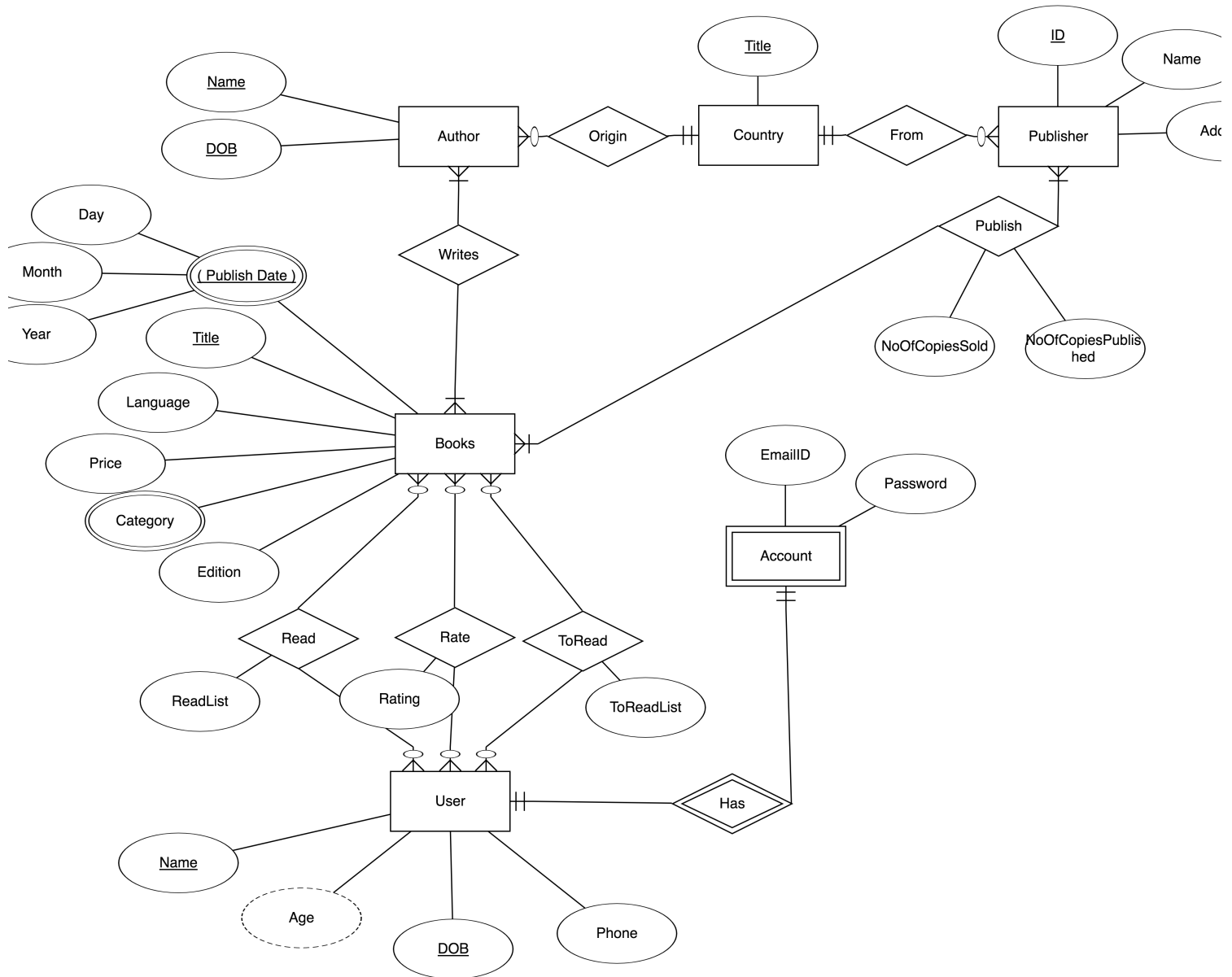# Family Book Management System

The aim of this project is to build a database that allows members to

register, update books they have read, rate them and also update their 'to read' lists. This will allow other family members to look at books with good ratings, check other members' to read list, etc. The idea is to inspire and be inspired to read more books.

The ER diagram consists of 5 strong entities and one weak one:

1. **Books** – This entity contains the set of books posted by everyone. It includes attributes such as Title and PublishDate which former the primary key together. PublishDate is a composite attribute with day, month and year as its attributes. Other attributes include Language, Price, Edition and Category of the book. Category is a multivalued attribute.
2. **Author** – This entity contains the list of authors' of books. It has attributes like Name, Date of Birth of the author.
   This entity shares a <u>write</u> relationship with the Books entity. Each author should have written at least one book (ordinality 1) or many books. And each book in the system must have at least one author (ordinality 1) or many.
3. **Publisher** – This entity contains the list of book publishers. It has attributes like ID (primary key), Name and address of the publishers.
   The Publisher entity has a <u>publish</u> relationship with the Book entity. Every publisher must have had published at least one (cardinality 1) book and at most many books. And each book in the system must have at least one publisher and at most many publishers (for example, Harry potter has been published by scholastic and Bloomsbury).
   This relationship has attributes like number of copies of book published and number of copies sold.
4. **Country** – This entity contains an attribute that has the list of countries. It shares an <u>Origin</u> relationship with the Authors entity. Each author can belong to one and only one country. Hence, ordinality and cardinality is 1. A country can have no authors from it (ordinality 0) or many (cardinality *) authors originating from it.
   The entity Country also shares a <u>from</u> relationship with the entity Author. Each publisher can be from one and only one (total) country. And each Country can have no publishers (ordinality 0) from it or many publishers from it.
5. **User –** The user entity stores information of the family members. It has attributes like Name, Date of birth as primary key. Other attributes include Phone number and age (derived attribute from DOB). Each user also <u>Has An</u> Account. However, this is a weak entity. It has email ID and password as attributes. The user is the identifying entity her. Every user can have one and only one account. An account can have one and only one user.

The User entity shares three relationships with the Book entity:

- The User can <u>read</u> books. This has an attribute called the ReadList with the information of all the books read. Every user in the system can read no books or many books (ordinality 0 and cardinality *). No user or many users can read every Book.
- The User can <u>Rate</u> Books. This has an attribute called Rating. Every user in the system can rate no books or many books (ordinality 0 and cardinality *). No user or many users can rate every Book.
- The user can update <u>ToRead</u> list of books. This has an attribute called ToReadList. Every user in the system can have no books on the to read list or many books (ordinality 0 and cardinality *). No user or many users can have a ToReadList.