**ERD**

1. In erd
2. Master to children
   1. Users -> friends
   2. Users -> page\_likes
   3. Users -> post\_likes
   4. Pages -> page\_likes
   5. Users -> comment\_likes
   6. Users -> posts
   7. Users -> post\_shares
   8. Users -> post\_comments
   9. Posts -> post\_photos
   10. Post\_comments -> comment\_likes
   11. Posts -> post\_shares
   12. Posts -> post\_likes
3. I try to create constraint CASCADE for every relation but I got an error about multilevel cascading in sql server  
   <https://stackoverflow.com/questions/851625/foreign-key-constraint-may-cause-cycles-or-multiple-cascade-paths>  
   so in the end I change some constraint into NO ACTION to avoid that error
4. ERD picture

**Data Definition Language**

1. Data integrity is something that make data inside a database good, usually followed by ACID principle (Atomicity, Consistency, Isolation, Durability), And we maintain it with sql server by making a good schema and relationship of tables
2. Primary key -> uniquely differentiate one data to another inside a table  
   Foreign key -> make relationship possible between 2 tables  
   Composite -> 2 or more attribute of table become the unique id of data
3. BEGIN TRAN -> Open transaction (database not affected if not commited)  
   COMMIT -> apply change happen after BEGIN TRAN  
   ROLLBACK -> revert/remove Staging changes by BEGIN TRAN