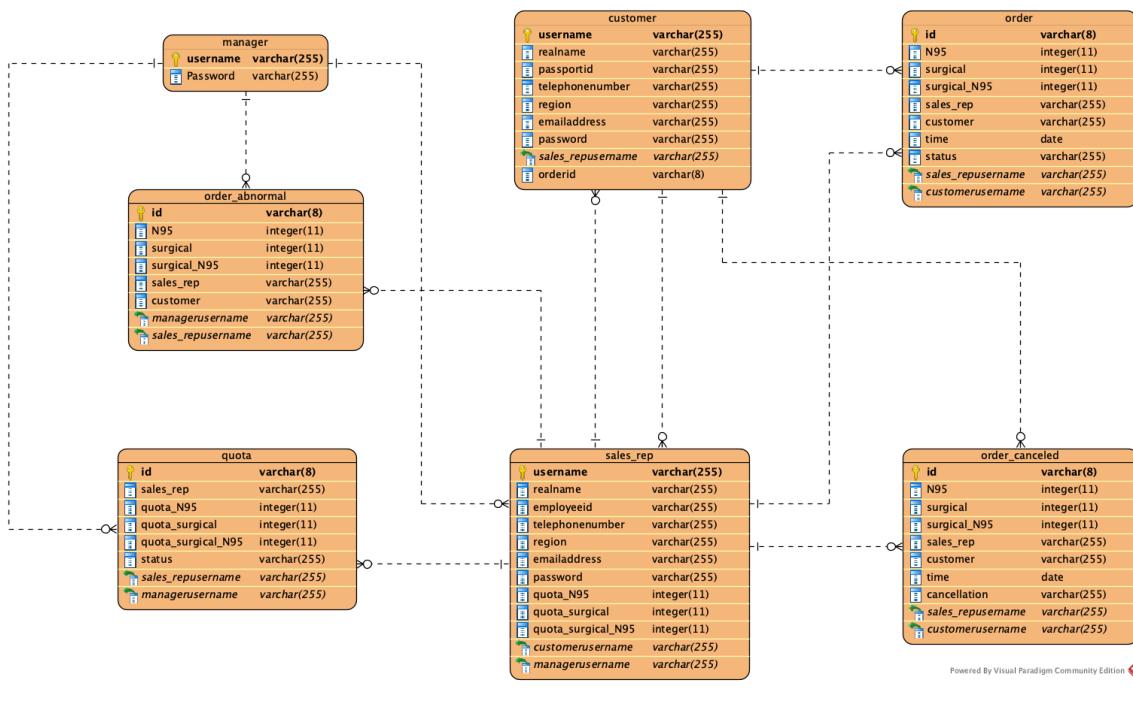


a.



Entity-Relationship Diagram

b.

```
--  
-- My SQL "create table" statements  
-- Database: `scsysx1`  
--
```

```
--  
-- Table structure for table `customer`  
--
```

```
DROP TABLE IF EXISTS `customer`;
```

```
CREATE TABLE `customer` (  
  `username` text NOT NULL,  
  `realname` text NOT NULL,  
  `passportid` text NOT NULL,  
  `telephonenumber` text NOT NULL,  
  `region` text NOT NULL,  
  `emailaddress` text NOT NULL,  
  `password` text NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=utf8;
```

```
--  
-- Table structure for table `manager`  
  
DROP TABLE IF EXISTS `manager`;  
  
CREATE TABLE `manager` (  
    `username` text NOT NULL,  
    `password` text NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=utf8;
```

```
--  
-- Table structure for table `order`  
  
DROP TABLE IF EXISTS `order`;
```

```
CREATE TABLE `order` (  
    `id` text NOT NULL,  
    `N95` int(11) NOT NULL,  
    `surgical` int(11) NOT NULL,  
    `surgical_N95` int(11) NOT NULL,  
    `sales_rep` text NOT NULL,  
    `customer` text NOT NULL,  
    `time` datetime NOT NULL,  
    `status` text NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=utf8;
```

```
--  
-- Table structure for table `order_abnormal`  
  
DROP TABLE IF EXISTS `order_abnormal`;
```

```
CREATE TABLE `order_abnormal` (  
    `id` text NOT NULL,  
    `N95` int(11) NOT NULL,  
    `surgical` int(11) NOT NULL,
```

```
`surgical_N95` int(11) NOT NULL,  
 `sales_rep` text NOT NULL,  
 `customer` text NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=utf8;
```

```
--  
-- Table structure for table `order_canceled`  
--
```

```
DROP TABLE IF EXISTS `order_canceled`;
```

```
CREATE TABLE `order_canceled` (  
 `id` text NOT NULL,  
 `N95` int(11) NOT NULL,  
 `surgical` int(11) NOT NULL,  
 `surgical_N95` int(11) NOT NULL,  
 `sales_rep` text NOT NULL,  
 `customer` text NOT NULL,  
 `time` datetime NOT NULL,  
 `cancellation` text NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=utf8;
```

```
--  
-- Table structure for table `quota`  
--
```

```
DROP TABLE IF EXISTS `quota`;
```

```
CREATE TABLE `quota` (  
 `id` text NOT NULL,  
 `sales_rep` text NOT NULL,  
 `quota_N95` int(11) NOT NULL,  
 `quota_surgical` int(11) NOT NULL,  
 `quota_surgical_N95` int(11) NOT NULL,  
 `status` text NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=utf8;
```

```
--
```

```
-- Table structure for table `sales_rep`
--
DROP TABLE IF EXISTS `sales_rep`;

CREATE TABLE `sales_rep` (
  `username` text NOT NULL,
  `realname` text NOT NULL,
  `employeeid` text NOT NULL,
  `telephonenumer` text NOT NULL,
  `region` text NOT NULL,
  `emailaddress` text NOT NULL,
  `password` text NOT NULL,
  `quota_N95` int(11) NOT NULL,
  `quota_surgical` int(11) NOT NULL,
  `quota_surgical_N95` int(11) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8;
```

c.

The code uses the V3.5.1 version of the jQuery library. The following is the compatibility data from its official website. This library is compatible with most mainstream browsers. Since the latest versions of Google and Firefox are used for testing, there will be no compatibility issues when running the code.

Current Active Support

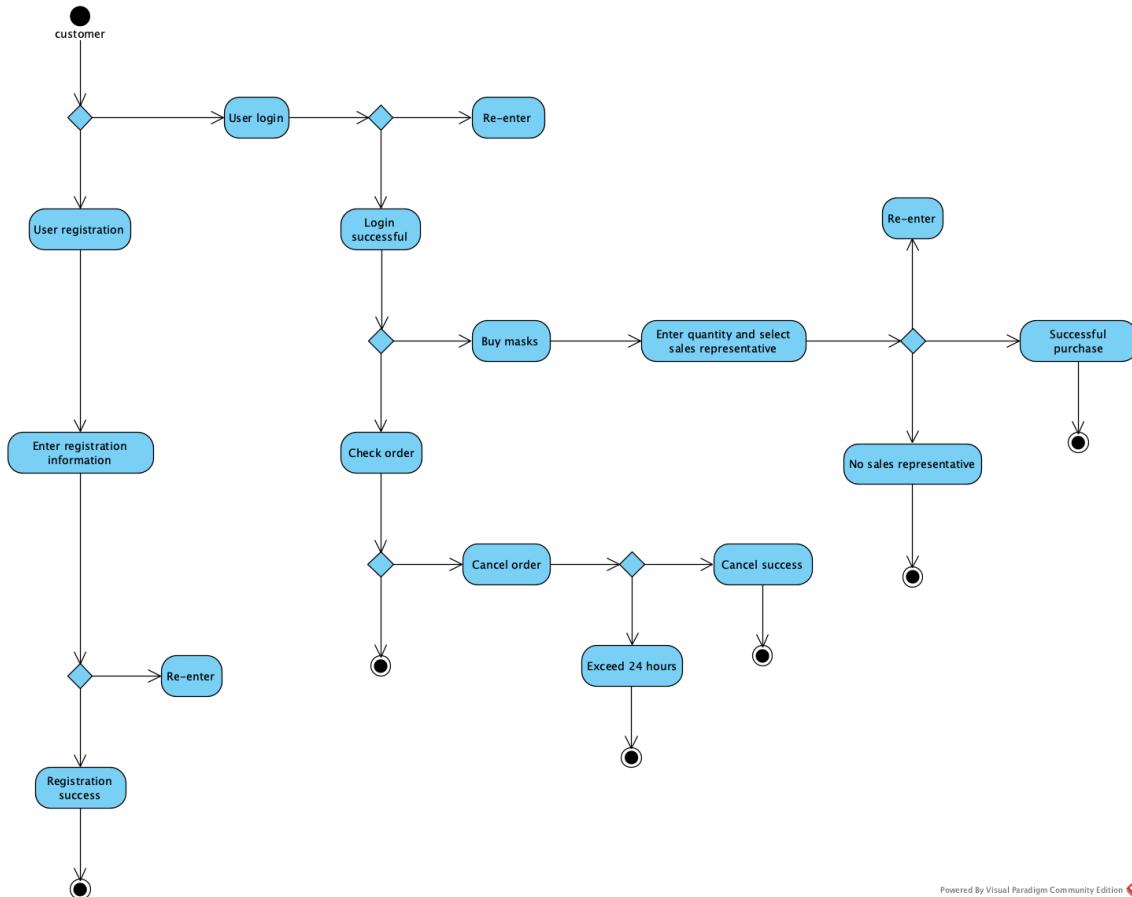
Desktop

- Chrome: (Current - 1) and Current
- Edge: (Current - 1) and Current
- Firefox: (Current - 1) and Current, ESR
- Internet Explorer: 9+
- Safari: (Current - 1) and Current
- Opera: Current

The code uses the 'text-align: center' command on the select element to center the text in the selection box. This command is supported by the Firefox browser but is invalid in Google and Safari browsers. Therefore, testing with the Firefox browser will get the best visual effect.

d.

1. Customer part



Activity Diagram for customer

Firstly, enter the main interface (main.html). To register a user, click sign up - customer in the upper right corner to enter the registration interface.



After entering the registration interface, enter legal information to register a new user. Any blank or illegal input will lead to wrong prompt information, you can correct your input according to the prompt information and complete the registration.



Username

Real Name

Passport ID

Telephone Number

Region

Email

Password

Already have an account? [Log in now](#)

After clicking the registration button, if the registration is successful, the page will automatically jump to the login interface. Enter the username and password to log in. If you do not need to register and log in directly, you can also enter this interface by clicking sign in - customer in the upper right corner of the homepage.



username

password

Don't have an account yet? [Register now](#)

We log into an account that has been registered before and enter the purchase interface.

Welcome, China_1.

Please fill in the quantity you want to buy:

 N95 respirator (\$3)

Quantity:

 surgical mask (\$1)

Quantity:

 surgical N95 respirator (\$5)

Quantity:

Please select the sales representative you want to reserve:

name	telephone number	email address
China Rep First	15311111111	china1@nottingham.edu.cn
China Rep Second	15322222222	china2@nottingham.edu.cn

-Select-

The sales representatives in this region are already listed on the right, enter the legal purchase quantity and select your sales representative to complete the purchase. Any blank or illegal input will lead to wrong prompt information.

Successful transaction. Thank you for choosing woolin Auto.

Welcome, China_1.

Please fill in the quantity you want to buy:

 N95 respirator (\$3)

Quantity:

 surgical mask (\$1)

Quantity:

 surgical N95 respirator (\$5)

Quantity:

Please select the sales representative you want to reserve:

name	telephone number	email address
China Rep First	15311111111	china1@nottingham.edu.cn
China Rep Second	15322222222	china2@nottingham.edu.cn

China Rep First

After a successful purchase, you will be prompted with a successful transaction. Your purchase is now complete and is waiting for feedback from the sales representative. At this time, we can click 'My Order' in the upper right corner to view historical orders. Your historical orders and cancelled orders will be displayed. At the same time, within 24 hours after purchase, you can cancel the order at will. Select the order you want to cancel in the selection box and click 'Cancel', it will prompt you with a successful cancellation message. If the order has been completed or exceeds 24 hours, the order cannot be cancelled, and you will be prompted with an error message.



Buy Now

The following are your orders:

id	N95 respirators	surgical masks	surgical N95 respirators	sales rep	time	status
4ba9fc9a	100	0	0	China Rep First	2020-05-28 13:06:16	completed
32f90617	111	0	0	China Rep Second	2020-05-28 13:24:12	completed
146541c5	200	500	100	China Rep First	2020-05-28 17:44:58	processing

The following are the cancelled orders:

You currently have no record of cancelled orders.

Please select the order you want to cancel:

Refresh the page at this time, you will find that the previous order has been cancelled.



Buy Now

The following are your orders:

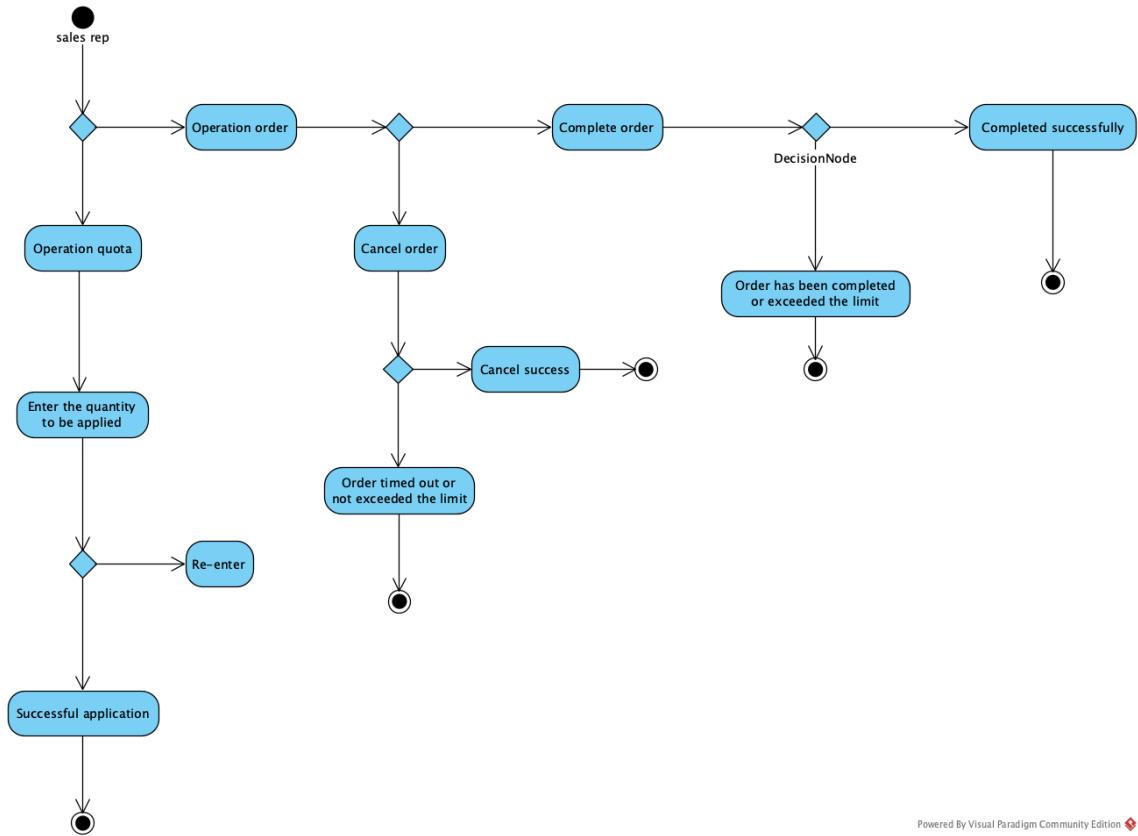
id	N95 respirators	surgical masks	surgical N95 respirators	sales rep	time	status
4ba9fc9a	100	0	0	China Rep First	2020-05-28 13:06:16	completed
32f90617	111	0	0	China Rep Second	2020-05-28 13:24:12	completed

The following are the cancelled orders:

id	N95 respirators	surgical masks	surgical N95 respirators	sales rep	time	cancellation
146541c5	200	500	100	China Rep First	2020-05-28 17:44:58	China_1

Please select the order you want to cancel:

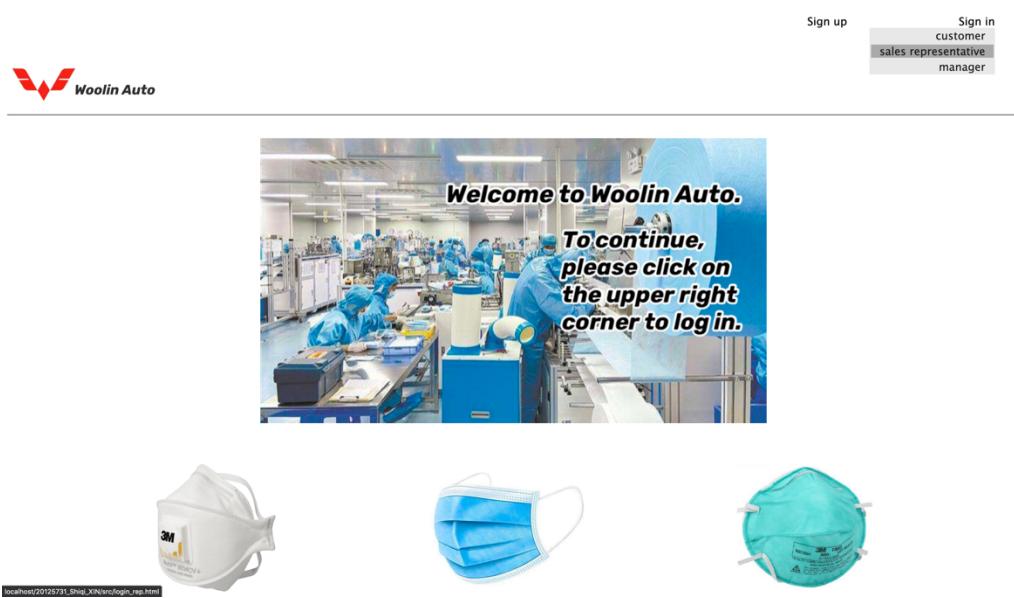
2. Sales rep part



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Activity Diagram for sales rep

First of all, click sign in - sales rep in the upper right corner of the homepage to enter the login interface.



Enter a valid username and password to log in. Any blank or illegal input will result in an error message. At this time, we log in to the account that has been registered before.



username

password

Entering the sales representative page, we can see that our orders and orders that have been cancelled are listed on the screen.

Welcome, China_rep1.

Please select the operation you want to perform:

Operation:	Transaction id:
<input type="button" value="-Select-"/>	<input type="button" value="-Select-"/>
<input type="button" value="Go"/>	

Here are the orders from your customers:

id	N95 respirators	surgical masks	surgical N95 respirators	customer	time	status
4ba9fc9a	100	0	0	China_1	2020-05-28 13:06:16	completed
6f4c3aa4	200	500	100	China_1	2020-05-28 18:28:28	processing
616b6047	100	300	200	China_2	2020-05-28 18:29:03	processing
802b58c1	10000	500	200	China_2	2020-05-28 18:29:14	processing
dce64eeb	400	50000	200	China_2	2020-05-20 18:29:25	processing

The following are the cancelled orders:

id	N95 respirators	surgical masks	surgical N95 respirators	customer	time	cancellation
146541c5	200	500	100	China_1	2020-05-28 17:44:58	China_1

We can carry out and cancel orders in the operation box at the top of the page. First, let's try to complete the order operation. Select 'Carry Out' in the first selection box and select the order ID you want to operate in the second selection box. Click the 'Go' button. At this time, the operation box prompts that the transaction is successful, the transaction has been completed, and the number of masks in the order will be deducted from your quota accordingly.

Welcome, China_rep1.

Please select the operation you want to perform:

The transaction was successful.

Operation:	Transaction id:
<input type="button" value="Carry Out"/>	<input type="button" value="6f4c3aa4"/>
<input type="button" value="Go"/>	

Here are the orders from your customers:

id	N95 respirators	surgical masks	surgical N95 respirators	customer	time	status
4ba9fc9a	100	0	0	China_1	2020-05-28 13:06:16	completed
6f4c3aa4	200	500	100	China_1	2020-05-28 18:28:28	processing
616b6047	100	300	200	China_2	2020-05-28 18:29:03	processing
802b58c1	10000	500	200	China_2	2020-05-28 18:29:14	processing
dce64eeb	400	50000	200	China_2	2020-05-20 18:29:25	processing

The following are the cancelled orders:

id	N95 respirators	surgical masks	surgical N95 respirators	customer	time	cancellation
146541c5	200	500	100	China_1	2020-05-28 17:44:58	China_1

If the order exceeds your limit, the order cannot be completed, and you will be prompted with an error message. Similarly, operations on completed orders will also result in error messages.

Welcome, China_rep1.

Please select the operation you want to perform:

Transaction failed. The order exceeds the quota.

Operation:	Transaction id:
<input type="button" value="Carry Out"/>	<input type="button" value="802b58c1"/>
<input type="button" value="Go"/>	

Here are the orders from your customers:

id	N95 respirators	surgical masks	surgical N95 respirators	customer	time	status
4ba9fc9a	100	0	0	China_1	2020-05-28 13:06:16	completed
6f4c3aa4	200	500	100	China_1	2020-05-28 18:28:28	processing
616b6047	100	300	200	China_2	2020-05-28 18:29:03	processing
802b58c1	10000	500	200	China_2	2020-05-28 18:29:14	processing
dce64eeb	400	50000	200	China_2	2020-05-20 18:29:25	processing

The following are the cancelled orders:

id	N95 respirators	surgical masks	surgical N95 respirators	customer	time	cancellation
146541c5	200	500	100	China_1	2020-05-28 17:44:58	China_1

Next we proceed to cancel the order. As before, select cancel and the transaction id to be operated in the selection box, then click the 'Go' button. If the operation is legal, the order will be successfully cancelled. Refresh the page, you will find that the order has been cancelled.

Welcome, China_rep1.

Please select the operation you want to perform:

Cancel success.

Operation:	Transaction id:
<input type="button" value="Cancel"/>	<input type="button" value="802b58c1"/>
<input type="button" value="Go"/>	

Here are the orders from your customers:

id	N95 respirators	surgical masks	surgical N95 respirators	customer	time	status
4ba9fc9a	100	0	0	China_1	2020-05-28 13:06:16	completed
6f4c3aa4	200	500	100	China_1	2020-05-28 18:28:28	processing
616b6047	100	300	200	China_2	2020-05-28 18:29:03	processing
802b58c1	10000	500	200	China_2	2020-05-28 18:29:14	processing
dce64eeb	400	50000	200	China_2	2020-05-20 18:29:25	processing

The following are the cancelled orders:

id	N95 respirators	surgical masks	surgical N95 respirators	customer	time	cancellation
146541c5	200	500	100	China_1	2020-05-28 17:44:58	China_1

However, as shown in the figure, if the order exceeds the limit but the purchase time has exceeded 24 hours, the order cannot be cancelled. The order will be deemed completed and notified to the manager as an abnormal order.

Welcome, China_rep1.

Please select the operation you want to perform:

The order has exceeded 24 hours, please wait for the manager to process.

Operation:	Transaction id:
<input type="button" value="Cancel"/>	<input type="button" value="dce64eeb"/>
<input type="button" value="Go"/>	

Here are the orders from your customers:

id	N95 respirators	surgical masks	surgical N95 respirators	customer	time	status
4ba9fc9a	100	0	0	China_1	2020-05-28 13:06:16	completed
6f4c3aa4	200	500	100	China_1	2020-05-28 18:28:28	processing
616b6047	100	300	200	China_2	2020-05-28 18:29:03	processing
802b58c1	10000	500	200	China_2	2020-05-28 18:29:14	processing
dce64eeb	400	50000	200	China_2	2020-05-20 18:29:25	processing

The following are the cancelled orders:

id	N95 respirators	surgical masks	surgical N95 respirators	customer	time	cancellation
146541c5	200	500	100	China_1	2020-05-28 17:44:58	China_1

Similarly, if the order does not exceed the limit, the representative has no right to cancel, the error message will be prompted. Operations of the order is basically introduced. Next, we click on 'My Quota' in the upper right corner to view the quota.

Welcome, China_rep1.

Please select the operation you want to perform:

Unable to cancel, the order did not exceed the quota.

Operation:	Transaction id:
Cancel	616b6047
Go	

Here are the orders from your customers:

id	N95 respirators	surgical masks	surgical N95 respirators	customer	time	status
4ba9fc9a	100	0	0	China_1	2020-05-28 13:06:16	completed
6f4c3aa4	200	500	100	China_1	2020-05-28 18:28:28	completed
616b6047	100	300	200	China_2	2020-05-28 18:29:03	processing
dce64eeb	400	50000	200	China_2	2020-05-20 18:29:25	completed

The remaining quota and our quota application record are displayed on the screen. We can apply for quota at the bottom of the page. First select the type and quantity you want to apply for, then click the 'Apply' button. After the application is successful, the success message will be displayed on the screen. If no quantity is selected, an error message will be displayed.

The following are the cancelled orders:

The following quota application records are displayed:

N95 respirators	surgical masks	surgical N95 respirators
2200	1500	1900

The following are your quota application records:

You currently have no quota application records.

Please select the type and quantity of quota you want to apply for:

The application is successful. Please wait for the manager's approval.



N95 respirator



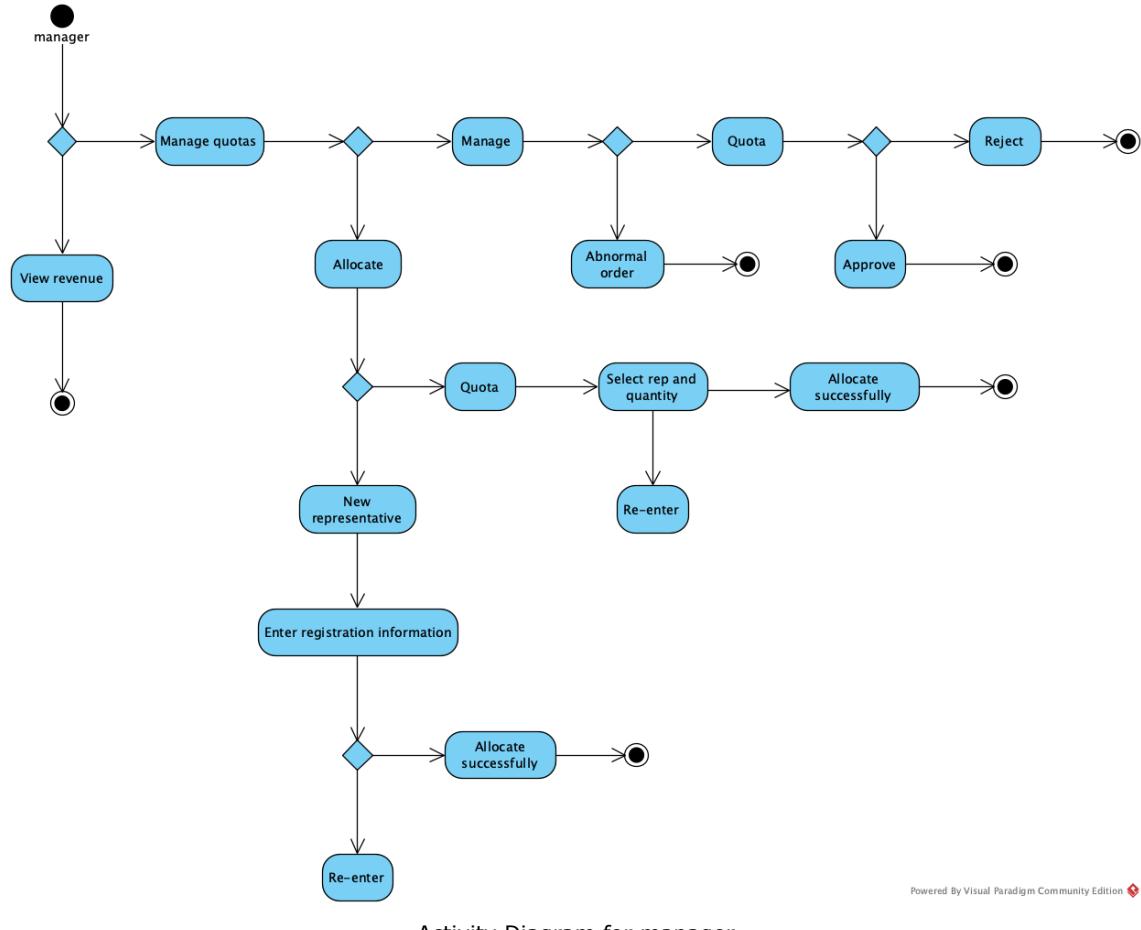
surgical mask



surgical N95 respirator

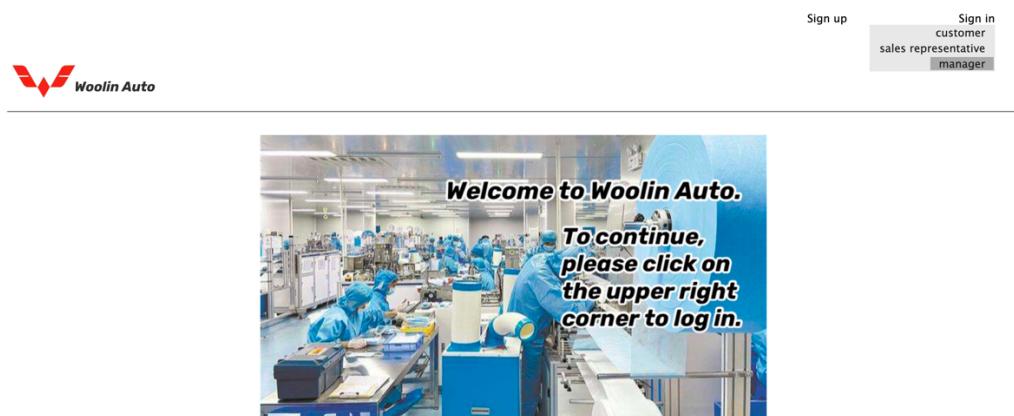
[Apply](#)

3. Manager part



Activity Diagram for manager

First of all, click sign in – manager in the upper right corner of the homepage to enter the login interface.



Enter a valid username and password to log in. Any blank or illegal input will result in an error message. Since there is only one manager, so the manager's data is set in the database in advance.



username	<input type="text" value="Heng"/>
password	<input type="password" value="....."/>
	<input type="button" value="Sign in"/>

Enter the manager page, you can see the information of all sales representatives, the abnormal order information waiting to be processed, and the quota request information from the sales representative.

Welcome, Heng.

My Revenue

Here are all your sales representatives:

name	employee id	N95 respirators	surgical masks	surgical N95 respirators
China Rep First	C11111111	2200	1500	1900
China Rep Second	C22222222	289	0	0
Japan Rep First	J11111111	400	0	0
Japan Rep Second	J22222222	0	0	0
UK Rep First	U11111111	1000	0	0
UK Rep Second	U22222222	0	0	0

The following are the abnormal orders waiting for you to handle:

id	N95 respirators	surgical masks	surgical N95 respirators	sales rep	customer
dce64eeb	400	50000	200	China Rep First	China_2

-Select-

The following are your pending quota applications:

id	sales rep	N95 respirators	surgical masks	surgical N95 respirators	status
a423d68c	China Rep First	1000	1000	1000	processing

First, let's look at abnormal orders. Select the order to be processed and click the 'Ship' button, the order will be processed successfully. Refresh the page and you will find that the order has been processed.

The following are the abnormal orders waiting for you to handle:

id	N95 respirators	surgical masks	surgical N95 respirators	sales rep	customer
dce64eeb	400	50000	200	China Rep First	China_2

Delivery was successful.

[dce64eeb](#) [Ship](#)

The following are your pending quota applications:

id	sales rep	N95 respirators	surgical masks	surgical N95 respirators	status
a423d68c	China Rep First	1000	1000	1000	processing

[-Select-](#) [Approve](#) [Reject](#)

Please select the type and quantity of quota you want to allocate:



Next we process the quota request, select the request ID that we want to process, and click the 'Approve' button, the request will be passed, and the corresponding quota will be allocated to the sales representative. If you click the 'Reject' button, the request will be rejected.

The following are the abnormal orders waiting for you to handle:

You currently have no abnormal orders.
--

[-Select-](#) [Ship](#)

The following are your pending quota applications:

id	sales rep	N95 respirators	surgical masks	surgical N95 respirators	status
a423d68c	China Rep First	1000	1000	1000	processing
bf018fce	China Rep Second	2000	5000	1000	processing

Approved successfully.

[a423d68c](#) [Approve](#) [Reject](#)

The following are the abnormal orders waiting for you to handle:

You currently have no abnormal orders.
--

[-Select-](#) [Ship](#)

The following are your pending quota applications:

id	sales rep	N95 respirators	surgical masks	surgical N95 respirators	status
bf018fce	China Rep Second	2000	5000	1000	processing

Rejected successfully.

[bf018fce](#) [Approve](#) [Reject](#)

On this page, you can also assign quotas to designated sales reps. Select the quantity you want to allocate and the name of the sales rep then click the 'Allocate' button. If the allocation is successful, a success message will be displayed. If you do not select a quantity or sales representative, an error message will be displayed.

The following are your pending quota applications:

You currently have no pending quota applications.

-Select- Approve Reject

Please select the type and quantity of quota you want to allocate:

The quota allocation is successful.



N95 respirator



surgical mask



surgical N95 respirator

500

500

500

China Rep First

Allocate

[Click here to assign a new sales rep](#)

Logout

Finally, click the link at the bottom of the page to enter the page for assigning new representatives. After entering the assign interface, enter legal information to assign a new sales rep. Any blank or illegal input will lead to wrong prompt information, you can correct your input according to the prompt information and complete the registration.

Woolin Auto

Return

Username

Real Name

Employee ID

Telephone Number

Region

Email

Password

After the allocation is successful, the page will automatically jump back to the previous manager page. Click "My Revenue" in the upper right corner of the page, we can view various information on the sales of masks.



Welcome, Heng.
 My Revenue

Here are all your sales representatives:

name	employee id	N95 respirators	surgical masks	surgical N95 respirators
China Rep First	C11111111	3700	3000	3400
China Rep Second	C22222222	289	0	0
Japan Rep First	J11111111	400	0	0
Japan Rep Second	J22222222	0	0	0
Uk Rep First	U11111111	1000	0	0
Uk Rep Second	U22222222	0	0	0
Test Rep	T12345678	0	0	0

The following are the abnormal orders waiting for you to handle:

-Select-
Ship

You currently have no abnormal orders.

The following are your pending quota applications:

This page shows the total amount of mask sales, total revenue, masks under ordering, masks sold by different sales representatives, masks sold in different regions and the number of masks sold in the past few weeks. At the bottom of the page, select the number of weeks you want to view, and click the 'Go' button, you can also view statistics about customers.



 My Quota

The following is the general information on selling masks:

total amount	total revenue	masks under ordering
52711	57733	600

The following are the masks sold by specific sales representatives:

sales rep	N95 respirators	surgical masks	surgical N95 respirators
China Rep First	700	50500	300
China Rep Second	111	0	0
Japan Rep First	100	0	0
Uk Rep First	1000	0	0

The following is the sales of masks in different regions:

region	N95 respirators	surgical masks	surgical N95 respirators
China	811	50500	300
Japan	100	0	0
UK	1000	0	0

The following is the sales of masks in different regions:

region	N95 respirators	surgical masks	surgical N95 respirators
China	811	50500	300
Japan	100	0	0
UK	1000	0	0

The following is the sales of masks in the past few weeks:

weeks	N95 respirators	surgical masks	surgical N95 respirators
1	1511	500	100
2	1911	50500	300
3	1911	50500	300

The following is statistical information about customers:

View customer statistics for the past weeks

total customers	Weekly customers	daily customers
4	1.33	0.19

e.

The jQuery library is used in this coursework.