Final Exam

1. Design the third normal form of a relational database

1. Participate Table:

ParticipateID: Primary key, auto-incremented integer to uniquely identify each participation record.

MarathonID: Foreign key referencing the MarathonID in the Marathon table, linking each participation to a specific marathon.

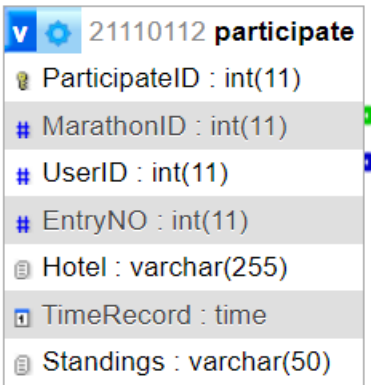
UserID: Foreign key referencing the UserID in the User table, linking each participation to a specific user.

EntryNO: Integer representing the entry number of the participant.

Hotel: VARCHAR(255) for storing information about the hotel the participant is associated with.

TimeRecord: TIME data type for recording the time of the participant.

Standings: VARCHAR(50) for storing the standings or position of the participant.

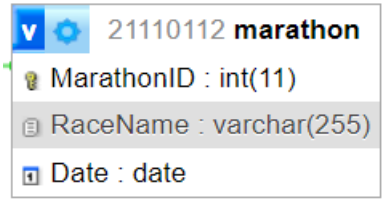


2. Marathon Table:

MarathonID: Primary key, auto-incremented integer to uniquely identify each marathon.

RaceName: VARCHAR(255) for storing the name of the marathon race.

Date: DATE data type for recording the date of the marathon.



3. User Table:

UserID: Primary key, auto-incremented integer to uniquely identify each user.

Name: VARCHAR(255) for storing the name of the user.

BestRecord: VARCHAR(255) for storing the best record of the user.

Nationality: VARCHAR(255) for storing the nationality of the user.

PassportNO: VARCHAR(255) for storing the passport number of the user.

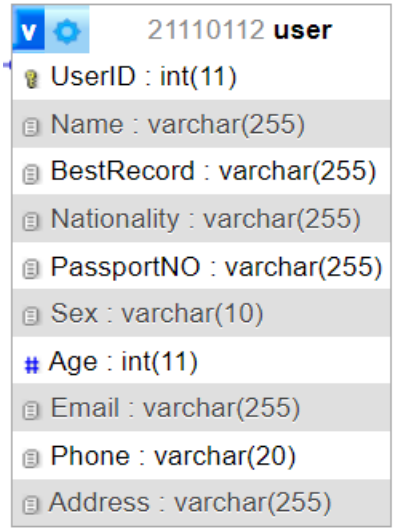
Sex: VARCHAR(10) for storing the gender of the user.

Age: Integer for storing the age of the user.

Email: VARCHAR(255) for storing the email address of the user.

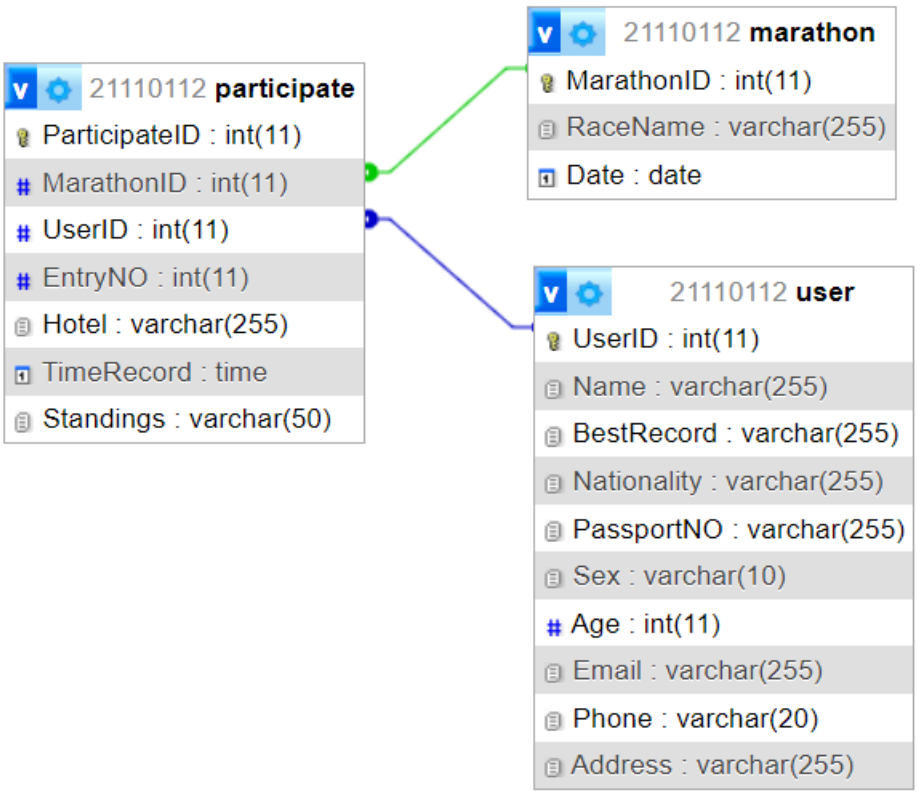
Phone: VARCHAR(20) for storing the phone number of the user.

Address: VARCHAR(255) for storing the address of the user.



Foreign Key Relationships:

The Participate table has foreign key relationships with the Marathon and User tables. This ensures that the MarathonID and UserID values in the Participate table correspond to existing entries in the Marathon and User tables, respectively.



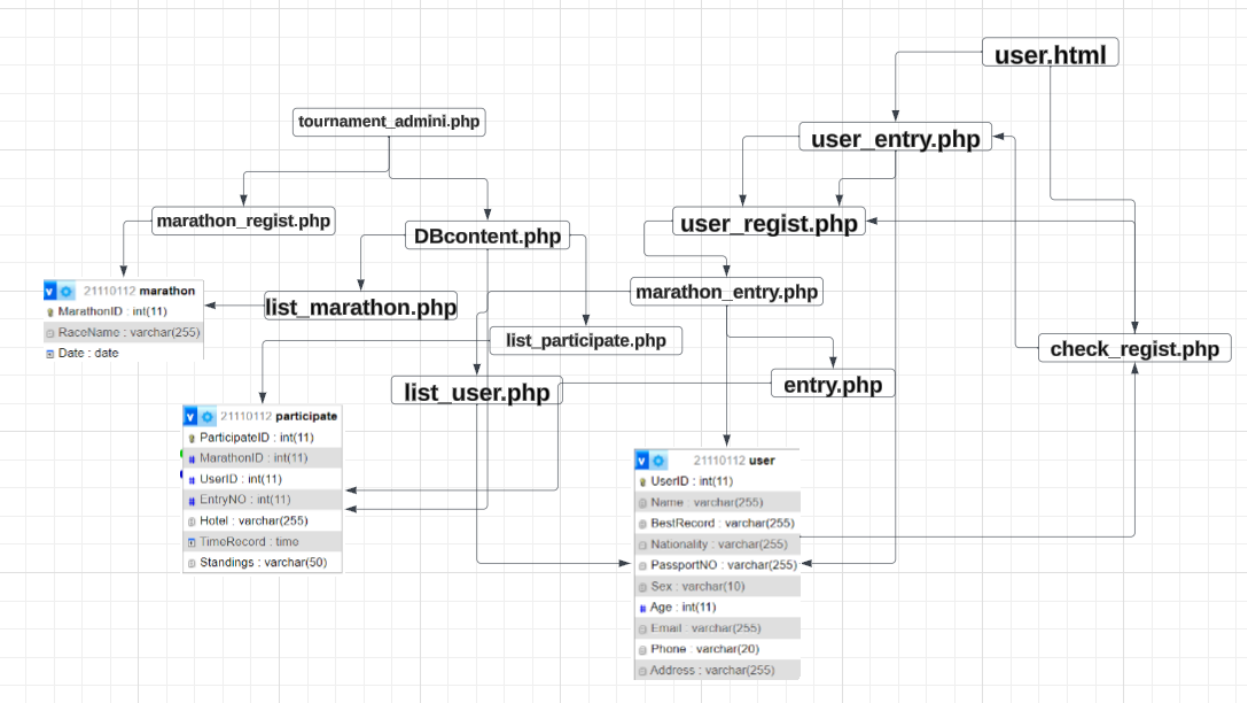
Analysis:

This database design allows you to track participation in marathons, associating each participation with a specific marathon and user. The Participate table stores additional details such as entry number, hotel information, time record, and standings.

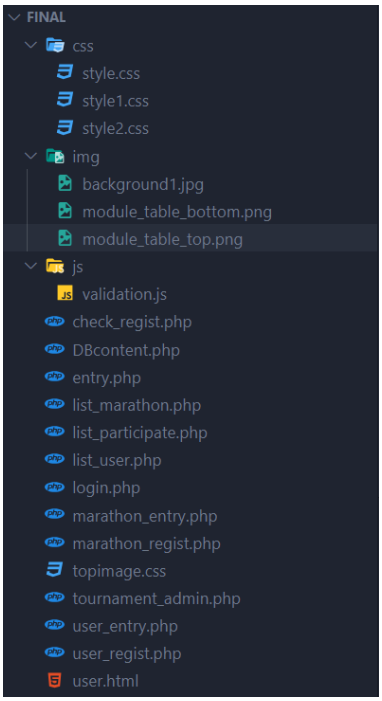
The Marathon table stores information about each marathon, including the race name and date.

The User table stores information about each user, including personal details such as name, best record, nationality, passport number, sex, age, email, phone, and address.

2. Design a system architecture



Project file :



Database :

1. marathon:

	MarathonID	RaceName	Date
Sửa Chép Xóa bỏ	1	Ha Noi	0000-00-00
Sửa Chép Xóa bỏ	2	Sai Gon	2023-12-14
Sửa Chép Xóa bỏ	3	Hue	2023-12-14
Sửa Chép Xóa bỏ	4	Da Nang	2023-12-15
Sửa Chép Xóa bỏ	5	Khanh Hoa	2023-12-14

Participate:

	ParticipateID	MarathonID	UserID	EntryNO	Hotel	TimeRecord	Standings
Sửa Chép Xóa bỏ	2	1	2	1	Hue	01:23:44	1
Sửa Chép Xóa bỏ	3	1	3	2	Song Da	01:23:44	2
Sửa Chép Xóa bỏ	4	1	6	5	Nghe An	00:00:00	4
Sửa Chép Xóa bỏ	5	3	7	3	Hue	01:23:23	2
Sửa Chép Xóa bỏ	6	1	8	3		00:00:00	3
Sửa Chép Xóa bỏ	7	1	8	3	DA NANG	01:23:11	3
Sửa Chép Xóa bỏ	8	3	15	7	Hue	01:23:23	6
Sửa Chép Xóa bỏ	9	4	16	7	Song Da	01:23:11	5

User:

	UserID	Name	BestRecord	Nationality	PassportNO	Sex	Age	Email	Phone	Address
Sửa Chép Xóa bỏ	1	Viet	02:33:42	Viet Nam	1322222	male	20	lophocvetranh@gmail.com	0869786290	hung yen
Sửa Chép Xóa bỏ	2	Khai		Korea	1322222	male	34	annietom410@gmail.com	086978629066	Hue
Sửa Chép Xóa bỏ	3	Long	02:33:42	Viet Nam	13223222	male	20	lophocvetranh@gmail.com	0869786290	Sai Gon
Sửa Chép Xóa bỏ	4	Kien	02:33:46	Korea	13223	male	20	lophocvetranh@gmail.com	08697862903	Da Nang
Sửa Chép Xóa bỏ	5	Kien	01:23:44	Viet Nam	1322222	male	34	chutuanviet11a1dqh@gmail.com	0869786290	Hai Duong
Sửa Chép Xóa bỏ	6	Kien	01:23:44	Viet Nam	1322222	male	34	chutuanviet11a1dqh@gmail.com	0869786290	Hai Duong
Sửa Chép Xóa bỏ	7	Bao	01:23:23	Japan	1223	male	45	dodudodu1985@gmail.com	0869786290	Binh Duong
Sửa Chép Xóa bỏ	8	Duy	01:23:12	China	13123	male	34	dodudodu1986@gmail.com	0869786290	Khanh Hoa

Demo:

HaNoi International Marathon

Register | Check registration | Tournament Admin