Nepomuk in KDE

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Nepomuk semantic desktop in KDE

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Outline

- **Why should I use Nepomuk**
- **What should I use Nepomuk for**
- **How do I use Nepomuk**

Homework

- **Subscribe to the Nepomuk-KDE ML!**
  - **http://lists.semanticdesktop.org/mailman/listinfo/nepomuk-kde**
- **Check Techbase!**
  - **http://techbase.kde.org/Projects/Nepomuk**
- **Get used to SPARQL!**
- **Ask me!**
  - **trueg@kde.org**

Why should I use Nepomuk?

- **Better interoperability**
- **The better user experience**
- **We have the opportunity to be ahead of the competition**
- **You can tell people that you work on the semantic desktop**

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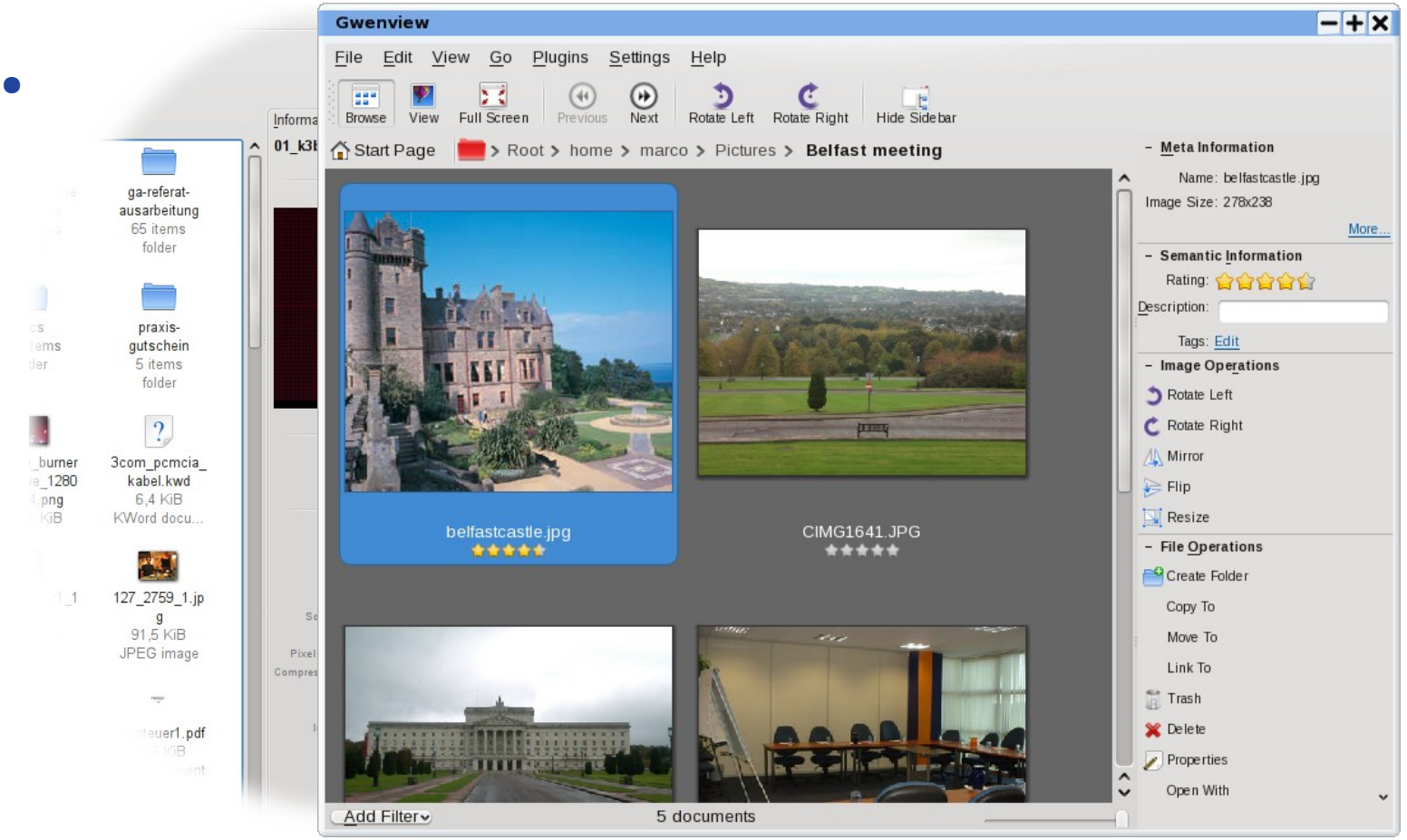
Nepomuk in KDE

Sebastian Trueg (Mandriva)

What should I use Nepomuk for?

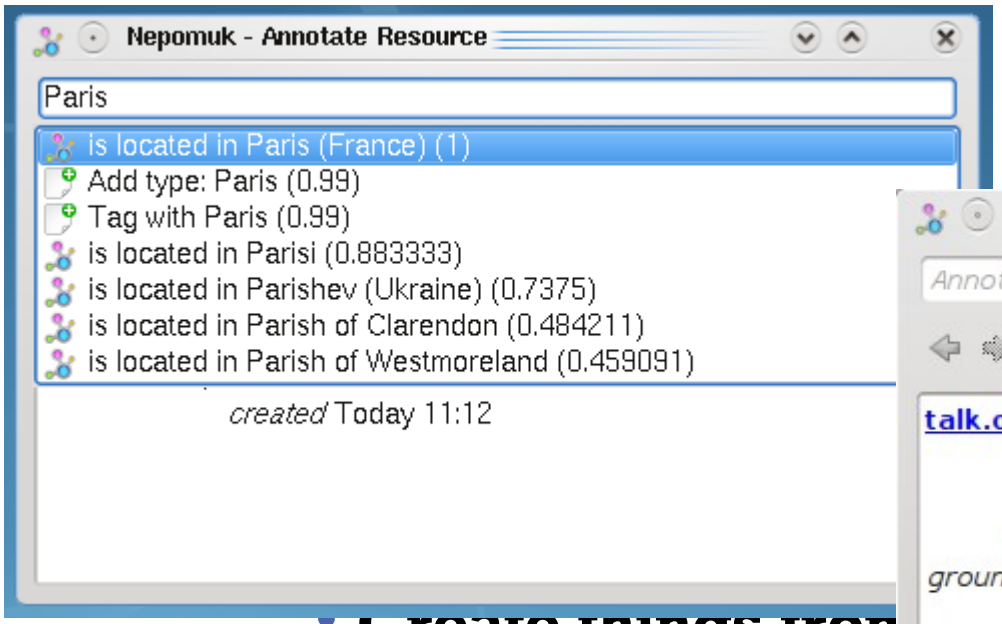
-

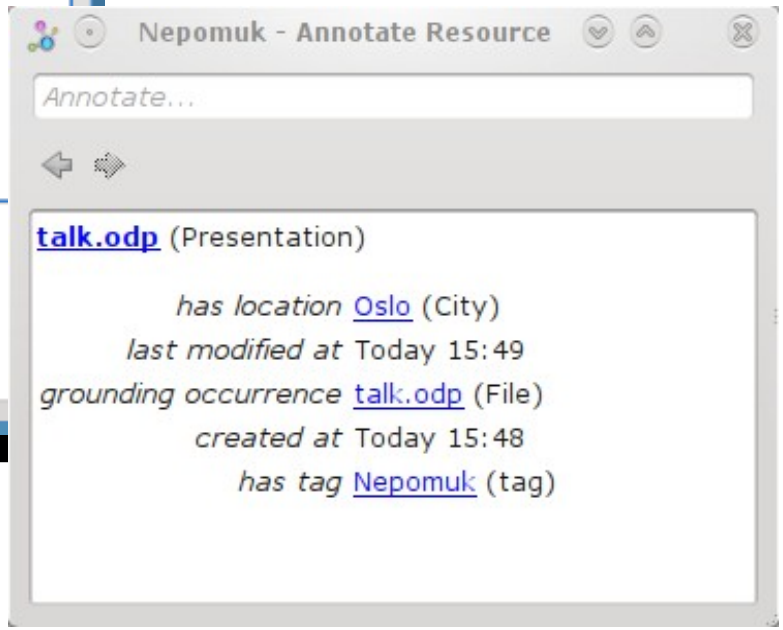


What should I use Nepomuk for?

- Store file annotations
- Store PIM annotations
  - Tag emails and persons
  - Relate persons to projects
  - Relate emails to projects
  - Relate tasks to emails and persons
  - Merge different contacts under one person
  - Show meta information for emails and persons

What should I use Nepomuk for?





- Create things iron
  bookmarks!)

What should I use Nepomuk for?

- Store file annotations
- Store PIM annotations
- Create things
- Remember user events
  - Remember app usage
  - Remember file open with context

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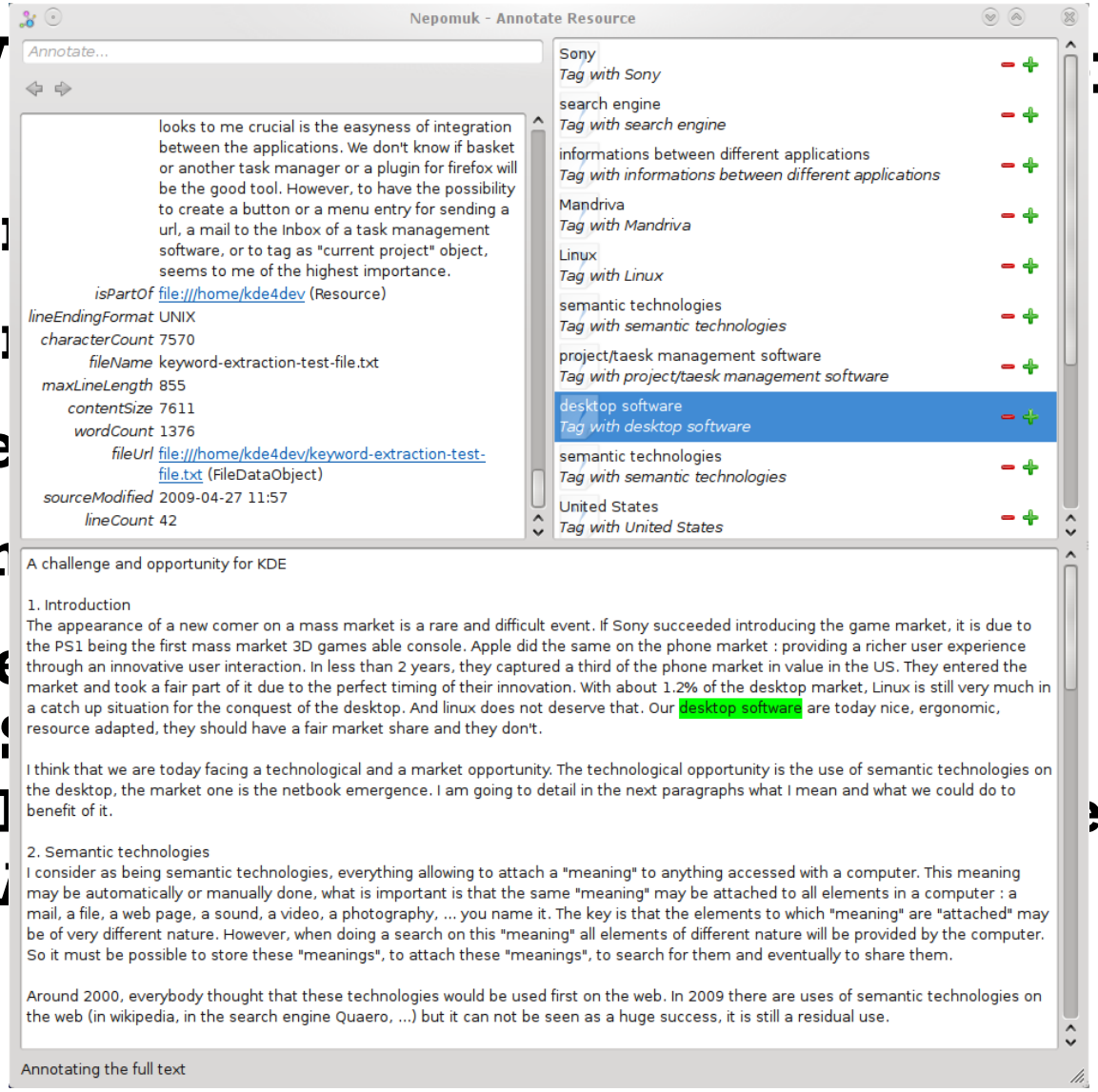

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How do I use Nepomuk?

- **Simple resource access:** `Nepomuk::Resource`

```
Nepomuk::Resource file( myFilePath );

file.addTag( Nepomuk::Tag( “Fancy stuff” ) );
QString desc = file.description();

QList<Nepomuk::Tag> allTags
            = Nepomuk::Tag::allTags();
```

How do I use Nepomuk?

- **Fancy `Nepomuk::Resource` usage: CMake**

```
set(foo_SRC main.cpp)

find_file(FOO_SOURCE
  foo.trig
  PATHS "${KDE4_DATA_INSTALL_DIR}" ENV XDG_DATA_DIRS
  PATH_SUFFIXES "apps/nepomuk/ontologies"
  )

nepomuk_add_ontology_classes(
  foo_SRC
  ONTOLOGIES
  ${FOO_SOURCE}
  )
```

How do I use Nepomuk?

- **Fancy `Nepomuk::Resource` usage: Cpp**

```
#include “bar.h”

Nepomuk::Bar myBar( “hello” );
Nepomuk::Bar anotherBar( uri );

myBar.addTag( Nepomuk::Tag( “foobar” ) );
myBar.setFoobar( 42 );

Nepomuk::Foo myFoo;
myFoo.setLabel( “My Foo” );
myBar.addFoo( myFoo );
```

How do I use Nepomuk?

- **Performing queries**

```
using namespace Soprano;

Model* model = Nepomuk::ResourceManager::instance()->mainModel();

QString query = QString( “prefix nao:%1 “
                         “select ?x where { “
                         “%2 nao:hasTag ?t . “
                         “?r nao:hasTag ?t . }” )
     .arg(Node::resourceToN3(Vocabulary::NAO::naoNamespace()))
     .arg(Node::resourceToN3(file.resourceUri()));

QueryResultIterator it
     = model->executeQuery( query, Query::QueryLanguageSparql );
```

How do I use Nepomuk?

- **Iterating query results**

```
while(it.next()) {
    Nepomuk::Resource file( it[“r”] );
    ShowFile( file );
}
```

How do I use Nepomuk?

- **Ontologies**
  - **NIE: NFO, NMO, NCO, NCAL, NEXIF, NID3**
  - **NAO**
  - **and others...**
- **CMake magic**

```
soprano_add_ontology(foo_SOURCES
    ${CMAKE_CURRENT_BINARY_DIR}/foo.rdfs
    "FOO"
    "Nepomuk::Vocabulary"
    "rdfxml")
```

How do I use Nepomuk?

- **Ontology usage**

```
#include “foo.h”

QUrl uri = Nepomuk::Vocabulary::Foo::Bar();

QString query = QString( “select ?r where { “
                         “? a %1 . }” )
        .arg( Node::resourceToN3(uri) );
```

How do I use Nepomuk?

- **Annotations**
  - **playground/base/nepomuk-kde/annotationplugins**

```
Resource res = getResource();
AnnotationPluginFactory::instance()
  ->getPluginsSupportingAnnotationForResource( res.resourceUri() );

AnnotationPluginWrapper* wrapper = new AnnotationPluginWrapper();
connect( wrapper, SIGNAL(newAnnotation(Nepomuk::Annotation*)),
         this, SLOT(addNewAnnotation(Nepomuk::Annotation*)) );
connect( wrapper, SIGNAL(finished()),
         this, SLOT(slotFinished()) );

AnnotationRequest req;
req.setResource( res );
req.setFilter( filter );
wrapper->getPossibleAnnotations( req );
```

How do I use Nepomuk?

```
void slotNewAnnotation( Nepomuk::Annotation* anno )
{
    showAnnotation( anno->comment() );
    m_annotations.append( anno );
}


void slotCreateAnnotation( Nepomuk::Annotation* anno )
{
    anno->create( m_resource );
}
```

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Questions?