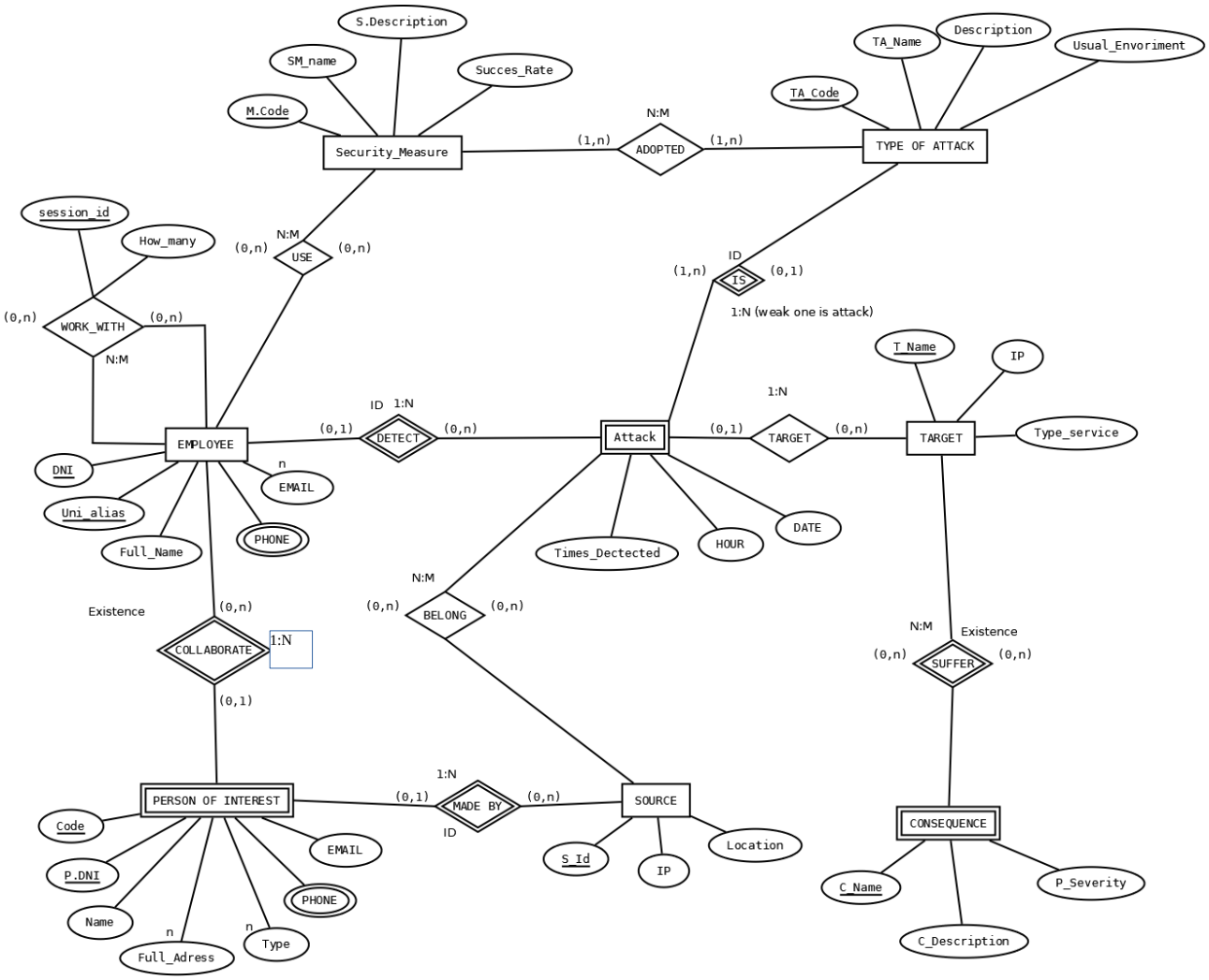
DIAGRAM :



JUSTIFICATIONS

Identity's and attributes:

Employee: I choose 5 attributes, DNI as the primary key, Unique alias(as being unique of each employee it can be primary too), The full name, a phone and an email but this attribute that can have more sub-attributes inside of it thats why a put an “n” inside of email we can have various emails(e1,e2,e3)

Person of interest: I choose 7 atributtes, The Code as the primary key, Person DNI(can be a key as it is unique for every person of interest),The real name, Full address has an “n” inside of this attribute we can have: (Address, CP, location, town), on the attribute Type i put an “n” too because we can have crackers and hackers and we can do a 0 if hacker or 1 if cracker, or put on the domain of the field an H or a C to differentiate both of them as im not good doing specializations I thought it will be more simple to make it like this, Phone and email are other attributes choosed.

Attack: I choose 3 attributes, Times that the attack has been detected , The hour and the date , I didn’t a code as PK because in the explanation say’s that an attack is always identified with the type of attack code so putting a foreign key (TA_Code) on attack.

Security Measure: I choose 4 atrributes, The measure code as PK, the name of the measure a description and a success rate as the text mentions

Type of Attack: I choose 4 attributes, Ta_Code as PK, the name of the type of attack, a description of it and the usual environment that the attack has.

Target: The target name as PK, the IP and the service

Consequences: The name of it as PK, the severity and a little description.

Source: The source ID as PK, the IP and the location.

Relations of the diagram:

Work_With: Here i have a reflexive about employee, an employee can advise X workers to work together or can do it alone(0,n) and the others employee's can choose to not collaborate or do it (0,N) and I made an N:M, if they collaborate we need to know the session ID as the PK of the relation and how many of them where on that session but I don't know if I can put the ID of the employee's as an attribute or just he number of employees.

Detect: Here I put an identification relation as attack as the weak one because we need to know what employee detect that attack every time, an employee can detect various attacks (0,n) but every attack is detected by one employee or not (0,1) and we have a 1:N.

Collaborate: I put that a worker can only work with one hacker at a time (0,1) but on the text doesn't tell me that a hacker cant collaborate with other workers so I put (0,n) and I have here a 1:N(as I don't know if I can put N:1 or its a bad behavior on the schemes I put 1:N). On this relationship we have that employee's can work only with hackers thats and we get on the relation to differentiate with the cracker and as the text say's it has to be an existence relationship because is an employee is dismissed we need to erase all data from the hacker from the system.

Use: We can see that an employee can use multiple measures (0,n) and the measures can be used by many employees at a time (0,n) so I put an N:M

Adopted: In this case as the text says we always have a measure for every type of attack of multiple attacks types so (1,n) and a type of attack can have multiple security measures as we know an attack can have multiple ways of being neutralized(1,n) I put N:M but the minimum participation always is one in this relation.

Is: We have a ID relationship between attack and type of attack as the text says an attack is always a specific type I put (0,1) and the type of attack can contain more than one attack in it or not (0,n) so I put 1,N. Other interpretation can be that a type of attack can contain one attack only and an attack can be one type of attack or not so it will be (0,1)**IS**(0,1) and make 1:1 its other possibility, but always we need to put the Code attack as FK on attack

Target: Here an attack can have multiple targets or not (0,n) but a target always is victim of one attack or not (0,1) I made a 1:N.

Suffer: I put a weak Existence relation because a consequence is ligated to a target and if target dissapears or has not been suffer an attack it cant suffer any consequences(I assumed that if we erase the target data the consequences will we deleted to 'casue no point on save them) yes it possible that an attack has obvious consequences but affects differently to every target in my opinion, the attack can steal info and block services or only block services the intention of every attack is different depending of the target. A target can have multiple consequences or not (0,n) and the same consequences can happen to multiple targets or not(0,n) so here I have an N:M.

Belong: An attack can belong to one or more sources or not (0,n) but a source can be implicated on multiple attacks or not (0,n) so I made N:M, I have doubts of it this relation can be a weak ID or not.

Made BY: Here I put a weak ID as we are going to identify the crackers with a FK on source (Person of interest Code if it is type 1), as the text says a cracker can be part of one or more sources, or not (0,n) and a source always can be made by one cracker or not (0,1) so here I have a 1:N.