



Invention Management

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Problem Statement in short

The objective is to build a database management system to maintain details of various Inventions and the related details of that invention.

Overview:

With the required information, I started off by creating different entities and established various relationships between them like one to one, many to one, many to many, unary, aggregation, total participation, partial participation.

Specifications

I started by creating the Invention entity set which has details of the various invention(s). Next, we created the Inventor entity set with the details of the inventor(s) and these two entity sets are in many-to-many relation with total participation. Next, we created an entity set for Awards with details of all the awards and it has a multi-valued attribute, Category. The award is a unary relation which can be National or International. A many-to-many relationship is established between Awards and Invention with a total participation of Awards to store the details of various nominations for each award and different nomination for the given invention. This entire relationship is aggregated and has a one-to-one relationship with Panel who decides the winner for each award by considering the different nominations for the award. The Panel maintains one-to-many relation with the Jury. We are considering the case that an award can get nominated in its year of invention.

Out of Scope:

I am neglecting the case where an award can be nominated after later years of the invention. I am also neglecting the case where there is no award that can declare a winner without the panel's decision.