Workshop Persistent

University College Nordjylland

Computer Science

Group 6

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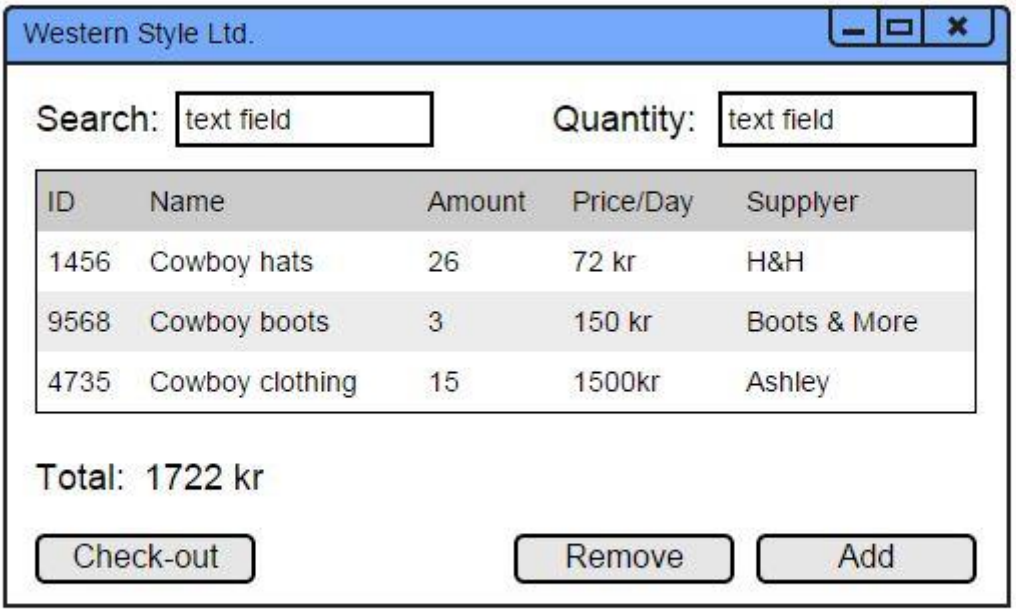
Mock-up

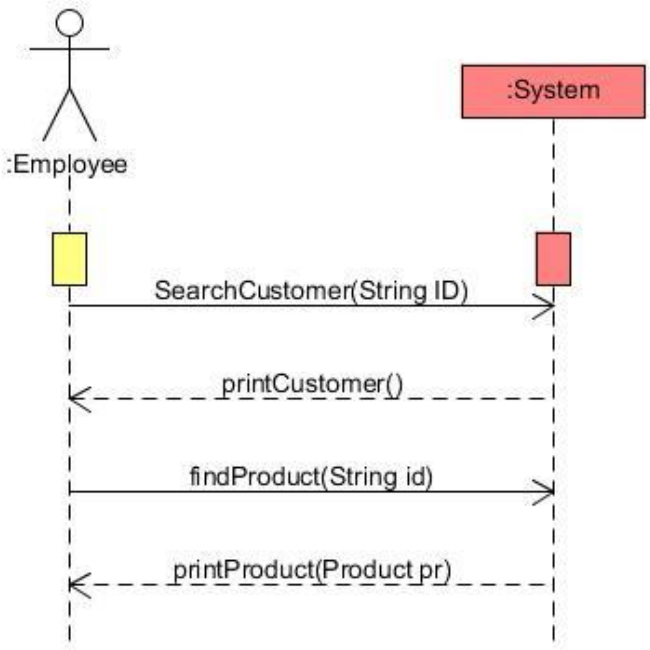


This mock-up shows how we imagine the system should look like. This kind of design is user friendly and do not require a lot of learning. Use: in the search field employee writes products name and amount of it then presses “Add” button. Then information of product pops up in the window. After adding everything employee presses “Check-out” button to end order and go to invoice.

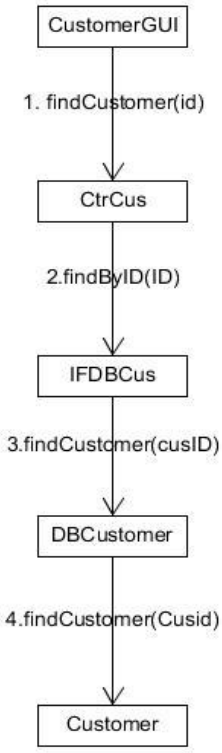
Fully dressed use case

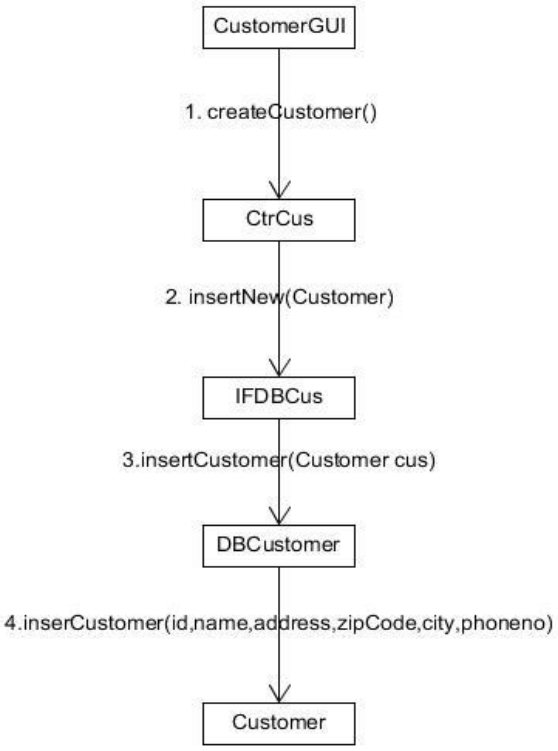
Use case name	**Order processing**	
Actors	Employee	
Pre-conditions	Customer is registered; Products exist	
Post-conditions	Order accepted	
Frequency	Approx. 10 times per day	
Main Success scenario (Flow of events)	**Actor (Action)**	**System (Response)**
	1. Employee enters customer ID	2. Checks whether customer exists, shows customer information and system creates order
	3. Enters items ID and their amount	4. System adds items to the order
	5. Employee ends the order	6. System saves the order, creates an invoice, calculates the total price and shows information
Alternative flows	2.A) Customer does not exist. Employee creates customer.	
	3. & 4. Action will be repeated for each item	

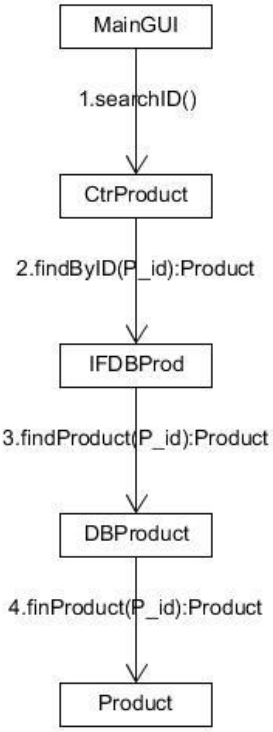
System sequence diagram



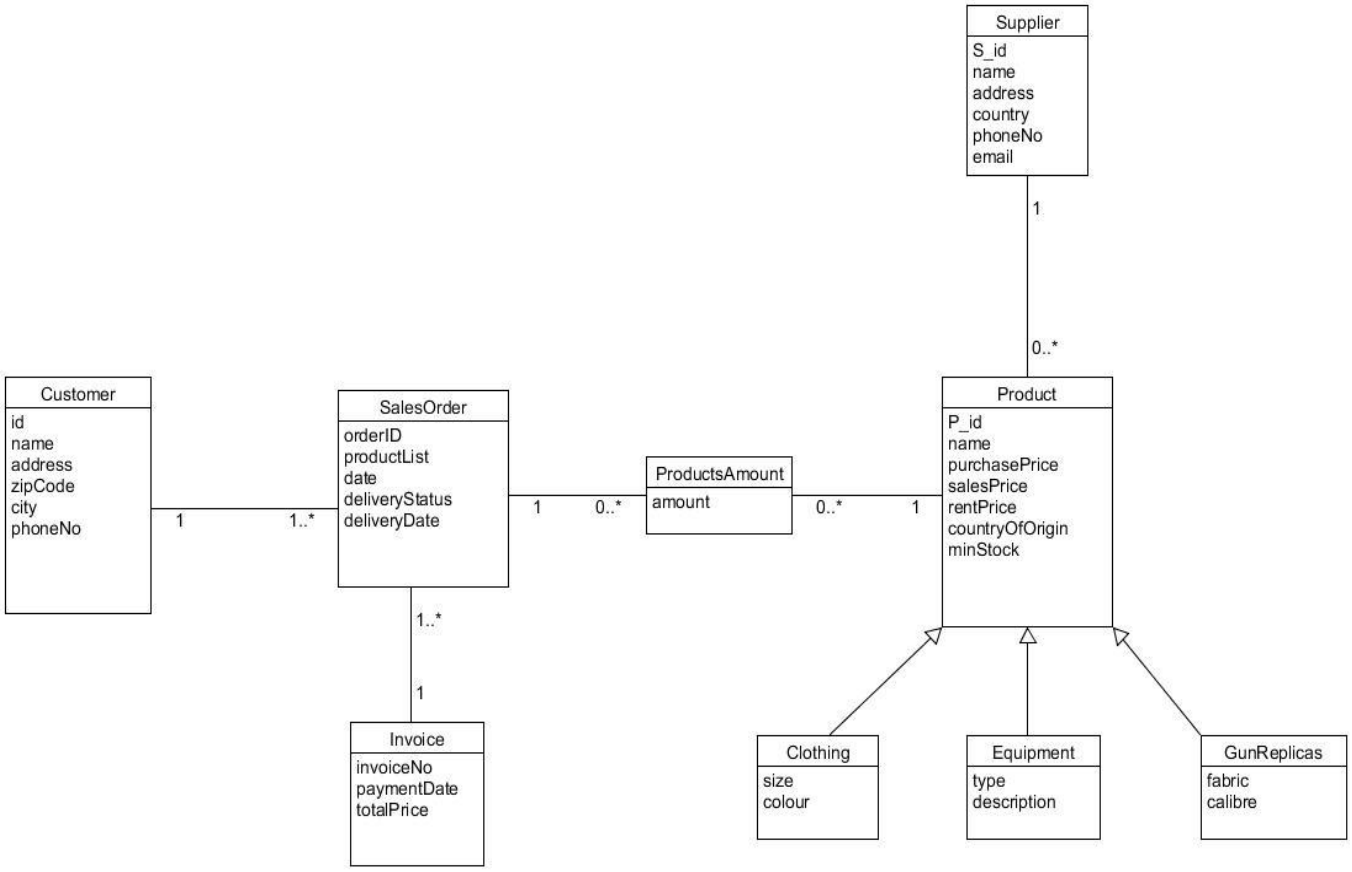
Interaction diagrams







Domain Model



It was decided that one customer could have as many orders as he wants. Also one order could have as many products as needed. However, for creating an order the system should have at least one customer and product. Also there are sub-classes to attach additional information of certain products and these items have their supplier class.

Relational model

Customer

c_id	cname	caddress	czip_code	ccity	cphone_no
3579	Karolis	vesterbro	9000	aalborg	52346422
1596	Aistis	vesterbro	9000	aalborg	52365489
9865	Alex	vesterbro	9000	aalborg	52624289

For customer class this is relational schema. All attributes from domain model is columns. “Char” type was given to “c_id” attribute. “Varchar” was given to: “cname”, “caddress”, “ccity” and “cphone_no” attributes and integer to “czip_code”. While “c_id” was considered to be primary key and “cphone_no” unique.

SalesOrder

o_id	odate	cid	oDelStatus	oDelDate	inNO
1234	2015-05-13	3579	null	null	1
1235	2015-05-14	1596	null	null	2
1236	2015-05-15	9865	null	null	3

This is relational scheme for SalesOrder class. “Char” type was given to “o_id, cid, inNo” attributes. “Varchar” was given to: “oDelStatus” and “oDelDate” both attributes can be null. For “odate” attribute we gave “datetime” type. Primary key was considered to be “o_id”. While first foreign key “cid” references to Customer class “c_id” and second foreign key “inNO” references to Invoice class ”inNO” attribute.

Invoice

inNo	inPayDay	price	oid
3	null	200	1236
2	null	100	1235
1	null	400	1234

Relational scheme for Invoice Class. We gave “char” type to: “inNO”, “price”, “oid” attributes. “Varchar” was given to “inPayDay” attribute which can be null. While primary key is “inNo”.

ProductsAmount

p_id	amount	order_id
7777	3	1234
332	50	1235
2222	1	1236

For this relational scheme “char” types was given to: “p_id” and “order_id”. Integer was given to the “amount” attribute. Primary keys are: “p_id” and “order_id”. While first foreign key “order_id” references to SalesOrder class “o_id” attribute and second foreign key “p_id” references to Product class “pid” attribute.

Supplier

sName	sAddress	sCountry	sPhone	sEmail	s_id
Patrick	Hobrovej	Denmark	123456	c@d.dk	501
Anthony	Nibevej	Germany	654321	a@b.dk	502
George	Letvadvej	Norway	987654	fg@k.dk	503

Supplier relational scheme mapped from the domain model. Type of “varchar” was given to: “sName”, “sAddress”, “sCountry”, “sPhone”, “sEmail” attributes. “Char” type is “s_id” attribute and primary key is also “s_id”.

Product

pid	pName	pPP	pSP	pRP	pCountry	pMinStock	supplier_id	type
7777	shirts	10	35	5	USA	200	503	Clothing
332	shotgun	50	175	20	India	100	501	GunReplicas
2222	flags	100	350	40	China	50	502	Equipment
8788	vest	33	110	15	China	50	503	Clothing
9997	jacket	50	200	20	India	25	503	Clothing
2221	belt	15	40	8	Vietnam	50	502	Equipment
2233	box	66	220	24	Korea	25	502	Equipment
331	revolver	150	350	60	China	65	501	GunReplicas
333	pistol	120	300	50	USA	100	501	GunReplicas

This is relational scheme for a product class. “Char” type was given to: “pid” and “supplier_id” attributes. “Varchar” was given to: “pname”, “pcountry” and “type” attributes. Now we used new type that was not used in previous classes “decimal” which we used for: “pPP (purchase price)”, “pSP (sales price)” and “pRP (rent price)” attributes. Primary key for this class is “pid” attribute. While foreign key “supplier_id” references to Supplier class “s_id”.

Clothing

size	colour	product_id
55	red	7777
60	blue	8788
45	green	9997

Equipment

type	description	product_id
belts	pistol belts	2221
flags	western flags	2222
boxes	gift boxes	2233

GunReplicas

fabric	calibre	product_id
plastic	12mm	331
metal	9mm	332
plastic	6mm	333

These all three relational schemes uses only “char” and “varchar” types for all the attributes. Primary key for all are the same “product_id” and foreign key “product_id” references to Product class “pid” which is the same also for all three schemes.