Programming Assignment 2 Report

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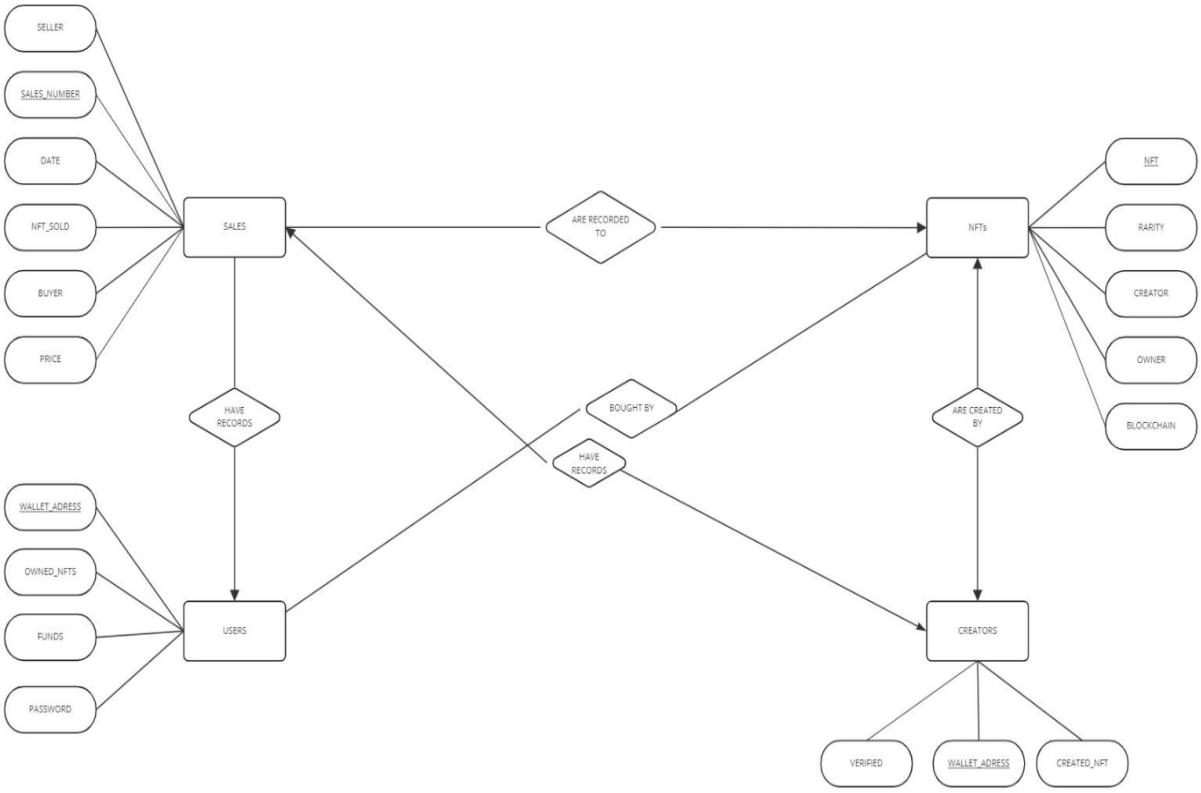
1. Project Idea

My idea was to present an NFT database where different nfts, their creators, owners and the sales are stored. Nfts are basically pixelated art which are identical to one another and can be sold and obtained by different users on different platforms, sort of marketplaces. My database is a sort of a database for such marketplace where all of the information about the users and the NFTs is collected. This data can be used, modified and extracted. In specific ways provided in the python file.

2. Schema Design



Sales holds sale_number as its Primary key. Seller and Owner are foreign keys of Users. Primary key for Users is the Wallet_Address and its foreign key Owned_NFTS is the primary key for NFTs. NFTs are bought by the Users and Created by the Creators. The Primary key in Creators is the Wallet_Address. NFTs and Sales are closely related because the

information on NFTs is constantly changing and updating parallel to Sales. That can be said also for the user where their Owned_NFts(Foreign Key) are changing corresponding to sales which the users have made.

3. SQL Queries

```
Q1 ="SELECT nft FROM nfts"
```

where the nft presents the name of the NFT, it is also a collection name because only one nft is made from that collection and the name is itself. This query presents all of the NFTs in our marketplace database, that have been stored or sold in a way.

```
Q2 ='SELECT nft, owner from nfts WHERE owner={}'.format(wallet)
```

It requires for input which is a valid walletAddress from the database and its purpose is to present the user with the NFTs that the walletAddress holds, for example:
walletAddress from Users *0xf6fbde347428a0bf27bd0fbafd6ce62935edb4c4* is holding the nft with the name *Dose of Art.*

```
Q3 = "SELECT nfts.`nft`, creators.`verified` FROM nfts JOIN creators on
nfts.`creator` = creators.walletAddress WHERE `nfts`.nft =
'{}'".format(nftName)
```

It requires an input which is an NFT name in order to present if the NFT and its creator is verified, what that means is that the creator is well known amongst the community and their creations are not a scam. Some NFTs are not verified, all this information is from table Creators.
The query joins the column creator in table NFTs with the column walletAddress in Creators and presents the output.

```
Q3 = "SELECT AVG(funds) AS averageFunds FROM users"
```

The purpose of this query is to present the average funds of all the users in the marketplace database. The average funds are saved in the variable averageFunds and then printed. Pretty straight forward.

```
Q4 = "SELECT * FROM sales WHERE date={}".format(date)
```

This query presents all of the sales that happened on a specific date. The date is given by input from the user in a format(format example: 7/10/2021). And all the sales on that day are presented.

4. Discussion and Resources

Video demonstration: [https://www.youtube.com/watch?v=CJdG63eW3ew]

Getting the information like wallet addresses was not that hard as they can be randomly generated. I used link [https://www.mockaroo.com/] to generated values for most of the tables.