Another important process on our project is to digitalize the data that the hospital has on paper and be able to convert and make the marge with the new data. For this step we will create a SQL database that can work with five different tables, trying to optimize our storage and as well make faster any kind of research for specific information for the patient or visit type.

A diagram of a computer program

Description automatically generated with medium confidence

After we get the data for what we are scanning, we will process the data through our database the following diagram shows how we will organize the data in 5 different tables, to get a better way of the process and be able to link all the information depending on the scope of the Organization for their data. It is crucial for our database to be able to divide the information and look to reduce any kind of redundancy on our database. This will help us to minimize our investment in storage data.

The second goal in our process is to be able to make a link with the information that the hospital has today to be able to reach this topic, we will use the table (PATIENT\_VISIT) to link the information with the new data that the hospital holds, this table contains five different ways to connect with the most common information for any visit type that a patient can have.

A close-up of a card

Description automatically generated

As we can see in the previous table, will provide a unique number for the patient, which will help us to have unique information(PAT\_ID), we will be able to have a unique number depending on four values that will help us to mitigate any duplication:

* FIRST\_NAME
* LAST\_NAME
* BIRTH\_DATE
* SSN

Another value that will reduce any kind of duplicates in terms of visit type will be (PAT\_ENC\_CSN\_ID), this value is assigned to a patient, depending on what is the purpose of their visit, which the hospital assigns to the patient through the (EVENT\_TYPE\_C\_NAME)

A close-up of a link

Description automatically generated

The third element that will help our project is the value for (ENC\_CSN\_ID) this component will save the information of the Provider that will be reviewing the patient, as well this element is important to be able to identify who was and most of the time linked in specific facilities as well this element needs to be able to create a unique value.

A yellow card with black text

Description automatically generated

The previous table shows, how we store the information related to the Provider, and how we use other columns to be able to create a unique value, in this case, the SSN for the provider as well as the Specialty where he works, and the name.

Finally, just help on the way to identify the facility where the patient receives the treatment we created a table, (DEPARTMENT\_FACILITY)

A yellow card with black text

Description automatically generated

This table helps us to make the link with the patient, provider, and the facility where the patient received the service.

As you can see with these tables we will be able to get the following information that will receive after the scan and as we mentioned we will storage it in different tables looking to optimize our data and also be ready for any kind of special reports from the hospital.

PATIENT\_VISIT

* PAT\_ID
* PAT\_ENC\_CSN\_ID
* CONTACT\_DATE
* ENC\_CSN\_ID
* REFERRAL\_ID

PATIENT

* FIRST\_NAME
* LAST\_NAME
* EMIAL\_ADDRESS
* BIRTH\_DATE
* PAT\_MRN\_ID
* SSN

VISIT TYPE LINK

* EVENT ID
* EVENT\_TYPE\_C\_NAME
* PAT\_ID
* PAT\_ENC\_CSN\_ID

PROVIDER

* ENC\_CSN\_ID
* PROV\_NAME
* SSN
* SPECIALTY

DEPARTMENT FACILITY

* PAT\_ENC\_CSN\_ID
* PAT\_ENC\_DATE\_REAL
* FACILITY\_ID
* ENC\_CSN\_ID