



Seminar Software-Produktlinien

Thema: 4. Beispiele
Handysoftware

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Übersicht

- Allgemeines
- Fallstudie GoPhone
- Fazit

Allgemein

- Verschiedene Funktionen ohne großen Programmieraufwand
- Software für verschiedene Handytypen
- Senkung der Entwicklungskosten

Allgemein



Netze, Farbdisplay, Auflösung, Bluetooth, USB, GPS, SMS, MMS, Adressbuch, Kalender, Browser, Spiele, Tastatur, T9, weitere Tasten, Kamera, Radio, Multimedia, E-Mail, Java, Java-Version, Branding, Speicher (Menge, Format, Geschwindigkeit, wechselbar), Prozessor



Product Line Scoping

Notwendige Schritte

- Produkt-Portfolio-Planung
- Domänen-Abgrenzung
- Festlegung der Kernbestandteile



Planung des Produkt-Portfolios

Beispiel GoPhone

- Basic Phones
- Communicators
- Smart Phones
- Pocket Web Browsers



Produktbeschreibung

1 System Type

Go Phone Smart

2 Information Source

Company experts 20.10.2001

3 Short Description

This smart phone is a mixture of a mobile phone and a PDA. It offers email functionality, synchronization with MS Outlook and extended messaging capability. The Go Smart is equipped with a large multimedia display.

4 Market Segment

Price-segment: high

User group: end-user with high demands, business users as well as 'entertainment users'

Function segment: mobile phone/ PDA (Smart phone).

5 Differentiating features to other systems

- Plays sounds in messages
- MS Outlook synchronization mechanism
- ToDo list
- Address database with complete address
- HTML-Browser
- Animated Screensaver
- File attachments to messages, email functionality
- bluetooth and GPRS

- MS Word and Excel compatibility
- Video playback
- Java compliant

6 Individual Systems

There are several versions for various countries. E.g a Go Smart GSM 900/1800 Dualband with English language.

7 System Customization

There are two dimensions of variability for the various countries: various networks (GSM, IS95, etc.) and various languages (English, Arabian, Chinese, etc.)

8 Release Plan

The product has to be released until end 2004.

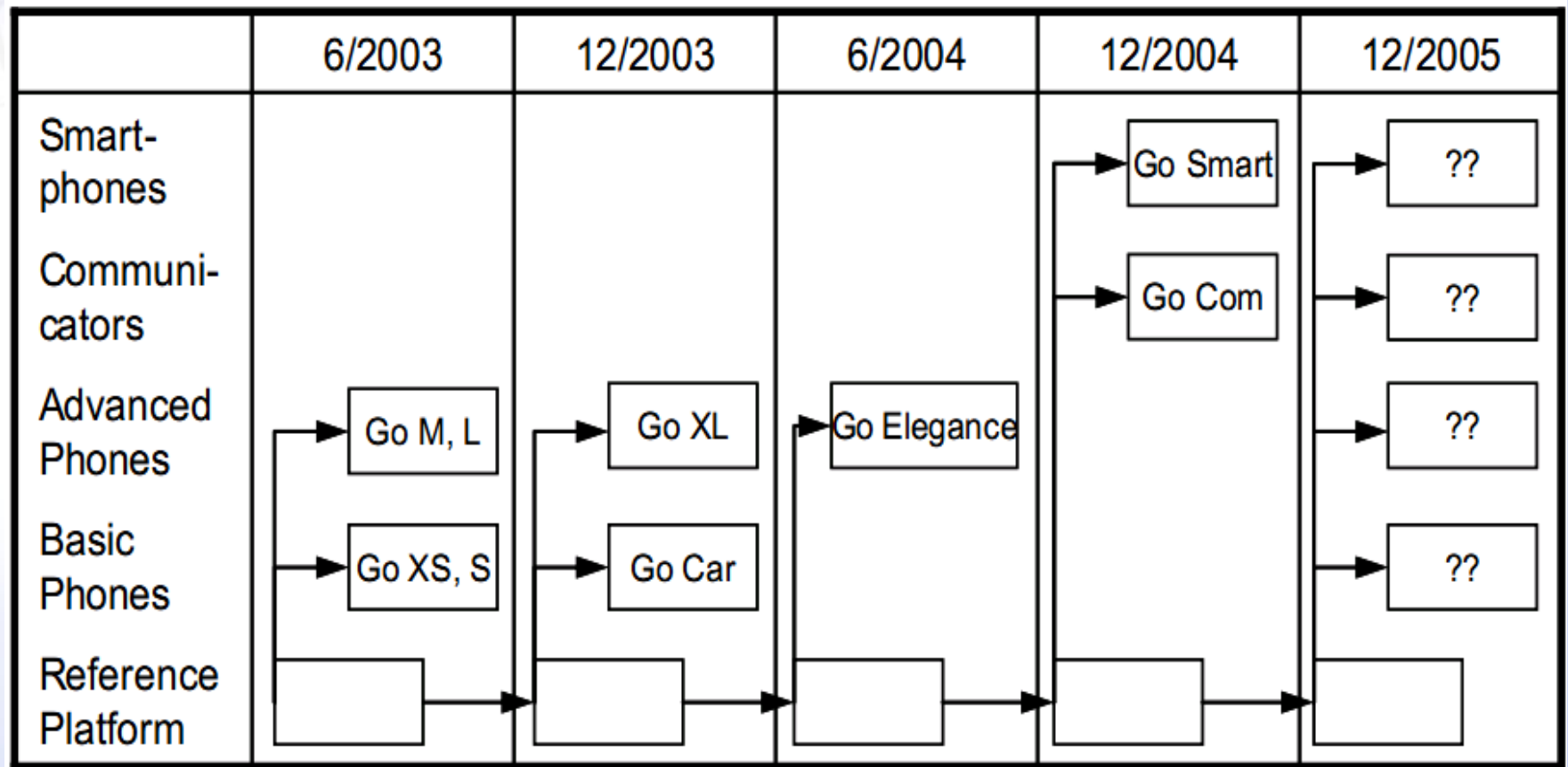
9 Environmental Constraints

- Has to operate in all available networks of the country (e.g. in Germany GSM 900 and 1800)
- Has to offer synchronization with MS Outlook

10 Non-Functional Constraints

- Time for menu-switch < 1/10 sec., time for searching entries < 1 sec.
- MTBF for user-site: severe error: 1 year, slight error: 1 month
- number of packets to the network, inconsistent with the protocol: 1 out of 1.000.000

Produktstammbaum



Produktcharakterisierung

area	feature	NT	Go Phones								
			XS	S	M	L	XL	Car	Ele-gance	Com	Smart
Messaging	show message		x	x	x	x	x		x	x	x
	new message		x	x	x	x	x		x	x	x
	save message		x	x	x	x	x		x	x	x
	modify saved message		x	x	x	x	x		x	x	x
	delete saved message		x	x	x	x	x		x	x	x
	search for message		x	x	x	x	x		x	x	x
	send message		x	x	x	x	x		x	x	x
	drafted answers			x	x		x		x	x	x
	drafted text-elements								x	x	x
	automatic text recognition (T9)		x	x	x	x	x		x		
	insert picture in message			x	x	x	x		x	x	x
	attach sound to message										x
	attach file to message										x
	chat functionality				x	x	x		x		x
	extended SMS				x	x	x		x	x	x
	attach business card	x		x	x	x	x		x	x	x
	attach calendar entries	x		x	x	x	x		x	x	x
e-mail									x	x	



Domänenbeschreibung

Domain Identity

- 1 Name
- 2 Information Source
- 3 Primary Function
- 4 Boundary Rules
- 5 Higher Level Domains
- 6 Lower Level Domains
- 7 Sub-Domains (Embedded Domains)

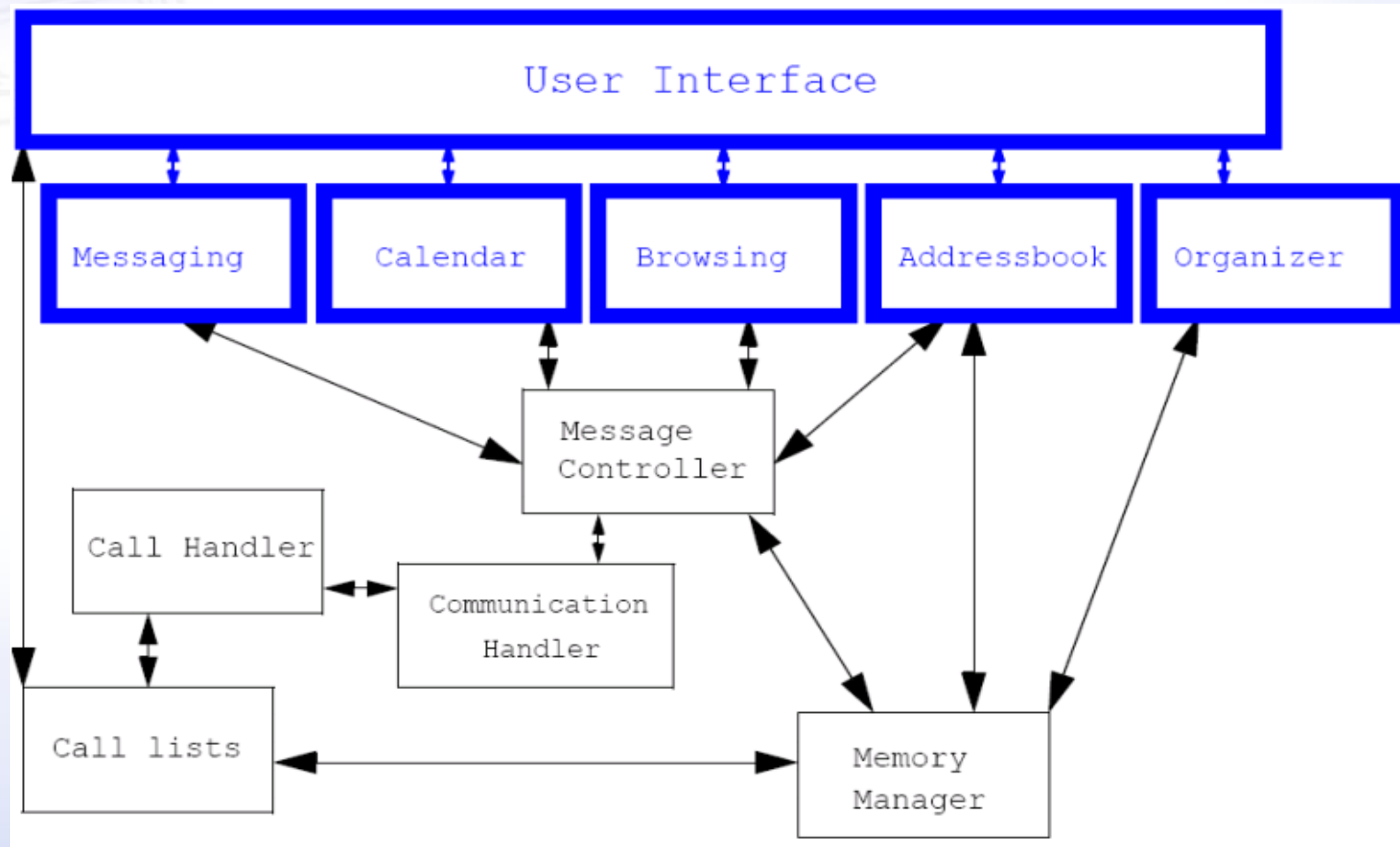
Functions

- 8 Functions/Features provided by the domain
- 9 Data/Objects handled and stored by the domain

System Characteristics

- 1 Existing Assets
- 2 (Sub-)System Relationship
- 3 Product Relationship

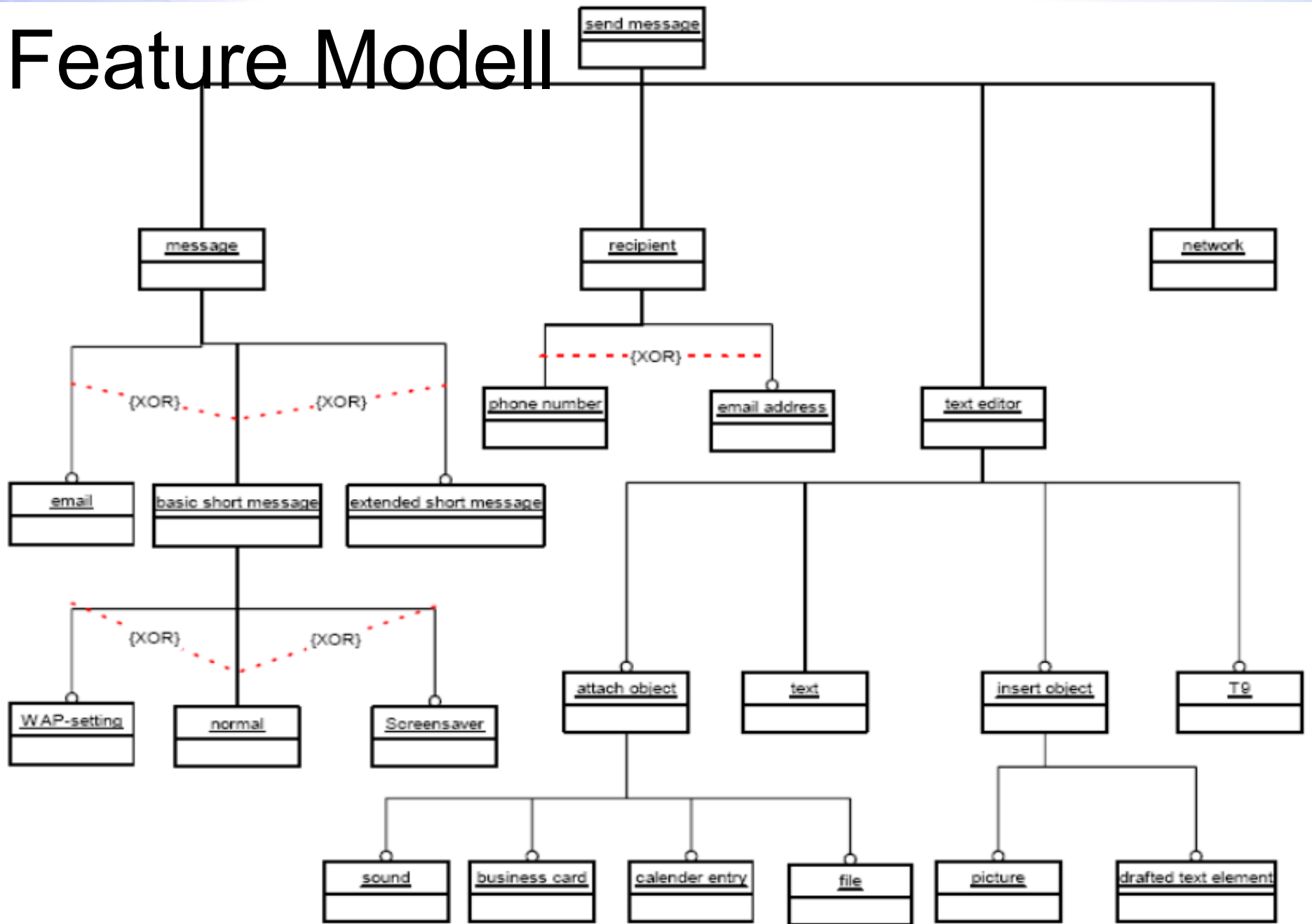
Relationsstruktur der Domänen



Product Map / Domänenabgrenzung

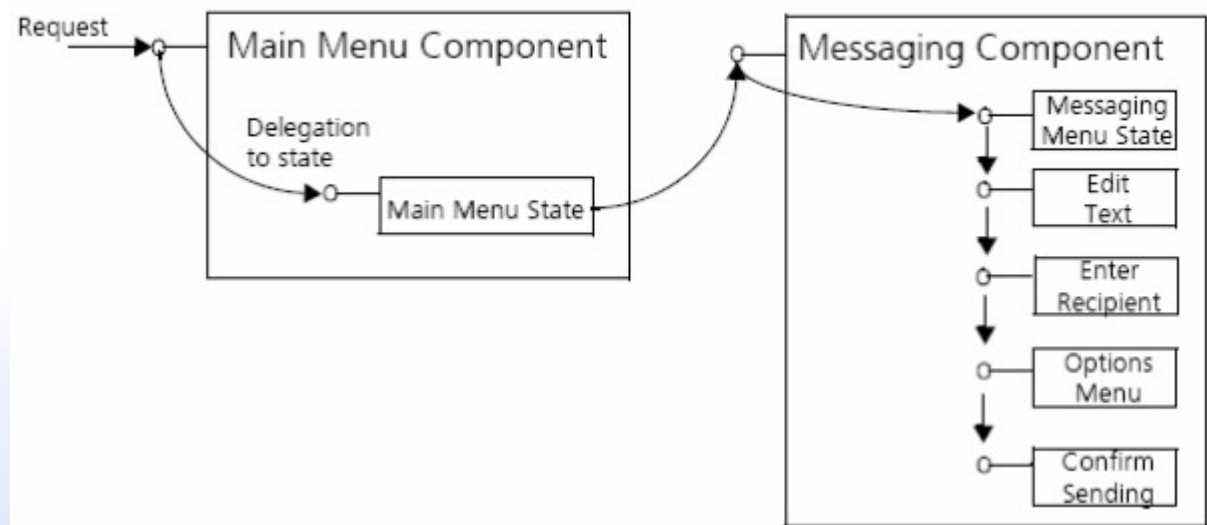
domain	feature	subfeature	Go Phones								
			XS	S	M	L	XL	Car	Elegance	Com	Smart
Messaging	show new message flag		x	x	x	x	x		x	x	x
	show message	basic show message	x	x	x	x	x		x	x	x
		show picture		x	x	x	x		x	x	x
		play sound									x
		show and save attached objects		x	x	x	x		x	x	x
		show and save special message		x	x	x	x		x	x	x
	new message or modify saved message	basic new message or modify saved message	x	x	x	x	x		x	x	x
		insert object to message		x	x	x	x		x	x	x
		attach object to message		x	x	x	x		x	x	x

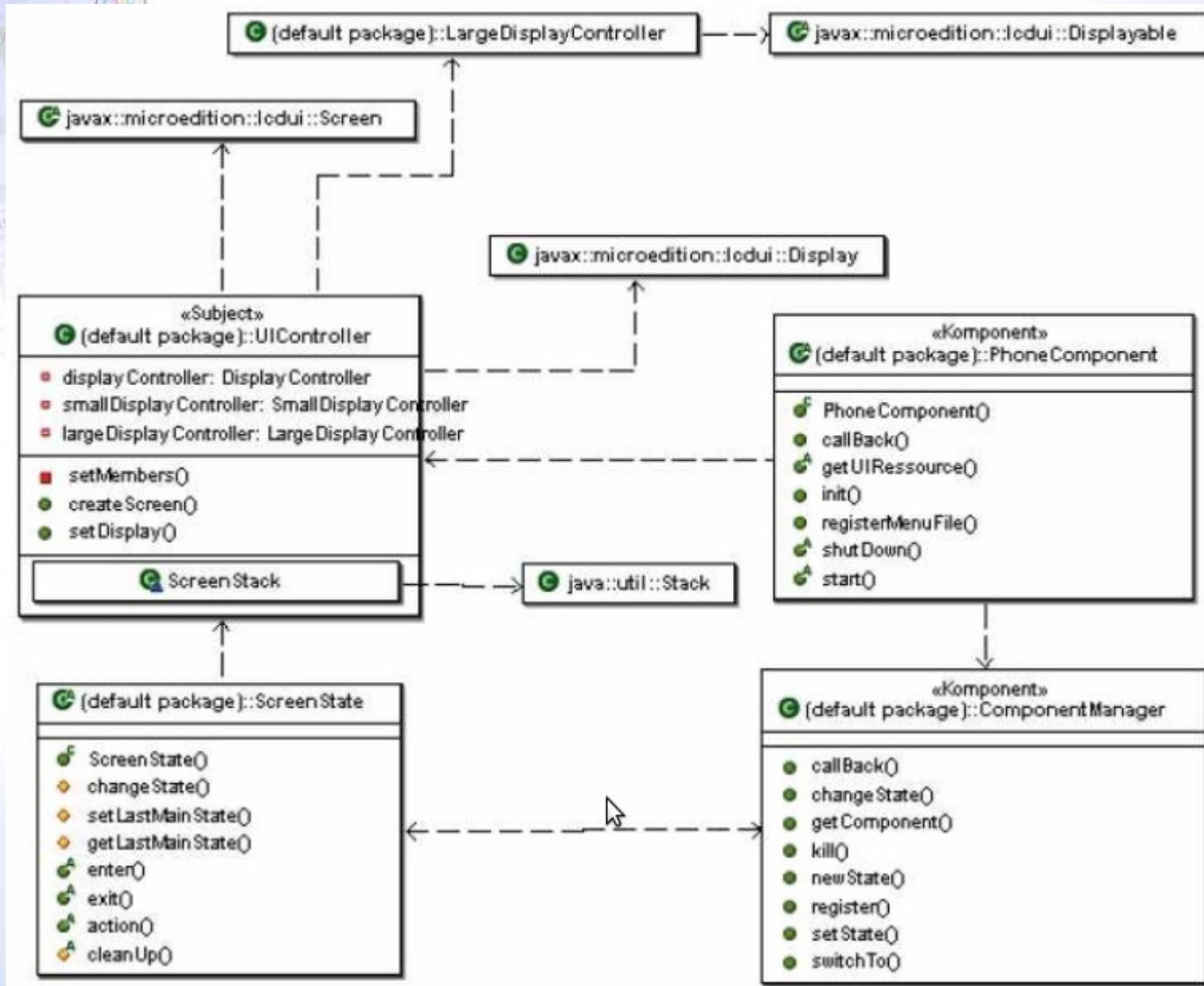
Feature Modell



Architektur

- Modularer Aufbau
- Kommunikation aller Komponenten über Main Menu Component





Fazit

- SPL ohne weiteres möglich
- Handyhersteller könnten (werden) es ähnlich handhaben



Quellen

GoPhone – A Software Product Line in the Mobile Phone Domain (*Dirk Muthig, Isabel John, Michalis Anastasopoulos, Thomas Forster, Jörg Dörr, Klaus Schmid*)

Software Product Line Adoption Roadmap (*Linda M. Northrop*)

Infotafel



Gibt es Fragen?

