Entity Relationship Diagram Final Project

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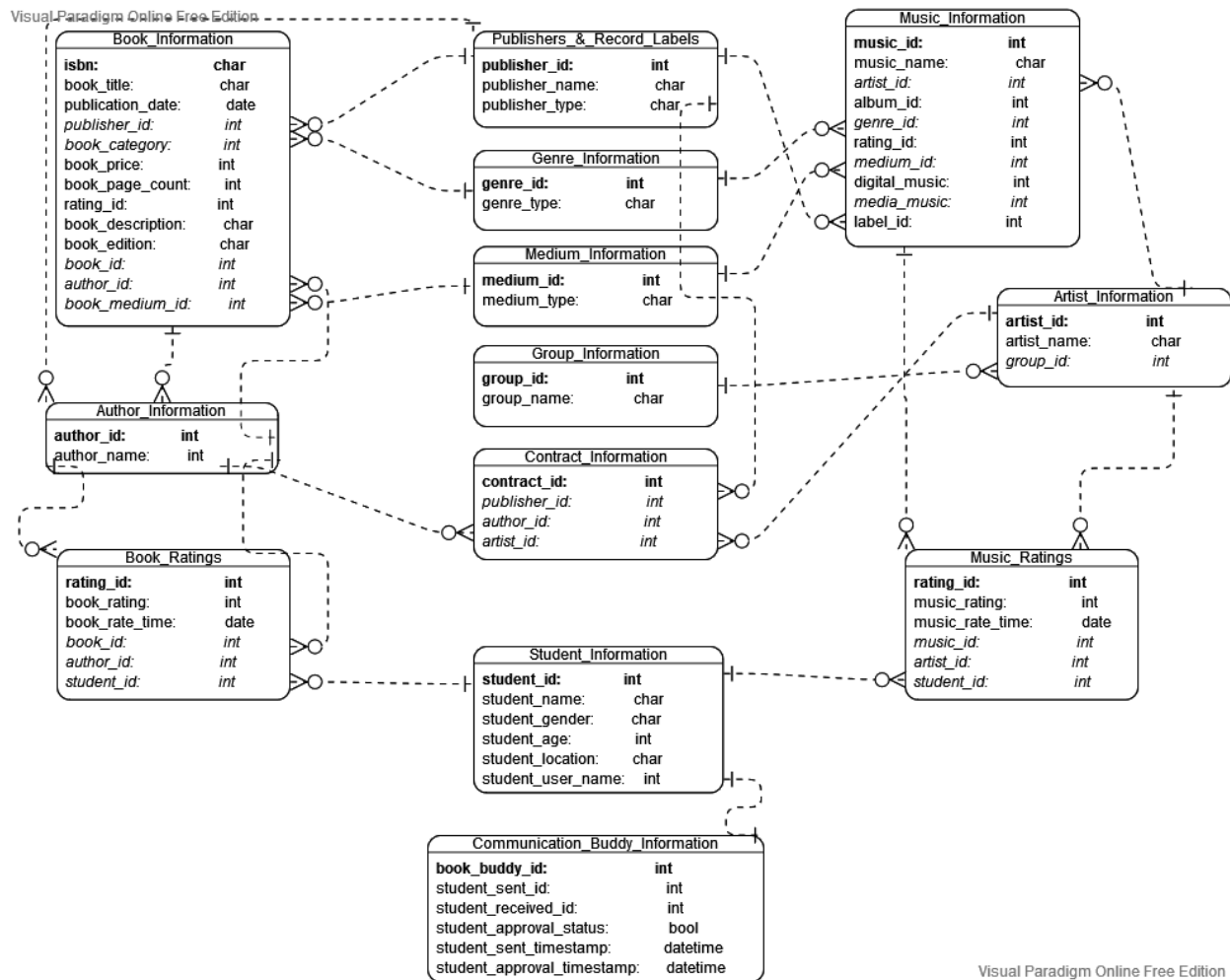University of The Cumberlands

Abstract

The purpose of this assignment and subsequent paper is to implement a prototype database system application/ERD diagram for an eCommerce social-network system called UCOnline. This application allows users to explore information about various books and music, rate their purchases, find prices, and see the ratings of their friends. Included in this paper is an entity relationship diagram and its subsequent systems analysis. This assignment's diagram was created by using Visual Paradigm Online Free Edition.

Keywords: Visual Paradigm, UCOnline, ERD, Database, E-Commerce.

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The Entity Relationship Diagram or ERD is a "conceptual and representational model of data used to represent the entity framework infrastructure."(Techopedia, 2017). The ERD for UCOnline allows us to visually see the structure and flow of information in our prototype database system application. Each header signifies the entity that will be discussed, along with the subsequent attributes/relationships they have.

Below is the ERD for UCOnline.

Music_Information Entity

The "Music_Information" entity contains every music file, whether it is digital, or media based. This entity's primary key is "**music_id**". This entity's foreign keys are "artist_id", "genre_id", "medium_id" (Digital vs Media) and "label_id"(AKA publisher ID).

Book_Information Entity

The "Book_Information" entity contains a lot of information about books for sale. The primary key for this entity is "**isbn**". The foreign keys for this entity are "publisher_id", "book_category" (AKA genre_id), "book_id", "author_id" and "book_medium_id".

Artist_Information Entity

The "Artist_Information" entity contains a list of each artist and their accompanying information. Artists can perform in a group, or solo. An artist who performs solo is signified by having an empty "group_id". This entity's primary key is "**artist_id**". This entity's foreign key is "group_id".

Author_Information Entity

The "Author_Information" entity contains a list of all the authors who wrote the books included. The primary key for this entity is "**author_id**". There is no foreign key in this entity.

Publishers_&_Record_Labels Entity

The "Publishers_&_Record_Labels" entity contains all information regarding record labels and book publications. This takes into account for the ability for a record label to be self-publishing.

Each artist/author is linked to at least one publisher, and the primary key for this entity is "**publisher_id**". There is no foreign key in this entity.

Genre_Information Entity

The "Genre_Information" entity contains additional information about books. This entity's primary key is "**genre_id**". There are no foreign keys in this entity.

Medium_Information Entity

The "Medium_Information" entity, similarly to the previous entity, acts as an auxiliary entity and contains extra information about song format. The primary key for this entity is "**medium_id**". There are no foreign keys in this entity.

Contract_Information Entity

The "Contract_Information" entity contains specific information about contracts between artists and authors. This entity's primary key is "**contract_id**". The foreign keys for this entity are "publisher_id, artist_id" and "author_id". This entity considers for artists/authors who work in more than one record label/publisher.

Communication_Buddy_Information Entity

The "Communication_Buddy_Information" entity contains communication information between soon-to-be buddies and pre-existing buddies. This entity's primary key is "**book_buddy_id**". There are no foreign keys for this entity.

Student_Information Entity

The "Student_Information" entity contains a list of information about students that is used to allow them to rate each product. This entity's primary key is "**student_id**", which is used to identify each student and their unique "student_user_name" each time they post a review. The entity "Student_Information" contains "student_id", "student_name", "student_gender", "student_age", "student_location", and finally "student_user_name.".

Book_Ratings Entity

The "Book_Ratings" entity contains rating information about books. This entity's primary key is "**rating_id**". The foreign keys for this entity are "book_id", "author_id" and "student_id". This entity is significant because it associates students with the books they rate.

Music_Ratings Entity

The "Music_Ratings" entity contains rating information about music. This entity's primary key is "**rating_id**". The foreign keys for this entity are "student_id", "artist_id" and "music_id". This entity is quite like the previous entity, being that it associates students with the music they rate.

Conclusion

The purpose of this assignment was to implement a prototype database system application/ERD diagram for an eCommerce social-network system called UCOnline. Where users are allowed to explore information about various books and music, rate their purchases, find prices of various products, and see the ratings of their friends. An entity relationship diagram was created, and its subsequent systems analysis was written to help paint a descriptive picture about how the database would be structured. This prototype database system would allow administrators to efficiently find data, as well as allow users to explore information about books and music, rate their purchases, and make some friends too.

References

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