SoftwareEntwicklung ▸ Beratung ▸ Schulung

The Order in Chaos

The
Subversion Repository Search Engine
(SupoSE)

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Agenda

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2. The Requirements
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4. Basic Concepts
5. Basic Architecture
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1. The Fundamental Idea

- We don't know the particular revision number
- We don't know the range of time
- We don't know which file etc.
- We don't know in which file in which revision etc.
- ...

2. The Requirements

- In which Revision the Ticket #76 has been solved ?
- Which Tags or Branches did or do exist within the current project?
- In which documents did we used the term(s) “...” ?
- In which file did we used the method “executeTestXYZ” ?

2. The Requirements

- Where do we used the property name „xyz...“?
- The search process shouldn't be limited to a single Repository.

3. Ideas

- If we would scan the whole Repository every time we do a query it would be to slow.
- We have basicly two phases
  - Initial Phase: Reading the content from the Repository and indexing it.
  - Update Phase: Read the changed/added contents of the Repository and indexing it.

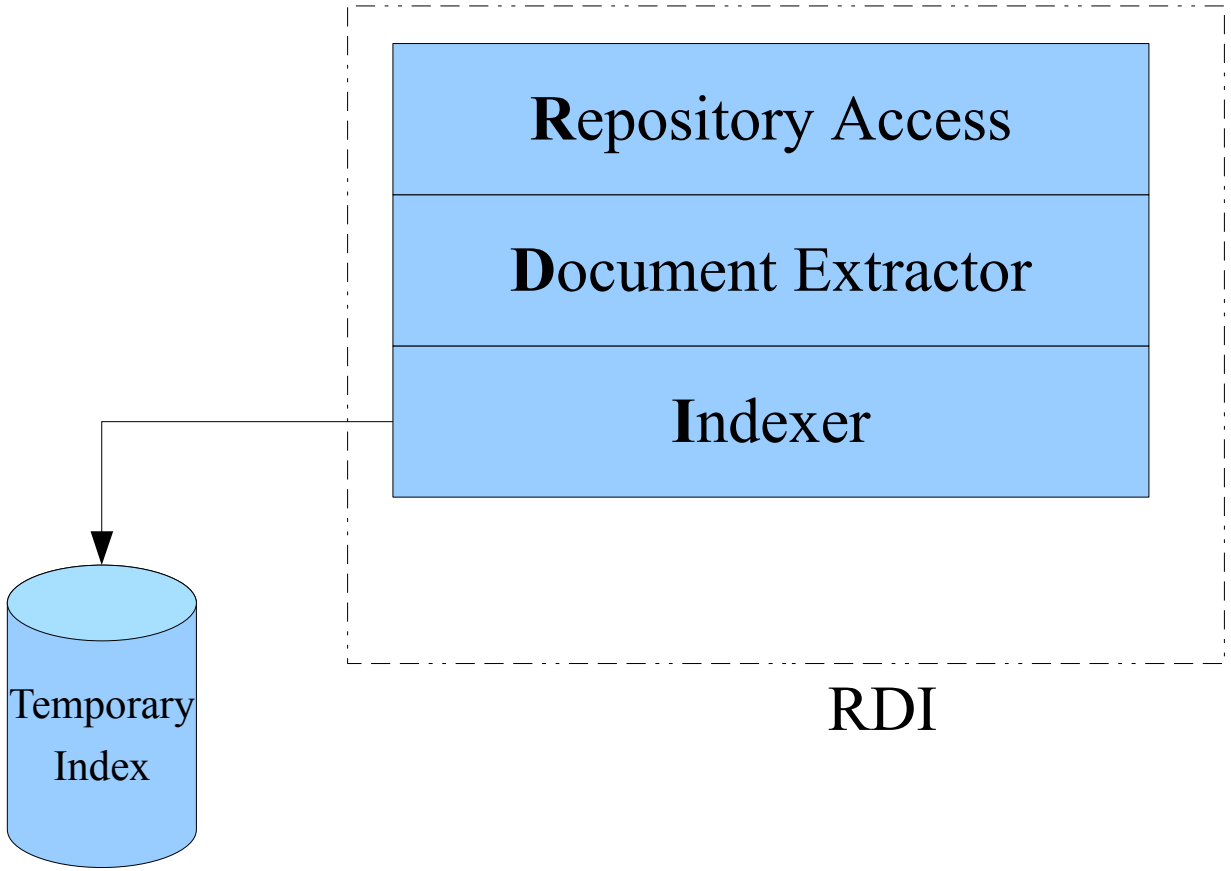
4. Basic Concepts

- Scan the repositories and indexing the information we need.
  - Use the file:/// protocol to access the Repository as preferable method.
  - Use other protocols (http, https or svn) if needed.

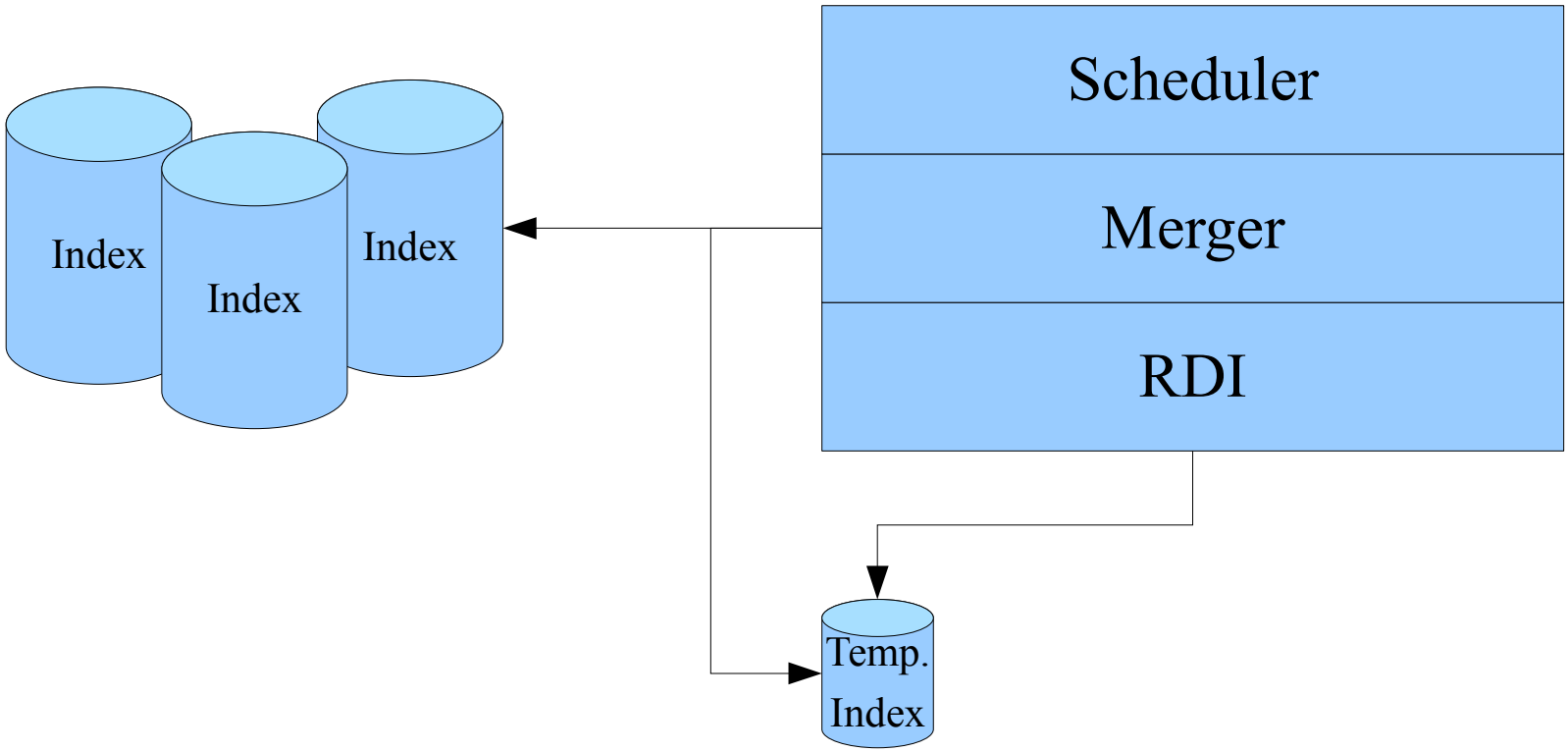
4. Basic Concepts

- Scan on a scheduled base for example daily or hourly etc.
- Should be made configurable.

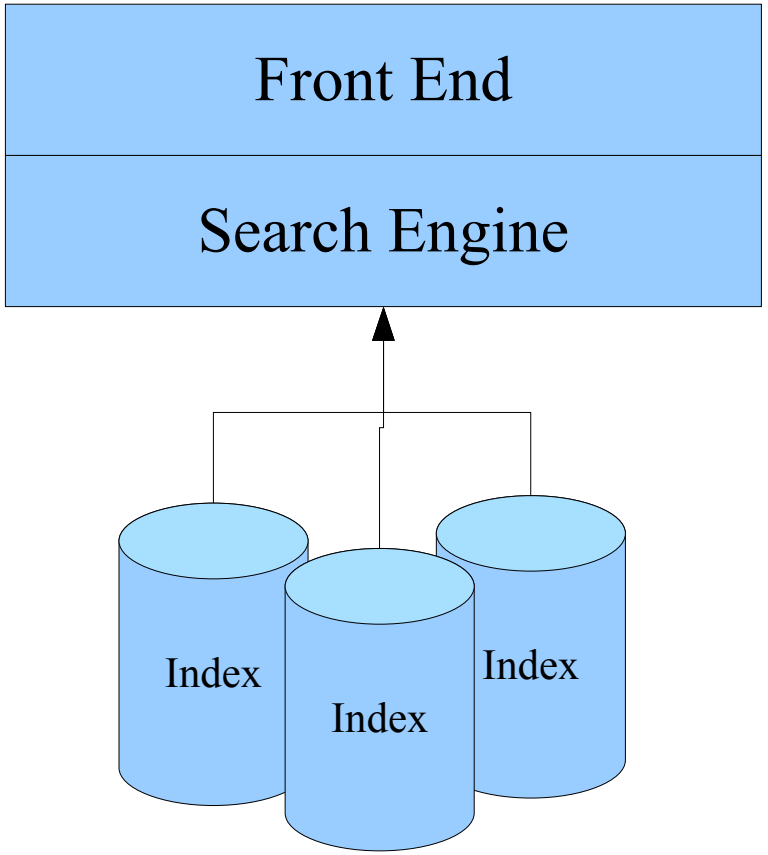
5. Basic Architecture



5. Basic Architecture



5. Basic Architecture



6. The components

- Accessing the Subversion Repository via Java only
  - SVNKit
- Full Text searching capabilities
  - Apache Lucene
- Scheduled running of Jobs
  - Quartz Framework

6. The components

- Document Scanning and information extraction
  - TIKA Framework
- Parsing of different Languages (like Java)
  - ANTLR 3.0

7. Open Questions

- Security for the indexed results
  - Authorization of the Search Engine
- What about restrictions for the search results ?
- What about property changes?
  - How do we get informed about them? Hook Scripts ?

7. Open Questions

- What if a repository has path-based authorization and what will happen if this has been changed?
  - What about the already indexed informations?
  - What about the search result?

8. Roadmap

- GUI
  - May be Web based or Swing or...
- May be PlugIn's
  - Redmine, Eclipse, trac etc.
- Enhance documentation (DocBook Maven?)
- Enhance Command line interface
  - Better output etc. (e.g. sorting)

8. Roadmap

- Interface to make the connection of other applications possible
  - SOAP/RPC ?
  - RESTlet others ?
- Make the scheduled part runnable in JBoss/Tomcat/Jonas etc. ?
- Performance ?
- Clustering?

9. Current State

- Currently Command Line Based only.
- Indexing of single or multiple (scheduled) repositories working
  - Results can be stored into different destination indexes, can be configured.
- Searching currently only via command line or via Luke (Swing)

A. Examples

- Scanning of a single Repository

  supose

  ```
  scan
  --url file:///path/to/repos
  --index index.Repos
  ```

A. Examples

- Scanning of multiple Repositories

  supose

  ```
  schedule
  --configuration repositories.ini
  --configbase ./
  ```

A. Examples

- Which tags existing in SupoSE Repository?

```
supose
    search
    --index index.Supose
    --query "+path:/tags/*"
```

A. Examples

- The output of the query before:

```
 1. R:14 F:/tags/RELEASE-0.1.0 K:A
 2. R:29 F:/tags/RELEASE-0.2.0 K:A
 3. R:48 F:/tags/RELEASE-0.2.0.1 K:A
 4. R:70 F:/tags/R_0.3.0.0RC1 K:A
 5. R:76 F:/tags/R_0.3.0.0RC2 K:A
 6. R:91 F:/tags/0.4.0.0RC1 K:A
 7. R:93 F:/tags/R_0.4.0.0RC1 K:A
 8. R:111 F:/tags/R_0.4.0RC2 K:A
 9. R:112 F:/tags/R_0.4.0.0RC2 K:A
10. R:115 F:/tags/R_0.4.0.0RC2 K:A
11. R:92 F:/tags/0.4.0.0RC1 K:D
12. R:112 F:/tags/R_0.4.0RC2 K:D
13. R:114 F:/tags/R_0.4.0.0RC2 K:D
```

A. Examples

- Do exist Word files in this repository?

  supose
  ```
  search
  --index index.Supose
  --query "+filename:/*.doc"
  ```

A. Examples

- What is part of revision 100 of the particular repository?

  supose
  search
  --index index.Supose
  --query "+revision:100"

B. Performance

- Currently the scan of the SupoSE repository itself (with 112 Revisions) via http:// (Internet)
  - This has taken ca. 25 Minutes ;-(
- A scan of Repository (2.8 GiBi) with 12168 Revisions via file:/// protocol took ca. 37 minutes.

On-line Sources I

- [1] Homepage SupoSE
  - http://www.supose.org
- [2] SVNKit pure Java Subversion Library
  - http://www.svnkit.com
- [3] ANTLR
  - http://www.antlr.org
- [4] Quartz Framework
  - http://www.opensymphony.com/quartz/

On-line Sources II

- [5] Lucene Framework
  - http://lucene.apache.org
- [6] Tike Framework
  - http://lucene.apache.org/tika

Questions?

supose@supose.org

- Thank you for your attention.