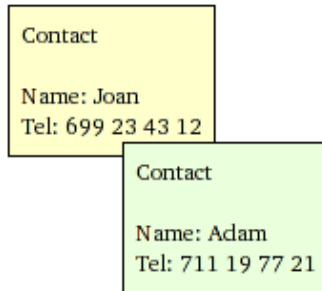


2nd Calligra Sprint

Kexi: Introduction for KDE Contributors

Jarosław Staniek, November 2011



Why DB Apps?

See “Databases and Spreadsheets” in the Kexi Handbook

→ [link](#)

1 Database and Spreadsheet

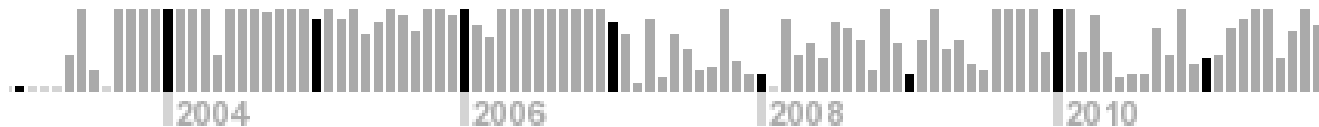
- 1.1 How Is a Database Different From a Spreadsheet?
- 1.2 Referential data integrity
- 1.3 Data redundancy
- 1.4 Data integrity and validity
- 1.5 Limiting data view
- 1.6 Performance and capacity
- 1.7 Data entry
- 1.8 Reports
- 1.9 Programming
- 1.10 Multiuse
- 1.11 Security

The Kexi Project



Started in 2002
→ with KOffice/Calligra
from the day one

Had full-time contributor
in 2003-2007



The Kexi Project

First nontrivial KDE app
on Windows (in 2003)

→ Driving force of the
KDE on Windows Project



Consistent Vision

NOT a MS Access clone

→ less tied to the file db specifics than MS Access

→ GUI does not mimic MS Access

See Kexi Features List at
<http://kexi-project.org/features.html>

Consistent Vision

BUT acknowledges
advantages of desktop
databases

→ aimed at casual and
power users

Consistent Vision

- almost no database knowledge needed
- users discover features while using Kexi

Consistent Vision

Not much aimed at
developers

→ default GUI not
cluttered with developer-
oriented features

Why not
server db+php
+apache?

Offline mode by default
and with zero effort!

Offline mode



Kexi utilizes industry-standard (☺) **SQLite 3** file db engine

Lightweight, empty database is 9KB!

→ no XML, no compression

Kexi file format



More popular/standard than LibreOffice Base's format

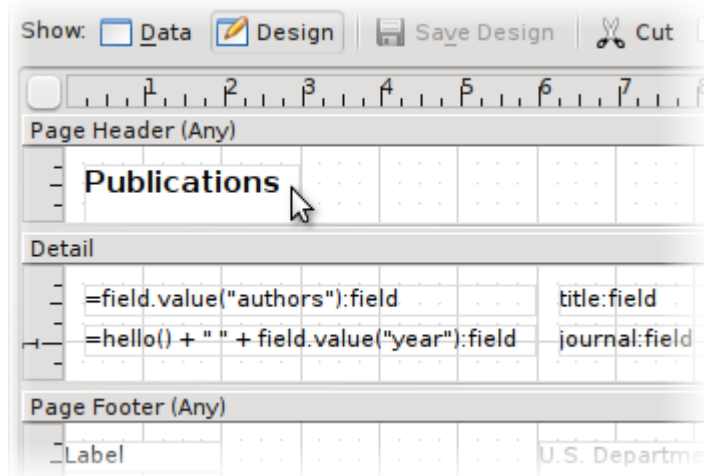
→ there is no ODF for databases but Kexi models its definitions after ODF (eg. for reports)

```
<kexireport>
<report:content xmlns:report="http://kexi-p
<report:title>Report</report:title>
<report:script report:script-interpreter="
<report:grid report:grid-divisions="4" rep
<report:page-style report:print-orientatio
<report:body>
  <report:section svg:height="1.00cm" fo:ba
  <report:detail>
    <report:group report:group-sort="ascendi
    <report:section svg:height="1.00cm" fo:
  </report:section>
</report:body>
</report:content>
</kexireport>
```

Why Kexi?

Point & click technology,
good for:

- education
- prototyping
- preparing quick & dirty “office tools”



Why Kexi?

-cont'd



Really smooth transition
from file db to server db
and back

→ good when users
expand their skills

Kexi specifics

CONSTANT time startup!

(no matter how big the database is)

→ don't try it with XML-based spreadsheets ;)

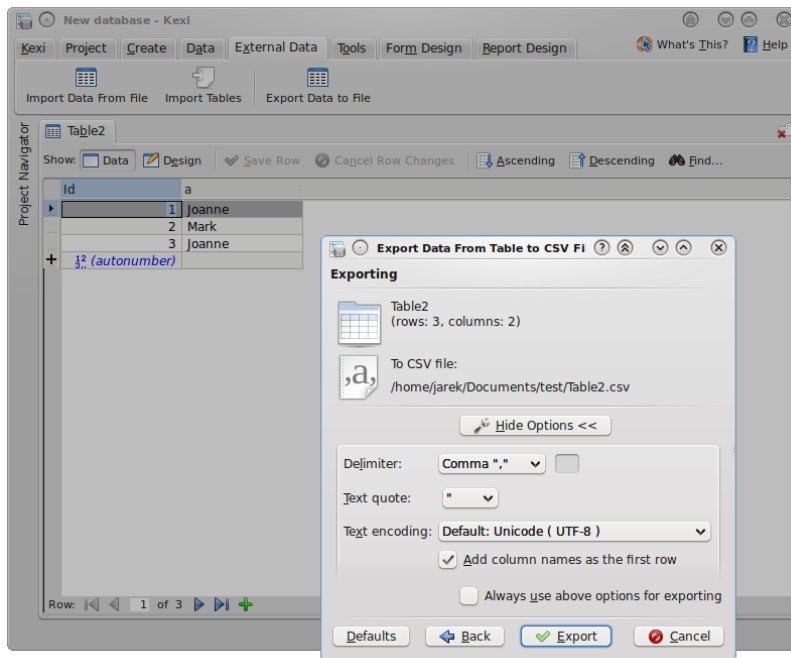
Kexi specifics

Cannot open databases
that it did not create

- because of some
extra meta-data
- this may be removed
in 3.x to some extent

Kexi specifics


















Best known for its ease of use, (partial) MS Access support and good CSV support



Kexi specifics

test_table : Table

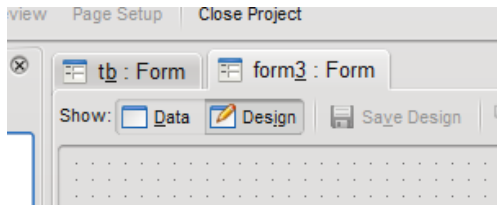
Show: ☐ Data ☒ Design ☒ Save Row ☒ Cancel Row Changes

id	picture	description	int1
1		blah blah blah	
2		tetsjdh	
3		text	
4		tes	
5		text	
6		test	
7		asdaf	
8		asdasdad	
9		tesdt	
10		trestset	
11		asdas	
12		asasd	
13		asdasd	
14		asdasd	
15		asdasd	
16		asdasdasdd	
17		iuyoi	

Kexi is NOT document-driven

→ Even for db files: data is saved automatically at record (row) level, not at the db level

Kexi specifics



The GUI is consisted of
**LARGELY SEPARATED
VIEWS (aspects)**

→ much like in
KDevelop or Qt Creator

Kexi specifics

Large emphasis on
concepts of data model,
data sources and views

Kexi specifics

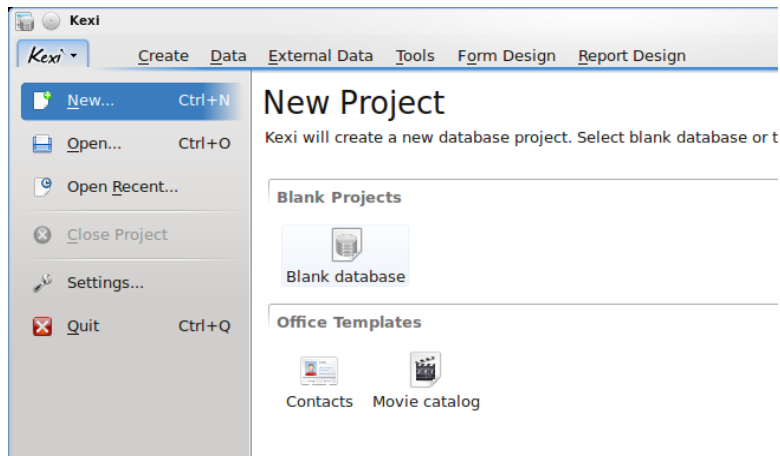
Customizable GUI:

→ also serves as
building block for
fully-featured user
applications

Kexi specifics

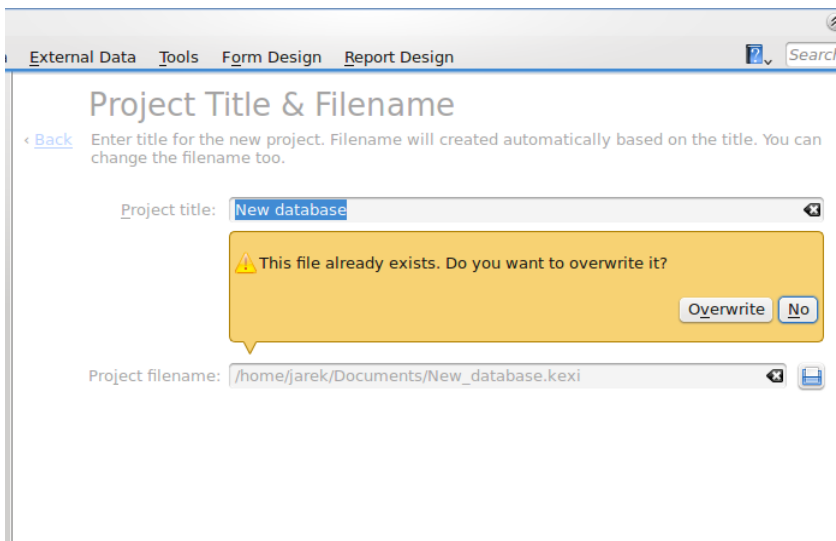
Kexi “vs” Words GUI:

- Word processor's user content is the central frame
- Kexi's user content is the whole application main window, with menus, toolbars



Kexi specifics

Modern GUI of 2011
(not 1980s)



→ pushes the differences further, addresses specific needs not met by KDE 3 GUIs

Kexi specifics

But still:

- there is Qt Style awareness
- components sharing within Calligra

Why Kexi

and not Qt Designer+QtSql-based development?

- no need for tons of glue code
- no need for knowledge of database internals/specifics
- no db administration

Why Kexi

and not Qt Designer+QtSql-based development?

- zero compilation:
time saver, architecture-independent apps
- still, extension APIs
blend well with Qt/KDE
development

Why Kexi

and not Qt Designer+QtSql-based development?

Prepared for built-in scripting features

→ still experimental (unstable API)

<http://community.kde.org/Predicate>

Predicate, next-gen db conn. & creation lib, will come in Kexi 3

Competition

Kexi is really competitive comp. to FOSS alternatives

- LibreOffice Base dependent on Java, tried to be MS Access clone, poor framework
- GNOME's Glom designed as PostgreSQL-only

Competition

Zero alternatives in FOSS
Qt/KDE world

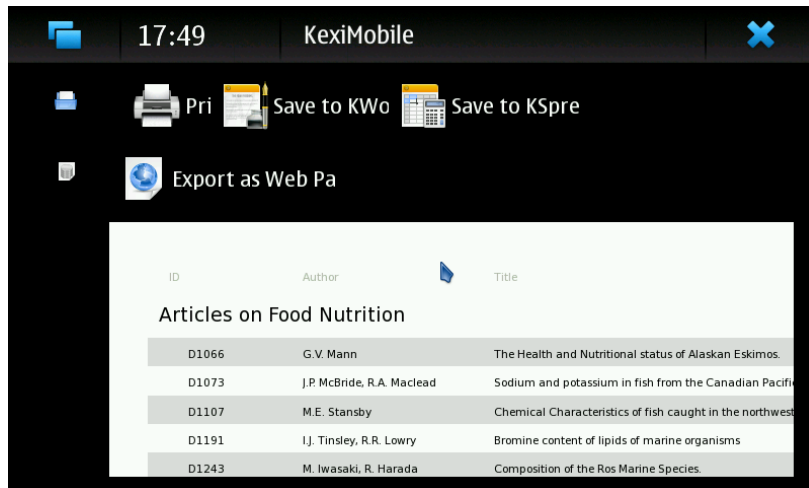
- KNoda no longer maintained, Qt 3
- Rekall is abandoned, Qt 3



Kexi Mobile

Oct 2010:

N900 loaned to Adam Pigg
Thanks Suresh! (Nokia)



Kexi Mobile

After TWO MONTHS:

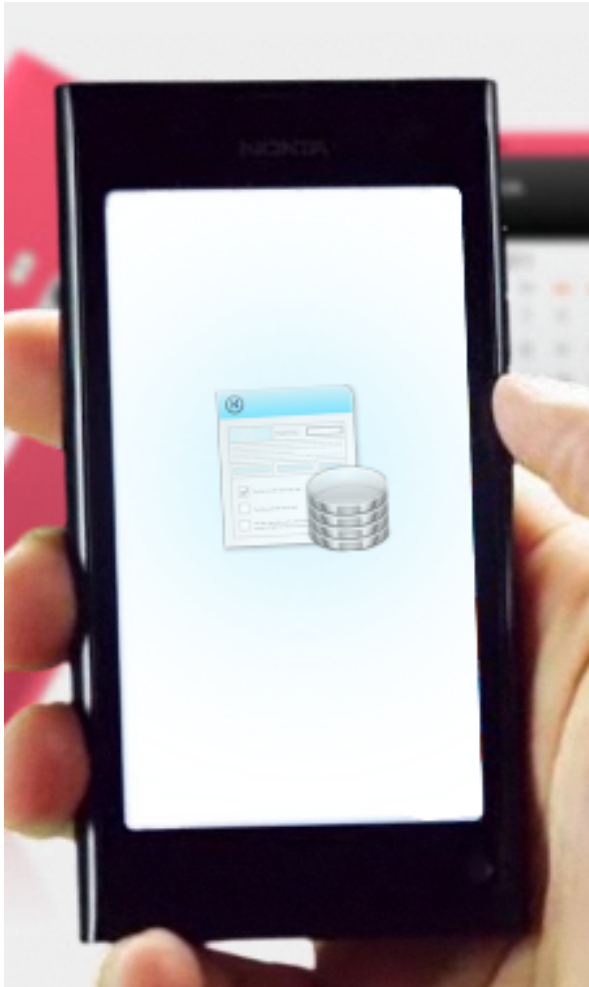
→ usable proof of concept
mobile db viewer with
forms and reports

→ Kexi refactored to
address mobile needs

→ now in Calligra code

KEXI_MOBILE
build option

[http://community.kde.org/
Kexi/Mobile](http://community.kde.org/Kexi/Mobile)



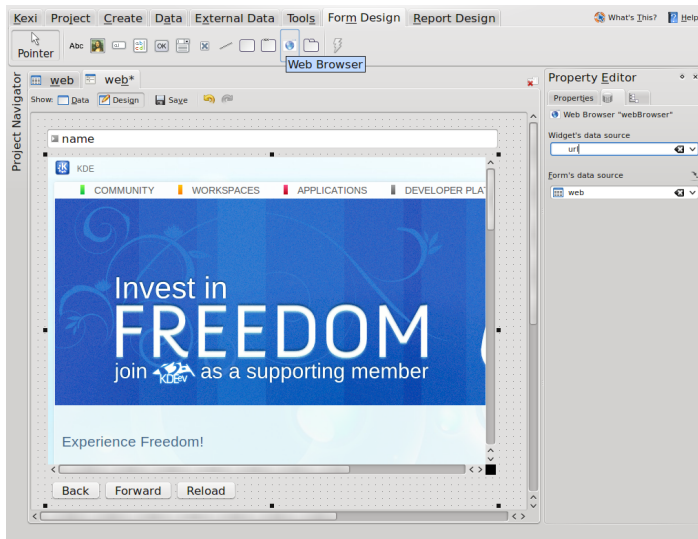
Qt Quick UI

Not in development for now

→ would be lightweight, similar to Harmattan Office

→ plans to start with Kexi Mobile Forms in Qt Quick

→ experience in this tech.: Kexi developer Adam Pigg

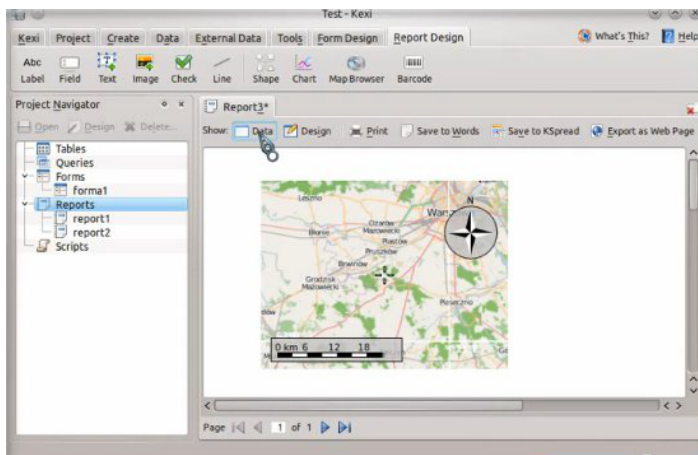


What's new in 2011?

Two SUCCESSFUL GSoC projects:

- Web form/report elements (QtWebKit-based)
- Map form/report elements (Marble-based)

Good examples of code reuse



What's new in 2011?



Shreya Pandit

Two GSoC 2011 students become REGULAR contributors!



Radek Wicik

(this is first Sprint for Shreya, second for Radek)



Dimitrios
T. Tanis

What's new in 2011?

Actual and well
maintained
Kexi Handbook!

→ Dimitrios becomes
Kexi developer too!

→ and he's at this Sprint

Main application elements

Main elements of Kexi application's window are:


Tabbed Toolbar
Contains available commands for the application. You will find detailed description of any of the commands in the appendix.

Project Navigator pane
Contains a list of any object (tables, queries, forms, ...) created within the currently opened database project. The navigator also contains small toolbar with most usable commands related to the database objects.

Opened Database Objects Area / Tabbed Windows
A central area of the application taking most of the screen space. For IDEAI user interface mode it contains switchable tabs with windows that are always maximized. For Childframe user interface mode it contains floating windows.

Property Editor pane
Contains a list of properties of currently activated database object. For certain objects (e.g. form's widgets) it can have several tabs.


Tabbed Toolbar



The toolbar is the place that gives you access to most Kexi commands and actions. Using the actions found in the different tabs on the toolbar you can:

- Create / Open / Close Kexi projects
- Create Database objects
- Import / Export Data
- Create widgets on your Forms
- Create widgets on your Reports

Project Navigator pane



The **Project Navigator** pane is one of the most frequently used elements of the Kexi main window. The pane contains a list of all objects created within the currently opened Kexi database project. The objects are split into groups: tables, queries, forms, reports and scripts.

The Project Navigator pane also contains a small toolbar for most frequently used commands (from left to right): 'Open' selected object, 'Design' selected object, and 'Delete' selected object.

For each object on the list a context menu is available using the right mouse button.

Status

Three new developers
in 2011!

→ willing to take part in
Calligra Academy

Thank
You