$Analysis\ Of\ US\ Accidents\ Dataset$

Phase 3

Group 18

Date: March 1, 2020

Members: Xiaohu(69363179)

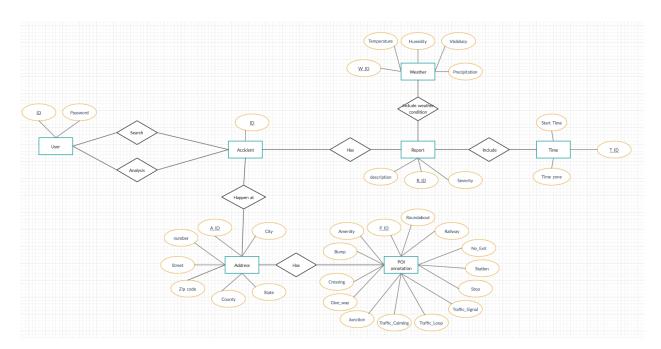
 $\begin{array}{c} {\rm Fangyuan~Cai}(24322202) \\ {\rm Xuyang~Lin}(74342826) \\ {\rm Qihao~Wang}(90739839) \end{array}$

Database Management Systems Unversity of Florida

Contents

1	Mod	dified ER Diagram	3
2	Rela	ational Database Schema	3
3	\mathbf{SQI}	L Database Schema	4
		Address	
		Annotation	
		Report	
		Time	
		Weather	
		Accident_Information	
	3.7	User	10

1 Modified ER Diagram



2 Relational Database Schema

```
Address(
"ID" VARCHAR2(26 BYTE),
"CITY" VARCHAR2(4000 BYTE),
"COUNTY" VARCHAR2(26 BYTE),
"STATE" VARCHAR2(26 BYTE),
"STREET" VARCHAR2(128 BYTE),
"STREET_NUMBER" VARCHAR2(26 BYTE),
"ZIPCODE" VARCHAR2(26 BYTE)
)
Annotation(
"ID" VARCHAR2(26 BYTE),
"ROUNDABOUT" VARCHAR2(26 BYTE),
"STOP" VARCHAR2(26 BYTE),
"STATION" VARCHAR2(26 BYTE),
"NO_EXIT" VARCHAR2(26 BYTE),
"RAILWAY" VARCHAR2(26 BYTE),
"TRAFFIC_SIGNAL" VARCHAR2(26 BYTE),
"TURNING_LOOP" VARCHAR2(26 BYTE),
"TRAFFIC_CALMING" VARCHAR2(26 BYTE),
"JUNCTION" VARCHAR2(26 BYTE),
"GIVE_WAY" VARCHAR2(26 BYTE),
"CROSSING" VARCHAR2(26 BYTE),
"BUMP" VARCHAR2(26 BYTE),
"AMENITY" VARCHAR2(26 BYTE)
Report(
"ID" VARCHAR2(26 BYTE),
"DESCRIPTION" VARCHAR2(4000 BYTE),
```

```
"SEVERITY" NUMBER(38,0)
Time(
"ID" VARCHAR2(26 BYTE),
"START_TIME" VARCHAR2(26 BYTE),
"TIMEZONE" VARCHAR2(26 BYTE)
Weather(
"ID" VARCHAR2(26 BYTE),
"WEATHER_TEMPERATURE" VARCHAR2(26 BYTE),
"WEATHER_HUMIDIT" VARCHAR2(26 BYTE),
"WEATHER_VISIBILITY" VARCHAR2(26 BYTE),
"WEATHER_PRECIPITATION" VARCHAR2(26 BYTE)
Accident_information(
"ID" VARCHAR2(26 BYTE),
"SEVERITY" NUMBER(38,0),
"TIME" VARCHAR2(26 BYTE),
"STREET" VARCHAR2(128 BYTE),
"CITY" VARCHAR2(4000 BYTE),
"STATE" VARCHAR2(26 BYTE)
User(
"ID" VARCHAR2(20 BYTE) NOT NULL ENABLE,
"PASSWORD" VARCHAR2(20 BYTE) NOT NULL ENABLE
```

3 SQL Database Schema

3.1 Address

```
CREATE TABLE "FANGYUAN"."US_ACCIDENT_ADDRESS"(
"ID" VARCHAR2(26 BYTE),
"CITY" VARCHAR2(4000 BYTE),
"COUNTY" VARCHAR2(26 BYTE),
"STATE" VARCHAR2(26 BYTE),
"STREET" VARCHAR2(128 BYTE),
"STREET_NUMBER" VARCHAR2(26 BYTE),
"ZIPCODE" VARCHAR2(26 BYTE),
PRIMARY KEY("ID")
)
```

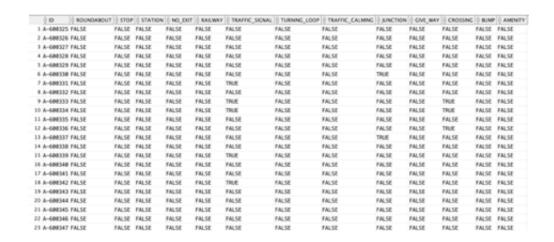
	⊕ COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID
1	ID	VARCHAR2(26 BYTE)	Yes	(null)	1 (null)
2	CITY	VARCHAR2(4000 BYTE)	Yes	(null)	2 (null)
3	COUNTY	VARCHAR2(26 BYTE)	Yes	(null)	3 (null)
4	STATE	VARCHAR2(26 BYTE)	Yes	(null)	4 (null)
5	STREET	VARCHAR2(128 BYTE)	Yes	(null)	5 (null)
6	STREET_NUMBER	VARCHAR2(26 BYTE)	Yes	(null)	6 (null)
7	ZIPCODE	VARCHAR2(26 BYTE)	Yes	(null)	7 (null)

	∯ ID	⊕ CITY	⊕ COUNTY	♦ STATE			
1	A-600475	Morrisville	Wake	NC	NW Cary Pkwy	2002	27560
2	A-600476	Raleigh	Wake	NC	Tryon Rd	4821	27606-4103
3	A-600477	Raleigh	Wake	NC	I-40 W	nan	27607
4	A-600478	Raleigh	Wake	NC	Glencastle Way	1399	27606-4704
5	A-600479	Raleigh	Wake	NC	Wade Ave	3598	27607-4048
6	A-600480	Virginia Beach	Virginia Beach	VA	VA Beach Norfolk Expy E	nan	23452
7	A-600481	Raleigh	Wake	NC	Linville Rdg	2323	27604-4184
8	A-600482	Raleigh	Wake	NC	Old Stage Rd	5100	27603-4112
9	A-600483	Raleigh	Wake	NC	Wade Ave	nan	27607
10	A-600484	Knightdale	Wake	NC	Forestville Rd	7498	27545-8815
11	A-600485	Raleigh	Wake	NC	Ujamaa Dr	999	27610-5639
12	A-600486	Raleigh	Wake	NC	Fayetteville St	201	27601-1309
13	A-600487	Raleigh	Wake	NC	Blue Ridge Rd	1501	27607-3905
14	A-600488	Cary	Wake	NC	Bond Lake Dr	nan	27513
15	A-600489	Raleigh	Wake	NC	Youth Center Dr	998	27606
16	A-600490	Knightdale	Wake	NC	I-540 E	nan	27545
17	A-600491	Raleigh	Wake	NC	Capital Blvd	3294	27604-3338
18	A-600492	Raleigh	Wake	NC	S Saunders St	1000	27603-2202
19	A-600493	Garner	Wake	NC	Aversboro Rd	403	27529-3633
20	A-600494	Raleigh	Wake	NC	Ashley Ridge Dr	6101	27612-6554
21	A-600495	Zebulon	Wake	NC	E Gannon Ave	920	27597-9351
22	A-600496	Raleigh	Wake	NC	I-40 E	nan	27610
23	A-600497	Raleigh	Wake	NC	E Millbrook Rd	1358	27609-5474

3.2 Annotation

```
CREATE TABLE "FANGYUAN"." US_ACCIDENT_ANNOTATION" (
"ID" VARCHAR2(26 BYTE),
"ROUNDABOUT" VARCHAR2(26 BYTE),
"STOP" VARCHAR2(26 BYTE),
"STATION" VARCHAR2(26 BYTE),
"NO_EXIT" VARCHAR2(26 BYTE),
"RAILWAY" VARCHAR2(26 BYTE),
"TRAFFIC_SIGNAL" VARCHAR2(26 BYTE),
"TURNING_LOOP" VARCHAR2(26 BYTE),
"TRAFFIC_CALMING" VARCHAR2(26 BYTE),
"JUNCTION" VARCHAR2(26 BYTE),
"GIVE_WAY" VARCHAR2(26 BYTE),
"CROSSING" VARCHAR2(26 BYTE),
"BUMP" VARCHAR2(26 BYTE),
"AMENITY" VARCHAR2(26 BYTE),
PRIMARY KEY("ID")
```

	⊕ COLUMN_NAME	DATA_TYPE		⊕ NULLABLE	DATA_DEFAULT	
1	ID	VARCHAR2(26	BYTE)	Yes	(null)	1 (null)
2	ROUNDABOUT	VARCHAR2(26	BYTE)	Yes	(null)	2 (null)
3	ST0P	VARCHAR2(26	BYTE)	Yes	(null)	3 (null)
4	STATION	VARCHAR2(26	BYTE)	Yes	(null)	4 (null)
5	NO_EXIT	VARCHAR2(26	BYTE)	Yes	(null)	5 (null)
6	RAILWAY	VARCHAR2(26	BYTE)	Yes	(null)	6 (null)
7	TRAFFIC_SIGNAL	VARCHAR2(26	BYTE)	Yes	(null)	7 (null)
8	TURNING_LOOP	VARCHAR2(26	BYTE)	Yes	(null)	8 (null)
9	TRAFFIC_CALMING	VARCHAR2(26	BYTE)	Yes	(null)	9 (null)
10	JUNCTION	VARCHAR2(26	BYTE)	Yes	(null)	10 (null)
11	GIVE_WAY	VARCHAR2(26	BYTE)	Yes	(null)	11 (null)
12	CROSSING	VARCHAR2(26	BYTE)	Yes	(null)	12 (null)
13	BUMP	VARCHAR2(26	BYTE)	Yes	(null)	13 (null)
14	AMENITY	VARCHAR2(26	BYTE)	Yes	(null)	14 (null)



3.3 Report

```
CREATE TABLE "FANGYUAN"."US_ACCIDENT_REPORT"(
"ID" VARCHAR2(26 BYTE),
"DESCRIPTION" VARCHAR2(4000 BYTE),
"SEVERITY" NUMBER(38,0),
PRIMARY KEY("ID")
)
```

⊕ C	COLUMN_NAME	DATA_TYPE	⊕ NULLABLE	DATA_DEFAULT	COLUMN_ID COMMENTS
1 ID		VARCHAR2(26 BYTE)	Yes	(null)	1 (null)
2 DES	SCRIPTION	VARCHAR2(4000 BYTE)	Yes	(null)	2 (null)
3 SEV	/ERITY	NUMBER(38,0)	Yes	(null)	3 (null)

∜ ID		
1 A-60035	Accident on US-29 Tryon St near Stetson Dr.	2
2 A-60035	7 One lane blocked due to accident on VA-24 Eastbound at Chestnut Mountain Dr.	2
3 A-60035	B Accident on NC-51 Pineville-Matthews Rd at Johnston Rd.	2
4 A-60035	Accident on Billy Graham Pkwy at Mulberry Church Rd.	2
5 A-60036	Accident on Park Rd at Scofield Rd.	2
6 A-60036	1 Accident on Milhaven Ln at US-21 Sunset Rd.	2
7 A-60036	Accident on I-26 Eastbound at Exit 16 John Dodd Rd.	3
8 A-60036	3 Lane blocked due to accident on US-58 Eastbound at Pineview Rd.	2
9 A-60036	4 Accident on US-221 Forest Rd at Cottontown Rd.	2
0 A-60036	5 Accident on NC-51 Pineville-Matthews Rd at Springbank Ln.	2
11 A-60036	6 Accident on Milhaven Ln at Burmith Ave.	2
12 A-60036	7 Accident on Mount Holly Rd at Mt Holly—Huntersville Rd.	2
13 A-60036	B Accident on NC-115 Old Statesville Rd at Independence Hill Rd.	2
14 A-60036	9 Left lane blocked due to accident on I-85 Northbound at Little Rock Rd.	3
15 A-60037	D Lane blocked due to accident on NC-87 both ways at Vance St Ext.	2
16 A-60037	Accident on Mckee Rd at NC-16 Providence Rd.	2
17 A-60037	Accident on NC-49 Tryon St at Orchard Cir.	2
18 A-60037	Accident on Little Rock Rd at I-85 .	2
19 A-60037	4 Accident on NC-24 Wt Harris Blvd at I-77 Exit 18.	2
0 A-60037	Accident on US-521 Johnston Rd Northbound at Marvin Rd.	2
21 A-60037	Accident on Mystic Quartz Ln at Obsidian Dr.	2
22 A-60037	7 Accident on NC-160 Steele Creek Rd at Westinghouse Blvd.	2
23 A-60037	B Accident on Caldwell St at I-277.	2

3.4 Time

```
CREATE TABLE "FANGYUAN"."US_ACCIDENT_TIME"(
"ID" VARCHAR2(26 BYTE),
"START_TIME" VARCHAR2(26 BYTE),
"TIMEZONE" VARCHAR2(26 BYTE),
PRIMARY KEY("ID")
)
```

				♦ NULLABLE	DATA_DEFAULT	COLUMN_ID
1	ID	VARCHAR2(26	BYTE)	Yes	(null)	1 (null)
2	START_TIME	VARCHAR2(26	BYTE)	Yes	(null)	2 (null)
3	TIMEZONE	VARCHAR2(26	BYTE)	Yes	(null)	3 (null)

	∯ ID		E	∜ TIMEZONE
1	A-600706	10/21/2019	6:35	US/Eastern
2	A-600707	10/21/2019	6:33	US/Eastern
3	A-600708	10/21/2019	6:37	US/Eastern
4	A-600709	10/21/2019	6:37	US/Eastern
5	A-600710	10/21/2019	6:36	US/Eastern
6	A-600711	10/21/2019	6:49	US/Eastern
7	A-600712	10/21/2019	6:53	US/Eastern
8	A-600713	10/21/2019	6:54	US/Eastern
9	A-600714	10/21/2019	6:55	US/Eastern
10	A-600715	10/21/2019	6:56	US/Eastern
11	A-600716	10/21/2019	6:57	US/Eastern
12	A-600717	10/21/2019	6:59	US/Eastern
13	A-600718	10/21/2019	6:57	US/Eastern
14	A-600719	10/21/2019	7:01	US/Eastern
15	A-600720	10/21/2019	7:02	US/Eastern
16	A-600721	10/21/2019	7:05	US/Eastern
17	A-600722	10/21/2019	7:07	US/Eastern
18	A-600723	10/21/2019	7:07	US/Eastern
19	A-600724	10/21/2019	7:10	US/Eastern
20	A-600725	10/21/2019	7:10	US/Eastern
21	A-600726	10/21/2019	7:10	US/Eastern

3.5 Weather

```
CREATE TABLE "FANGYUAN"."US_ACCIDENT_WEATHER"(
"ID" VARCHAR2(26 BYTE),
"WEATHER_TEMPERATURE" VARCHAR2(26 BYTE),
"WEATHER_HUMIDIT" VARCHAR2(26 BYTE),
"WEATHER_VISIBILITY" VARCHAR2(26 BYTE),
"WEATHER_PRECIPITATION" VARCHAR2(26 BYTE),
PRIMARY KEY("ID")
```

		⊕ NULLABLE	DATA_DEFAULT	COLUMN_ID ⊕ COMMENTS
1 ID	VARCHAR2(26 BYTE)	Yes	(null)	1 (null)
2 WEATHER_TEMPERATURE	VARCHAR2(26 BYTE)	Yes	(null)	2 (null)
3 WEATHER_HUMIDIT	VARCHAR2(26 BYTE)	Yes	(null)	3 (null)
4 WEATHER_VISIBILITY	VARCHAR2(26 BYTE)	Yes	(null)	4 (null)
5 WEATHER_PRECIPITATION	VARCHAR2(26 BYTE)	Yes	(null)	5 (null)

	∯ ID				
1	A-601154	50	87	10	0
2	A-601155	50	87	10	0
3	A-601156	46	100	7	0
4	A-601157	48	86	10	0
5	A-601158	48	86	10	0
6	A-601159	50	74	10	0
7	A-601160	50	68	10	0
8	A-601161	47	71	10	0
9	A-601162	46	73	10	0
10	A-601163	49	66	10	0
11	A-601164	53	57	10	0
12	A-601165	53	59	10	0
13	A-601166	55	55	10	0
14	A-601167	55	55	10	0
15	A-601168	55	55	10	0
16	A-601169	50	61	10	0
17	A-601170	53	89	7	0
18	A-601171	50	87	7	0
19	A-601172	54	83	10	0
20	A-601173	54	82	10	0
21	A-601174	54	82	10	0
22	A-601175	55	80	10	0
23	A-601176	55	80	10	0

3.6 Accident_Information

```
CREATE TABLE "FANGYUAN"."US_ACCIDENT_INFO"(
"ID" VARCHAR2(26 BYTE),
"SEVERITY" NUMBER(38,0),
"TIME" VARCHAR2(26 BYTE),
"STREET" VARCHAR2(128 BYTE),
"CITY" VARCHAR2(4000 BYTE),
"STATE" VARCHAR2(26 BYTE),
PRIMARY KEY("ID")
)
```

COLUMN_NA	ME DATA_TYPE		DATA_DEFAULT	⊕ COLUMN_ID ⊕ COMMENTS
1 ID	VARCHAR2(26 BYTE)	Yes	(null)	1 (null)
2 SEVERITY	NUMBER(38,0)	Yes	(null)	2 (null)
3 TIME	VARCHAR2(26 BYTE)	Yes	(null)	3 (null)
4 STREET	VARCHAR2(128 BYTE)	Yes	(null)	4 (null)
5 CITY	VARCHAR2(4000 BYTE) Yes	(null)	5 (null)
6 STATE	VARCHAR2(26 BYTE)	Yes	(null)	6 (null)

	∯ ID	SEVERITY & TIME			⊕ CITY	♦ STATE
1	A-600497	2 10/21/2019	11:49	E Millbrook Rd	Raleigh	NC
2	A-600498	2 10/21/2019	11:56	N Dawson St	Raleigh	NC
3	A-600499	2 10/21/2019	11:59	Toyota Dr	Raleigh	NC
4	A-600500	2 10/21/2019	12:32	N Dawson St	Raleigh	NC
5	A-600501	2 10/21/2019	12:33	Gorman St	Raleigh	NC
6	A-600502	2 10/21/2019	12:47	W Noble St	Selma	NC
7	A-600503	2 10/21/2019	12:53	E Six Forks Rd	Raleigh	NC
8	A-600504	2 10/21/2019	12:58	N Market Dr	Raleigh	NC
9	A-600505	2 10/21/2019	13:26	Rolesville Byp	Rolesville	NC
10	A-600506	2 10/21/2019	13:30	Lake Boone Trl	Raleigh	NC
11	A-600507	2 10/21/2019	13:45	Fayetteville Rd	Raleigh	NC
12	A-600508	2 10/21/2019	13:49	Golf Course Dr	Raleigh	NC
13	A-600509	2 10/21/2019	13:59	Atlantic Ave	Raleigh	NC
14	A-600510	2 10/21/2019	14:15	Olympia Dr	Raleigh	NC
15	A-600511	2 10/21/2019	14:37	Hillsborough St	Raleigh	NC
16	A-600512	2 10/21/2019	14:42	Hoyle Dr	Raleigh	NC
17	A-600513	2 10/21/2019	14:42	Spring Forest Rd	Raleigh	NC
18	A-600514	2 10/21/2019	14:50	W Park Dr	Raleigh	NC
19	A-600515	2 10/21/2019	14:54	Glenwood Ave	Raleigh	NC
20	A-600516	2 10/21/2019	15:14	Poole Rd	Raleigh	NC
21	A-600517	2 10/21/2019	15:14	Arlington St	Raleigh	NC
22	A-600518	3 10/21/2019	15:16	I-64 E	Norfolk	VA
23	A-600519	2 10/21/2019	15:35	Chapanoke Rd	Raleigh	NC

3.7 User

CREATE TABLE "FANGYUAN"."USER_INFORMATION"(
"ID" VARCHAR2(20 BYTE) NOT NULL ENABLE,
"PASSWORD" VARCHAR2(20 BYTE) NOT NULL ENABLE
)

	\$ COLUMN_NAME			♦ NULLABLE	DATA_DEFAULT	COLUMN_ID COMMENTS
1	ID	VARCHAR2(20 E	BYTE)	No	(null)	1 (null)
2	PASSWORD	VARCHAR2(20 E	BYTE)	No	(null)	2 (null)