Database Management System for a Tire Company

122090437 邱润恒; 121090690 杨成果;
122090789 赵立言; 122090859 陈昱铭;
121090194 胡煜轩; 121090163 何俊仪;

Introduction

- An international tire trading company that provides wide variety of tires both for heavy-duty industrial applications and automobiles. With the vast network of warehouses worldwide, the company manufactures and sells tires to multiple time zone customers. The tires will be delivered in shipments by its shipping company partner to global destinations.
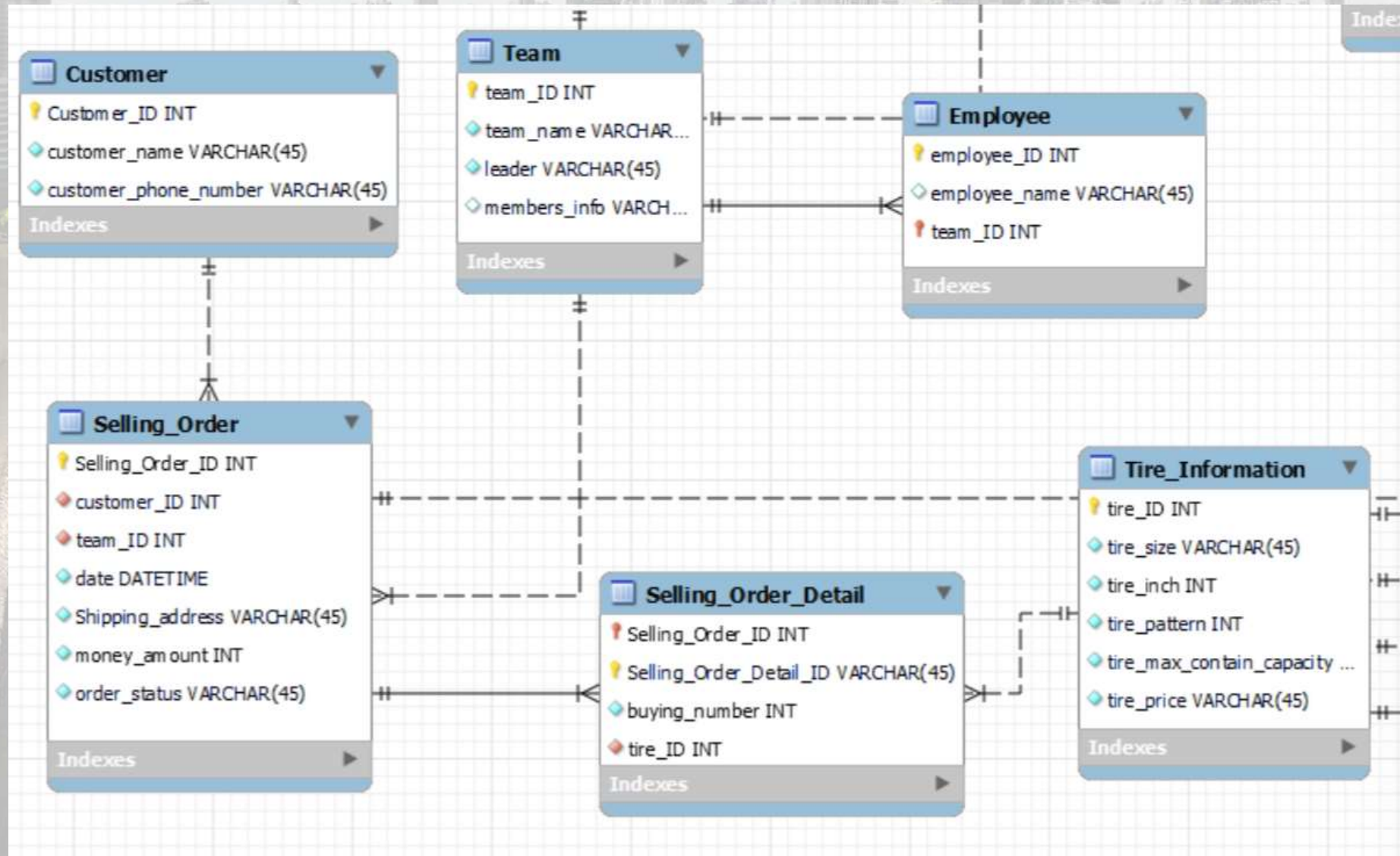
Motivation

- The company needs a integrated database management system that can handle the daily job of checking the information of selling, manufacture, and shipping orders.
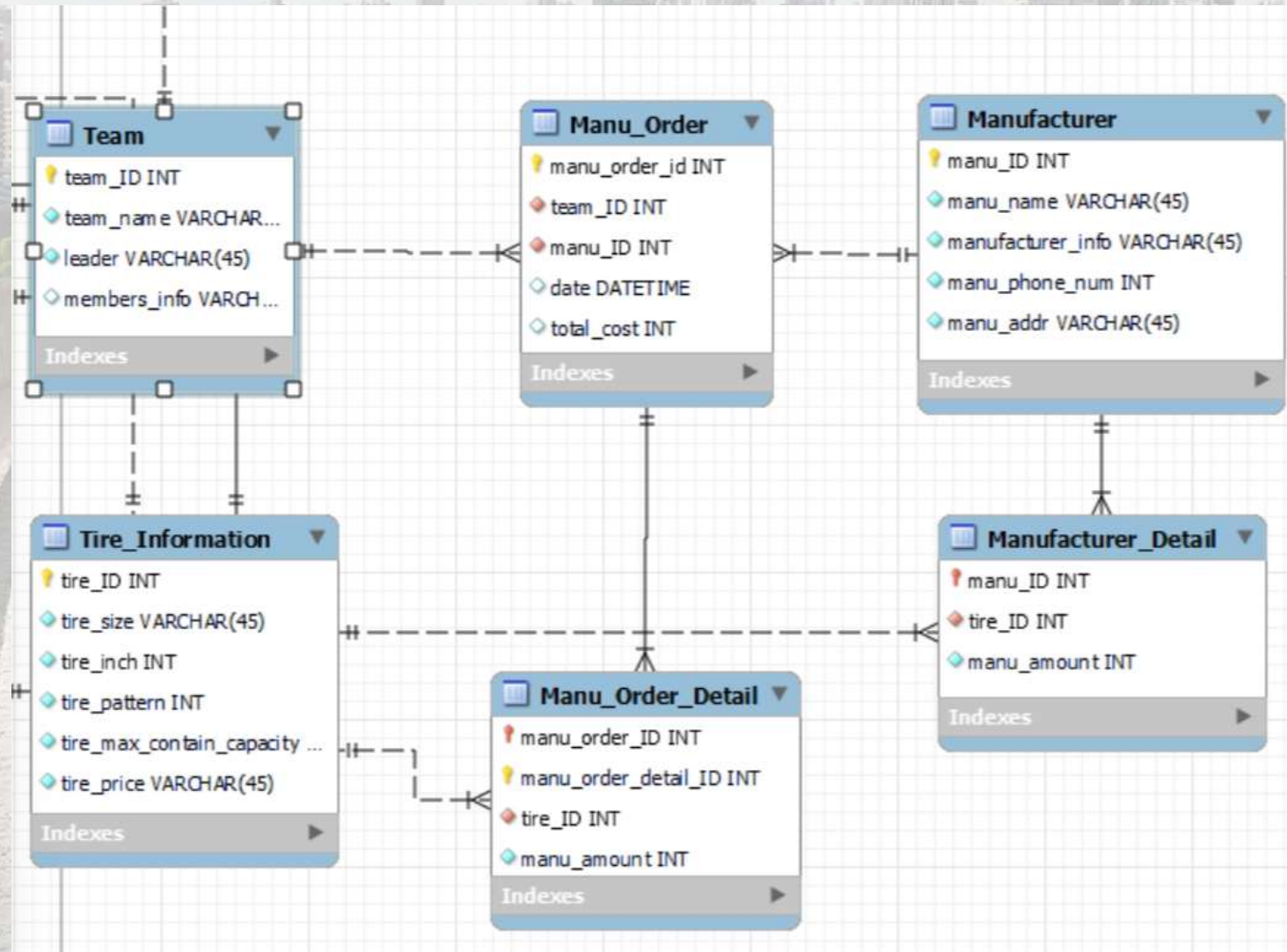
Demand Analysis

- The selling team receives selling orders from the customers.
- Maintain the inventory of different tires in all warehouses.
- After receiving the selling order, firstly check the inventory.
  - If not enough, create manufacture orders to manufacture a certain amount of tires.
- Secondly ship the tires to the ordered destination.
- Able to check information of selling, manufacturing, transport orders.
  - Including the amount of tires, shipping destination, etc.
- Maintain the information of employees in different selling team
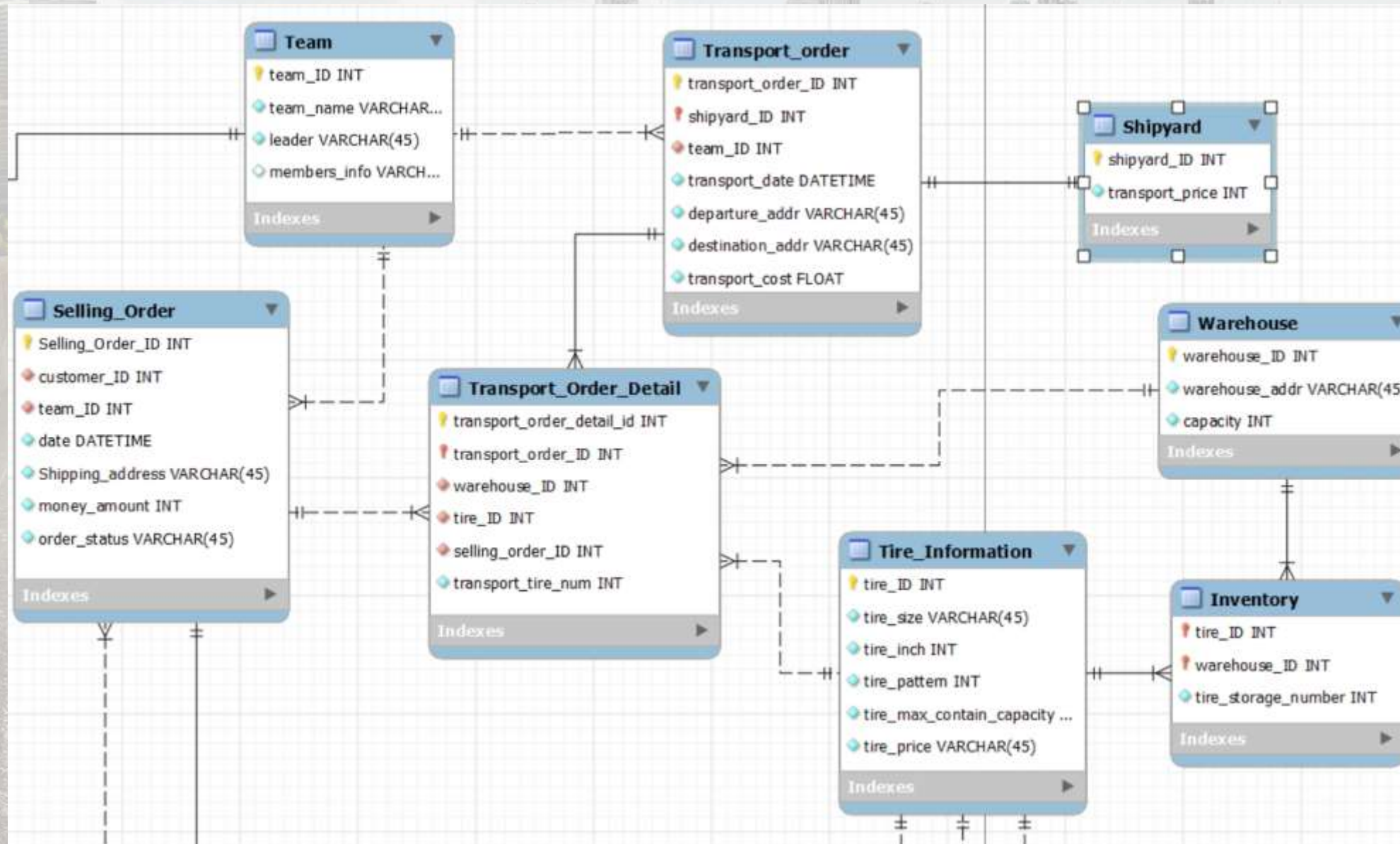
ER Diagram: selling part

ER Diagram: manufacture part

ER Diagram: tranportation part

Implementation: entering page

Implementation: look up employee information

员工选项

销售　运输　制造　返回

Implementation: look up selling teams

查看负责组别信息

返回

Team ID	Team Leader	Team Leader ID	Team Name	Team information
1	James Anderson	1	Alpha	Diverse skill set in sales
2	Karen Rodriguez	2	Bravo	Expertise in logistics and transport
3	Linda Young	3	Charlie	Strong in marketing strategies
4	Margaret Clark	6	Delta	Focus on product innovation
5	Jennifer White	19	Echo	Specialized in customer relations

Implementation: entering page

Implementation: look up income

公司

返回

类别	统计信息	操作
Selling Order	Total Money: $200, Total Orders: 55063482	Selling Employees
Transport Order	Total Money: $153, Total Orders: 1032212.8974609375	Transport Employees
Manufactured Order	Total Money: $50, Total Orders: 6383726	Manufactured Employees
Custom	Total Customer: 200, Custom Order: 55063482	
Inventory	Available Tire: 50, Total Tire: 1368670	

Implementation: look up selling orders

Selling 查询

开始日期: [年 /月/日 📅] 结束日期: [年 /月/日 📅] [查询]

[返回] [查询组内人员] [查询轮胎种类]

订单号	客户ID	负责小组	日期	目的地	订单费用	完成状况	

Implementation: look up selling orders

Selling 查询

开始日期: 年 /月/日 □   结束日期: 年 /月/日 □   查询

返回   查询组内人员   查询轮船种类

订单号	客户ID	负责小姐	日期	目的地	订单费用	完成状况	
684943	220910	5	2024-02-03 00:00:00	Port of Singapore	251163	Shipped	查看详情
887734	245338	2	2024-02-01 00:43:25	Port of Singapore	306687	Shipped	查看详情
778195	143668	5	2024-01-30 01:26:50	Port of Busan	356208	Cancelled	查看详情
434500	282487	2	2024-01-28 02:10:15	Port of Singapore	382415	Shipped	查看详情
881419	148455	4	2024-01-26 02:53:40	Port of Valencia	136416	Shipped	查看详情
883614	214995	1	2024-01-24 03:37:05	Port of Shanghai	489430	Shipped	查看详情
735570	142238	3	2024-01-22 04:20:30	Port of Valencia	178391	Shipped	查看详情
814630	540513	2	2024-01-20 05:03:55	Port of Antwerp	465615	Shipped	查看详情
501309	708983	2	2024-01-18 05:47:20	Port of New York and New Jersey	108871	Shipped	查看详情

Implementation: check detail of selling orders

查看详细订单

返回

manu_order_detail_ID	manu_order_ID	tire_ID	manu_amount
122	72000161	824	4000
140	72000161	836	8000
149	72000161	72	8300

Implementation: check up tire information

轮胎信息查询

轮胎尺寸(Inch) [   ] 查询

返回

ID	Size	Inch	pattern	container capacity	price
480	145/70R	12	RH02	2695	2900
751	145/80R	12	RH02	2729	2800
752	155/70R	12	RH02	2678	1900
753	155/80R	12	RH02	2440	1000
754	165/70R	12	RH02	2205	1000
755	175/70R	12	RH02	2205	1900
1198	155/70R	12	RA03	2730	900
1199	165/70R	12	RA03	2205	500
1200	175/70R	12	RA03	2205	2600

Implementation: look up transport orders

Transport 查询

开始日期: [yyyy/mm/日 📅] 结束日期: [yyyy/mm/日 📅] [查询]

[返回] [查询组内人员] [查询轮胎种类]

订单号	船厂	负责小组	创建日期	始发地	目的地	运输费用	
261785	590511	2	2023-11-10 00:00:00	Storage Facility 1 Street	Port of Dubai	1529.57	[查看详情]
462094	347209	4	2023-11-10 00:00:00	Storage Facility 2 Street	Port of New York and New Jersey	9175.13	[查看详情]
140203	711889	2	2023-11-06 13:37:41	Storage Facility 1 Street	Port of Ningbo-Zhoushan	4313.92	[查看详情]
421210	347209	2	2023-11-03 10:00:36	Storage Facility 4 Street	Port of Busan	4299.11	[查看详情]
630202	590511	4	2023-10-31 14:21:06	Storage Facility 2 Street	Port of Valencia	6156.45	[查看详情]

Implementation: look up transport order details

查看详细订单

返回

transport_order_detail_id	transport_order_ID	warehouse_ID	tire_ID	selling_order_ID	transport_tire_num
90	462094	971159	952	170980	8800
142	462094	545162	846	839031	8450
193	462094	971159	868	208413	8800
200	462094	873707	48	701252	2380
394	462094	788729	690	863486	7260
502	462094	545162	108	672044	9480
636	462094	788729	1259	993670	9340
647	462094	788729	760	451260	6080

Implementation: look up manufacture orders

Manufacturer 查询

开始日期: yyyy/mm/日 📅   结束日期: yyyy/mm/日 📅   查询

返回   查询组内人员   查询轮胎种类

订单号	负责小组	制造商ID	创建日期	费用	
72000161	3	927005	2022-12-11 00:00:00	86027	查看详情
96080576	3	562567	2022-12-04 00:00:00	112493	查看详情
74576698	4	735775	2022-11-27 00:00:00	171251	查看详情
69070633	4	332747	2022-11-20 00:00:00	198586	查看详情
17401794	4	735775	2022-11-13 00:00:00	60516	查看详情

Division of Labor

- ER Diagram and Optimization
  - 122090437 邱润恒; 121090690 杨成果;
- Frontend and Data generation
  - 122090789 赵立言; 122090859 陈昱铭;
- Backend and MySQL
  - 121090194 胡煜轩; 121090163 何俊仪;

THANKS
for your listening