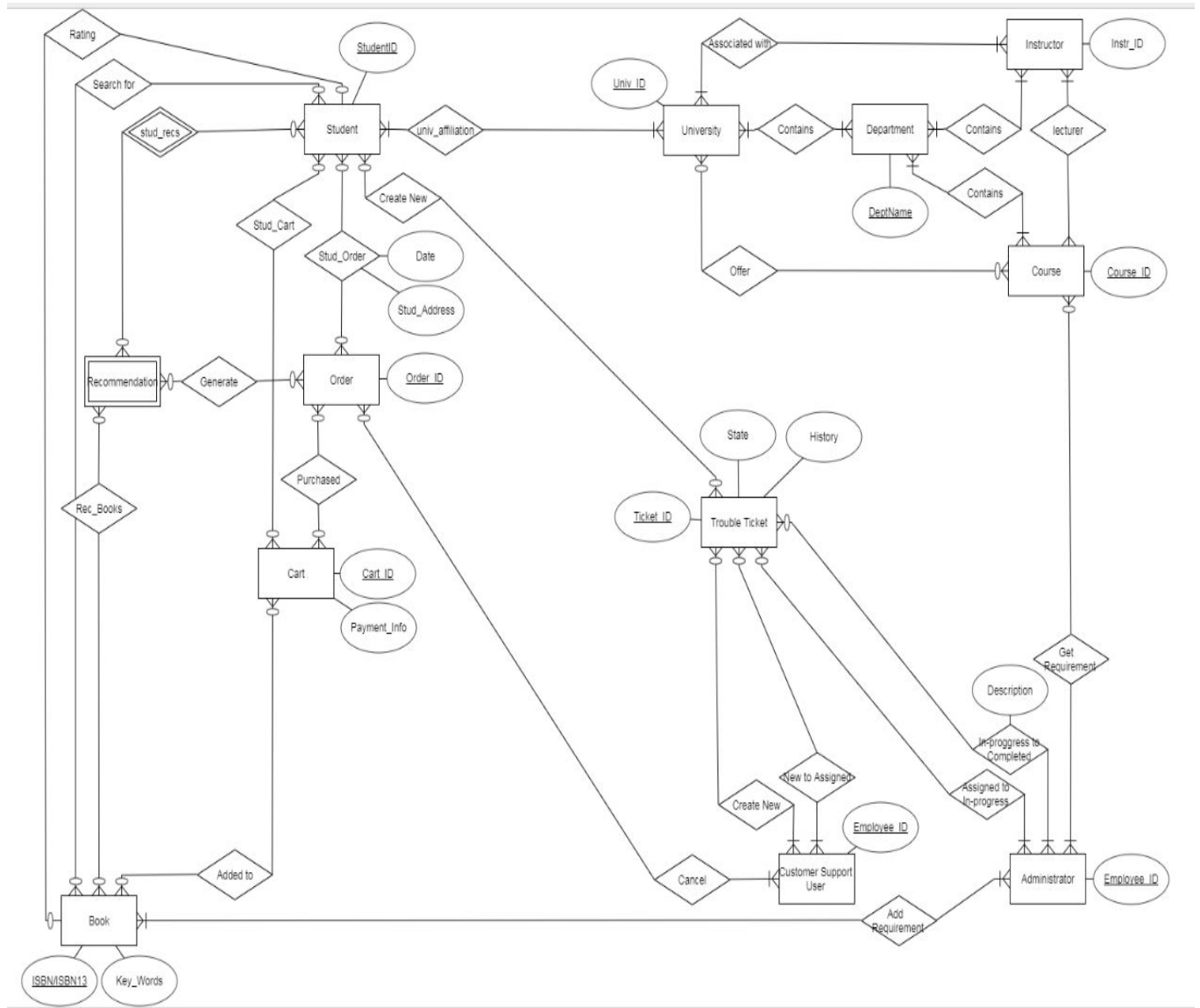


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CMSC 461  
Project Phase 2  
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Here is my ER Diagram for phase 2:



I also included a separate picture in the submission if this is too small to see.

The arrangement of the database was segmented into 3 different pieces. I decided to separate a university side, an employee side, and a store side. This was the only way I found to arrange the ER diagram in such a way that wasn't too confusing. This diagram is also not exactly final since I am really not sure if exactly all of this is exactly correct.

Starting at the top left is the Student entity. The Student entity has the most relations leading out of it because they are what the service is based around. The Student entity shares relationships with Book, Recommendation, Cart, Order, Trouble Ticket, and University. Because of this, the Student entity was placed first in the top left corner, and in close proximity to the store, which is what students will be interacting primarily with.

The line of entities under Student are all for the actual store. The way I like to think about the service is like a "conveyer belt" of sorts. Books are added to cart at the bottom, work their way up to a order and delivered back to the student. Recommendations also move up to the student but branch off from orders since recommendations are based off previous purchases.

On the top right I placed the entities that relate to the University side of the database. It's a pretty standard tree arrangement where University is the root of Department, and Departments have both Instructors and Courses. In between all entities on the University side are appropriate relationships.

In the bottom right are the Employees of Book Fetch Inc which include Administrators and Customer Support Users. They are the upkeep of the service, and are linked to the rest of the database. Administrators are linked to the Course entity for getting requirements and linked to the Book entity for updating those requirements. Customer Service Users are linked to the Orders entity because they may cancel orders. But the main thing that they are linked to is the Trouble Ticket entity.

Trouble Tickets are in the center of the diagram because all users on the Diagram are involved with them. Trouble Tickets are created by the Student or Customer Service User, and are assigned to an Administrator. The state of a Trouble Ticket determines which relation and entity can touch it. Students may only create New tickets. Customer Support Users may only create New tickets, or change the state of a New ticket to Assigned by assigning an Administrator to it. Administrators can only access tickets that are assigned to them, and they can change the state to In-progress or Complete. Trouble tickets will also be able to record their history, though the attributes for doing so are not yet determined.