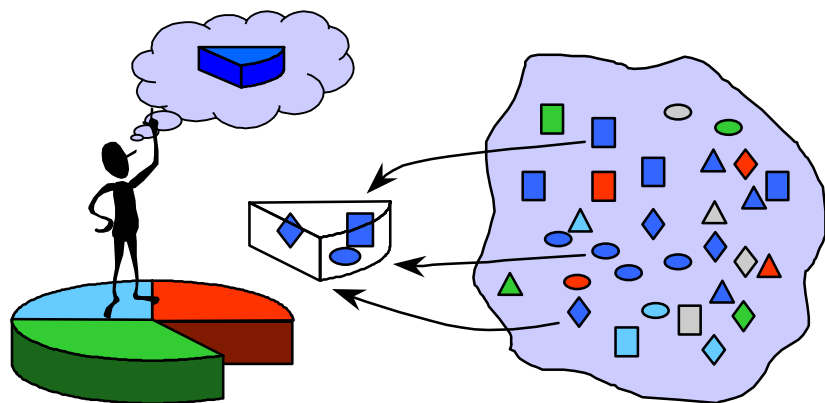


# Personalized Information Environments



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*DARPA PI Meeting, San Diego, CA October 15-17, 1997*

# Overview

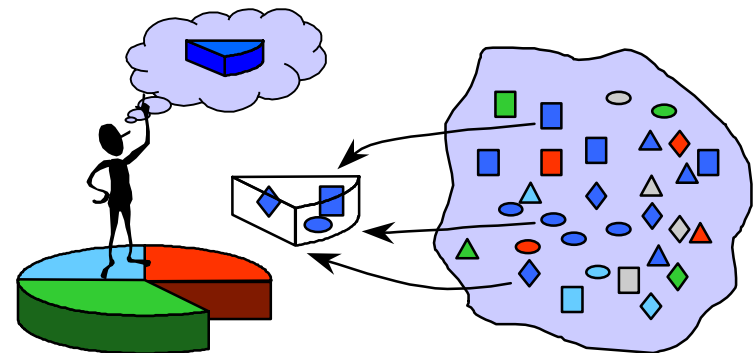


- **Problem**
- **Personalized information environment (PIE)**
- **Research focus**
- **PIE architecture**
- **Specific activities**
- **Legion metasystem environment**



# What is the problem?

- **vast sources of information**
  - organization is *provider*-centric
- **want *user*-centric strategy to:**
  - select databases for search
  - conduct searches
  - merge results
  - awareness services (SDI)



# Our solution

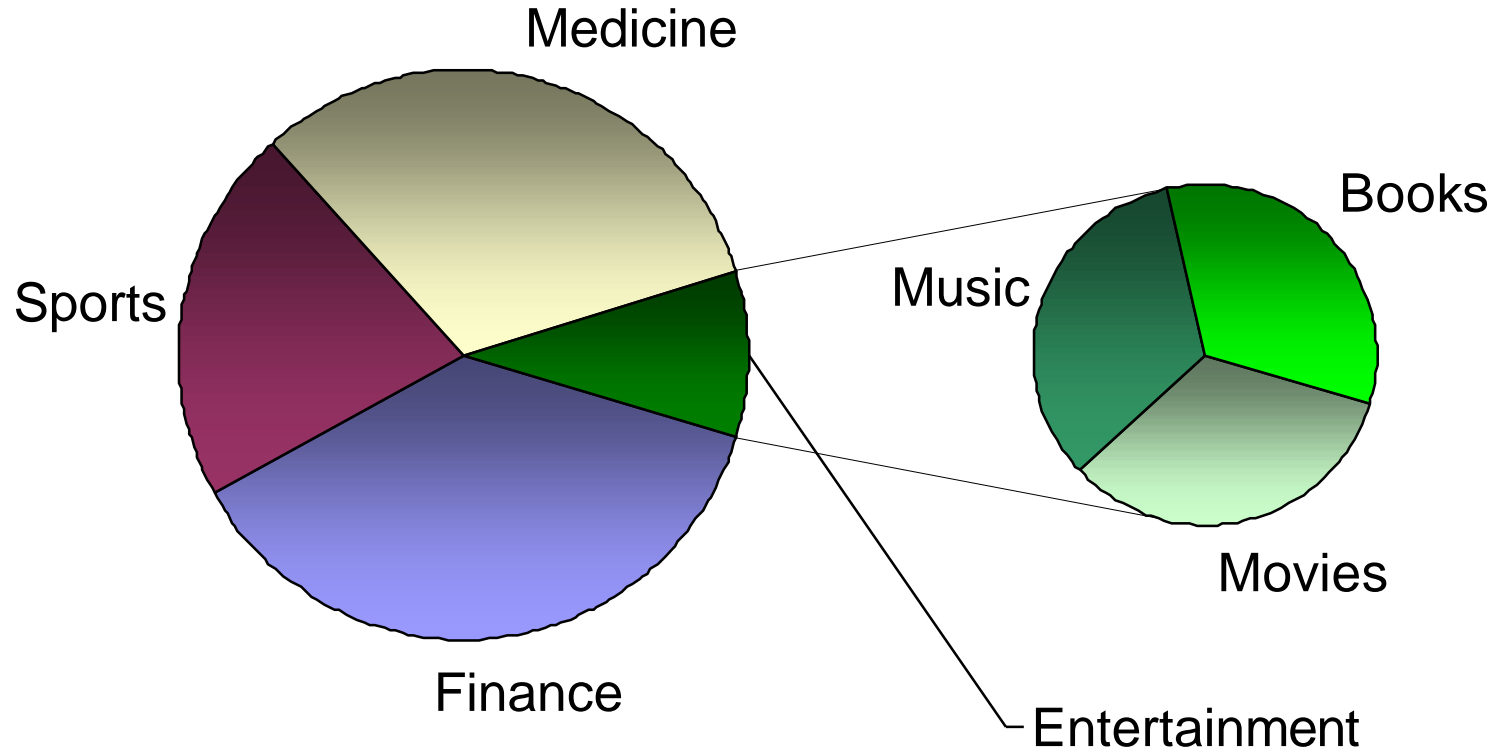


## **Create personalized information environments (PIE) that:**

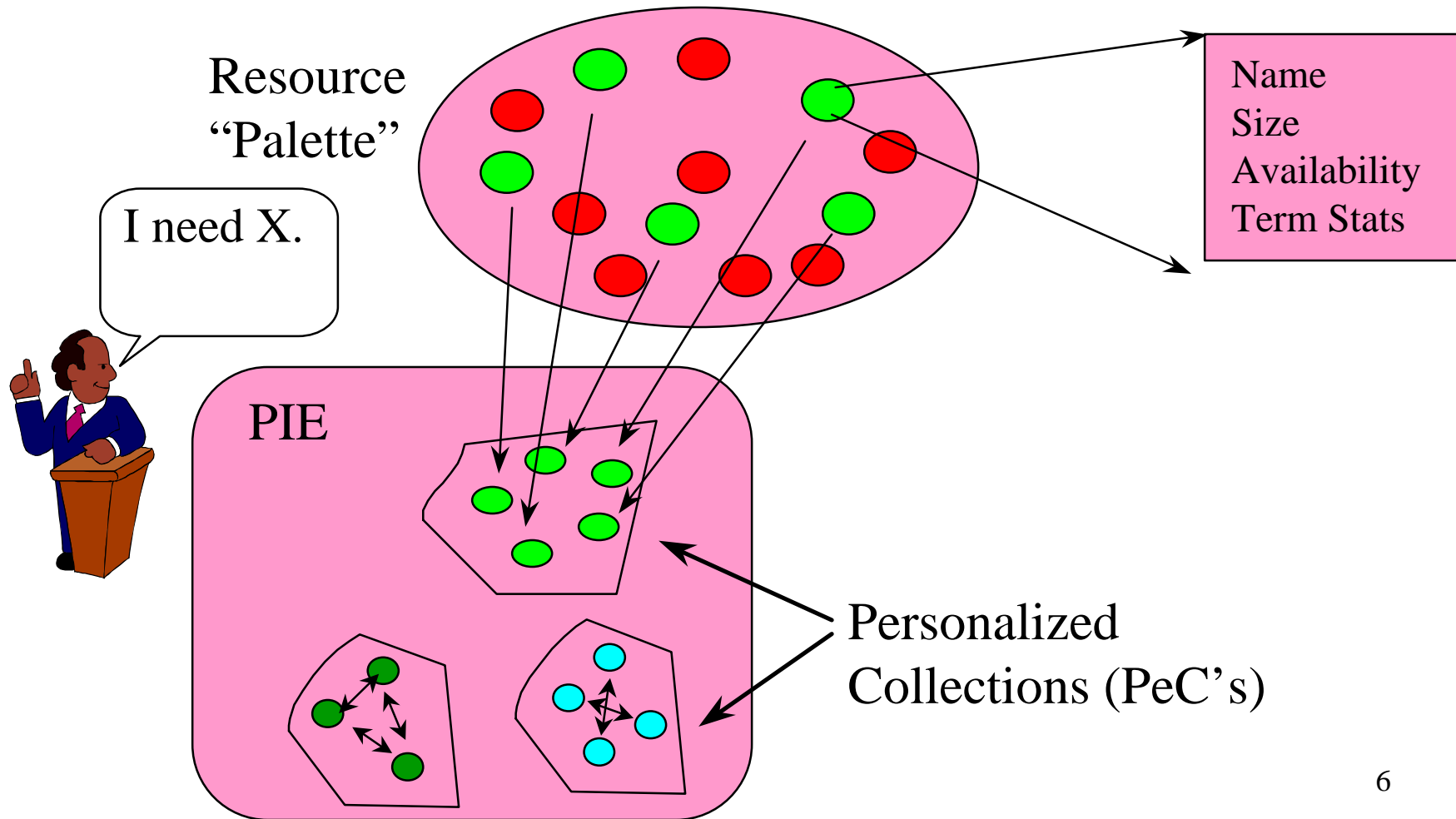
- **are persistent**
- **are user-customizable**
- **are private or sharable**
- **provide effective search efficiently**
- **discreet**



# User-centric view

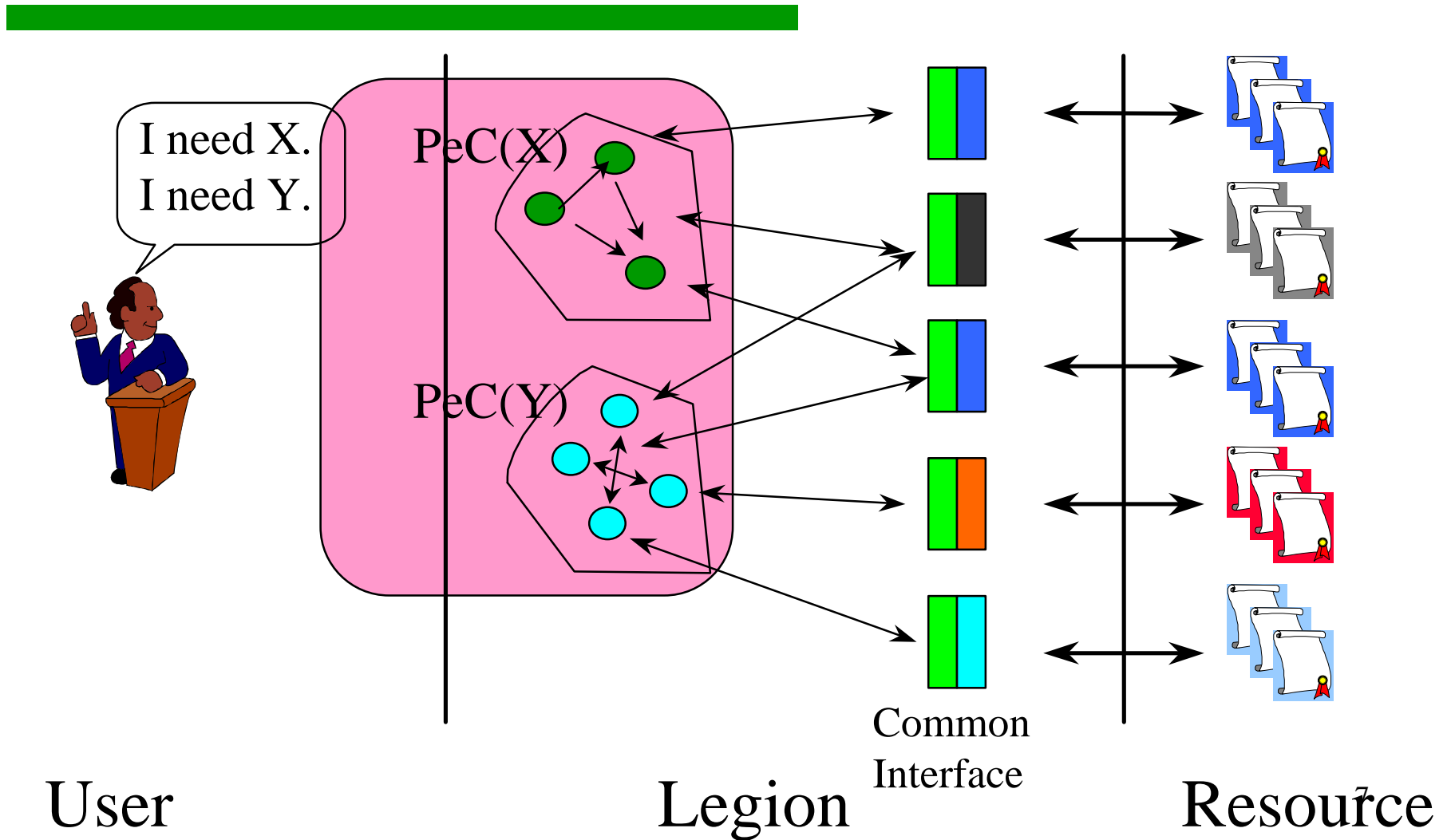


# Personalized Information Environments





# PIE over Legion



# Our general research focus



**Examine issues related to distributed searching in PIE's by**

- **simulation studies**
  - strategies for selection and merging
- **building, deploying, and measuring prototype systems**
  - user studies
  - performance studies



# PIE Architecture

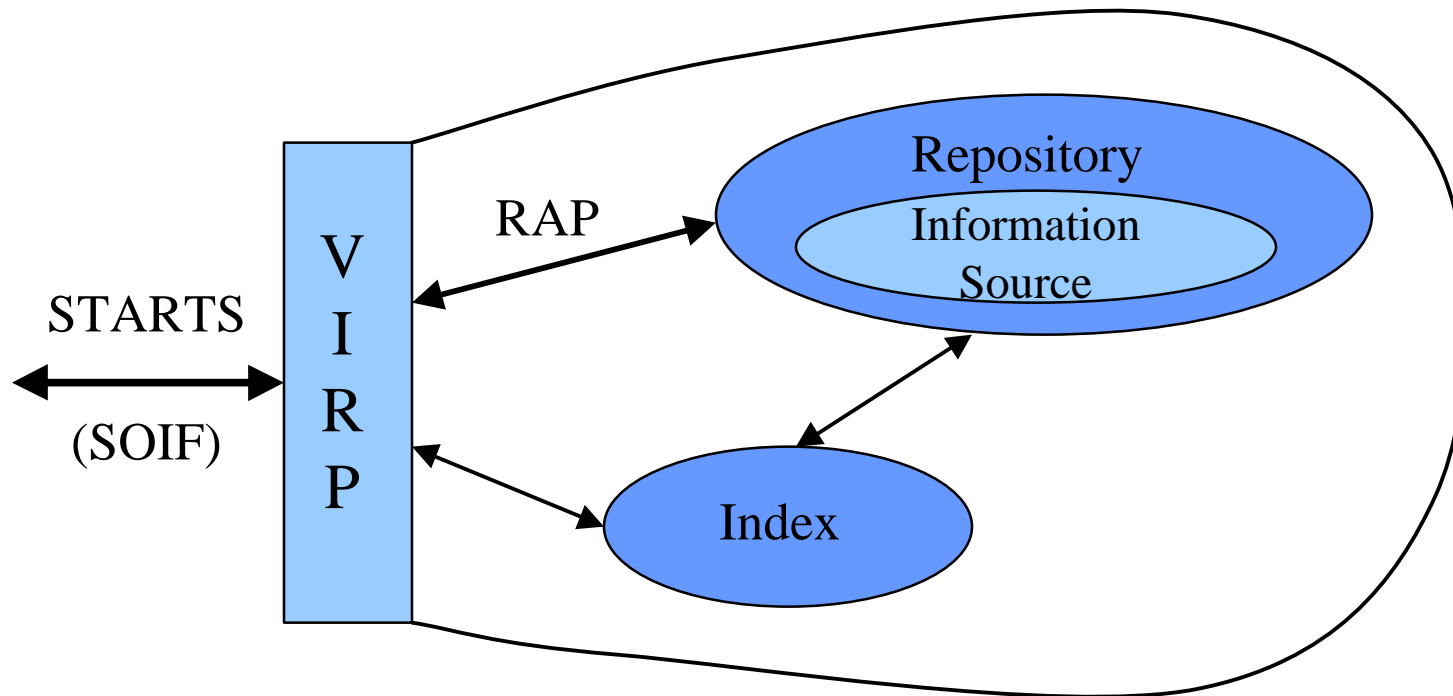


## **Personalized Information Environment components:**

- **Personalized Collections (PeC)**
  - user specified information resources
- **Virtual Repositories (VIRP)**
  - uniform encapsulation of information sources



# VirtualRepository (VIRP)

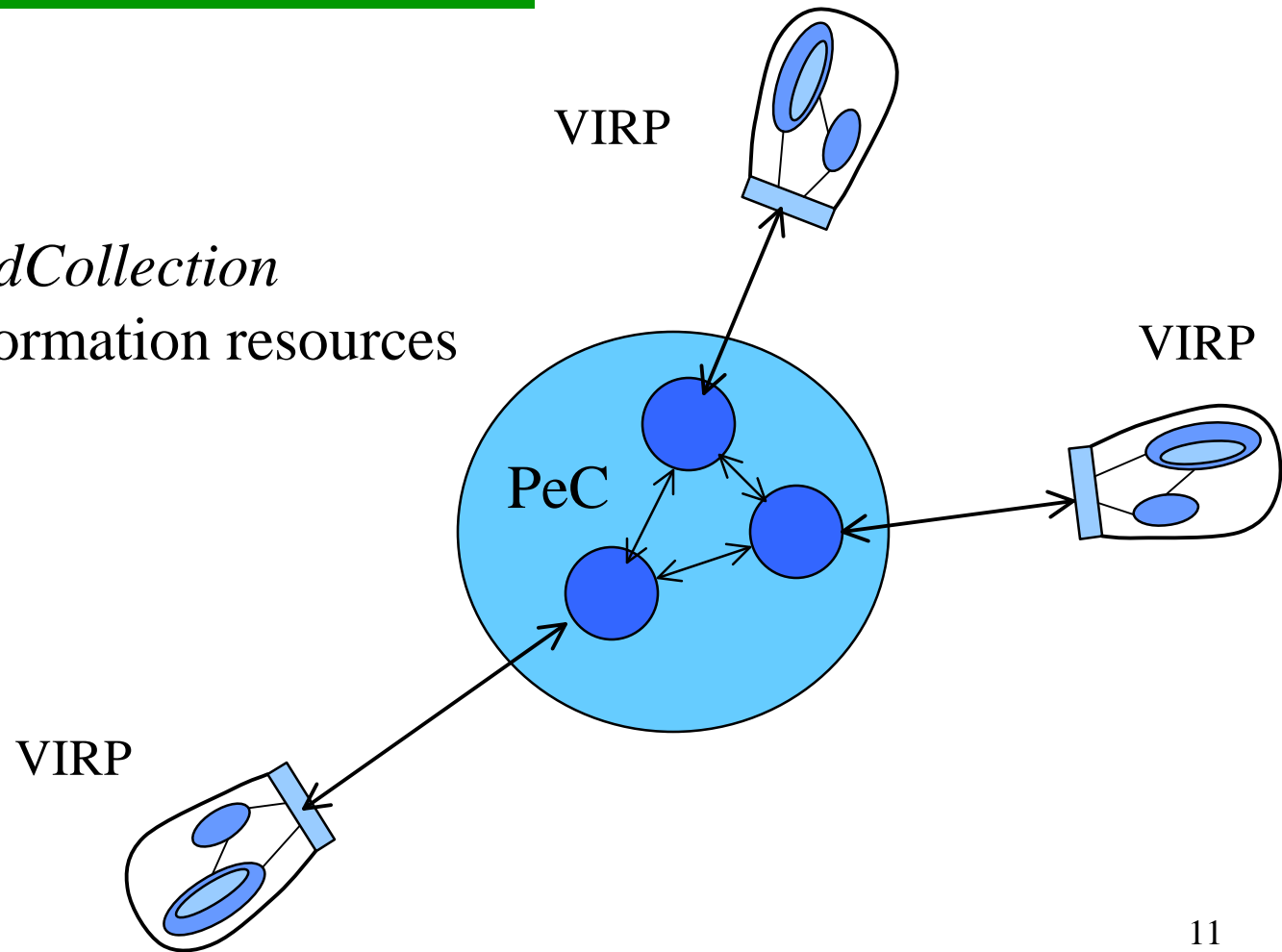


*A VirtualRepository encapsulates information resources uniformly*

# Personalized Collection (PeC)

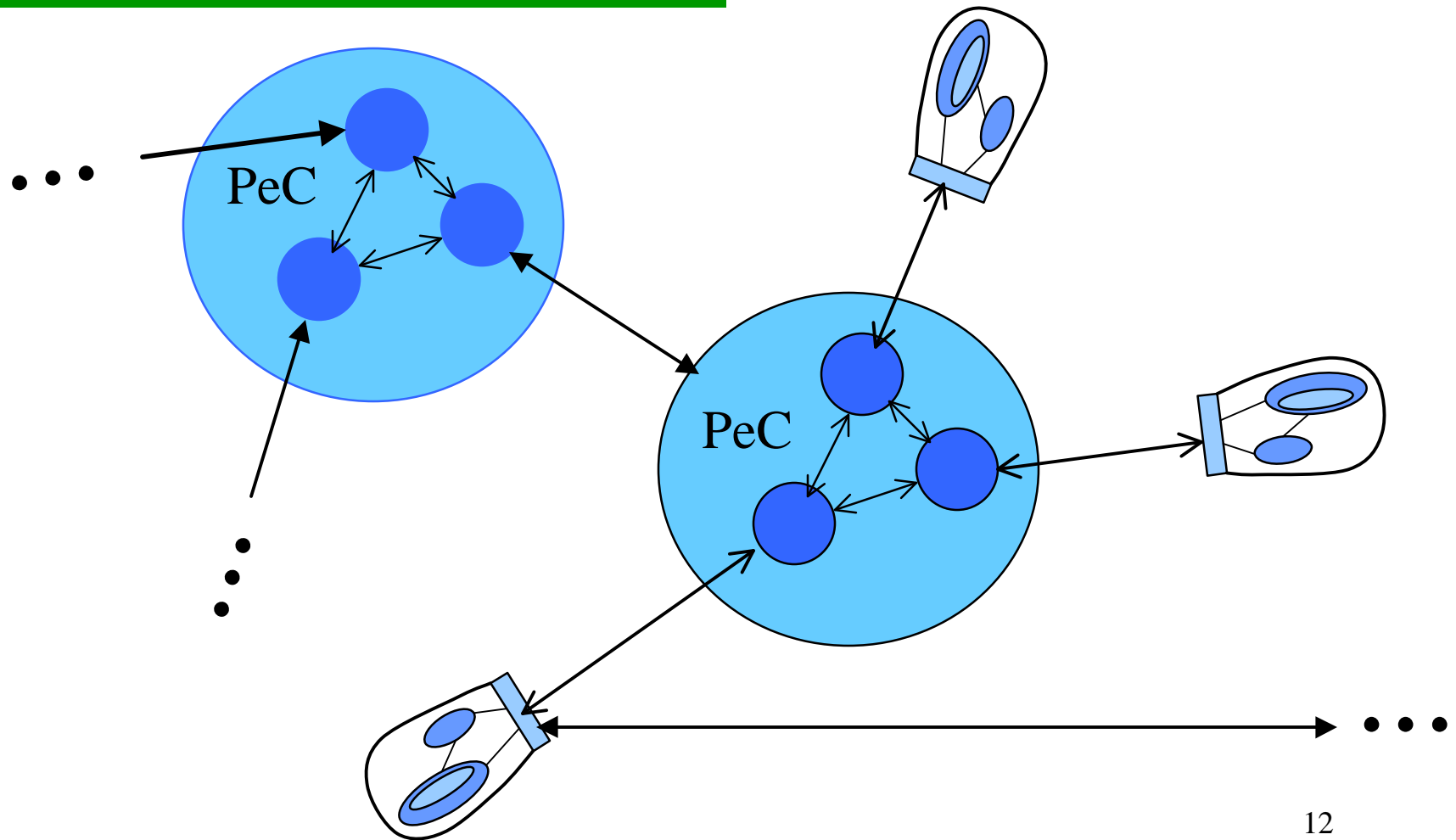


*A Personalized Collection*  
aggregates information resources





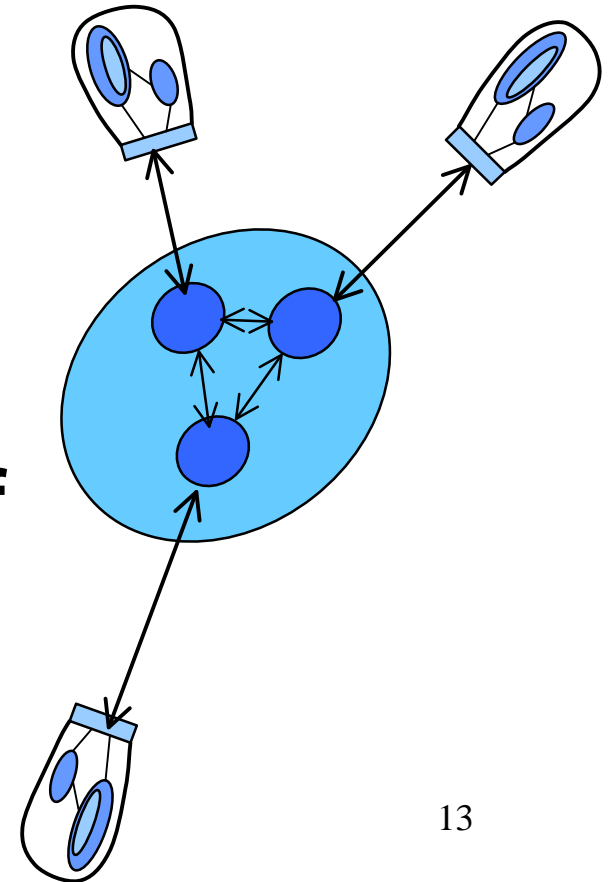
# Composition of components





# Research issues

- **Exchange information between components of PeC**
  - what information?
  - how much?
  - how often?
- **Incremental acquisition of information**
- **SDI state information**

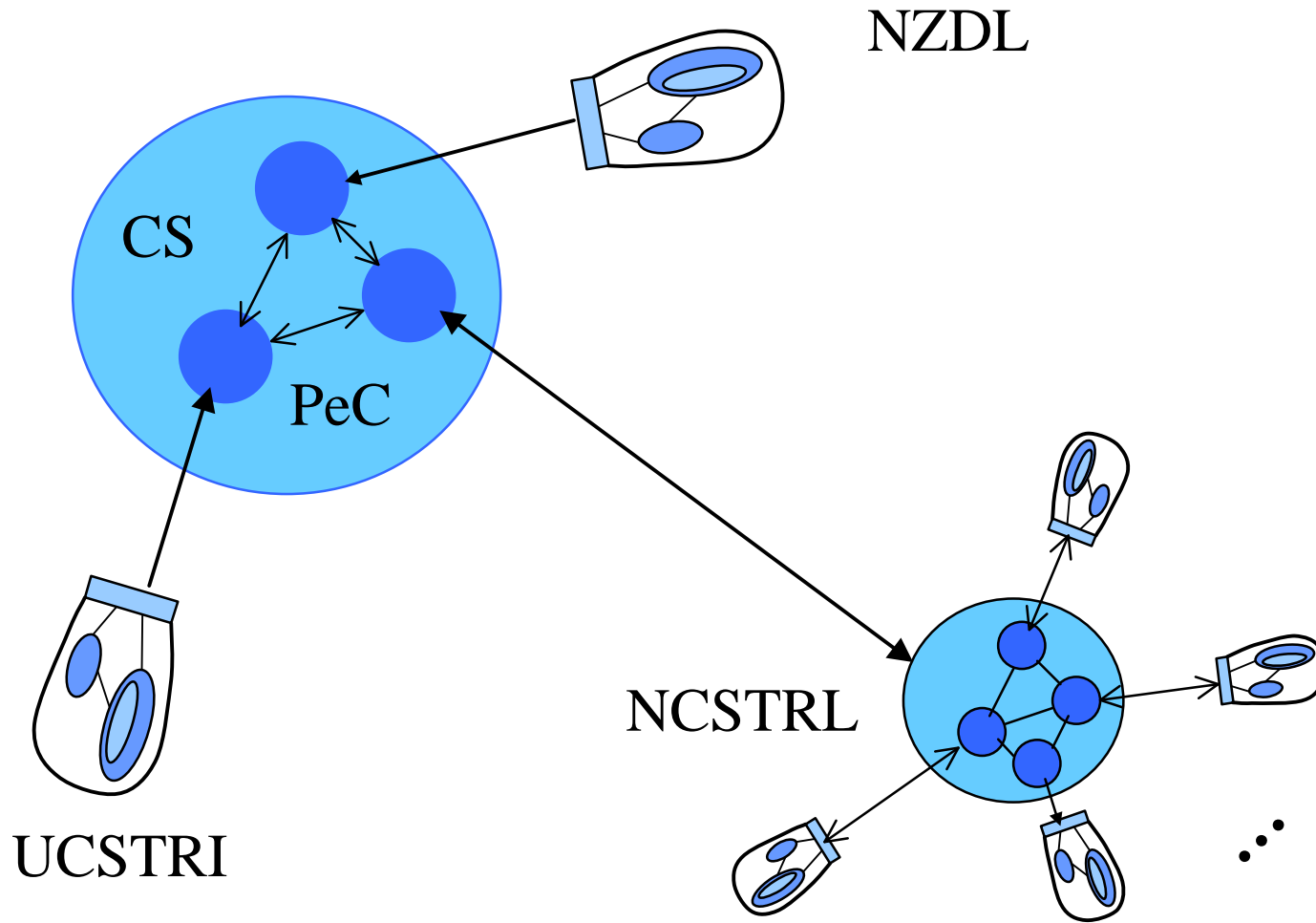


# Staged PeC prototypes



- **NCSTRL**
  - homogeneous search
  - homogeneous content
- **TREC**
  - homogeneous search
  - heterogeneous content
- **CS technical reports**
  - heterogeneous search

# CS Technical Reports PeC



# Some specific activities



- **Subject browsing**
- **Authority file generation**
  - metadata merging
- **Testbed for evaluating DB selection**
  - TIPSTER corpus (TREC)
- **DB selection filters**



# Recap



- **PIE is user-centric**
- **Research focus is on effective and efficient distributed searching**
  - retrospectively
  - SDI
- **Via simulation studies and direct observation of deployed prototypes**