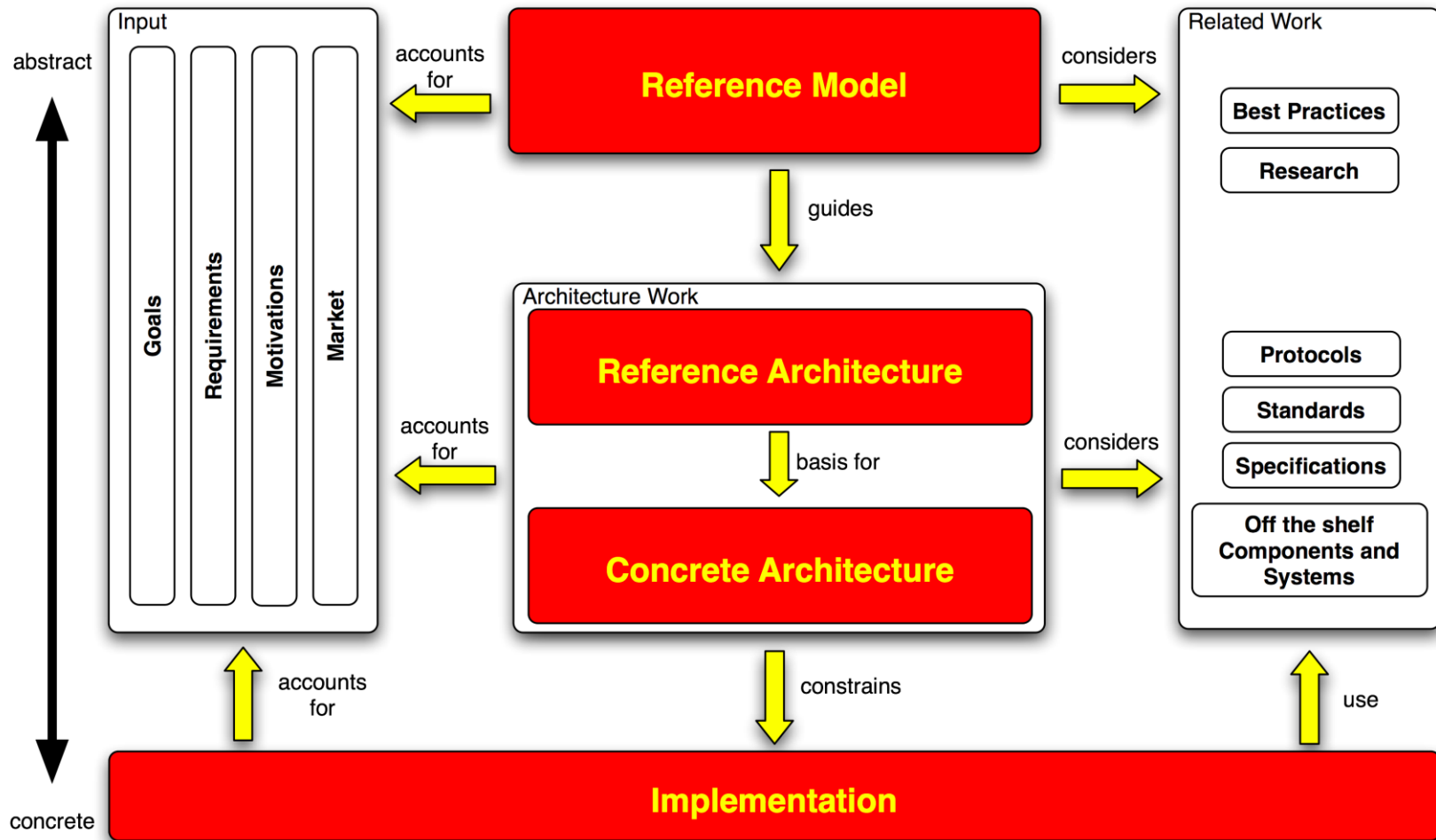
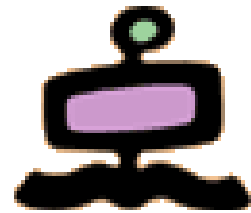
# The Quality Domain



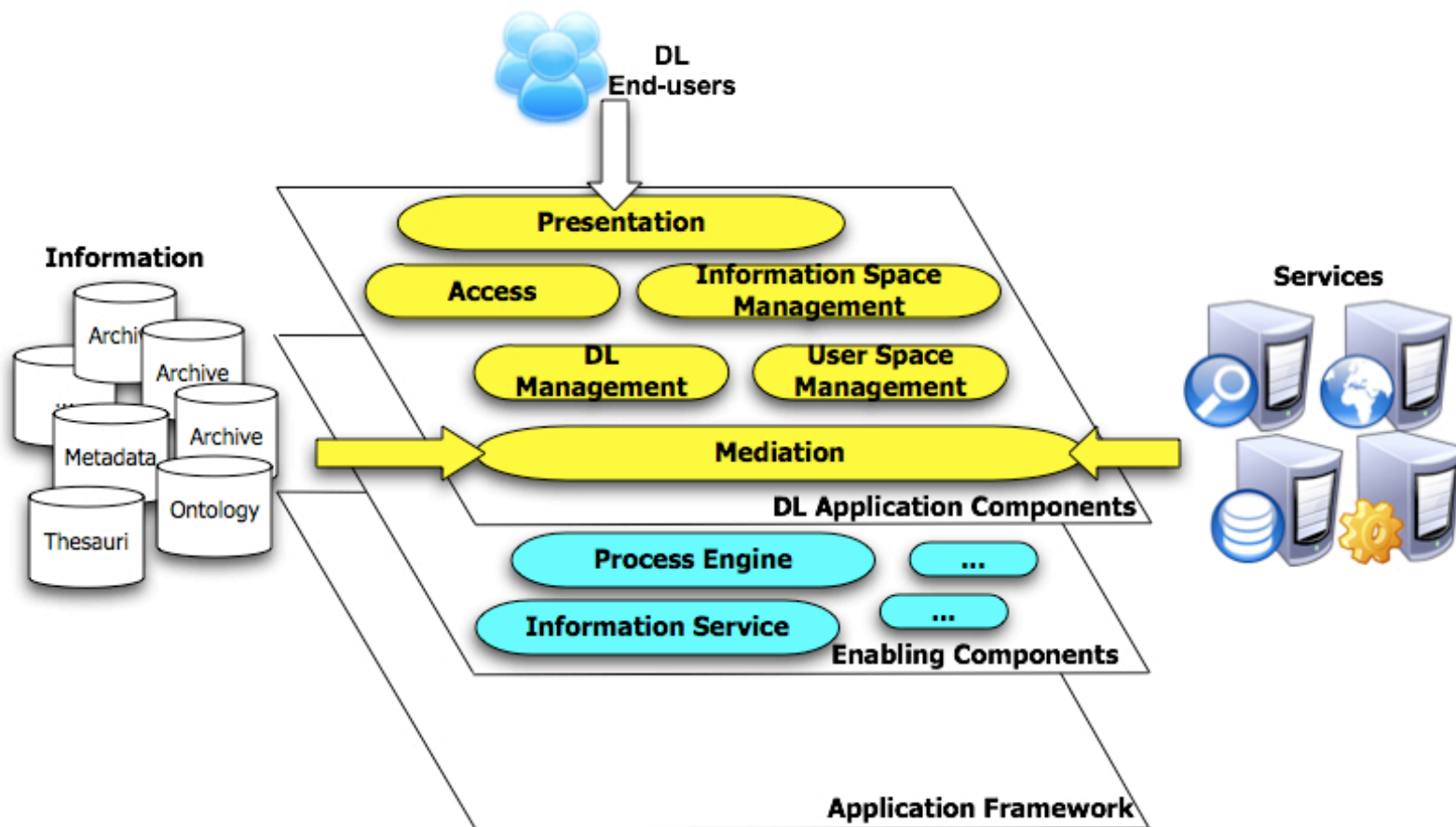
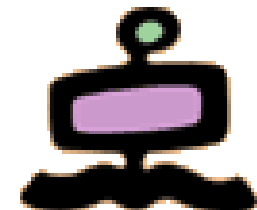
# The Architecture Domain



# The Digital Library Development Framework



# DLS Reference architecture



# DLS Concrete architecture

