



ĐẠI HỌC FPT

Project

Agricultural

Product Management

Subject: Java Desktop Application

The Drifter

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I. PROBLEM DEFINITION

There is a customer named 'A', he is very headache when facing with lots of bills and books every day. While other stores all use software to manage the store, Mr. A still manages the store in a traditional fashion every day. Mr. A wanted to build a store management software for his shop, so he went to meet the programmers to order. Programmers introduced Mr. A to the benefits of using management programs compared to traditional-style management.

- Advantages when using management program:
 - Save time and cost
 - Effectively manage resources.
 - Suitable for all businesses.
 - Coordinate different departments
 - Improve management ability.
 - Handling a large amount of data.
 - Improve business efficiency.

II. USER REQUIREMENT

1. Functions requirement

a) List inputs to the application:

- Information of products.
- Information of invoices.
- Information of customers.
- Information of employees.
- Information of orders, ordered items
- Information of prices.

b) List outputs expected from the application

- Information of sold products.
- Quantity of remaining products.
- The bills.

c) Overview of processes involved in the application

- Get prices, customers information, ordered items, employees' information.
- Calculate the bills.
- Update available items in the store and warehouse.
- Export the bills.

2. Hardware requirement:

a) Client Computer:

CPU	Intel Core i5 4 th Gen or higher
Ram	4GB
Storage	HDD: 10GB

b) Server Computer:

CPU	Intel Quad-core Q6600 or higher
Ram	8GB
Storage	HDD: 10GB

3. Software requirement:

a) Client Computer:

Operating system	Window 7 or higher
JRE	1.8 or higher

b) Server Computer:

Operating system	Window Server 2008 or higher
Database system	Microsoft SQL Server 2017

III. SCHEDULE AND ROLE

1. Role details:

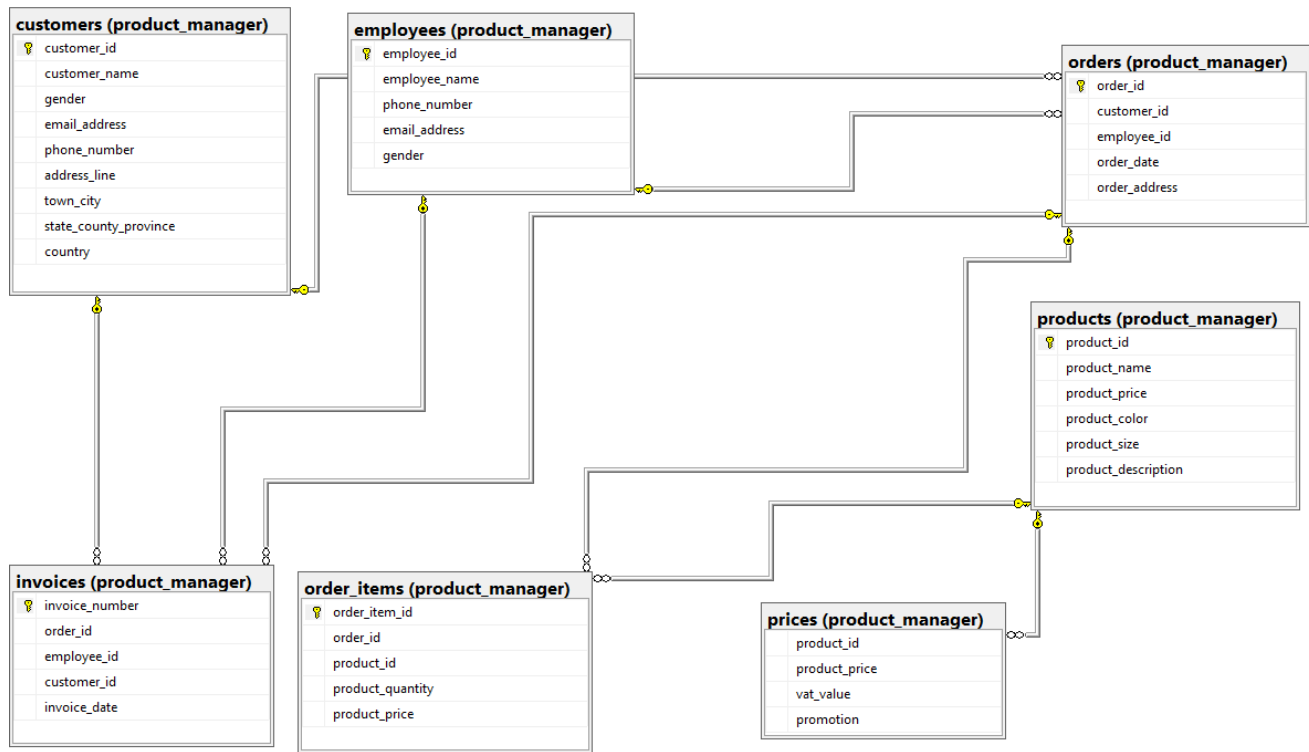
Order	Member	Role	Responsibilities
1	Phat	Group leader	Manage the project
2	Hoa, Phat, Ngoan	Analyst	Define problem, input, output, process. Determinate how to see problem together.
3	Ngoan, Hoa	Designer	Design interface
4	Phat, Ngoan, Hoa	Programmer	Program all functions for applications.
5	Hoa, Phat, Ngoan	Tester	Testing all functions which have been programming

2. Schedule details:

Order	Project title	Planned Start Date	Hour	Members' names
1	Cover	05/03/2019	0.5	Hoa
2	Problem definition	20/01/2019	0.5	Ngoan
4	User requirement	05/03/2019	0.5	Hoa, Ngoan
5	Code – interface	21/03/2019	2	Ngoan, Hoa
6	Code – backend	21/03/2019	5	Phat, Ngoan, Hoa
7	Schedule and role	05/03/2019	0.5	Hoa
8	Database diagram	20/01/2019	1	Hoa
9	Class diagram	05/03/2019	1	Ngoan, Phat
10	Test	23/03/2019	1	Ngoan, Hoa
11	Debug	23/03/2019	2	Ngoan, Phat, Hoa
12	Maintenance	23/03/2019	1.5	Ngoan, Hoa
13	Checklist	23/03/2019	0.5	Ngoan

IV. DESIGN PATTERN

1. Database diagram



2. Database detail:

a) Customers table

Field name	Data type	Constraints	Description
customer_id	Int	primary key	Customer's ID
customer_name	nvarchar(50)	not null	Customer's name
gender	nvarchar(50)	not null	Customer's gender
email_address	nvarchar(50)	not null	Customer's email address
phone_number	nvarchar(50)	not null	Customer's phone number
address_line	nvarchar(50)	not null	Customer's address line
town_city	nvarchar(50)	not null	Customer's town or city
state_county_province	nvarchar(50)	not null	Customer's state or province
country	nvarchar(50)	not null	Customer's country

b) Employees table

Field name	Data type	Constraints	Description
employee_id	int	primary key	Employee's ID
employee_name	nvarchar(50)	not null	Employee's name
gender	nvarchar(50)	not null	Employee's gender
email_address	nvarchar(50)	not null	Employee's email address
phone_number	nvarchar(50)	not null	Employee's phone number

c) Invoices table

Field name	Data type	Constraints	Description
invoice_number	int	primary key	Invoice's number
order_id	int	foreign key	Order's ID
employee_id	int	foreign key	Employee's ID
customer_id	int	foreign key	Customer's ID
invoice_date	date	not null	Invoice's date

d) Orders table

Field name	Data type	Constraints	Description
order_id	int	primary key	Order's ID
employee_id	int	foreign key	Employee's ID
customer_id	int	foreign key	Customer's ID
date_order	date	not null	Order's date
address_order	nvarchar(50)	not null	Order's address

e) Order items table

Field name	Data type	Constraints	Description
order_item_id	int	primary key	Order item's ID
order_id	int	foreign key	Order's ID
product_id	int	foreign key	Product's ID
product_price	float	not null	Product's price
product_quantity	nvarchar(50)	not null	Product's quantity

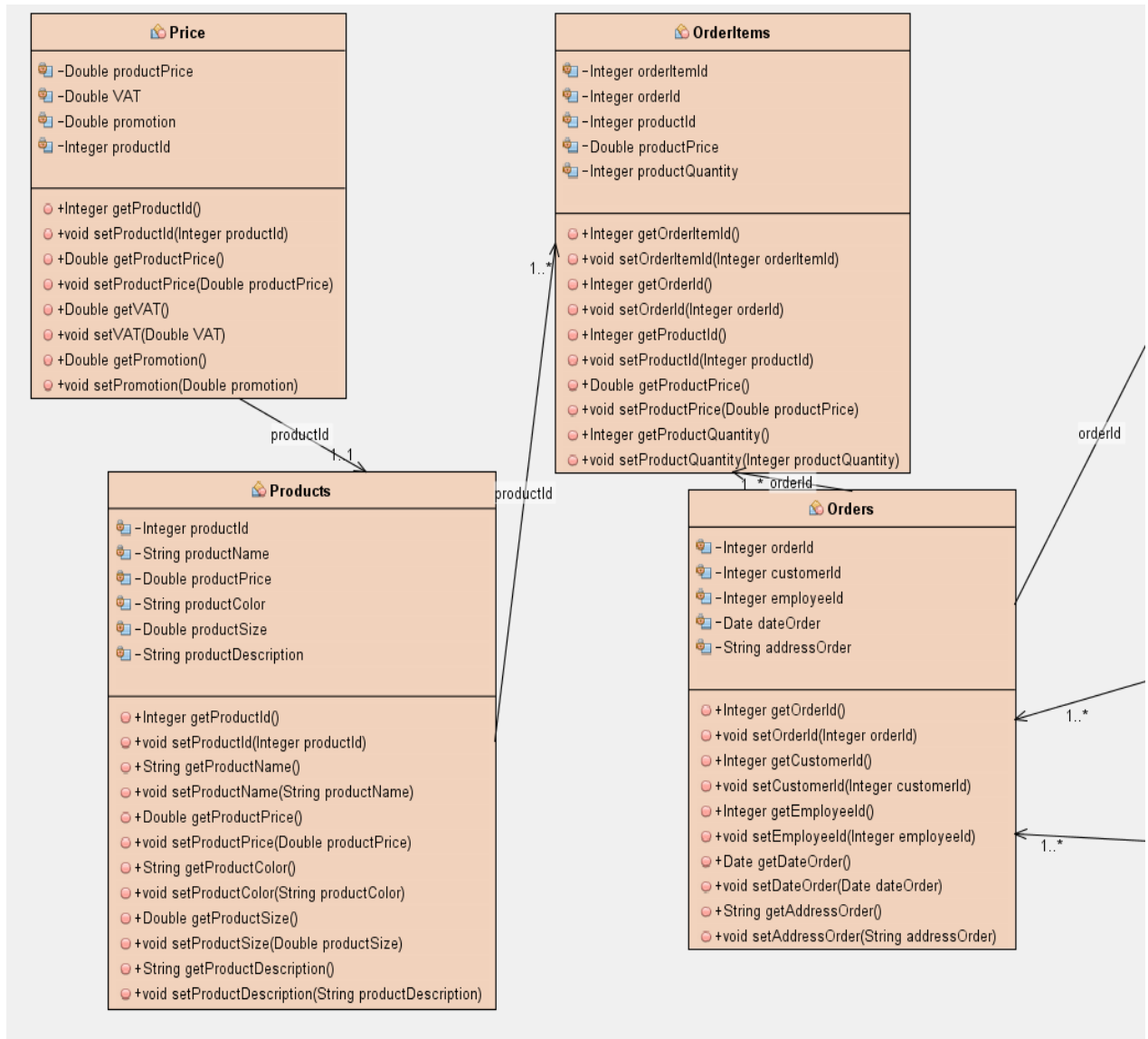
f) Price table

Field name	Data type	Constraints	Description
order_item_id	int	primary key	Order item's ID
order_id	int	foreign key	Order's ID
product_id	int	foreign key	Product's ID
product_price	float	not null	Product's price
product_quantity	int	not null	Product's quantity

g) Products table

Field name	Data type	Constraints	Description
product_id	int	foreign key	Product's ID
product_name	nvarchar(50)	not null	Product's name
product_price	float	not null	Product's price
product_color	nvarchar(50)	not null	Product's color
product_size	float	not null	Product's size
product_description	nvarchar(500)	not null	Product's description

3. Class diagram





4. Interface


a) Interface displays information of customers

Agricultural Products Manager

Enter customer's name or ID.

Customer ID	Customer Name	Gender	Email	Phone	Address	Town/City	State/Province	Country
1	Arron Squire	Male	Asquire0@nps.g...	2123012152	66 Upham Road	New York City	New York	United States
2	Nealson Sibborn	Male	Nsibborn1@ma...	8056554559	2 Portage Road	San Luis Obispo	California	United States
3	Chickie Kornes	Female	Ckornes2@loc.g...	9376048694	80 Main Hill	Dayton	Ohio	United States
4	Elladine Osborne	Female	Eosborne3@sm...	3097423887	7064 Sloan Park	Peoria	Illinois	United States
5	Alyosha Dellenb...	Male	Adellenbach4@...	9529824107	7 Ridgeview Court	Young America	Minnesota	United States
6	Brander Cusworth	Male	Bcusworth5@ab...	2021916792	1254 South Plaza	Alexandria	Virginia	United States
7	Tabb Smidmor	Male	Tsmidmor6@so...	9892761079	66470 Maple W...	Saginaw	Michigan	United States
8	Essie Cory	Female	Ecory7@google....	3605468142	67 Sunfield Park...	Seattle	Washington	United States
9	Zahara Skamell	Female	Zskamell8@am...	7021940353	7 Service Drive	Las Vegas	Nevada	United States
10	Sidonnie Wyss	Female	Swyss9@wooth...	4235933629	0210 Di Loreto ...	Chattanooga	Tennessee	United States
11	Dollie Beretta	Female	Dberetta@sak...	9735571124	83 Texas Alley	Paterson	New Jersey	United States
12	Janot Stringman	Female	Jstringmanb@bl...	3211415093	7 Gulseth Way	Palm Bay	Florida	United States
13	Amaleta Newing	Female	Anewingc@bbc...	4056763396	9157 Sutherland...	Oklahoma City	Oklahoma	United States
14	Alick Martlew	Male	Amartlewd@wil...	8044739022	3482 Portage Dr...	Richmond	Virginia	United States
15	Koressa Sabbatier	Female	Ksabbatiere@ch...	2054412903	81 Carey Crossing	Birmingham	Alabama	United States
16	Tarrah Crut	Female	Tcrutl@angelfire...	7024599783	6 Warner Crossing	Las Vegas	Nevada	United States
17	Christen Rumgay	Female	Crumgayg@ed...	2027231202	5 Acker Way	Washington	District Of Colu...	United States
18	Murdock Flewan	Male	Mflewanh@ning...	2021721481	27 Namekagon ...	Washington	District Of Colu...	United States
19	Shannah Jiggle	Female	Sjigglei@moonfr...	4232913473	56 Commercial ...	Johnson City	Tennessee	United States
20	Tanhya Stienham	Female	Tstienhamj@cp...	7205604799	6 Sunfield Park...	Denver	Colorado	United States
21	Hunt Rocks	Male	Hrocksk@harva...	4066146203	27 Delaware Cr...	Missoula	Montana	United States
22	Darcie O'lagene	Female	Dolagenel@cafe...	3123703210	6 Grim Crossing	Chicago	Illinois	United States
23	Jade Dibdin	Female	Jdibdinm@acqui...	8046563791	46813 Stone Co...	Richmond	Virginia	United States
24	Lem Godlip	Male	Lgodlipn@multi...	2609876790	5 Becker Junction	Fort Wayne	Indiana	United States
25	Sheena Adney	Female	Sadneyo@blog....	9031610975	98037 Hermina ...	Texarkana	Texas	United States

b) Interface displays information of employees

 Agricultural Products Manager
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Customers

Products

Employees

Orders

Enter employee's name or ID.

Employee ID	Employee Name	Gender	Email	Phone	+
1	Cointon Coucher	Male	ccoucher0@ameblo.jp	3803169530	
2	Gayelord Kingsnorth	Male	gkingsnorth1@scientificamerican...	7708126435	
3	Nicole Wrassell	Female	nwrassell2@privacy.gov.au	5135273252	
4	Tybalt Guiducci	Male	tguiducci3@hubpages.com	3468108188	
5	Lizzy Dearan	Female	ldearan4@twitpic.com	5428632977	
6	Uriel Ibbotson	Male	uibbotson5@rakuten.co.jp	1441947435	
7	Ted Sykes	Male	tsykes6@nbcnews.com	4419627754	
8	Jaquelin Chazotte	Female	jchazotte7@youtube.com	9745437043	
9	Angie Inglis	Male	ainglis8@drupal.org	5884270562	
10	Teirtza Mauro	Female	tmauro9@xing.com	7421598661	
11	Von McEachern	Male	vmceacherna@smugmug.com	3265876042	
12	Gardy Mawtus	Male	gmawtusb@skype.com	7525277769	
13	Adria Silverlock	Female	asilverlockc@liveinternet.ru	5104556537	
14	Horton Ebbs	Male	hebbbsd@blogger.com	7301410521	
15	Hillard Piotr	Male	hpiotre@intel.com	1512802435	
16	Harlan Binden	Male	hbindent@bloglovin.com	2088292661	
17	Reeva Castella	Female	rcastellag@virginia.edu	2235664010	
18	Julius Kynaston	Male	jkynastonh@pcworld.com	9988718938	
19	Nicol Elston	Female	nelstoni@disqus.com	9787922788	
20	Laurena Sondland	Female	lsondlandj@csmonitor.com	7137386499	

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Add Order Dialog

Add Order

Enter product's name

Customer's ID

Order Address

Creator's ID

Product Name	Product Price	Product Color	Product Size
Veal - Round, Eye Of	1691.44	Red	28.0
Muskox - French Rack	716.49	Puce	27.0
Tea - Earl Grey	528.51	Teal	15.96
Beef Dry Aged Tenderloin Aaa	641.89	Mauv	38.83
Kellogs Cereal In A Cup	633.63	Violet	29.29
Bread - Roll, Calabrese	707.08	Maroon	33.95
Passion Fruit	1908.7	Blue	45.6
Cabbage - Red	1216.65	Khaki	38.32
Pork - Ham, Virginia	1982.04	Puce	22.42
Steam Pan - Half Size Deep	1083.99	Yellow	13.75
Champagne - Brights, Dry	1898.11	Goldenrod	6.87
Wine - White Cab Sauv.on	1350.4	Yellow	6.0
Smirnoff Green Apple Twist	1661.32	Indigo	49.0
Foil - 4oz Custard Cup	1360.86	Green	24.02
Ice Cream Bar - Rolo Cone	796.35	Goldenrod	40.09
Shrimp - Black Tiger 8 - 12	627.33	Green	15.78
Cheese - Blue	1739.32	Orange	35.45
Loquat	64.11	Maroon	18.16
Fish - Scallops, Cold Smoked	1298.73	Yellow	9.99

Done

d. Interface to add the quantity of products

Add Order Dialog

Close

Add Order

Customer's ID

Order Address

Creator's ID

Product Color	Product Size
	28.0
	27.0
	15.96
	38.83
	29.29
	33.95
	45.6
	38.32
	22.42
	13.75
	6.87
	6.0
	49.0
	24.02
	40.09
	15.78
	35.45
	18.16
	9.99

Wine - White Cab Sauv.on	1350.4	Yellow
Smirnoff Green Apple Twist	1661.32	Indigo
Foil - 4oz Custard Cup	1360.86	Green
Ice Cream Bar - Rolo Cone	796.35	Goldenrod
Shrimp - Black Tiger 8 - 12	627.33	Green
Cheese - Blue	1739.32	Orange
Loquat	64.11	Maroon
Fish - Scallops, Cold Smoked	1298.73	Yellow

Confirm buying

Close

Buying Confirm

Enter Quantity

Confirm

Cancel

Done

V. MAINTENANCE

- Backup document on Google drive and three laptops of Ngoan, Phat and Hoa.
- Backup code on Github and Google drive.
- Backup daily.
- Backup the database weekly.

VI. CHECKLIST

Order	Project title	Planned Start Date	Expected Hour	Actual Date	Actual Hour	Members' names	Status
1	Cover	05/03/2019	0.5	05/03/2019	0.5	Hoa	Complete
2	Problem definition	20/01/2019	0.5	20/01/2019	0.5	Ngoan	Complete
3	User requirement	05/03/2019	0.5	05/03/2019	0.5	Hoa, Ngoan	Complete
4	Code – interface	21/03/2019	2	21/03/2019	2	Ngoan, Hoa	Complete
5	Code – backend	21/03/2019	5	21/03/2019	6	Ngoan, Phat, Hoa	Complete
6	Schedule and role	05/03/2019	0.5	05/03/2019	0.5	Hoa	Complete
7	Database diagram	20/01/2019	1	20/01/2019	2	Hoa	Complete
8	Class diagram	05/03/2019	1	05/03/2019	2	Ngoan, Phat	Complete
9	Test	23/03/2019	1	23/03/2019	1	Ngoan, Hoa	Complete
10	Debug	23/03/2019	2	23/03/2019	2	Ngoan, Phat, Hoa	Complete
11	Maintenance	23/03/2019	1.5	23/03/2019	1	Ngoan, Hoa	Complete
12	Checklist	23/03/2019	0.5	23/03/2019	0.5	Ngoan	Complete