

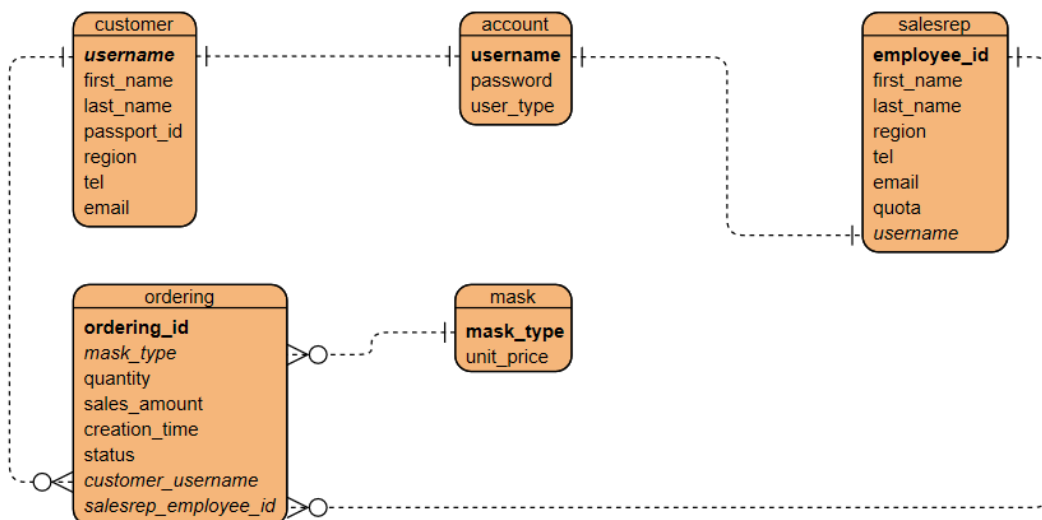
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Entity Relationship Diagram

ERD



description

There are 5 tables: **account**, **customer**, **salesrep**, **mask** and **ordering**. They are to store all data needed to build SMS. Please refer to part "SQL statements" for detailed descriptions of each table.

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SQL statements

Table name: account

description

The table "account" is to store all accounts of manager, salesreps and customers, with 3 columns: **username, password and user_type**. "user_type" is to differentiate **3 roles: manager, salesreps and customers**. When the user login, the system can use "user_type" to identify the role of the user and jump to corresponding pages.

The only account of manager is preset in the table, with **"manager" for username, "123456" for password, and "manager" for user_type**.

All attributes/columns are ordered by "utf8_unicode_ci" and cannot be null. The engine must be InnoDB which allows foreign key.

create table

```
CREATE TABLE IF NOT EXISTS `account` (  
  `username` varchar(25) COLLATE utf8_unicode_ci NOT NULL,  
  `password` varchar(25) COLLATE utf8_unicode_ci NOT NULL,  
  `user_type` enum('customer','salesrep','manager') COLLATE utf8_unicode_ci NOT  
  NULL  
) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8_unicode_ci;  
  
-- preset account for manager  
INSERT INTO `account` (`username`, `password`, `user_type`) VALUES  
('manager', '123456', 'manager');
```

primary key

The primary key for the table "account" is **"username"**.

```
ALTER TABLE `account`  
  ADD PRIMARY KEY (`username`);
```

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Table name: customer

description

The table "customer" is to store information of all the customers, with 7 columns: **username, first_name, last_name, passport_id, region, tel, and email** to store username, first name, last name, passport id, region, telephone number and email of the customer respectively.

All attributes/columns are ordered by "utf8_unicode_ci" and cannot be null. The engine must be InnoDB which allows foreign key.

create table

```
CREATE TABLE IF NOT EXISTS `customer` (
  `username` varchar(25) COLLATE utf8_unicode_ci NOT NULL,
  `first_name` varchar(25) COLLATE utf8_unicode_ci NOT NULL,
  `last_name` varchar(25) COLLATE utf8_unicode_ci NOT NULL,
  `passport_id` varchar(25) COLLATE utf8_unicode_ci NOT NULL,
  `region` enum('China','UK','Thailand','Korea') COLLATE utf8_unicode_ci NOT
  NULL,
  `tel` varchar(25) COLLATE utf8_unicode_ci NOT NULL,
  `email` varchar(50) COLLATE utf8_unicode_ci NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8_unicode_ci;
```

primary key

The primary key for the table "customer" is "**username**".

```
ALTER TABLE `customer`
  ADD PRIMARY KEY (`username`);
```

foreign key

The foreign key for the table "customer" is "**username**", which is primary key of table "account". Each record in table "customer" is related to table "account" with the same "username", which means a customer's account is stored in table "account", while his/her information is stored in table "customer", and this customer can be identified using his/her "username" in both tables.

```
ALTER TABLE `customer`
  ADD CONSTRAINT `customer_username_fk` FOREIGN KEY (`username`) REFERENCES
  `account` (`username`);
```

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Table name: salesrep

description

The table "salesrep" is to store information of all salesreps, with 7 columns: **employee_id**, **first_name**, **last_name**, **region**, **tel**, **email**, **quota**, and **username** to store employee id, first name, last name, region, telephone number, email, quota and username of salesreps respectively.

All attributes/columns are ordered by "utf8_unicode_ci" and cannot be null. The engine must be InnoDB which allows foreign key.

create table

```
CREATE TABLE IF NOT EXISTS `salesrep` (
  `employee_id` int(11) NOT NULL,
  `first_name` varchar(25) COLLATE utf8_unicode_ci NOT NULL,
  `last_name` varchar(25) COLLATE utf8_unicode_ci NOT NULL,
  `region` enum('China','UK','Thailand','Korea') COLLATE utf8_unicode_ci NOT NULL,
  `tel` varchar(25) COLLATE utf8_unicode_ci NOT NULL,
  `email` varchar(50) COLLATE utf8_unicode_ci NOT NULL,
  `quota` int(11) NOT NULL,
  `username` varchar(25) COLLATE utf8_unicode_ci NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8_unicode_ci;
```

primary key & unique key

The primary key for the table "salesrep" is "**employee_id**". The primary key "**employee_id**" can increment automatically.

A unique key for the table "salesrep" is "**username**" which must be unique, as it's the primary key of table "account" and a salesrep can only have 1 account as shown in ERD.

```
ALTER TABLE `salesrep`
  ADD PRIMARY KEY (`employee_id`),
  ADD UNIQUE KEY `unique_account` (`username`);

-- AUTO_INCREMENT
ALTER TABLE `salesrep`
  MODIFY `employee_id` int(11) NOT NULL AUTO_INCREMENT;
```

foreign key

The foreign key for the table "salesrep" is "**username**", which is primary key of table "account". Like table "customer", each record in table "salesrep" is related to table "account" with the same "username", which means a salesrep's account is stored in table "account", while his/her information is stored in table "salesrep", and this salesrep can be identified using his/her "username" in both tables.

```
ALTER TABLE `salesrep`
  ADD CONSTRAINT `salesrep_username_fk` FOREIGN KEY (`username`) REFERENCES
  `account` (`username`);
```

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Table name: mask

description

The table "mask" is to store information of masks, with 2 columns: **mask_type** and **unit_price** to store 3 types of masks and their unit price respectively.

The mask types and their unit price are preset. There are 3 different types of masks: '**N95**' for **N95 respirators**, '**S**' for **surgical masks**, '**SN95**' for **surgical N95 respirators**. The price of each N95 is 10.00 RMB, each S is 1.5 RMB, each SN95 is 18.80 RMB.

All attributes/columns are ordered by "utf8_unicode_ci" and cannot be null. The engine must be InnoDB which allows foreign key.

create table

```
CREATE TABLE IF NOT EXISTS `mask` (  
  `mask_type` enum('N95','S','SN95') COLLATE utf8_unicode_ci NOT NULL,  
  `unit_price` decimal(10,2) NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8_unicode_ci;  
  
INSERT INTO `mask` (`mask_type`, `unit_price`) VALUES  
( 'N95', 10.00),  
( 'S', 1.50),  
( 'SN95', 18.80);
```

primary key

The primary key for the table "mask" is "**mask_type**".

```
ALTER TABLE `ordering`  
ADD PRIMARY KEY (`ordering_id`);
```

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Table name: ordering

description

The table "ordering" is to store information of all orders, with 8 columns: **ordering_id**, **mask_type**, **quantity**, **sales_amount**, **creation_time**, **status**, **customer_username**, and **salesrep_employee_id** to store ordering id, mask type that is purchased by the customer in this order, sales amount of this order, the time when customer creates the order, status of the order ('N' for without anomalies, 'A' for with anomalies), username of customer whom the order belongs to and employee id of salesrep that is assigned by customer for this order respectively.

All attributes/columns are ordered by "utf8_unicode_ci" and cannot be null. The engine must be InnoDB which allows foreign key.

create table

```
CREATE TABLE IF NOT EXISTS `ordering` (  
  `ordering_id` int(11) NOT NULL,  
  `mask_type` enum('N95','S','SN95') COLLATE utf8_unicode_ci NOT NULL,  
  `quantity` int(11) NOT NULL,  
  `sales_amount` decimal(10,2) NOT NULL,  
  `creation_time` datetime NOT NULL,  
  `status` enum('N','A') COLLATE utf8_unicode_ci NOT NULL,  
  `customer_username` varchar(25) COLLATE utf8_unicode_ci NOT NULL,  
  `salesrep_employee_id` int(11) NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8_unicode_ci;
```

primary key

The primary key for the table "ordering" is "**ordering_id**". The primary key "**ordering_id**" can increment automatically.

```
ALTER TABLE `ordering`  
  ADD PRIMARY KEY (`ordering_id`);  
  
-- AUTO_INCREMENT  
ALTER TABLE `ordering`  
  MODIFY `ordering_id` int(11) NOT NULL AUTO_INCREMENT;
```

foreign key

One of the foreign keys for the table "ordering" is "**customer_username**", which is primary key of table "customer" (username). Each record in table "ordering" is related to table "customer" with the same "username", which means a customer's orders are stored in table "ordering", while his/her information is stored in table "customer".

Another foreign key for the table "ordering" is "**salesrep_employee_id**", which is primary key of table "salesrep" (employee_id). Each record in table "ordering" is related to table "salesrep" with the same "employee_id", which means an orders are stored in table "ordering", while the information of salesrep of this order is stored in table "salesrep".

Another foreign key for the table "ordering" is "**mask_type**", which is primary key of table "mask" (mask_type).

```
ALTER TABLE `ordering`  
  ADD CONSTRAINT `ordering_username_fk` FOREIGN KEY (`customer_username`)  
  REFERENCES `customer` (`username`),  
  ADD CONSTRAINT `salesrep_employee_id_fk` FOREIGN KEY (`salesrep_employee_id`)  
  REFERENCES `salesrep` (`employee_id`),  
  ADD CONSTRAINT `mask_type_fk` FOREIGN KEY (`mask_type`) REFERENCES `mask`  
  (`mask_type`);
```

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Brief discussion

- technical aspects
 - For **client-side**, I basically use **HTML**, **CSS**, **JS** to implement the interfaces and interaction with users. Particularly, I introduce **jQuery** and **Bootstrap** to simplify the development and beautify the interfaces. The reason that I introduced these two libraries is that they are widely used and considered as mature, useful ones.
 - For **server-side**, I use **PHP** to interact with the database, to get, add, delete and modify data in the database. I use **MySQL** to build database, basically to create tables, set primary keys, unique keys and foreign keys, and to insert some data.
 - For **interaction between client-side and server-side**, I use **ajax** to send **json** data from client-side to server-side, as well as from server-side to client-side to ensure data security.
 - For pages that are no need for real-time display of data from database, they are **static** web pages with suffix ".html" to reduce the burdens of server-side; for pages that needs real-time display, most of them are **dynamic** web pages with suffix ".php" to speed up loading of these pages and simplify the development.
- design that fulfills user specification

- To implement all required functions, I basically divide my design to 5 parts: **login, register, customer, salesrep and manager**, which are explained in detail in next part "Walk through of SMS".
- For **customer**, after register a new account and log in using this account, the customer can view brief introduction of masks, purchase masks (place orders), view all orders that are belong to him/her, delete orders within 24 hours and modify his/her information in User Center.
- For **salesrep**, after login with salesrep's account, the salesrep can view orders with customer information in a table, delete all orders with anomalies and view his/her own personal information including quota, etc.
- For **manager**, after login with manager's account, the manager can view orders with anomalies over 24 hours, view all orders, view information of customers and salesreps, assign new salesrep, modify quota/region of salesreps and view statistics.
- In this system, I assume that there's only one manager and account of this manager is preset in the database. (username: manager, password: 123456) However, salesreps can be assigned by manager, and customer can register new account.
- advantage of design
 - To make my design more **user-friendly**, I have added **headers (navigation bar)** on the top of each page to make jumps between pages easier. Also, I add small design such as "remember me" on the login page to enhance the user experience.
 - To make my design more **secure**, I check username that is saved in session every time when accessing database to protect information. Also, I have added small design such as "Authenticate before customer can modify their information" in User Center to secure user's information.
- disadvantage of design
 - The **interfaces** I design are not aesthetic enough, which can be improved further.
 - Some **details** can be designed more sophisticated, such as if the user inputs are invalid, the color of message that prompts for user can be changed to red to make it more conspicuous (maybe to use validator plug-in in jQuery/Bootstrap library but actually its function is quite limited).
 - More **functions** can be added: function "Add to cart" can be added for further development; 3 types of role can contact each other, etc.

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Walk through of SMS

Login

src/login.html

screen shot

Login

Username

Password

☒ Remember me

header

Component	Description
"Login" hyperlink	Current login page
"Register" hyperlink	Click this hyperlink, it can jump to src/register.html

content

This page is for manager, sales representatives (salesreps), customers who already had an account to login.

Component	Description	Constraints
"Username" text box	It is for 3 types of users to enter their username.	It cannot be empty.
"Password" text box	It is for 3 types of users to enter their password.	It cannot be empty.
"Remember me" check box	If user checks this check box, his/her username and password will be remembered for 7 days if cookie is allowed and is not emptied by the browser.	None
"Login" button	click the button. If username and password are authenticated at server-side, it can jump to corresponding pages: manager account to src/manager/manager.php , salesrep account to src/salesrep/salesrep.php , customer account to src/customer/customer.php . Otherwise, error will be reported to user in message area.	None

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Register

src/register.html

screen shot

Register

Set Username

Set Password

Confirm Password

First Name

Last Name

Passport ID

Region

Telephone No

Email

header

Component	Description
"Login" hyperlink	Click this hyperlink, it can jump to src/login.html
"Register" hyperlink	Current register page

content

This page is for customers who does not have an account to register a new account.

Component	Description	Constraints
"Set Username" text box	It is for customer to set a username.	It should start with a letter, and followed by only letters and digits. Length: 2-25.
"Set Password" text box	It is for customer to set a password.	It should only contain letters and digits. Length: 6-25.
"Confirm Password" text box	It is for customer to confirm a password.	It should match password in "Set Password" text box.
"First Name" text box	It is for customer to set his/her first name.	It should start with a capital letter and followed by only lower-case letters. Length: 2-25.
"Last Name" text box	It is for customer to set his/her last name.	It should start with a capital letter and followed by only lower-case letters. Length: 2-25.
"Passport ID" text box	It is for customer to set his/her passport ID.	It should only contain capital letters and digits. Length: 1-25.
"Region"	It is for customer to set his/her region.	None
"Telephone No" text box	It is for customer to set his/her telephone number.	It should only contain digits. Length: 1-25.
"Email" text box	It is for customer to set his/her email.	It should be in format "XXX@XXX.XXX(.XXX)". Length: <50.
"Register" button	Click the button, if username has not been registered by other users, register successfully and it will jump to src/login.html . Otherwise, error will be reported to user.	None

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Customer

Home Page

src/customer/customer.php

screen shot

login

username: clogin


password: 123456


This account is added into database when test using "**Test Data.md**" in test folder.


Woolin Auto

Home PageUser CenterOrdersContactLogin/Logout

Product introduction

**N95 respirators**
10.00 RMB
Suitable for:
Field investigation and sampling personnel;
highly crowded or confined spaces.

**surgical masks**
1.50 RMB
Suitable for:
Suspected cases; public transport agents, taxi
driver, sanitationman, service personnel in public
places, etc. during working hours.

**surgical N95 respirators**
18.80 RMB
Suitable for:
Medical staff in fever clinics and isolation wards;
patients with confirmed.

Order product

Mask Type

N95 respirators

Quantity

Assign sales representative

Please enter employee ID of salesrep you want to assign.

Order

View all salesreps you can assign

employee id	username	telephone	email	quota
5	suk1	13728374993	A-Zhang@outlook.com	2740

header

Component	Description
"Home Page" hyperlink	Click this hyperlink, it can jump to src/customer/customer.php (current page)
"User Center" hyperlink	Click this hyperlink, it can jump to src/customer/user_center.html
"Orders" hyperlink	Click this hyperlink, it can jump to src/customer/customer_orders.php
"Contact" hyperlink	This function hasn't been developed yet.
"Login/Logout" button	Click this to login if user hasn't login, to logout if user has login, jump to src/login.html

content

This page is for customers to view introduction of masks and order masks.

Component	Description	Constraints
"Product Introduction" section	It is for customer to view introduction of masks, including image, unit price and brief introduction.	None
"Order production" section	It is for customer to order masks.	None
"Mask Type" text box	It is for customer to choose type of mask that he/she wants to purchase.	None
"Quantity" text box	It is for customer to set quantity of masks he/she wants to purchase.	It should be a positive integer.
"Assign sales representative" text box	It is for customer to assign a salesrep in the same region.	It should be employee id of an existed salesrep in the same region.
"Order" button	Click the button to order masks. If user inputs are valid, order successfully. Otherwise, error message will be reported to customer in message area.	None
"View all salesreps you can assign" section	It is for customer to view all salesreps he/she can assign (in the same region).	None

User Center

src/customer/user_center.html

screen shot

Woolin Auto

[Home Page](#)

[User Center](#)

[Orders](#)

[Contact](#)

[Login/Logout](#)

Athenticate before modify your information

Enter Your Password

Authenticate your account before update your information.

Authenticate

header

Same as "Home Page".

content

This page is for customers to authenticate their accounts before modify their information. It can potentially protect their personal information.

Component	Description	Constraints
"Enter Your Password" text box	It is for customer to enter their password to authenticate that they're the owner of this account.	Password should only contain letters and digits. Length: 6-25.
"Authenticate" button	Click the button, if password is authenticated, it can jump to src/customer/modify_info.html . Otherwise, error will be reported to customer.	None

src/customer/modify_info.html

screen shot

Woolin Auto

Cancel

Modify your information

Username

Username cannot be modified.

Password

Confirm Password

Modify First Name

Cole

Modify Last Name

Smith

Modify Passport ID

384759384

Modify Region

the United Kingdom

Modify Telephone No

39574859

Modify Email

ColeSmith@gmail.com

Save changes

header

Component	Description
"Cancel" hyperlink	Click this hyperlink, it can jump to src/customer/customer.php

content

This page is for customers to modify any information except username.

Component	Description	Constraints
"Password" text box	It is for customer to modify his/her password.	It should only contain letters and digits. Length: 6-25.
"Confirm Password" text box	It is for customer to confirm a password.	It should match the password in "Password" text box.
"Modify First Name" text box	It is for customer to modify his/her first name.	It should start with a capital letter and followed by only lower-case letters. Length: 2-25.
"Modify Last Name" text box	It is for customer to modify his/her last name.	It should start with a capital letter and followed by only lower-case letters. Length: 2-25.
"Modify Passport ID" text box	It is for customer to modify his/her passport ID.	It should only contain capital letters and digits. Length: 1-25.
"Modify Region"	It is for customer to modify his/her region.	None
"Modify Telephone No" text box	It is for customer to modify his/her telephone number.	It should only contain digits. Length: 1-25.
"Modify Email" text box	It is for customer to modify his/her email.	It should be in format "XXX@XXX.XXX(.XXX)". Length: <50.
"Save changes" button	Click the button, modify information successfully and it will jump to src/customer/customer.php . Otherwise, error will be reported to user.	None

Orders

src/customer/customer_orders.php

screen shot

View all orders

ordering id	mask type	quantity	sales amount	order time	status	salesrep username	telephone	email
6	SN95	45	846.00	2020-05-23 15:00:00	N	slogin	38294065	CarlJones@gmail.com
7	N95	6000	60000.00	2020-05-23 15:00:00	A	slogin	38294065	CarlJones@gmail.com

Delete your order within 24 hours

Ordering ID

header

Same as "Home Page".

content

This page is to view all orders that belong to the customer and delete any order within 24 hours.

Component	Description	Constraints
"View all orders" section	It is for customer to view all orders that belong to him/her.	None
"Delete your order within 24 hours" section	It is for customer to delete his/her orders within 24 hours.	None
"Ordering ID" text box	It is for customer to enter an ordering ID of order that he/she wants to delete.	It should be ordering id of an existed order within 24 hours.
"Delete" button	Click the button to delete the order that is selected by customer. If user input is valid, delete successfully. Otherwise, error message will be reported to customer in message area.	None

[return to contents](#)**Salesrep****Orders**

src/salesrep/salesrep.php

screen shot

login

username: slogin

password: 123456

This account is added into database when test using login page "**Test Data.md**".

Woolin Auto

Orders

Info

Contact manager

Contact customers

Login/Logout

View all orders

id	mask type	quantity	sales amount	order time	status	customer username	telephone	email
4	S	170	255.00	2020-05-22 08:30:00	N	cchina1	13538493049	cassie.q@gmail.com
5	N95	5000	50000.00	2020-05-17 23:00:00	A	cchina1	13538493049	cassie.q@gmail.com
10	S	125	187.50	2020-05-23 09:55:00	N	cchina2	19383749923	3914872985@qq.com
12	SN95	4500	84600.00	2020-05-22 08:34:13	A	cchina2	19383749923	3914872985@qq.com
15	SN95	100	1880.00	2020-05-15 16:19:12	N	cchina2	19383749923	3914872985@qq.com

View anomaly orders within 24 hours

No anomaly records that can be doloted.

id	mask type	quantity	sales amount	order time	status	customer username	telephone	email
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Delete anomaly orders

header

Component	Description
"Orders" hyperlink	Click this hyperlink, it can jump to src/salesrep/salesrep.php (current page)
"Info" hyperlink	Click this hyperlink, it can jump to src/salesrep/view_quota.php
"Contact manager" hyperlink	This function hasn't been developed yet.
"Contact customers" hyperlink	This function hasn't been developed yet.
"Login/Logout" button	Click this to login if user hasn't login, to logout if user has login, jump to src/login.html

content

This page is for salesrep to view all orders that belong to him/her, view all anomaly orders that can be deleted (within 24 hours) and delete all orders with anomalies that can be deleted.

Component	Description	Constraints
"View all orders" section	It is for salesreps to view all orders that belong to him/her.	None
"View anomaly orders within 24 hours" section	It is for salesreps to view all anomaly orders to be deleted that belong to him/her.	None
"Delete anomaly orders" button	Click the button, if there's any record in "View anomaly orders within 24 hours" section, all orders with anomalies can be deleted. Otherwise, nothing will happen but prompt for user that no orders can be deleted.	None

Info

src/salesrep/view_quota.php

screen shot

Woolin Auto

Orders

Info

Contact manager

Contact customers

Login/Logout

View personal information

employee id	username	first name	last name	region	telephone	email	quota
2	schinal	Yang	Zhao	China	13627488590	yang-zhao@qq.com	1600

header

Same as "Orders".

content

This page is for salesreps to view his/her own personal information, including quota.

Component	Description	Constraints
"View personal information" section	It is for salesreps to view his/her own personal information, including quota.	None

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Manager

Anomaly

src/manager/manager.php

screen shot

login

username: manager

password: 123456

View anomaly orders over 24 hours

ordering id	mask type	quantity	sales amount	creation time	status	customer username	salesrep employee id
5	N95	5000	50000.00	2020-05-17 23:00:00	A	cchina1	2
7	N95	6000	60000.00	2020-05-23 15:00:00	A	clogin	1
8	SN95	3000	56400.00	2020-05-22 20:00:00	A	cchina2	7
12	SN95	4500	84600.00	2020-05-22 08:34:13	A	cchina2	2

header

Component	Description
"Anomaly" hyperlink	Click this hyperlink, it can jump to src/manager/manager.php (current page)
"Order" hyperlink	Click this hyperlink, it can jump to src/manager/order.php
"Salesrep" hyperlink	Click this hyperlink, it can jump to src/manager/salesrep.html
"Customer" hyperlink	Click this hyperlink, it can jump to src/manager/customer.php
"Statistics" hyperlink	Click this hyperlink, it can jump to src/manager/statistics.html
"Login/Logout" button	Click this to login if user hasn't login, to logout if user has login. jump to src/login.html

content

This page is for manager to view all orders with anomalies that is over 24 hours.

Component	Description	Constraints
"View anomaly orders over 24 hours" section	It is for manager to view all orders with anomalies that is over 24 hours.	None

Order

src/manager/order.php

screen shot

View all orders

ordering id	mask type	quantity	sales amount	creation time	status	customer username	salesrep employee id
3	SN95	50	940.00	2020-05-22 15:00:00	N	cchina1	3
4	S	170	255.00	2020-05-22 08:30:00	N	cchina1	2
5	N95	5000	50000.00	2020-05-17 23:00:00	A	cchina1	2
6	SN95	45	846.00	2020-05-23 15:00:00	N	clogin	1
7	N95	6000	60000.00	2020-05-23 15:00:00	A	clogin	1
8	SN95	3000	56400.00	2020-05-22 20:00:00	A	cchina2	7
9	N95	100	1000.00	2020-05-24 11:00:00	N	cchina2	3
10	S	125	187.50	2020-05-23 09:55:00	N	cchina2	2
11	SN95	90	1692.00	2020-05-20 18:35:00	N	cchina2	7
12	SN95	4500	84600.00	2020-05-22 08:34:13	A	cchina2	2
13	N95	100	1000.00	2020-05-01 23:37:24	N	cchina2	3
14	S	100	150.00	2020-05-10 05:35:59	N	cchina2	7
15	SN95	100	1880.00	2020-05-15 16:19:12	N	cchina2	2

header

Same as "Anomaly".

content

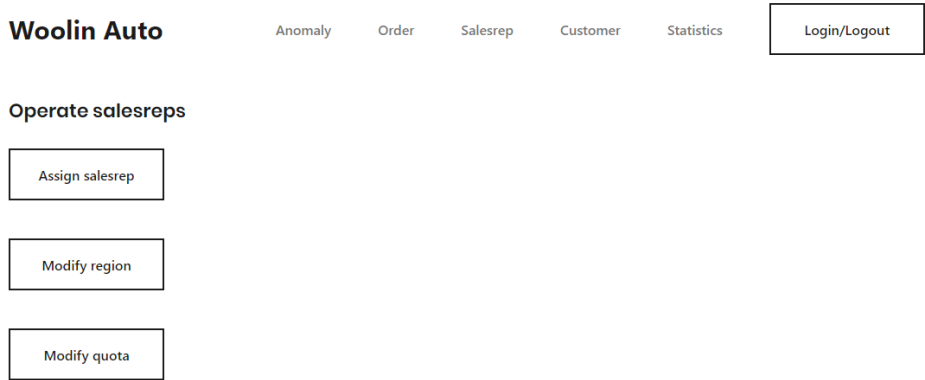
This page is for manager to view all orders.

Component	Description	Constraints
"View all orders" section	It is for manager to view all orders.	None

Salesrep

src/manager/salesrep.html

screen shot



header

Same as "Anomaly".

content

This page is for manager to operate salesreps.

Component	Description	Constraints
"Assign salesrep" hyperlink	Click the hyperlink, it can jump to src/manager/assign_salesrep.html .	None
"Modify region" hyperlink	Click the hyperlink, it can jump to src/manager/region.php .	None
"Modify quota" hyperlink	Click the hyperlink, it can jump to src/manager/quota.php .	None

Assign new salesrep

src/manager/assign_salesrep.html

screen shot

Woolin Auto

Assign new salesrep

Modify region

Modify quota

Back

Set Username

Set Password

First Name

Last Name

Region

China

Telephone No

Email

Set Quota

Assign salesrep

header

Component	Description
"Assign new salesrep" hyperlink	Click the hyperlink, it can jump to src/manager/assign_salesrep.html . (current page)
"Modify region" hyperlink	Click the hyperlink, it can jump to src/manager/region.php .
"Modify quota" hyperlink	Click the hyperlink, it can jump to src/manager/quota.php .
"Back" hyperlink	Click the hyperlink, it can jump to src/manager/salesrep.html .

content

This page is for manager to assign a new salesrep.

Component	Description	Constraints
"Set Username" text box	It is for manager to set username of salesrep.	It should start with a letter, and followed by only letters and digits. Length: 2-25.
"Set Password" text box	It is for manager to set password of salesrep.	It should only contain letters and digits. Length: 6-25.
"First Name" text box	It is for manager to set first name of salesrep.	It should start with a capital letter and followed by only lower-case letters. Length: 2-25.
"Last Name" text box	It is for manager to set last name of salesrep.	It should start with a capital letter and followed by only lower-case letters. Length: 2-25.
"Region"	It is for manager to set region of salesrep.	None
"Telephone No" text box	It is for manager to set telephone number of salesrep.	It should only contain digits. Length: 1-25.
"Email" text box	It is for manager to set email of salesrep.	It should be in format "XXX@XXX.XXX(.XXX)". Length: <50.
"Set Quota" text box	It is for manager to set quota of salesrep.	It should be a positive integer.
"Assign salesrep" button	Click the button, if username has not been registered by other users, assign new salesrep successfully. Otherwise, error will be reported to user.	None

Modify region

src/manager/region.php

screen shot

View all salesreps

salesrep employee id	username	first name	last name	region	telephone	email	quota
1	slogin	Carl	Jones	Korea	38294065	Carl.Jones@gmail.com	850
2	schina1	Yang	Zhao	China	13627488590	yang-zhao@qq.com	1600
3	schina2	Hua	Li	China	18294890023	Hua-Li@qq.com	1450
4	sthailand1	Ming	Li	Thailand	13928446578	ming.li@gmail.com	3200
5	suk1	Annie	Zhang	UK	13728374993	A-Zhang@outlook.com	2740
6	skorea1	Simon	Chen	Korea	18047283946	Simon@outlook.com	2490
7	schina3	Na	Liu	China	12738223940	nana@163.com	4710
8	sthailand2	Hebe	Poy	Thailand	38594830	poy666@gmail.com	6660

Modify salesrep's region

Employee ID

Region

China

Modify region

header

Same as "Assign new salesrep".

content

This page is for manager to view information of all salesreps and modify region of salesrep chosen by manager.

Component	Description	Constraints
"View all salesreps" section	It is for manager to view information of all salesreps.	None
"Modify salesrep's region" section	It is for manager to modify region of selected salesreps.	None
"Employee ID" text box	It is for manager to enter employee ID of selected salesreps.	It should be a valid employee ID of an existed salesrep.
"Region"	It is for manager to select region that he/she wants to assign the salesrep to.	None
"Modify region" button	Click the button to assign chosen salesrep to the region that manager wants to assign the salesrep to. If failed, report error in message area.	None

Modify quota

src/manager/quota.php

screen shot

Woolin Auto

[Assign new salesrep](#)

[Modify region](#)

[Modify quota](#)

[Back](#)

View all salesreps

salesrep employee id	username	first name	last name	region	telephone	email	quota
1	slogin	Carl	Jones	Korea	38294065	CarlJones@gmail.com	850
2	schinal	Yang	Zhao	China	13627488590	yang-zhao@qq.com	1600
3	schina2	Hua	Li	China	18294890023	Hua-Li@qq.com	1450
4	sthailand1	Ming	Li	Thailand	13928446578	ming.li@gmail.com	3200
5	suk1	Annie	Zhang	UK	13728374993	A-Zhang@outlook.com	2740
6	skoreal	Simon	Chen	Korea	18047283946	Simon@outlook.com	2490
7	schina3	Na	Liu	China	12738223940	nana@163.com	4710
8	sthailand2	Hobo	Poy	Thailand	38594830	poy666@gmail.com	6660

Modify salesrep's quota

Employee ID

Quota

Modify quota

header

Same as "Assign new salesrep".

content

This page is for manager to view information of all salesreps and modify quota of salesrep chosen by manager.

Component	Description	Constraints
"View all salesreps" section	It is for manager to view information of all salesreps.	None
"Modify salesrep's quota" section	It is for manager to modify quota of selected salesreps.	None
"Employee ID" text box	It is for manager to enter employee ID of selected salesreps.	It should be a valid employee ID of an existed salesrep.
"Quota"	It is for manager to enter quota that he/she wants to re-grant/update the salesrep.	It should be a positive integer.
"Modify quota" button	Click the button to regrant/update quota for chosen salesrep. If failed, report error in message arae.	None

Customer

src/manager/customer.php

screen shot

Woolin Auto						
Anomaly Order Salesrep Customer Statistics						
<div>Login/Logout</div>						
View all customers						
customer username	first name	last name	passport id	region	telephone	email
cchina1	Cassio	Qiang	E382950394	UK	13538493049	cassio.q@gmail.com
cchina2	Ellie	Ma	E402800391	China	19383749923	3914872985@qq.com
clogin	Cole	Smith	384759384	UK	39574859	ColoSmith@gmail.com

header

Same as "Anomaly".

content

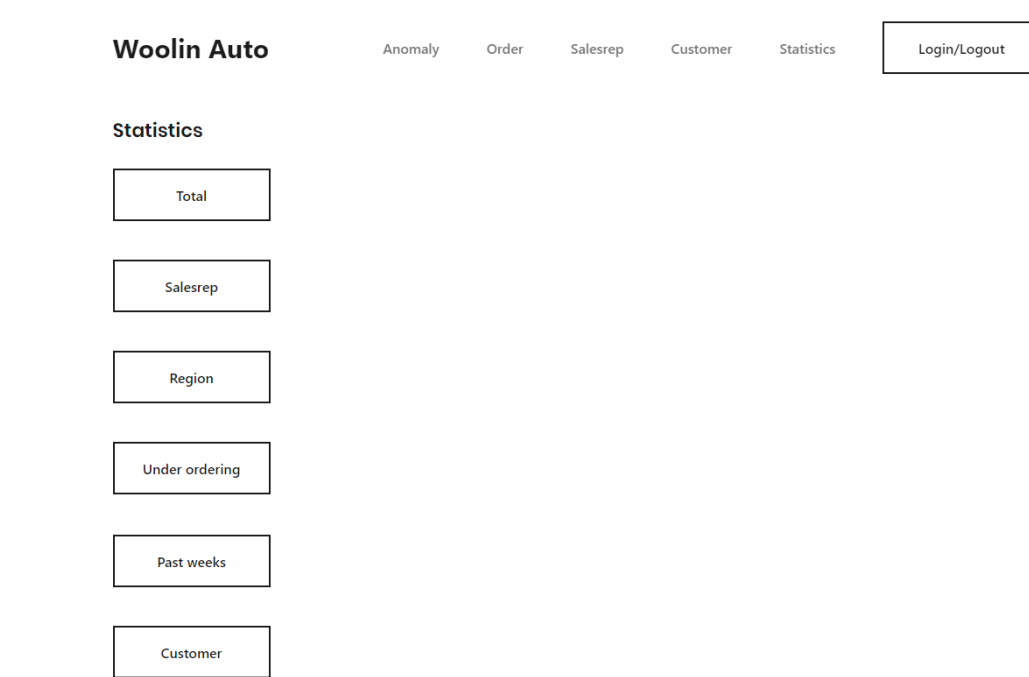
This page is for manager to view information of all customers.

Component	Description	Constraints
"View all customers" section	It is for manager to view information of all customers.	None

Statistics

src/manager/statistics.html

screen shot



header

Same as "Anomaly".

content

This page is for manager to view statistics.

Component	Description	Constraints
"Total" hyperlink	Click the hyperlink to jump to src/manager/sta_total.php .	None
"Salesrep" hyperlink	Click the hyperlink to jump to src/manager/sta_salesrep.php .	None
"Region" hyperlink	Click the hyperlink to jump to src/manager/sta_region.php .	None
"Under ordering" hyperlink	Click the hyperlink to jump to src/manager/sta_under_ordering.php .	None
"Past weeks" hyperlink	Click the hyperlink to jump to src/manager/sta_week.php .	None
"Customer" hyperlink	Click the hyperlink to jump to src/manager/sta_customer.php .	None

Total

src/manager/sta_total.php

screen shot

Woolin Auto			Total	Salesrep	Region	Under ordering	Week	Customer	Back
View statistics of total									
total no. of masks sold (w/o anomalies)			total no. of masks sold (w/ anomalies)			total revenues			
880			18500			7950.50			

header

Component	Description
"Total" hyperlink	Click the hyperlink to jump to src/manager/sta_total.php .
"Salesrep" hyperlink	Click the hyperlink to jump to src/manager/sta_salesrep.php .
"Region" hyperlink	Click the hyperlink to jump to src/manager/sta_region.php .
"Under ordering" hyperlink	Click the hyperlink to jump to src/manager/sta_under_ordering.php .
"Past weeks" hyperlink	Click the hyperlink to jump to src/manager/sta_week.php .
"Customer" hyperlink	Click the hyperlink to jump to src/manager/sta_customer.php .
"Back" hyperlink	Click the hyperlink to jump to src/manager/statistics.html .

content

Component	Description	Constraints
"View statistics of total" section	It is for manager to view statistics of total no. of masks sold (w/ and w/o anomalies) and total revenues.	None

Salesrep

src/manager/sta_salesrep.php

screen shot

View statistics of salesreps

salesrep employee id	username	sum of masks sold	sum of sales amount
1	slogin	45	846.00
2	schina1	395	2322.50
3	schina2	250	2940.00
4	sthailand1	0	0
5	suk1	0	0
6	skorea1	0	0
7	schina3	190	1842.00
8	sthailand2	0	0

header

Same as "Total".

content

Component	Description	Constraints
"View statistics of salesreps" section	It is for manager to view statistics of salesreps, including sum of masks sold, and sum of sales amount of each salesrep.	None

Region

src/manager/sta_region.php

screen shot

View statistics of regions

region	sum of masks sold	sum of sales amount
China	615	5909.50
Thailand	0	0
UK	265	2041.00
Korea	0	0

header

Same as "Total".

content

Component	Description	Constraints
"View statistics of regions" section	It is for manager to view statistics of regions, including sum of masks sold, and sum of sales amount in each region.	None

Under ordering

src/manager/sta_under_ordering.php

screen shot

Woolin Auto	Total	Salesrep	Region	Under ordering	Week	Customer	Back
View masks under ordering							
No masks under ordering.							
ordering id	mask type	quantity	sales amount	creation time	status	customer username	salesrep employee id

header

Same as "Total".

content

Component	Description	Constraints
"View masks under ordering" section	It is for manager to view all orders that are under ordering (within 24 hours without anomalies).	None

Week

src/manager/sta_under_ordering.php

screen shot

Woolin Auto	Total	Salesrep	Region	Under ordering	Week	Customer	Back
View statistics within 1 week							
sum of masks sold	sum of sales amount	average of masks sold per order	average of sales amount per order	count of normal orders			
580	4920.5	96.666666666667	820.08333333333	6			

header

Same as "Total".

content

Component	Description	Constraints
"View statistics within 1 week" section	It is for manager to view statistics of orders within 1 week, including sum of masks sold, sum of sales amount, average of masks sold per order, average of sales amount per order and count of normal orders.	None

Customer

src/manager/sta_customer.php

screen shot

Woolin Auto

Total Salesrep Region Under ordering Week Customer Back

View statistics of customers

customer username	sum of masks sold	sum of sales amount	average of masks sold	average of sales amount	count of orders
cchina1	220	1195.00	110.00	597.50	2
cchina2	615	5909.50	102.50	984.92	6
clogin	45	846.00	45.00	846.00	1

Total no. of customers: 3

header

Same as "Total".

content

Component	Description	Constraints
"View statistics of customers" section	It is for manager to view statistics of customers, including sum of masks sold, sum of sales amount, average of masks sold per order, average of sales amount and count of orders of each customer, and total no. of customers.	None

[return to contents](#)

External libraries

All the libraries I've used in my design are **fully open source** and allow **for commercial use**.

jQuery

- cdn: <https://cdn.staticfile.org/jquery/3.4.0/jquery.min.js>
version: 3.4.0
functionality: a compressed file of jQuery library (jquery.js) to use ajax, operate DOM elements, handle events, etc.
- cdn: <https://cdn.staticfile.org/jquery-cookie/1.4.1/jquery.cookie.min.js>
version: 1.4.1
functionality: a plug in of jQuery to operate Cookie.

bootstrap

- css: bootstrap.min.css
downloaded in file "published" from Bootswatch
url: <https://bootswatch.com/>
functionality: a css/html framework to beautify web pages.
- js, cdn: <https://cdn.staticfile.org/twitter-bootstrap/3.3.7/js/bootstrap.min.js>
version: 3.3.7

functionality: Bootstrap core js file, must be referenced after jQuery library.

[return to contents](#)