Group 118
Chen Xue, Zhengzhi Qi
06/05/22

Project Step 6 Final - Vaccination DB

URL: http://flip1.engr.oregonstate.edu:9466

Summary

Project begin:

1. According to instructors feedback, we added Inventories as a connecting table between Institutions and Vaccines. In this way, vaccinceID as FK in Institutions and institutionID as FK in Vaccines are not necessary any more. So both FKs are deleted from these tables and added to Inventories.
2. Based on peer review, we added a description about database attribution to clarify the purpose of the database.
3. We accepted a suggestion from peer review and updated residentAge to birthDate in entity Resident for avoiding the age data updates every year.
4. We decided to update the Entity-Relationship Diagram based on the new connecting table.

Create tables and sample data test:

1. We are convinced that adding ON CASCADE for the deletion of related data is necessary after getting the feedback from peer review.
2. We deleted the unnecessary FK recordID in table Residents because we thought the Records entity should be the core of this project.
3. We deleted availableInstitution in table Vaccines because we found it is absolutely useless after we understood the concept of M:N relationship.

Prototype of HTML UI and data manipulation:

1. Improved UI, thanks to peer review.
2. Based on peer review, an insertion function is added which allows the user to INSERT a new inventory to the Inventories table.
3. We started to implement a NULLable relationship.
4. FKs and ON CASCADE are added in Inventories. Due to the wrong implementation of the M:N connecting table (Inventories) before.
5. We fixed the UPDATE function for Records because our previous thought about data update is wrong.

CURD implementation:

1. According to the advice from the instructor, we re-implemented DELETE for M:N relationship between Institutions and Vaccines.
2. We accepted feedback from peer review, and we replaced INSERT FKs by using drop down button operation.

Project Outline and Database Outline, ERD Schema & Sample Data Final Version

Team members

Chen Xue, Zhengzhi Qi

Project title

Vaccination DB

Overview

Vaccination DB is a database that records local vaccination information. It is a database created jointly by local institutions and used to provide residents with clearer information about vaccines. In this neighborhood, there are 1300 residents, 8 vaccination institutions, and 21 vaccines. This also means that up to 30,000 vaccination records need to be stored. A database-driven website will provide basic information on vaccines and vaccination institutions. It will also store basic resident information and vaccination records.

A total of 4 basic entities will be created in the database, including Residents, Vaccines, Institutions, and Records. Each of these entities, according to their names, will be reasonable for recording the corresponding data. The connection table Inventories connecting two entities as an adjunct to the M:N relationship for vaccines and institutions.

Database Outline

Residents: information of residents, including names, dates of birth and medical histories.
1:M relationship between Residents and Records, with residentID as FK inside Records

- residentID: INT, unique, auto increment, not NULL, PK
- residentName: varchar(45), not NULL
- birthDate: DATE, not NULL
- allergyHistory: varchar(225)
- diseaseHistory: varchar(225)

Vaccines: information of vaccines, including types, uses and manufacturers.
1:1 relationship between Vaccines and Records, with vaccineID as FK inside Records
M:N relationship between Vaccines and Institutions, with a connecting table Inventories which takes as FK

- vaccineID: INT, unique, auto increment, not NULL, PK
- targetDisease: varchar(45), not NULL
- vaccineType: varchar(45), not NULL
- vaccineManufacturer: varchar(45), not NULL

Institutions: information of institutions, including name and properties.
M:N relationship between Institutions and Vaccines, with a connecting table Inventories which takes vaccineID as FK
1:M relationship between Institutions and Records, with institutionID as FK inside Records

- institutionID: INT, unique, auto increment, not NULL, PK
- institutionName: varchar(45), not NULL
- publicInstitution: BOOLEAN, not NULL

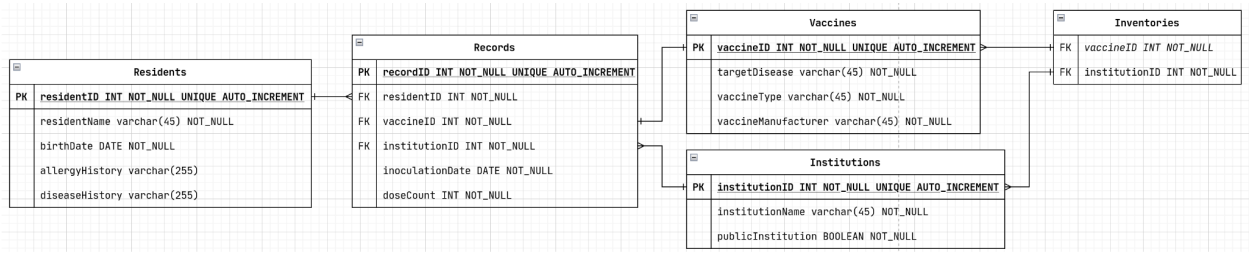
Records: records of inoculation.
M:1 relationship between Records and Residents, with residentID as FK inside Records
1:1 relationship between Records and Vaccines, with vaccineID as FK inside Records
M:1 relationship between Records and Institutions, with institutionID as FK inside Records

- recordID: INT, unique, auto increment, not NULL, PK
- residentID: INT, not NULL, FK
- vaccineID: INT, not NULL, FK
- institutionID: INT, not NULL, FK
- inoculationDate: DATE, not NULL
- doseCount: INT, not NULL

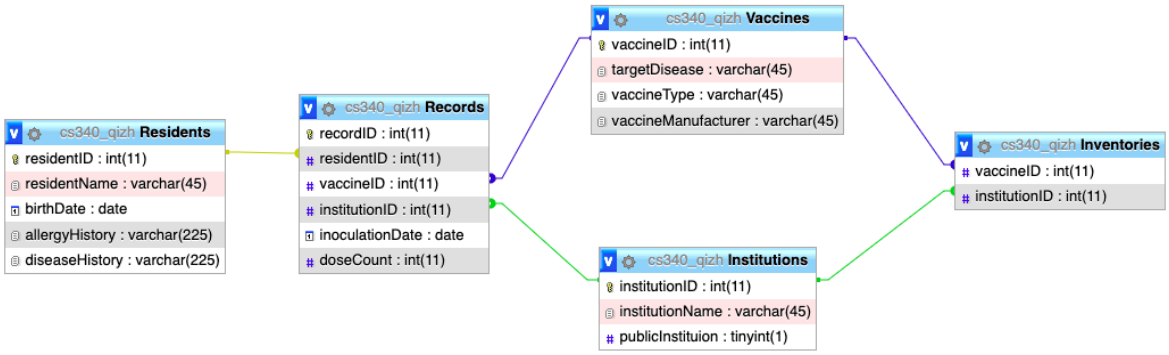
Inventories: Connecting Table for Institutions & Vaccines
1:M relationship between inventories and Institutions, with institutionID as FK inside inventories
1:M relationship between inventories and Vaccines, with vaccineID as FK inside inventories

- institutionID: INT, not NULL, FK
- vaccineID: INT, not NULL, FK

ERD



Schema



Sample Data

Residents

residentID	residentName	birthDate	allergyHistory	diseaseHistory
1	Pihla Amilcare	2000-01-02	NULL	NULL
2	Nadezhda Gadise	1943-04-29	Amoxicillin	Hip fracture
3	Amar Klaas	1983-11-11	Cephalosporin	Type II diabete

Vaccines

vaccineID	targetDisease	vaccineType	vaccineManufacturer
1	Varicella	Inactivated	Merck
2	Typhoid	Inactivated	PaxVax
3	Tetanus, (reduced) Diphtheria, (reduced) Pertussis	Inactivated	Sanofi
4	Tetanus, (reduced) Diphtheria, (reduced) Pertussis	Inactivated	Merck
5	Tetanus, (reduced) Diphtheria, (reduced) Pertussis	Inactivated	PaxVax

Institutions

institutionID	institutionName	publicInstitution
1	YouNameIt	Yes
2	Whatever	Yes
3	Okay	No

Records

record ID	resident Name	targetDisease	vaccineManufacturer	institution Name	inoculationDate	doseCount
1	Amar Klaas	Tetanus, (reduced) Diphtheria, (reduced) Pertussis	Sanofi	Okay	2001-02-03	2
2	Nadezhda Gadise	Varicella	Merck	Whatever	2022-04-28	1
3	Pihla Amilcare	Typhoid	PaxVax	YouNameIt	1988-05-11	1

Inventories

institutionID	institutionName	vaccinceID	targetDisease	vaccineManufacturer
1	YouNameIt	2	Typhoid	PaxVax
2	Whatever	1	Varicella	Merck
3	Okay	3	Tetanus, (reduced) Diphtheria, (reduced) Pertussis	Sanofi

UI Screen Shots

HomePage

Welcome to Vaccines DB

View the information of

「Residents | Vaccines | Institutions | Records」

OR

Increase/Decrease Inventories

Function Descriptions

Total number of entities: 5

Create Function: Residents, Vaccines, Institutions, Records, Inventories

Read Function: Residents, Vaccines, Institutions, Records, Inventories

Update Function: Inventories, Records

Delete Function: Inventories

NULLable relationship: institutionName for edit_records

Dynamic: Dropdown boxes for edit_records and edit_inventories

READ/BROWSE/DISPLAY Residents page

CREATE/INSERT/ADD NEW Residents page

Residents

residentID	residentName	birthDate	allergyHistory	diseaseHistory
1	Pihla Amilcare	2000-01-02	None	None
2	Nadezhda Gadise	1943-04-29	Amoxicillin	Hip fracture
3	Amar Klaas	1983-11-11	Cephalosporin	Type II diabete
4	test	2000-01-01	none	none
5		2000-01-01	None	None
6	Dog	2000-01-02	None	None

Add a new resident

Tips: Allergy & Disease history are *NULLable*

Name | Date of birth Jan 1, 2000 | Allergy history | Disease history

Submit Cancel

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READ/BROWSE/DISPLAY Vaccines page

CREATE/INSERT/ADD NEW Vaccines page

Vaccines

vaccineID	targetDisease	vaccineType	vaccineManufacturer
1	Varicella	Inactivated	Merck
2	Typhoid	Inactivated	PaxVax
3	Tetanus, (reduced) Diphtheria, (reduced) Pert	Inactivated	Sanofi
4	Tetanus, (reduced) Diphtheria, (reduced) Pert	Inactivated	Merck
5	Tetanus, (reduced) Diphtheria, (reduced) Pert	Inactivated	PaxVax

Add a new vaccine

Target Disease [ ] Type [ ] Manufacturer [ ]

Submit Cancel

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READ/BROWSE/DISPLAY Institutions page

CREATE/INSERT/ADD NEW Institutions page

Institutions

institutionID	institutionName	Public
1	YouNameIt	Yes
2	Whatever	Yes
3	Okay	No

Add an institution

Institution Name [ ] Public Yes

Submit Cancel

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READ/BROWSE/DISPLAY Records page

CREATE/INSERT/ADD NEW Records page

Records

recordID	residentName	targetDisease	vaccineManufacturer	institutionName	inoculationDate	doseCount	
1	Amar Klaas	Tetanus, (reduced) Diphtheria, (reduced) Pert	Sanofi	Okay	2001-02-03	2	Edit
2	Nadezhda Gadise	Varicella	Merck	Whatever	2022-04-28	1	Edit
8	Pihla Amilcare	Typhoid	PaxVax	YouNameIt	1988-05-11	1	Edit
10	Amar Klaas	Tetanus, (reduced) Diphtheria, (reduced) Pert	Merck	NULL	2000-01-01	0	Edit

Add a new record

Tips: Please note the relationship between the *target disease* and the vaccine *manufacturer*; entering a mismatched relationship will result in an error. You can refer to the table below, or you can add new vaccines in the corresponding page.

Resident Name Vaccine Tetanus, (reduced) Diphtheria, (reduced) Pert Vaccine Manufacturer Merck Institution Name NULL Date Jan 1, 2000 Dose count 0

Submit Cancel

Back to HomePage

Presence of vaccines

targetDisease	vaccineManufacturer
Tetanus, (reduced) Diphtheria, (reduced) Pert	Sanofi
Tetanus, (reduced) Diphtheria, (reduced) Pert	Merck
Tetanus, (reduced) Diphtheria, (reduced) Pert	PaxVax
Typhoid	PaxVax
Varicella	Merck

UPDATE Records page

Current Information

recordID	residentName	targetDisease	vaccineManufacturer	institutionName	inoculationDate	doseCount
1	Amar Klaas	Tetanus, (reduced) Diphtheria, (reduced) Pert	Sanofi	Okay	2001-02-03	2

Update Record

Tips: Please note the relationship between the target disease and the vaccine manufacturer; entering a mismatched relationship will result in an error. You can refer to the table below, or you can add new vaccines in the corresponding page.

Resident Name Amar Klaas Vaccine Tetanus, (reduced) Diphtheria, (reduced) Pert Vaccine Manufacturer Sanofi Institution Name Okay Date Jan 1, 2000 Dose count 0

Submit Cancel

Back to Records

Presence of vaccines

targetDisease	vaccineManufacturer
Tetanus, (reduced) Diphtheria, (reduced) Pert	Sanofi
Tetanus, (reduced) Diphtheria, (reduced) Pert	Merck
Tetanus, (reduced) Diphtheria, (reduced) Pert	PaxVax
Typhoid	PaxVax
Varicella	Merck

READ/BROWSE/DISPLAY Inventories page

CREATE/INSERT/ADD NEW Inventories page

DELETE Inventories page

Inventories

institutionID	institutionName	vaccineID	targetDisease	vaccineManufacturer		
1	YouNameIt	2	Typhoid	PaxVax	Edit	Delete
2	Whatever	1	Varicella	Merck	Edit	Delete
3	Okay	3	Tetanus, (reduced) Diphtheria, (reduced) Pert	Sanofi	Edit	Delete
3	Okay	2	Typhoid	PaxVax	Edit	Delete
0	NULL	4	Tetanus, (reduced) Diphtheria, (reduced) Pert	Merck	Edit	Delete
0	NULL	5	Tetanus, (reduced) Diphtheria, (reduced) Pert	PaxVax	Edit	Delete

Add an inventory

Tips: Please note the relationship between the target disease and the vaccine manufacturer; entering a mismatched relationship will result in an error. You can refer to the table below, or you can add new vaccines in the corresponding page.

Institution Name NULL Vaccine Tetanus, (reduced) Diphtheria, (reduced) Pert Vaccine Manufacturer Merck

Submit Cancel

Back to HomePage

Presence of vaccines

targetDisease	vaccineManufacturer
Tetanus, (reduced) Diphtheria, (reduced) Pert	Sanofi
Tetanus, (reduced) Diphtheria, (reduced) Pert	Merck
Tetanus, (reduced) Diphtheria, (reduced) Pert	PaxVax
Typhoid	PaxVax
Varicella	Merck

UPDATE Inventories page

Current Information

institutionID	institutionName	vaccineID	targetDisease	vaccineManufacturer
1	YouNameIt	2	Typhoid	PaxVax

Update Inventory

Tips: Please note the relationship between the target disease and the vaccine manufacturer; entering a mismatched relationship will result in an error. You can refer to the table below, or you can add new vaccines in the corresponding page.

Institution Name YouNameIt Vaccine Typhoid Vaccine Manufacturer PaxVax

Submit Cancel

Back to Inventories

Presence of vaccines

targetDisease	vaccineManufacturer
Tetanus, (reduced) Diphtheria, (reduced) Pert	Sanofi
Tetanus, (reduced) Diphtheria, (reduced) Pert	Merck
Tetanus, (reduced) Diphtheria, (reduced) Pert	PaxVax
Typhoid	PaxVax
Varicella	Merck