



Was kommt nach X?

Fresco & Co.

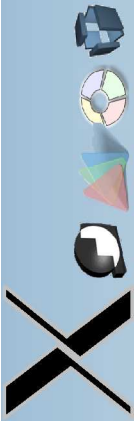
Dipl. Technoinform.

Tobias Hunger

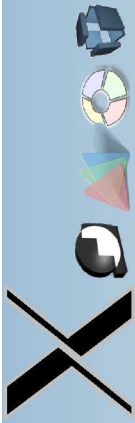


Anforderungen:

- muss Entwickler überzeugen
 - einfacher, klarer, sauberer
 - nicht „zu anders“
- muss User überzeugen
 - alte Programme müssen weiterhin nutzbar sein
 - neue Umgebung muss „besser“ sein
- muss für heutige und künftige Hardware gerüstet sein
- sollte netzwerktransparent sein



X Windows



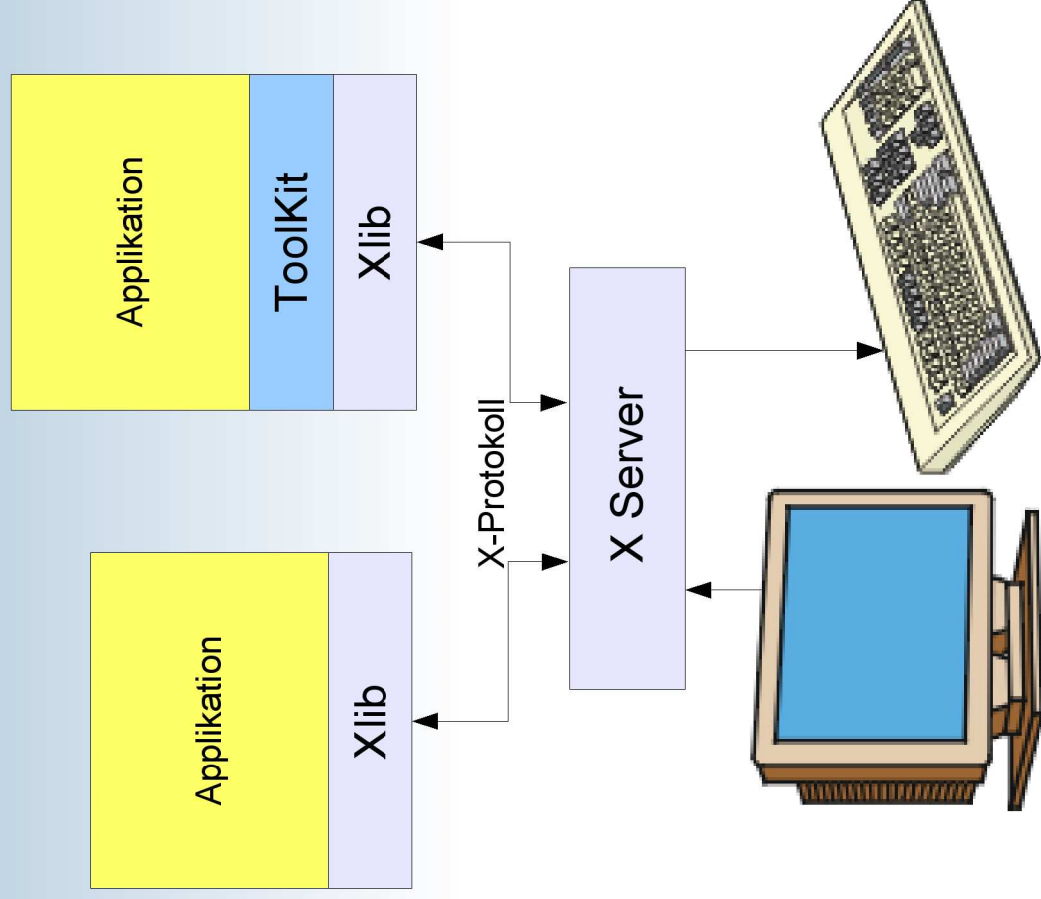
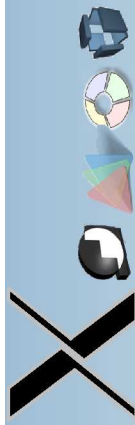
X Windows

1984 „Athena“, Massachusetts Institute of Technology (MIT):
Netzwerk grafischer Workstations unterschiedlicher Hersteller
als Unterrichtshilfe

1986 andere Organisationen fragen nach X

1988 X11R2 offiziell „released“

1994 X11R6

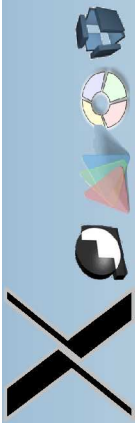




X ist ...

- „bloated“
- langsam
- hat schlechtes Drag'n'Drop
- hat schlechtes Cut'n'Paste
- ...

DAS STIMMT NICHT!



Eingabegeräte:



Spaceball

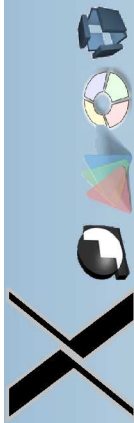


Grafiktablett



Data glove

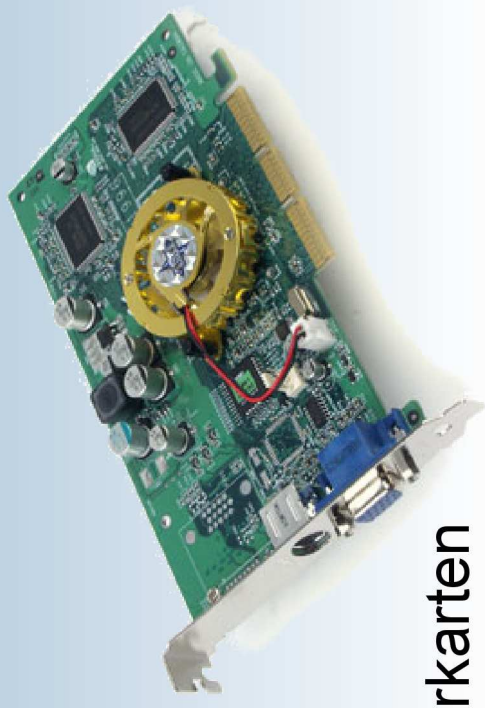
Lösung: Xinput Extension



Ausgabegeräte:



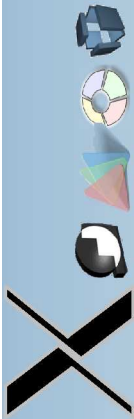
Highbres Monitore



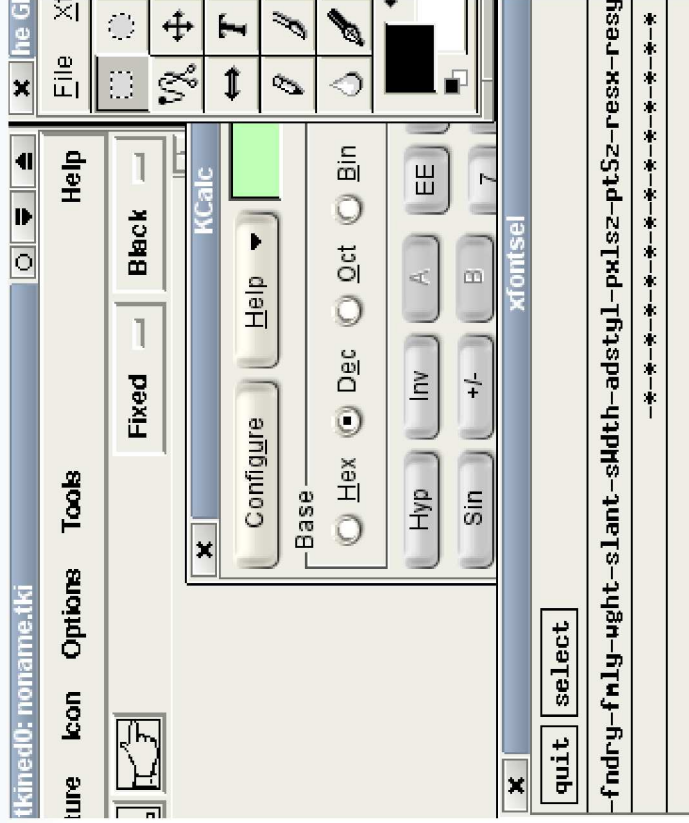
3D Beschleunigerkarten



VR Umgebungen

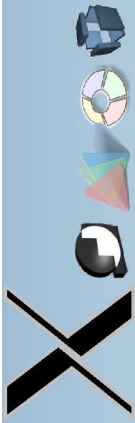


Verschiedenes:



Bandbreitenbedarf

konsistentes Benutzerinterface



Fix X!



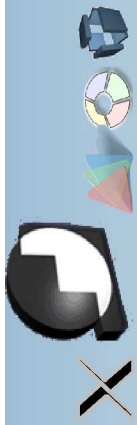
?-Programme laufen *nicht* auf X Fresco-Programme laufen „nativ“
X-Programme laufen auf ? X-Programme laufen auf X-Layer

SLOC: ~2.000.000

SLOC: ~180.000

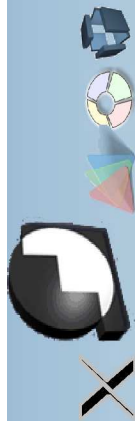


GNUstep



GNUstep

- freie Reimplementierung des Openstep Standards
- NeXT Look and Feel
- Entwicklungsumgebung für grafische Anwendungen
- ObjectiveC
- Cross-Plattform (Linux, Windows, Solaris, ...)



GWorkspace	
Info	▶
File	▶
Edit	▶
View	▶
Tools	▶
Windows	▶
Services	▶
Hide	h
Quit	q

Attributes Inspector

Attributes

Applications

Path: /

Link To:

Size: 7.08MB

Owner: root

Group: root

Permissions

Read	✓	✓	✓	✓
Write	✓	✓	×	×

Owner Group Other

Changed

00:45

SUN 08 SEP 2002

Revert

OK

Local Inbox



File Viewer

Applications

root

SimplyGNUstep

17.82GB available on hard disk

Applications

SimplyGNUstep

Applications

Users

Libraries

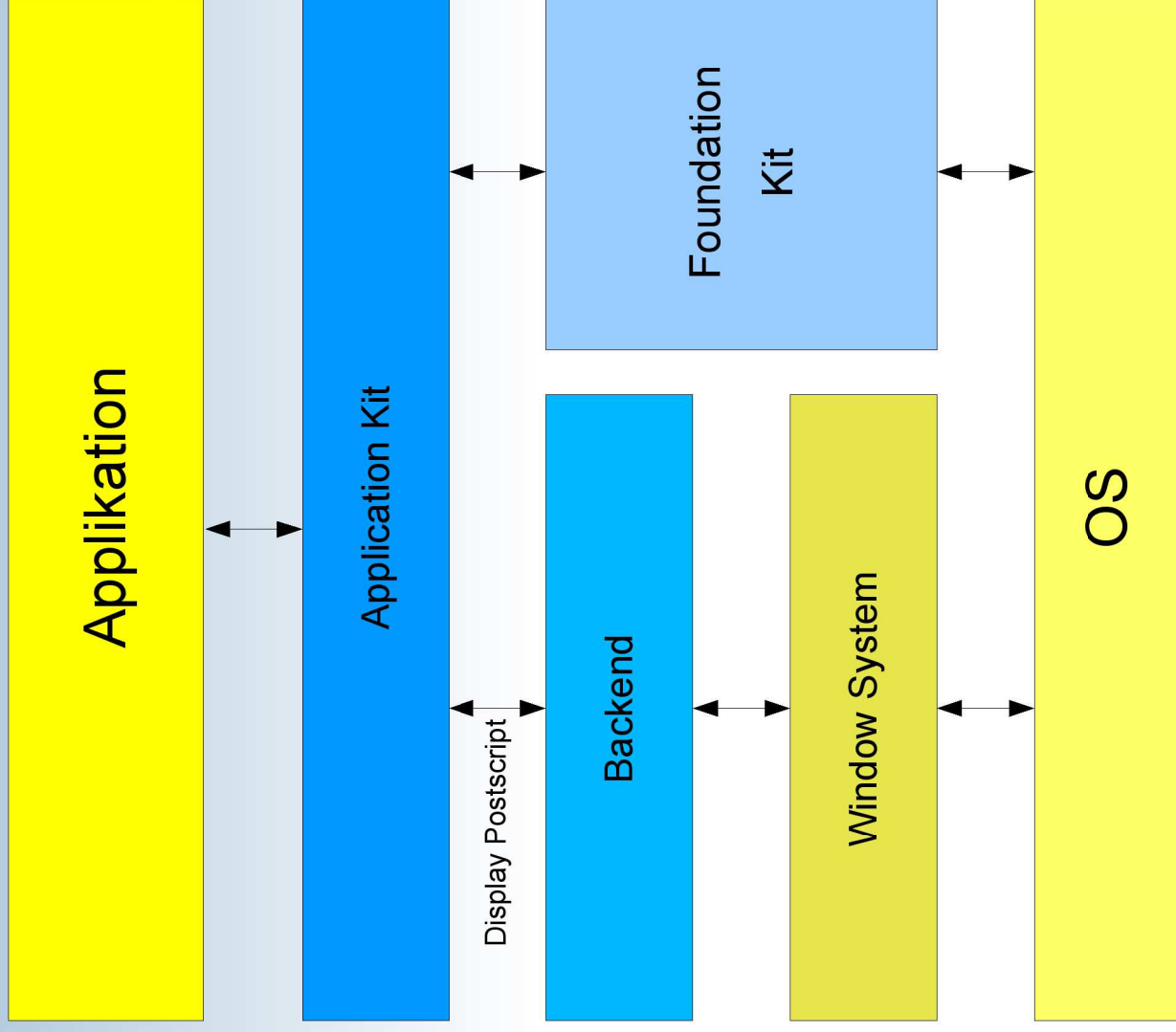
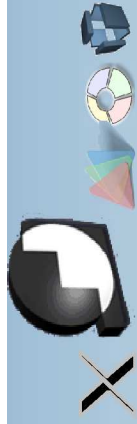
Volumes

Library

Network

root

System





Fresco

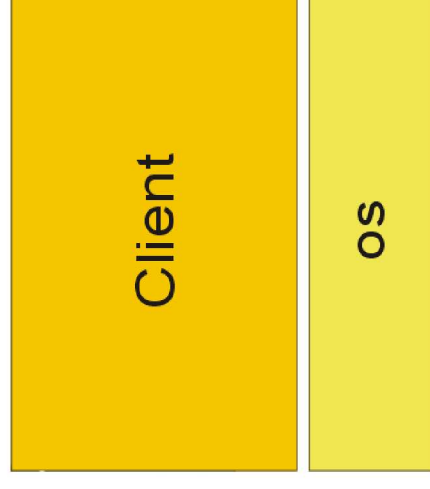
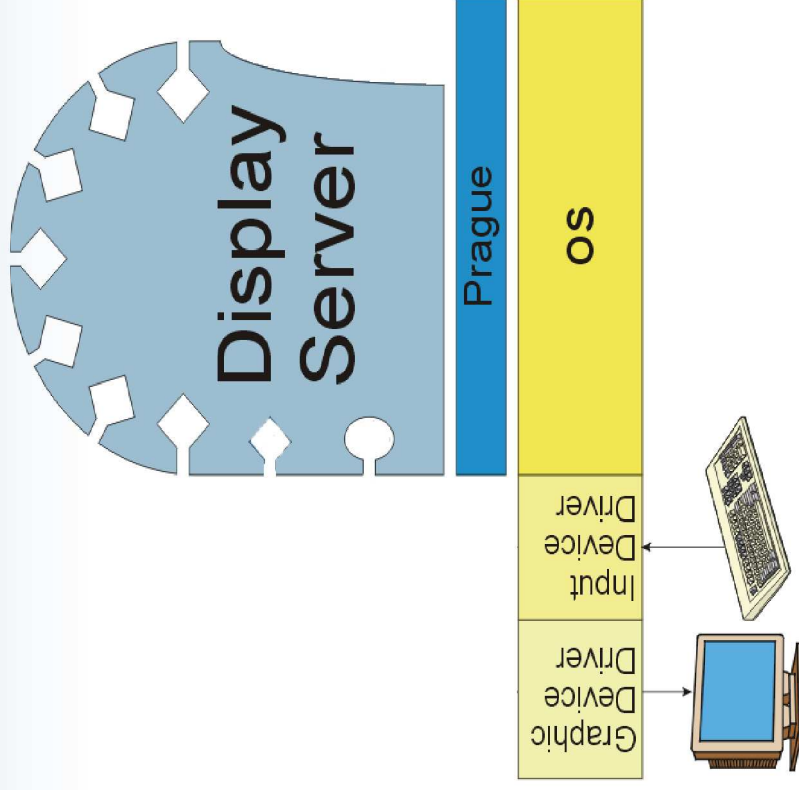


Fresco

- ✓ objektorientiert
- ✓ netzwerktransparent
- ✓ sprachtransparent
- ✓ vektorbasiert
- ✓ geräteunabhängig
- ✓ Unicode
- ✓ modular
- ✓ konfigurierbar aber konsistent
- ✓ skalierbar

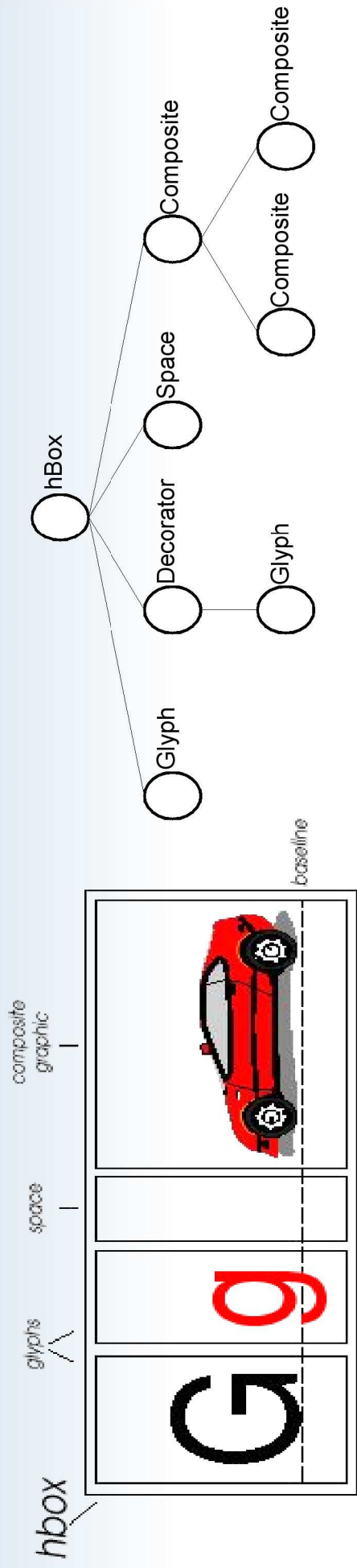


Client/Server



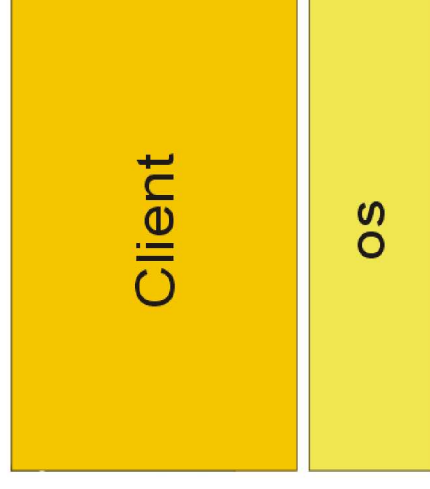
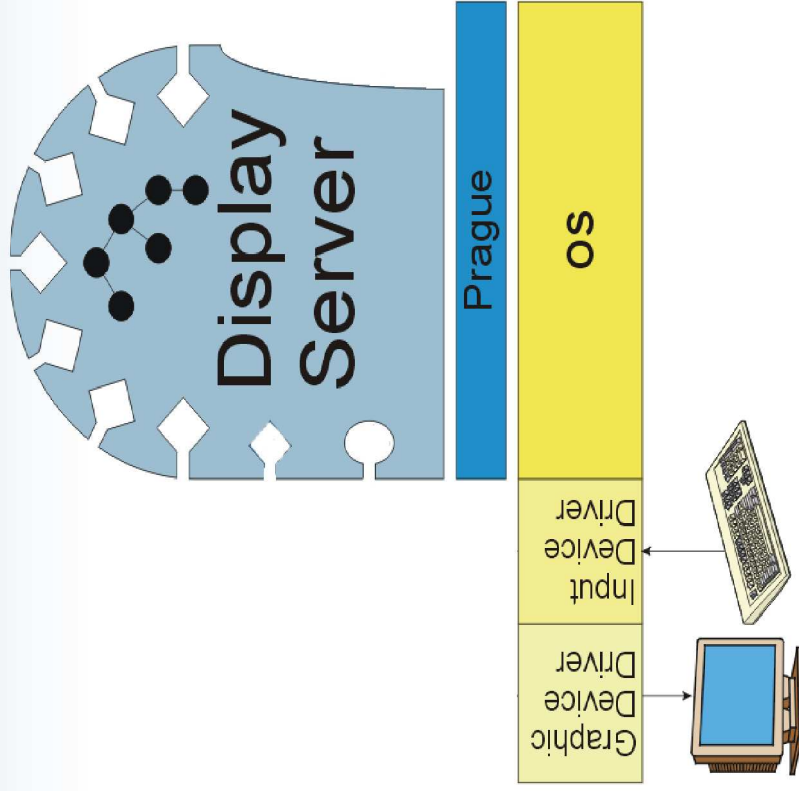


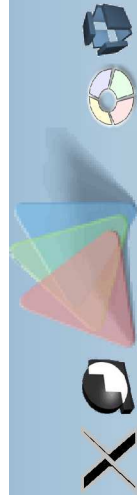
Strukturierte Grafiken



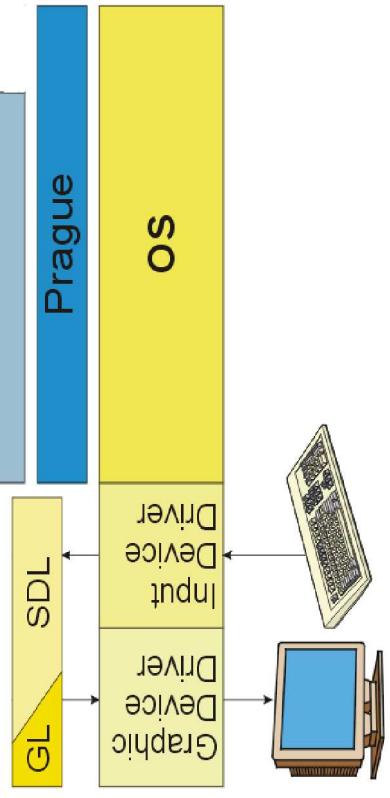
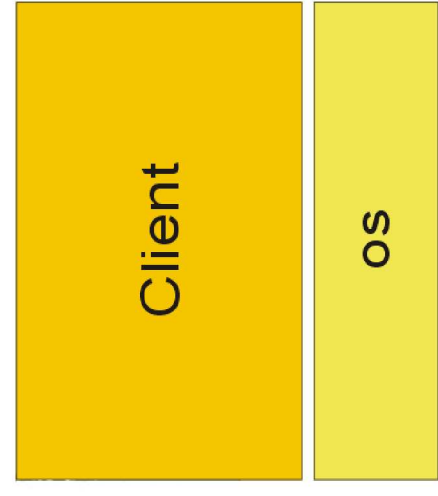
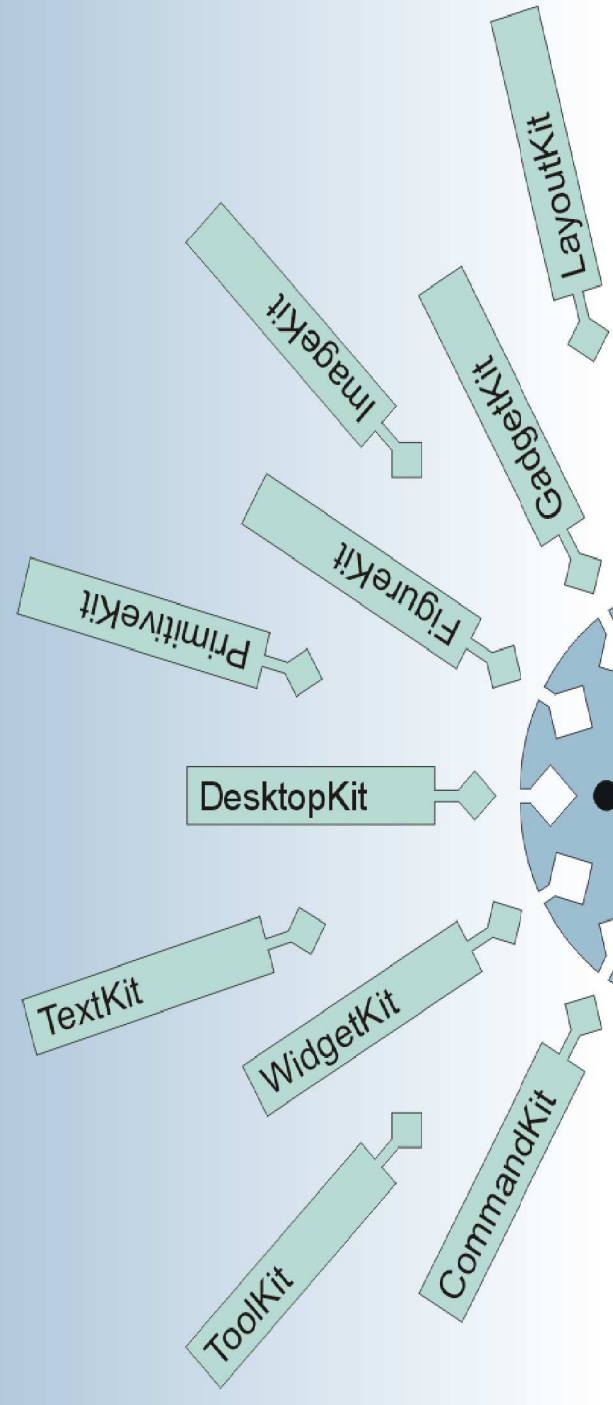


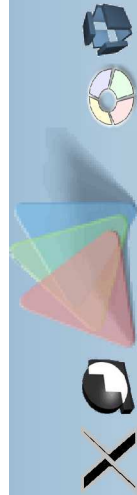
Scene Graph



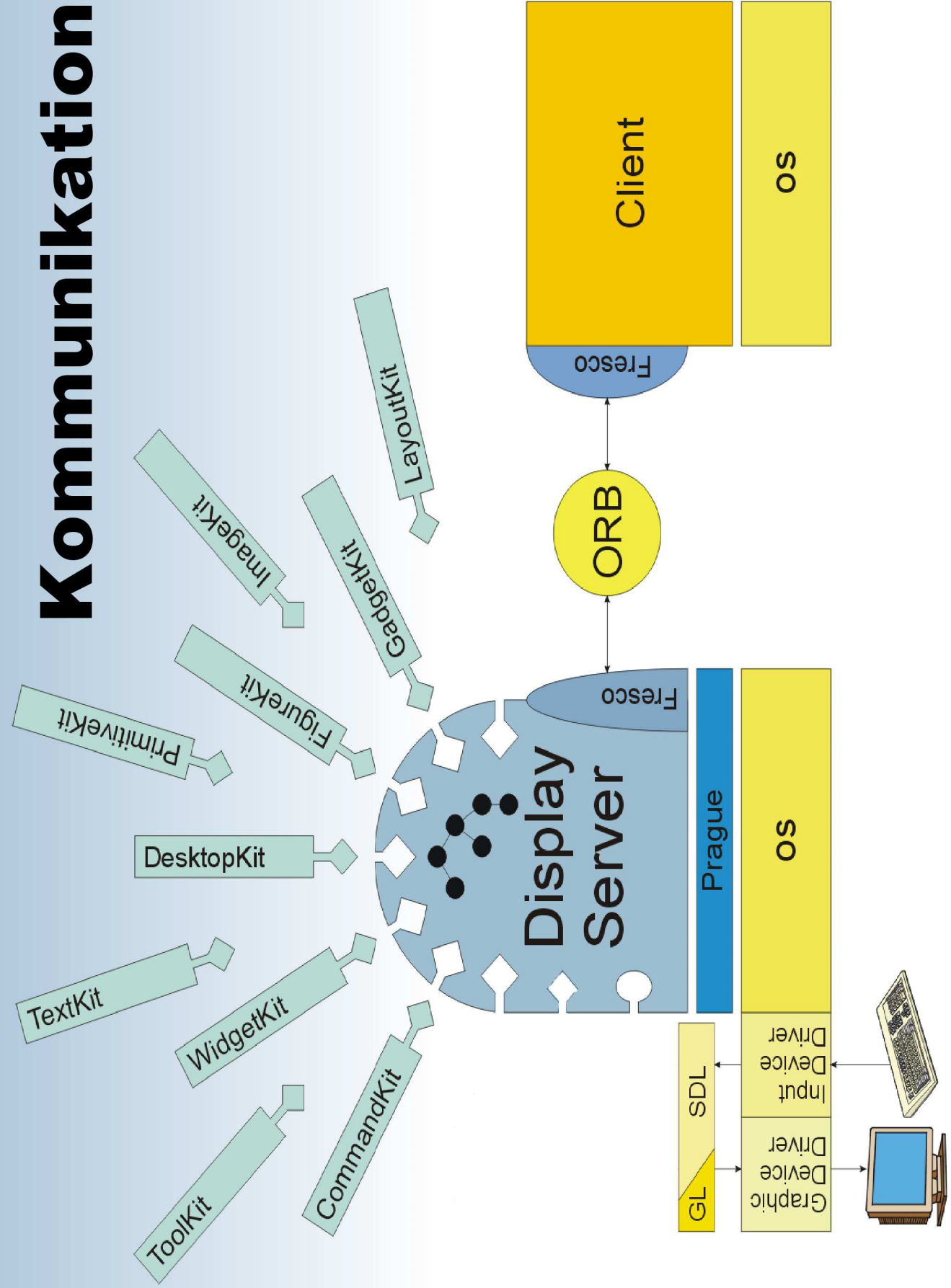


Kits





Kommunikation





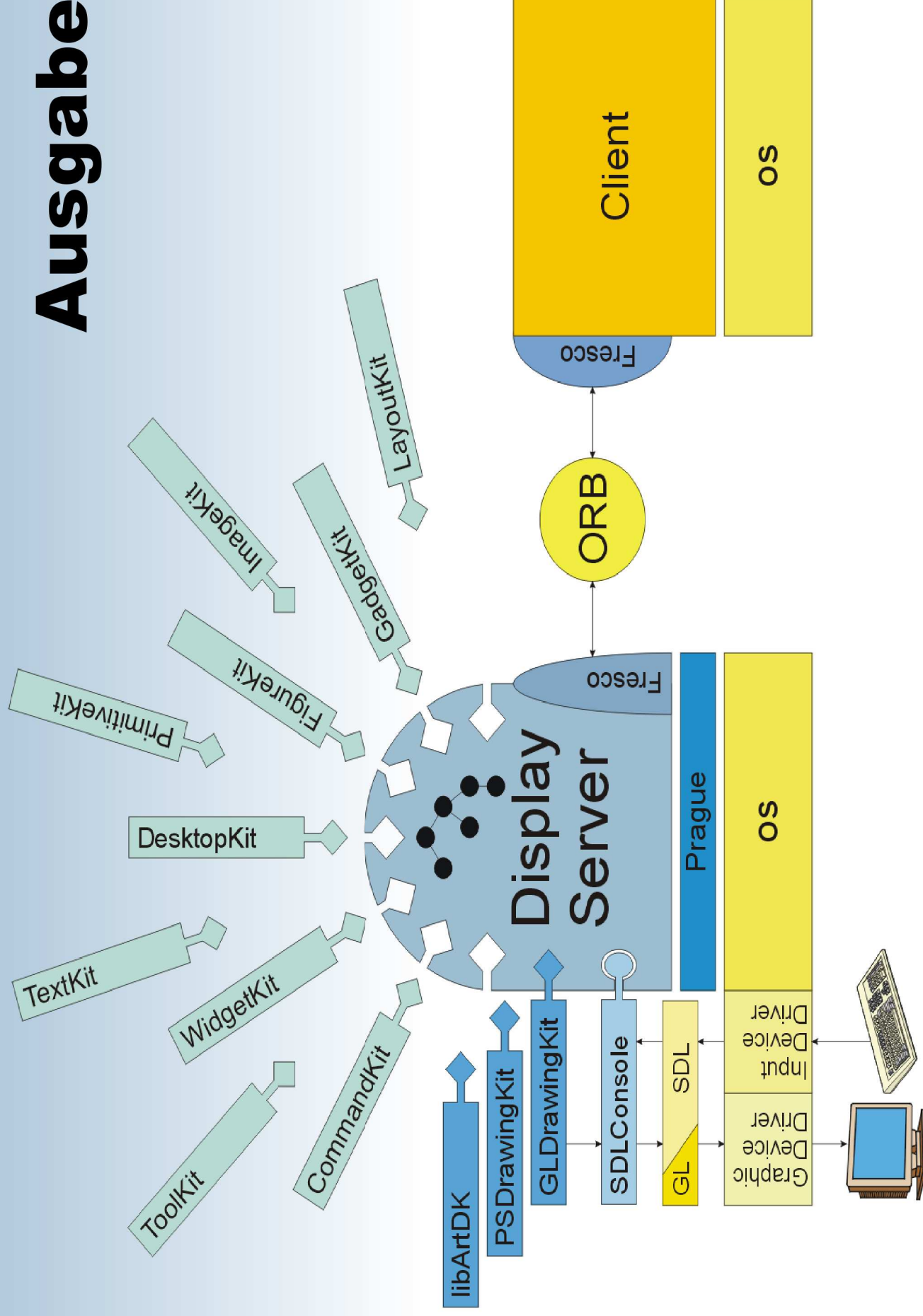
Geräteunabhängigkeit

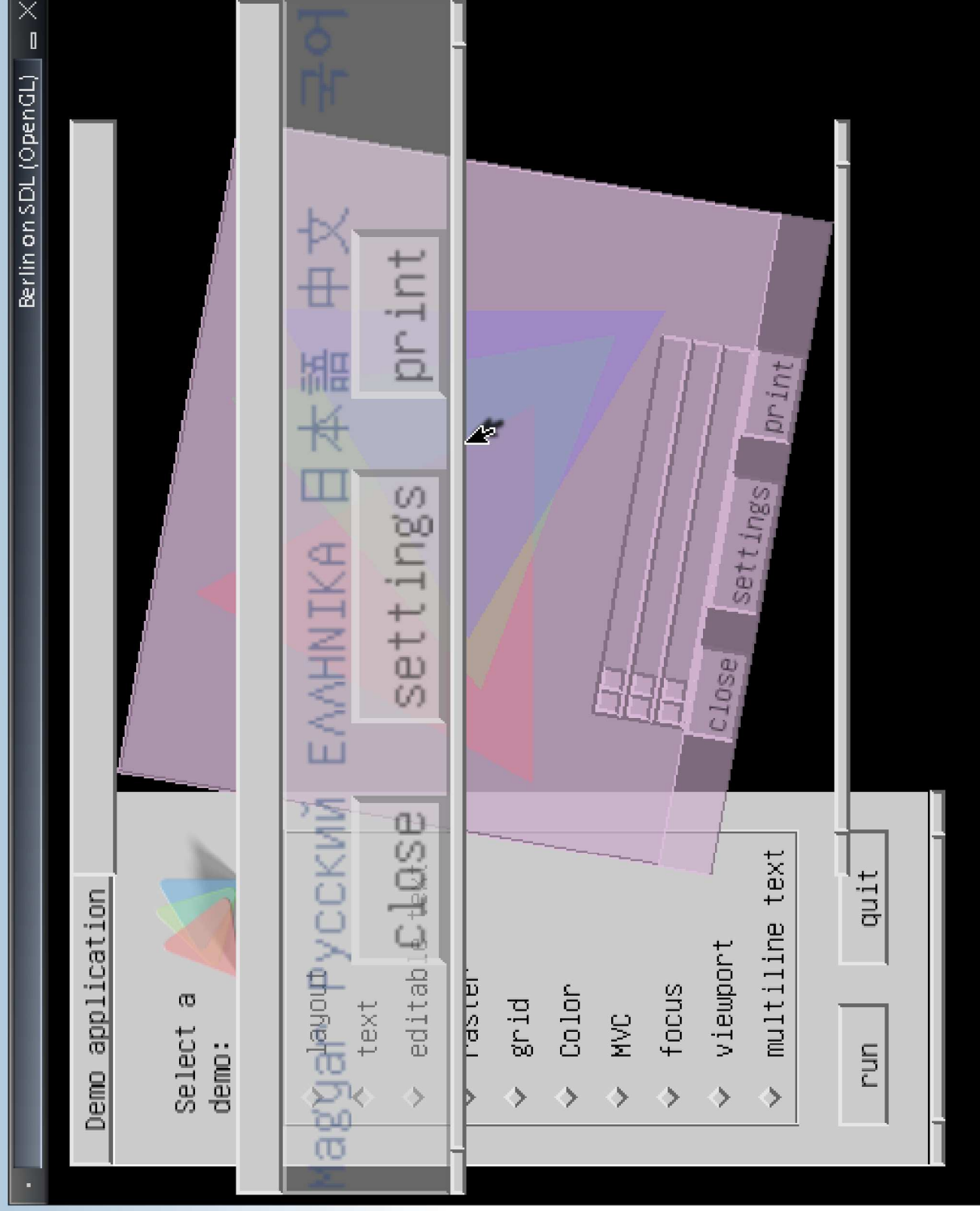
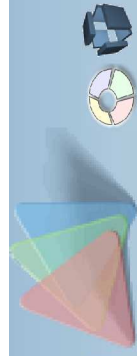
- ✓ Geräteunabhängigkeit
 - ✓ „richtige“ Längen- und Positionsangaben (mm)
 - ✓ normalisierter RGBA-Farbraum

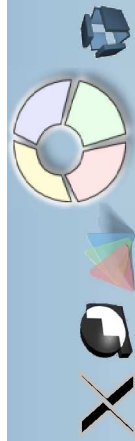
→ **wenige Annahmen über das Ausgabegerät**

- ✓ vollwertige 3D Objekte

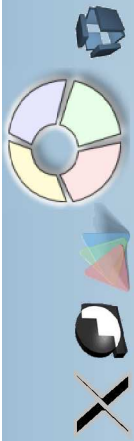
Ausgabe





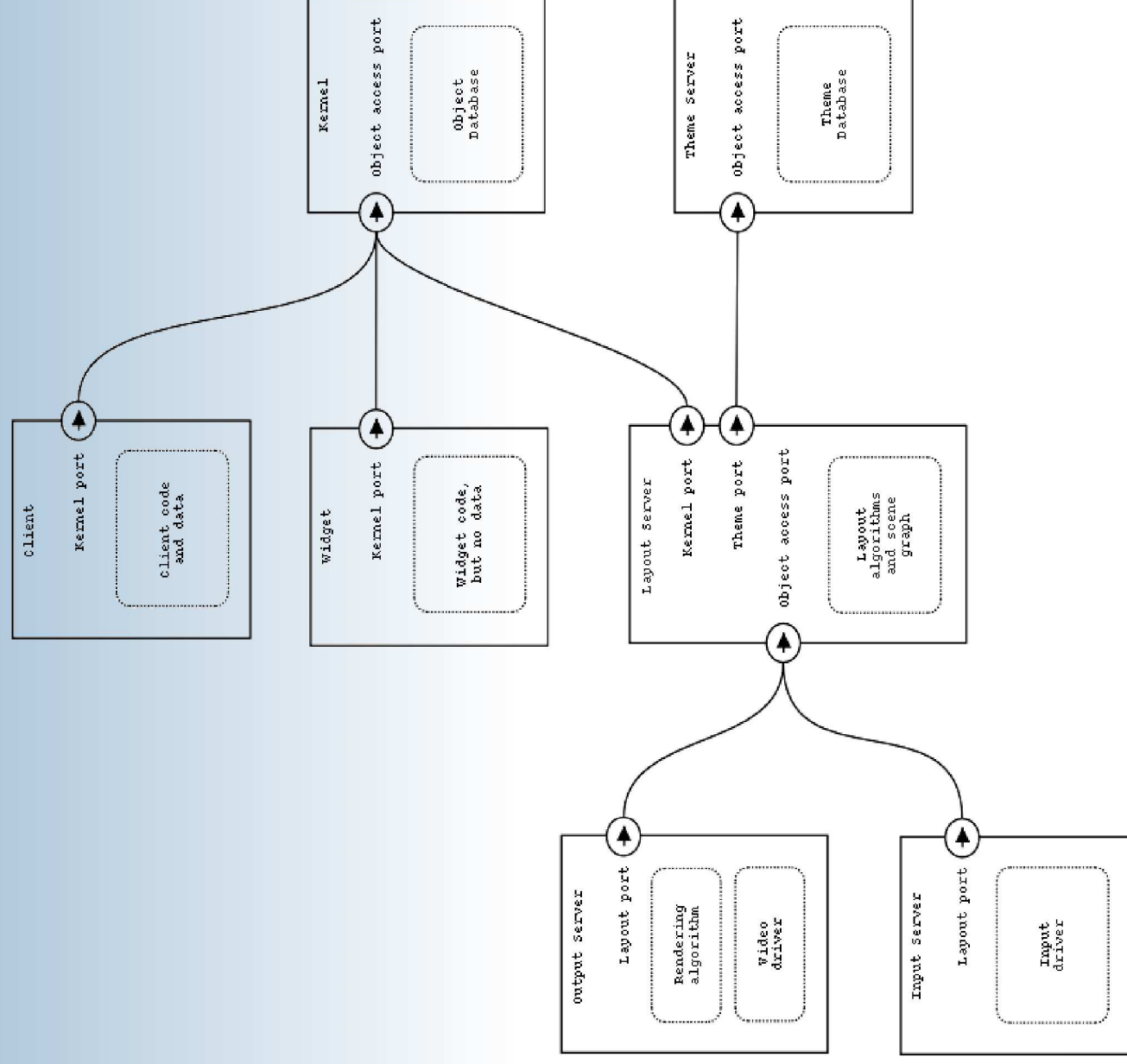
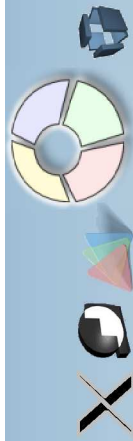


PicoGUI



PicoGUI

- Embedded Systems
- „Mikrokernel“ Ansatz
- Gewichtung liegt auf Geschwindigkeit, nicht Konzepten
 - Pixelbasiertes Layout
 - weniger generischer Scene Graph Ansatz
- Themes





PicoGUI (sdlfb @640x480x32)

Load... Save Save As... Clear...

Untitled - Scribble Pad (modified)

Other... [Color Selection Buttons]

Calculator

9855

2nd <- +/- ^

7 8 9

4 5 6

1 2 3

0 . =

Terminal (104x11)

f sh-2.05b#

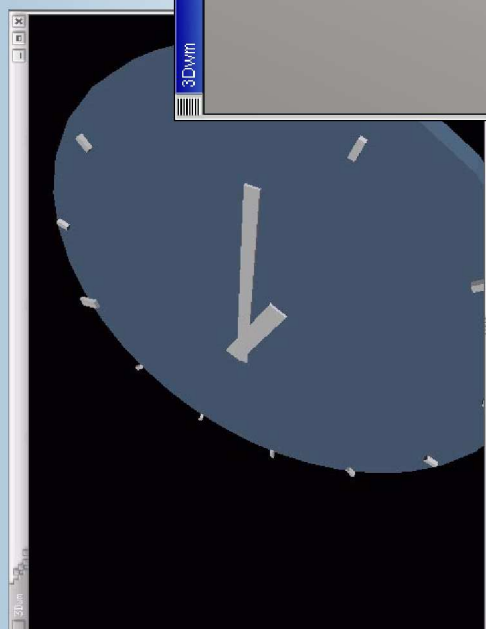
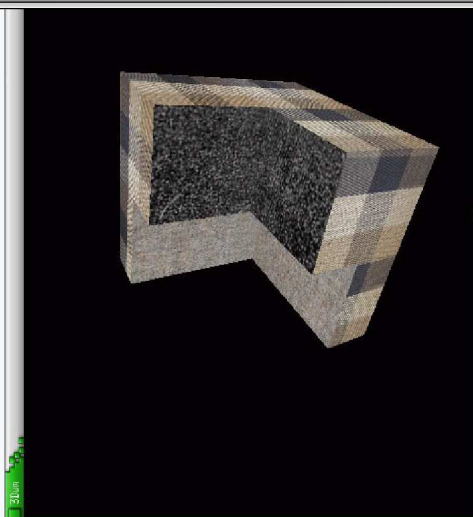


3Dwm



3Dwm

- Forschungsprojekt der Universität Göteborg
- Architektur weitgehend identisch mit Fresco
- VR Umgebungen





Danke für Ihre Aufmerksamkeit

<http://www.x.org>

<http://www.gnustep.org>

<http://www.fresco.org>

<http://www.picogui.org>

<http://www.3dwm.org>

<http://www.fresco.org/links.html>