James Dimer

Database Systems

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Rationality Behind Database Decisions

In order tom make this documentation easier to the eye, I have separated my decisions by section:

* Table drops
  + Why in this particular order?
    - Children relations need to be placed before parent relations.
* Student
  + Why “char” element for ID? Why no auto-increment?
    - The decision to implement “char” was simply due to the fact that there is an character “L” in front of all the student’s IDs at Lewis. Not including auto-increment was a consequence of this decision since it wasn’t an “int”.
  + Why isn’t “mName” not null?
    - Simply put, some people don’t have middle names.
* Course
  + Why “char(4)” for subject?
    - Looking on myLewis, I realized that all courses had a subject consisting of 4 letters (i.e. CPSC, ARTS, ECON, etc…)
  + “TinyInt” for section?
    - Considering the section is represented by 1 number less than 8 (one byte), tinyint seemed appropriate.
* Enrollment
  + Why this table?
    - This table is meant to be the intermediary between a many-to-many relationship
  + Why “on delete set null” and why no “on update cascade”?
    - I wouldn’t want changes to this intermediary relation to affect the primary keys of the student and course relations. Therefore, if something is deleted on this table, it will not be deleted on the other two. Cascade would also affect the other relations.
* Student Address, Student Phone
  + Why “varchar(4)” when describing type?
    - I imagine 4 options when adding a “type” to address: “home,” “work,” “sch,” and “misc”. This would require only 4 characters or less. Additionally, “cell” and “home” have only 4 characters.
  + Why “unique” constraint?
    - Every phone number and address is unique, so this constraint is necessary.
* Index
  + Why did you choose to create this index in particular?
    - When I was registering for classes, I realized I was constantly and frequently looking up classes by their subject, mainly computer science. This definitely made the process much easier.