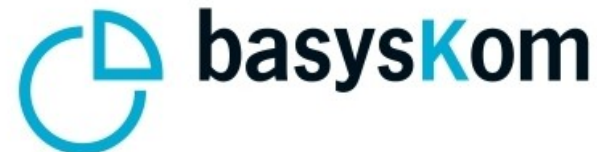


Plasma Active & Contour

A new activity based mobile user interface
with Plasma and Nepomuk

Talk by Marco Martin & Fania Jöck

Sponsored by:



Gefördert durch:



aufgrund eines Beschlusses
des Deutschen Bundestages



Big picture



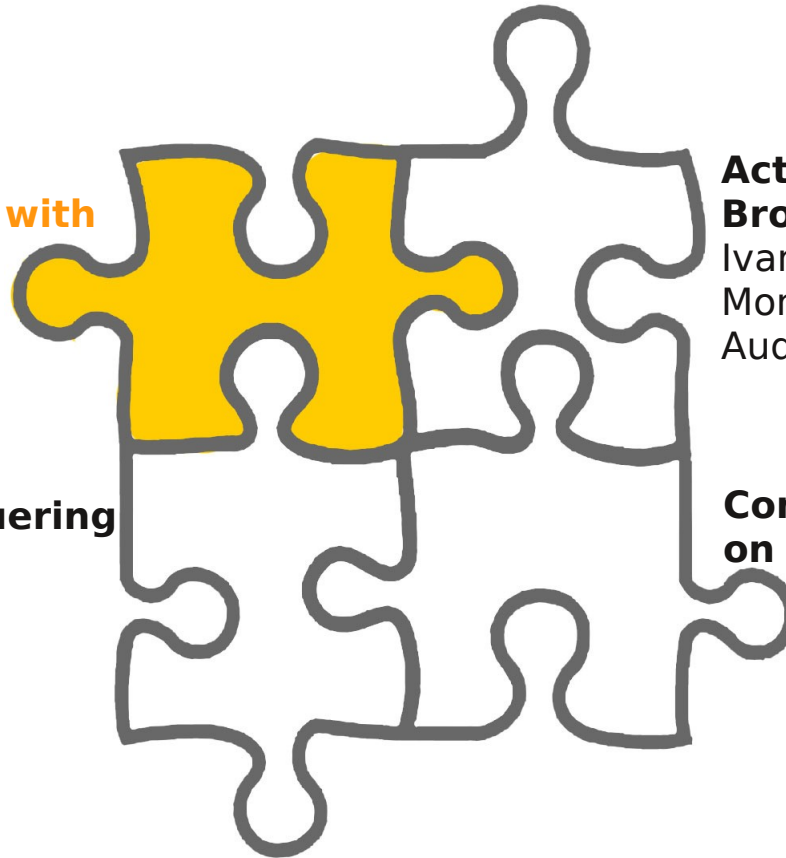
Project Plasma Active

**A new activity based
mobile user interface with
Plasma and Nepomuk**

Marco Martin, Fania Jöck
Mon, 10:20 - 10:50
Audimax

**Plasma Active - Conquering
the Device Spectrum**

Sebastian Kügler
Sun, 09:40 - 10:10
Kinosaal



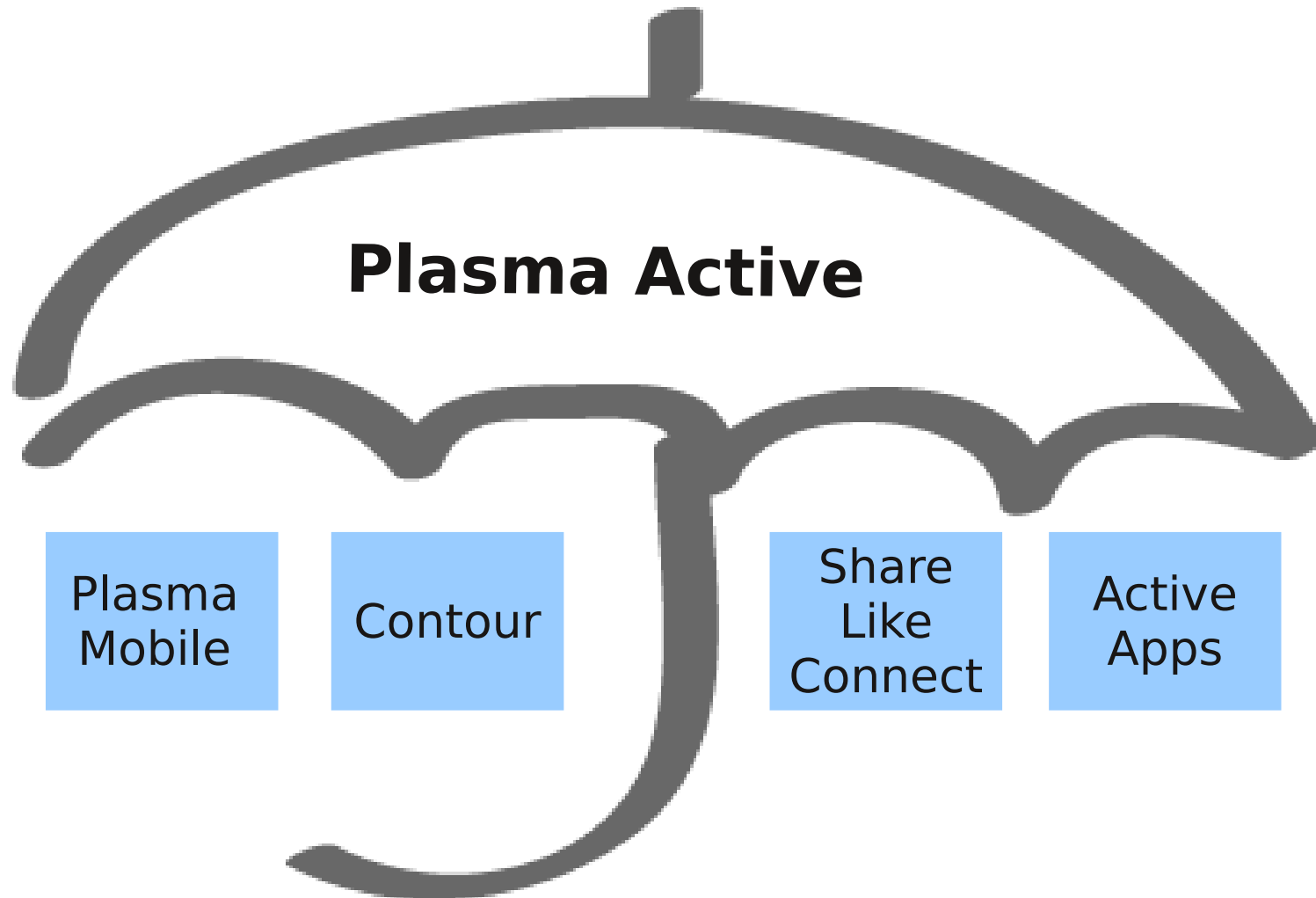
**Activities - the helpful Big
Brother**

Ivan Čukić
Mon, 14:00 - 14:30
Audimax

**Compositing after X - KWin
on the Road to Wayland**

Martin Gräßlin
Sat, 14:00 - 14:30
Rm2002

Who are we?



What is this all about?

desktop context-sensitive KDE
touch multidevice
workspaces
tablets UX user interface
mobile



Why should we need that?

User adapts to the system



The system adapts to the user

What is new in Contour?

| Informations + Actions = Activity

- information on the system linked with actions
- user chooses those activities instead of applications
- system learns and analyses usage patterns (actions and events)

| Smart recommendations

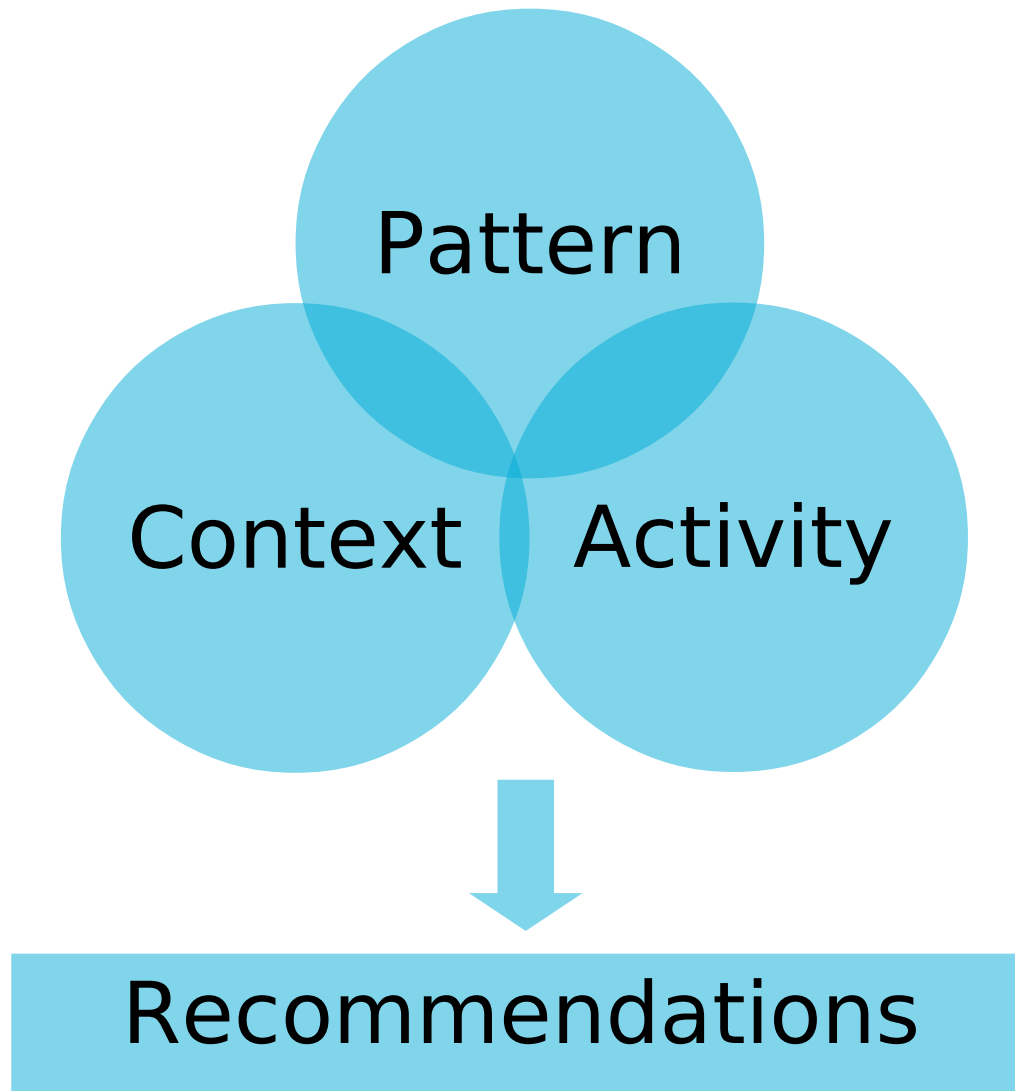
- system provides dynamic data based on patterns and on context
- analysis of timeline (past, present and future)
- prioritization, big change in user behavior



Concept

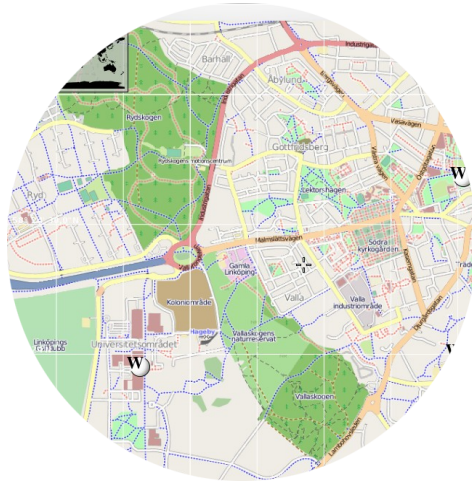


Concept of Contour



Concept

*Context
= geo location,
time, active files
and applications,
current activity,
recent action
history*



Concept

Context
= geo location,
time, active files
and applications,
current activity,
recent action
history



Patterns
= regular actions of the
user in similar contexts

Concept

Context
= geo location,
time, active files
and applications,
current activity,
recent action
history



Patterns

= regular actions of the
user in similar contexts

Activities

= individualized
work spaces that
contain resources
like files, contacts,
applications

Concept

Context
= geo location,
time, active files
and applications,
current activity,
recent action
history



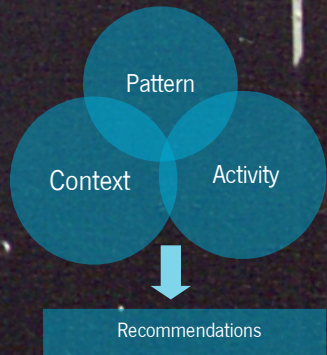
Patterns
= regular actions of the
user in similar contexts

Activities
= individualized
work spaces that
contain resources
like files, contacts,
applications

Recommendations

propositions for actions that are
dynamicly changing to context,
based on the detected patterns

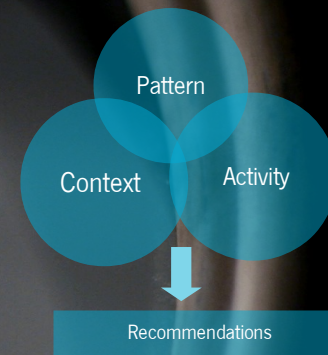
Context



*= geo location,
time, current
activity, active files
and applications,
recent action
history*

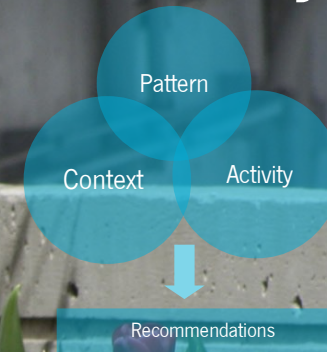


Patterns



*= regular actions of
the user in similar
contexts*

Activity



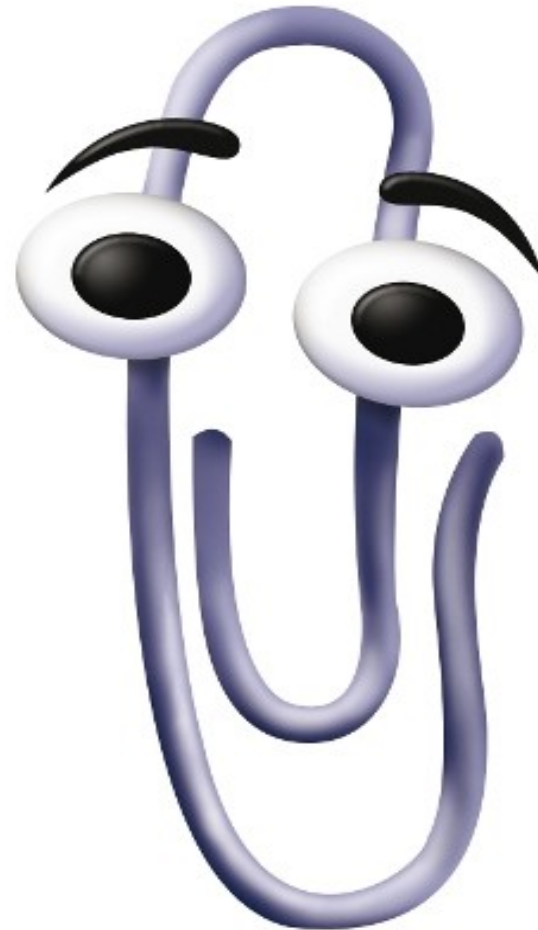
= individualized work spaces that contain resources like files, contacts, applications





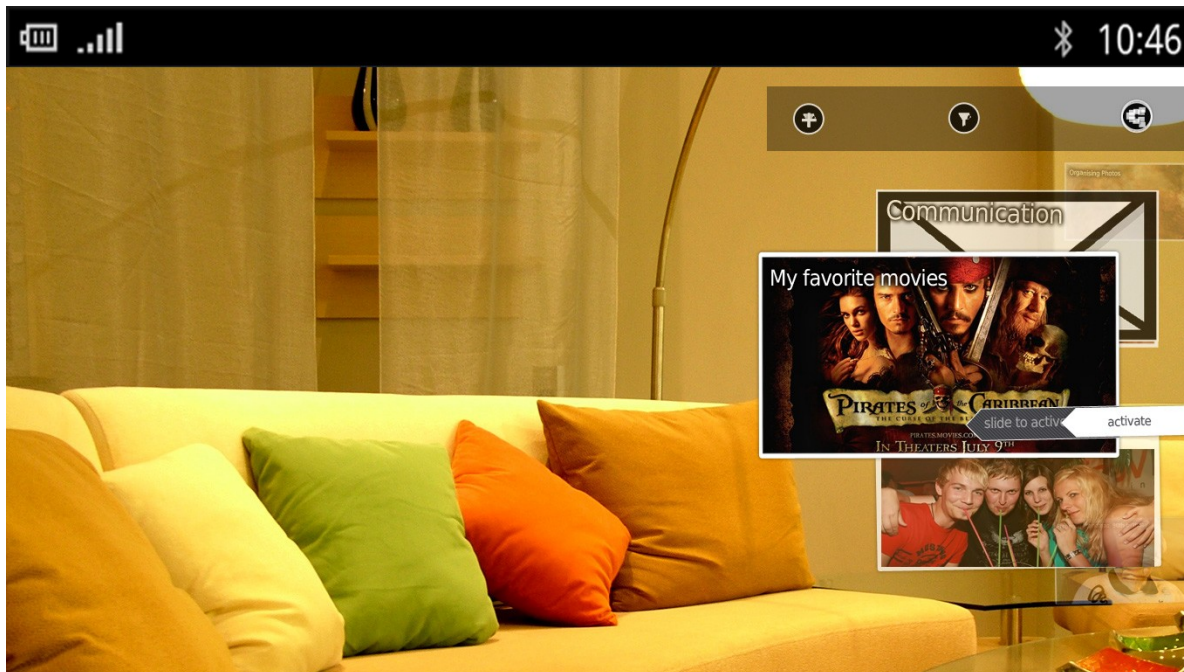
Recommendations

Somebody already had that idea...

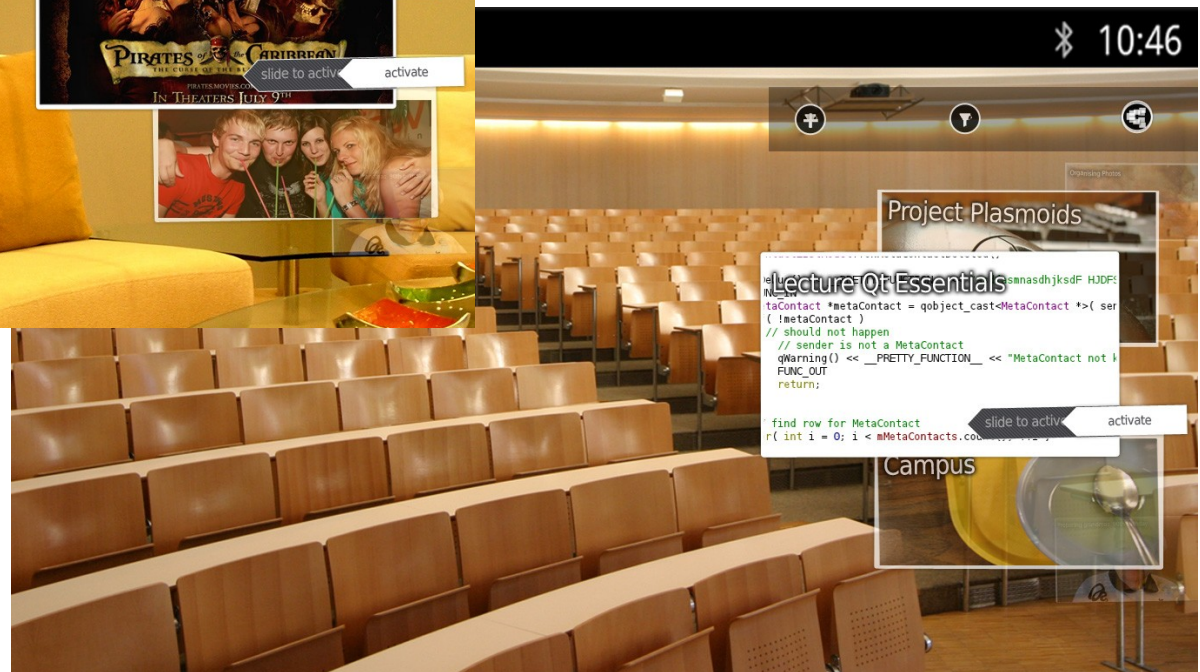


Smart adaptations – Activity Switcher

...adapts to current context



At home



At university

Smart adaptations – Context Menu

...adapts to object type and last events



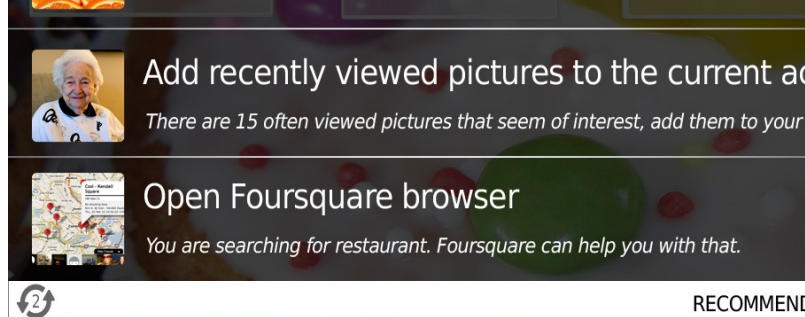
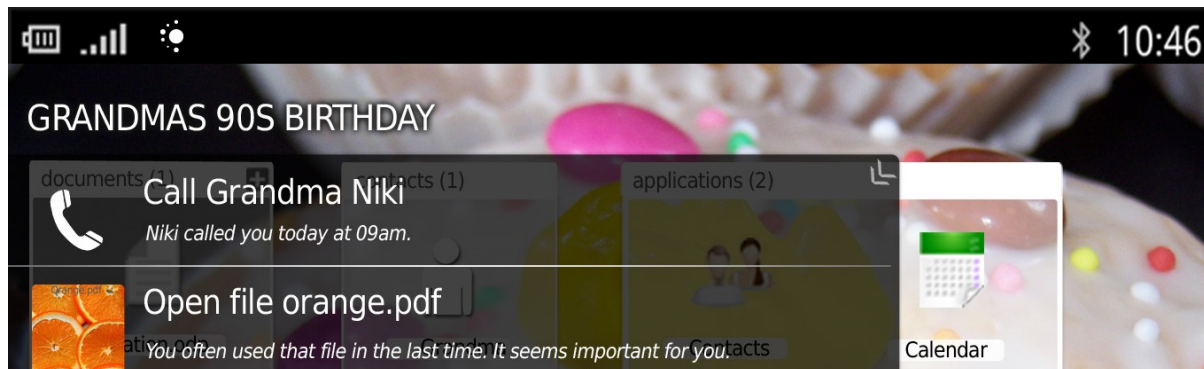
For documents



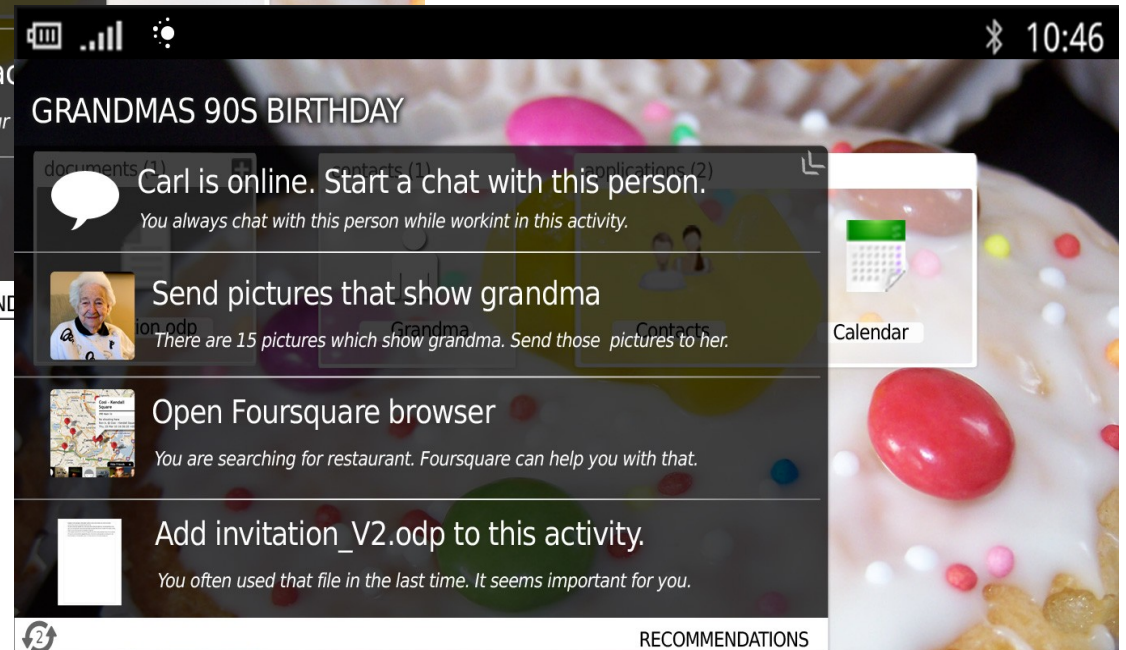
For contacts

Smart adaptations – recommendation overlay

... adapts to current activity and recent action history



Grandma just called

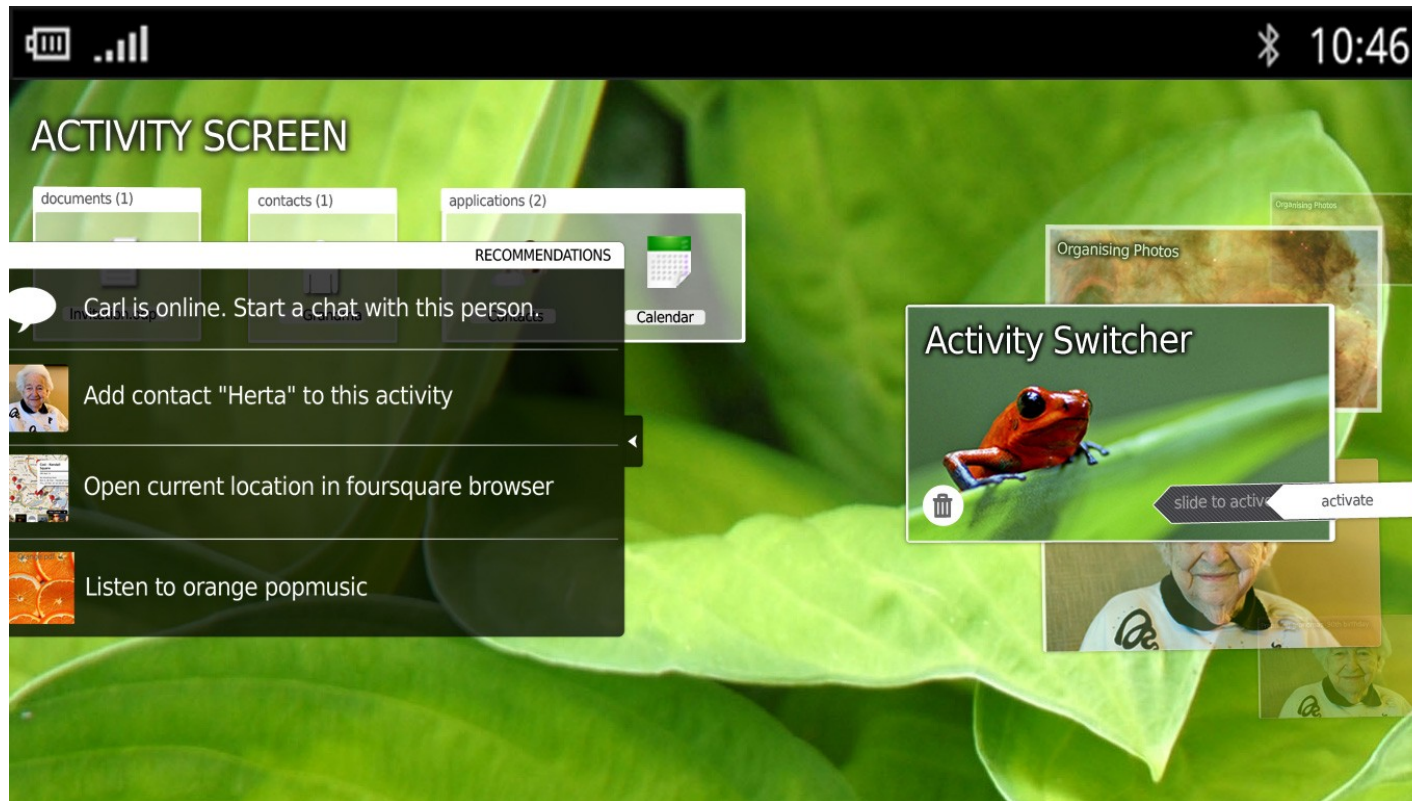


Writing the invitation

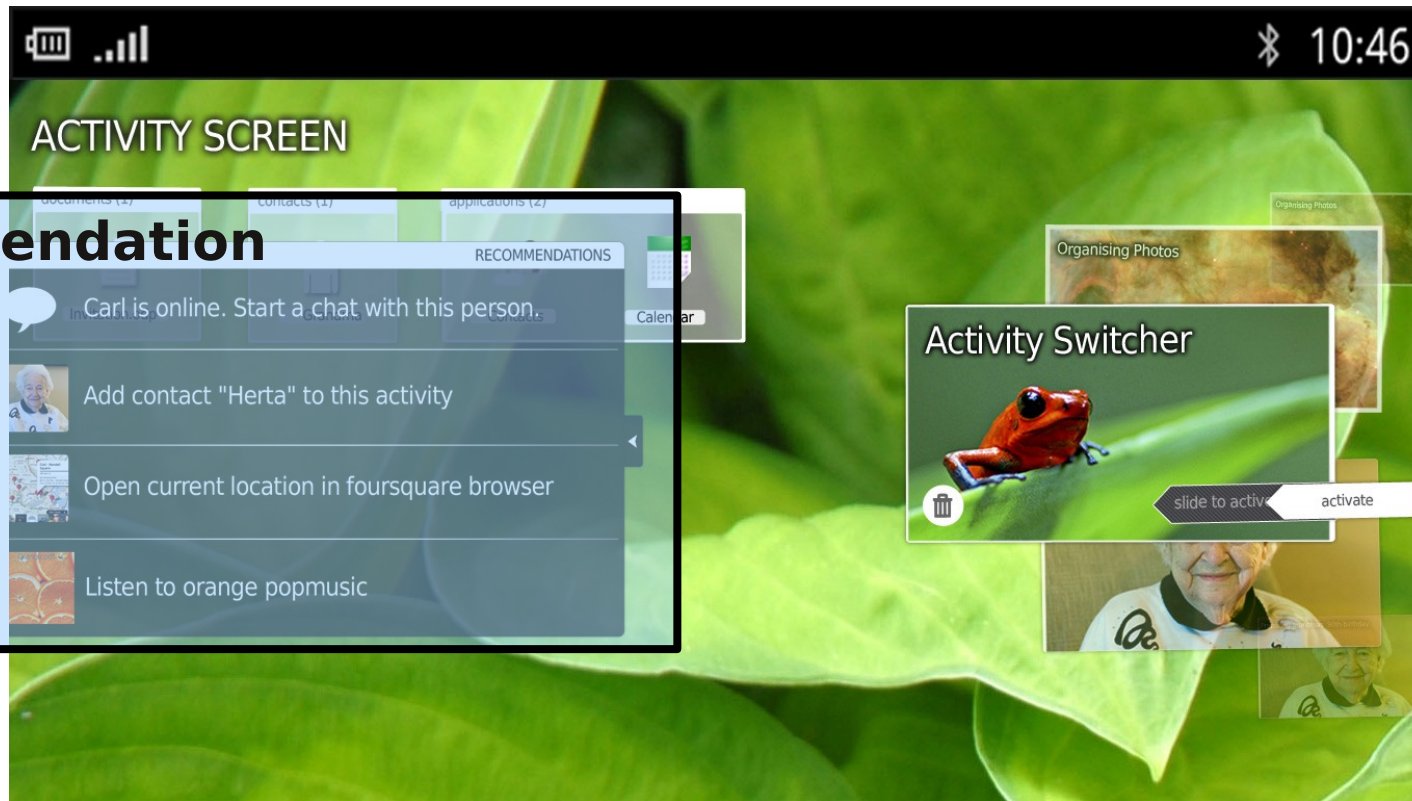


Interface Design

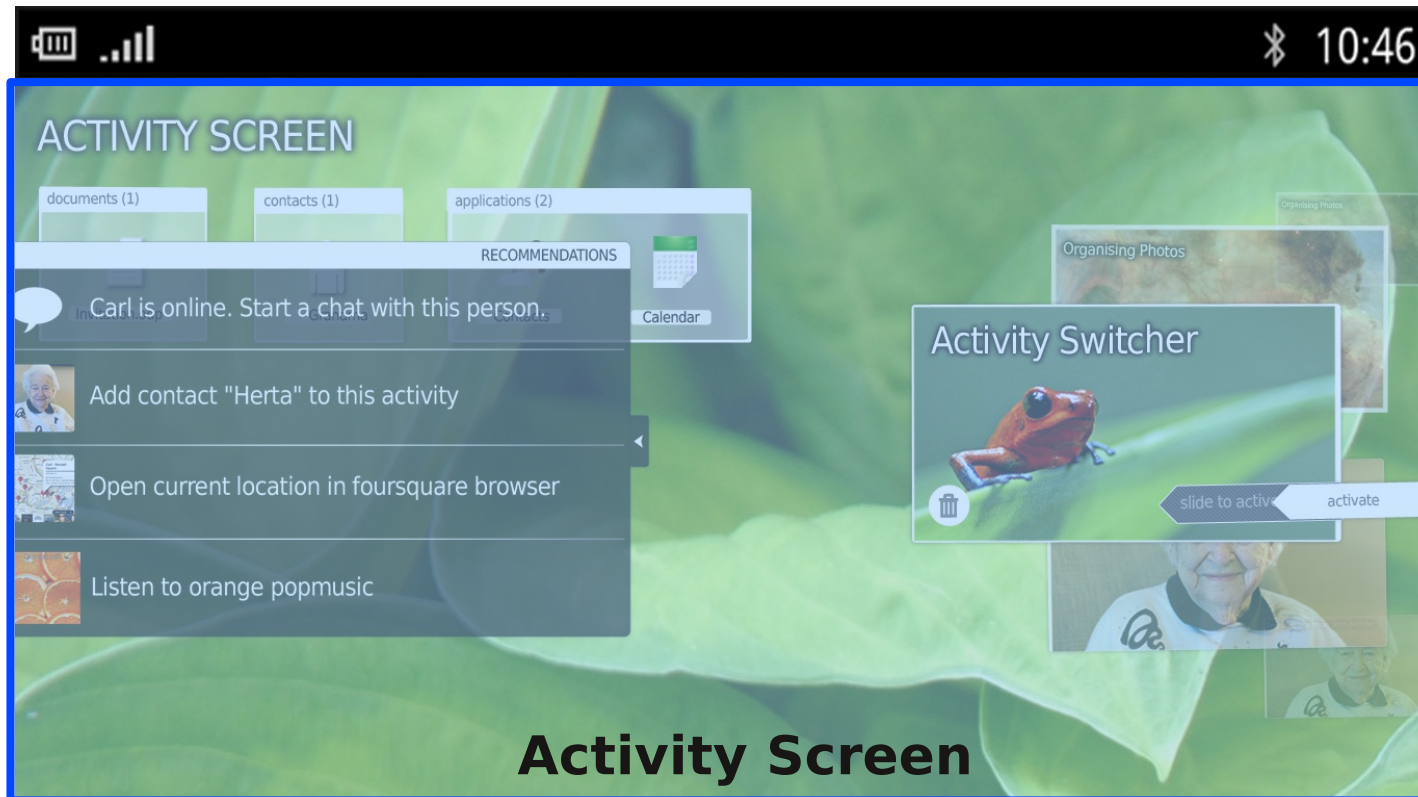
Different zones



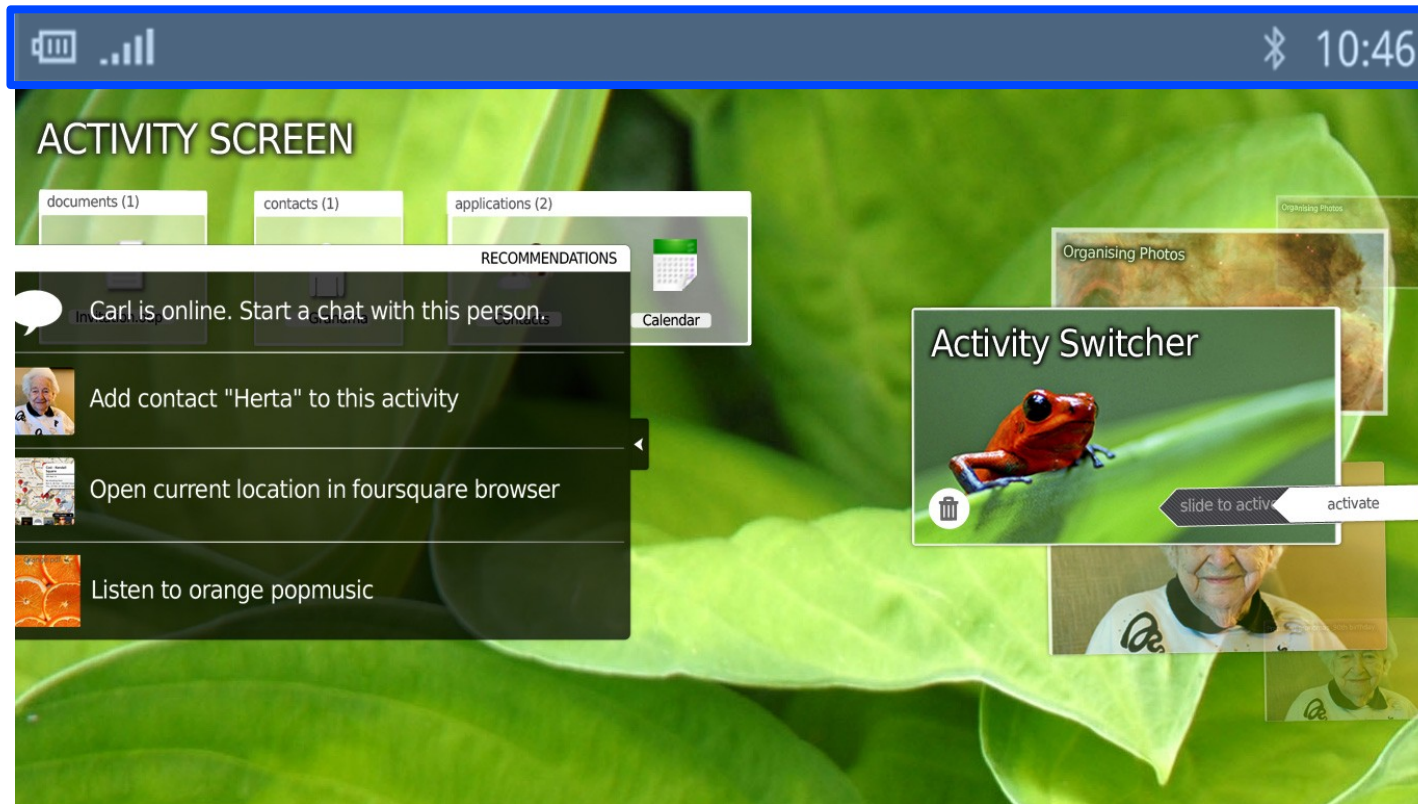
Different zones



Different zones

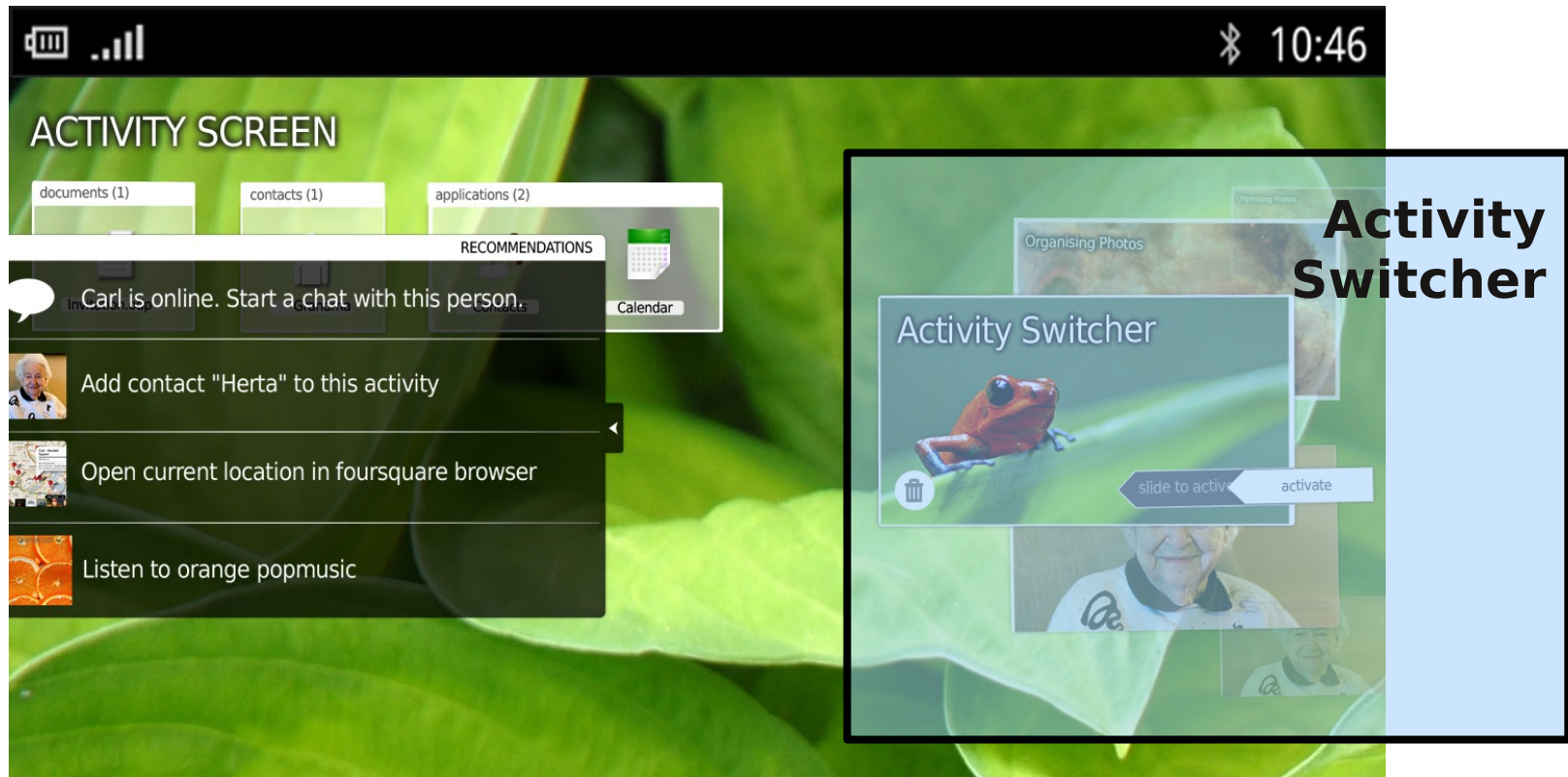


Different zones



Top Bar

Different zones





Live Demo





Desktop summit

Document (3)



tokamak2slides.pdf



tokamak4 netboo...



DesktopSummit_t...

Image (3)



duke2_1.png



frame5.jpeg



polymer-mock_1....

Application (3)



Active Web Browser



Active Image viewer



Amarok

Notes

Leave a note

T

Bookmark (2)



desktopsummit...



community.kde....



Desktop summit



Document (3)



tokamak2slides.pdf



tokamak4 netboo...

Bookmark (2)



desktopsummit



community.kde...

Image (3)



duke2_1.png



frame5.jpeg



polymer-mock_1....

Application (3)



Active Web Browser



Active Image viewer



Amarok



Slide to activate

Activate



Recommendations

- Main
- semanticdistance.txt
- Reference.php
- ReferenceActionDispatcher.php
- documentconverter.cpp
- nepomuk:/res/5dae0027-3d03-4aab-98c3-a364b9545f7f
<http://community.kde.org/Plasma>
- Managing Photos
- nepomuk:/res/c91d7a5f-6b7d-4e58-8367-9cd825ab8d2d

Bookmark (3)

Plasma - Active
KDE Community

community.kde...

★★★★☆

Share your Knowledge

community.kde....

☆☆☆☆☆

Weather Forecast

Berlin - Brandenburg

N/A H: 26°C L: 17°C

Day	Wed	Thu	Fri
Icon			
High	26°C	25°C	25°C
Low	17°C	18°C	17°C

Supported by backstage.bbc.co.uk / Data from UK MET Office



Technical background



Plasma perspective: data

- | Metadata dataengine
- | Activity manager daemon and the recommendations dataengine
- | Those are sources for:
 - Nepomuk resources connected to the current activity
 - Recommendations (resources with high scoring/actions associated to them)

Visualization

- | PlasmaMobile shell
- | QML packages used for independent, big components (almost blackbox, opposed to imports)
 - Homescreen: first thing loaded from the shell
 - Activity switcher
 - Recommendations overlay
- | Containments
 - Activity screen
 - Panel
 - Window switcher
 - Launcher

Recommendations

- globalFunctions.php
- fish://martin@10.0.7.156:22/var/www/html/syllabus/components/globalFunc...
- documentconverter.cpp
- Main
- CMakeLists.txt
- Listitem.qml
- CMakeLists.txt

Bookmark (3)

community.kde...

Managing Photos

Slide to activate Activate

25°C	25°C	24°C
17°C	17°C	17°C

Supported by backstage.bbc.co.uk / Data from UK MET Office

Plasma mobile booting

- | QML homescreen loaded
- | The appletsrc config file gets loaded
- | All containment restored:
- | Systray, window switcher and launcher containments go in a partially offscreen panel
- | The main screen “Planar” containment gets restored
 - In the case of Contour they are instances of the Current activity screen
 - Transition between activity containments will be managed by a QML animation


Main

Application (2)



Dolphin

Document (1)



PlasmaSystray be...

Image (3)





speedbar.png duke2_1.png hostelberlin.png

Notes

Hello

Bookmark (3)




Weather Forecast

Berlin - Brandenburg

N/A H: 25°C L: 17°C

Tue	Wed	Thu
		
25°C	25°C	24°C
17°C	17°C	17°C

Supported by backstage.bbc.co.uk / Data from UK MET Office

Activity screen Containment

- | QML-only Applet/Containment
- | Uses the metadata dataengine

```
PlasmaCore.DataSource {  
    id: metadataSource  
    engine: "org.kde.active.metadata"  
    interval: 0  
    connectedSources:  
    [ "CurrentActivityResources:"+plasmoid.activityId]  
}
```

Activity Resources

| The source "CurrentActivityResources:activity id" executes:

```
Nepomuk::Resource acRes("activities://" + activityId);  
    Nepomuk::Query::ComparisonTerm  
term(Soprano::Vocabulary::NAO::isRelated(),  
Nepomuk::Query::ResourceTerm(acRes));  
    term.setInverted(true);  
    Nepomuk::Query::Query query =  
Nepomuk::Query::Query(term);
```

| The property isRelated gets assigned by the user with a search screen implemented in the containment itself or with the SLC mechanism

Containment layout

- | Resources splitted by category: proxy model
- | Space divided in cells, internal data structure to keep track of busy/taken ones
- | User moves/resizes a box: JS function invoked that performs a simple lookup of the nearest free cell (back and forward)
- | The box gets aligned to the nearest free space to the dropped position, resized if necessary
- | A *Behavior* on geometry properties ensures it happens with a smooth animation
- | Plasmoids are positioned in the same way

Connection: SLC

- | Each resource icon has a context menu: same entries as the top panel icons
- | Active applications will publish with a simple api what is the current open “thing”
 - File path
 - Nepomuk URI
 - Web URL
 - Geo location
- | Plugins will provide actions for those urls
 - “Share”: upload on flickr...
 - “Like”: rate, like on facebook...
 - “Connect”: connect to the current activity, with another resource...

Recommendations

- | The activity manager is used to keep track of what gets opened and modified...
- | Base for the Contour Recommendations system
- | All resources scored and “most likely” actions assigned to them
- | The Contour daemon publishes them on DBUS
- | The Recommendations UI (another generic package loaded from the home screen QML) displays them as a list in a panel on top of the rest

Participate

- | Website: **<http://community.kde.org/Plasma/Active/Contour>**
- | Mailinglist: active@kde.org
- | IRC: *#active*
- | Marcos Blog: www.notmart.org/index.php/BlaBla
- | Fancias Blog: <http://contourproject.wordpress.com>

The Contour project is contributed by basyskom GmbH and released in KDE as open source. We want to share our ideas and development with the community to contribute it to the public. Read more at <http://contour.basyskom.com> or go to our website at www.basyskom.com

