Madison, Frederick, Graham 10-11-17

# Project 3: Revised ERD

The first and probably biggest change we made to given the ERD a way to track events. In order to track events, we had to add EVENT and SPONSOR tables and associative entity tables like EVENT\_STAFF, EVENT\_SPONSOR, and MEMBER\_EVENT because the library needs a way to keep track of which members, staff, and sponsors are giving to, attending, or running a certain event. By adding events to our ERD, the library has a way to keep track of the events, who is likely to come to the events, and who could potentially sponsor the events. This leads to events being funded, better organized, better tailored and therefore, perhaps better attended. We also use EVENT to track checkouts and check-ins instead of CHECKOUT which makes the ERD a bit more clear, which will help

We also added an INCIDENT table to the ERD. This table gives the library a way to track incident patterns. If patterns are noticed, then the library can make an effort or change something to break that pattern and staff can be more aware when incidents are more likely to happen. This makes the library a safer place which, in addition to reducing the harm to members, can also encourage more people to come to the library. This change also gives the library a record of all incidents just in case they need them for legal reasons.

We decided that we needed a POSITION and a STAFF\_POSITION table to give the library a way to keep track of staff members positions over time. This will allow the library to have a history of it’s employees and give the database a way to track promotions/demotions. This can help the library trace patterns in their employees, and help them figure out what to look for in the hiring process of new employees. This in turn could cause better employees to be hired and good employees will make the library better.

We also got rid of the SECTION table because it was confusing and since most libraries are already grouped by genre and we already have a genre table, it seemed a bit redundant. By eliminating that table we reduce inefficiencies and confusion which will allow the library to operate more smoothly and effectively.

We also added a CONDITION table which will allow the library to track the condition of an item and know how much damage was done to an item by a member, which will help determine if and what fee is necessary to assign to a member. This information will allow the library to collect the fees it needs to replace damaged items which will allow the library to replace damaged items.

Speaking of fees, we also changed the FINE to FEE because there are a variety of reasons why a member could be charged money (membership fees, damage to an item fee, late fees, event fees, etc) and fee is a bit broader word than fine. Since fee is broader, we can use that table for a wider range of purposes without causing confusion. This name change will allow the library to operate more smoothly.

While the ERD had a MEMBER table beforehand, it had no way to track different types of the memberships over time. This is why we added a MEMBERSHIP table and a MEMBER\_MEMBERSHIP table. By adding this table, the library can more accurately trace different memberships a member has over time. This will allow the library to trace membership patterns which will give them the information they need to tailor different services and memberships to the people who use them or perhaps make certain memberships more attractive to those who do not have a membership.

ERD:

