Database Design: A Quality Control Checklist

Relationships

❑ There are no many-to-many relationships.

❑ If there are any one-to-one relationships, there is a strong justification for them.

❑ The entity-relationship diagram shows the cardinality of all the relationships linking any two tables.

❑ Every table pointing to another table with a "one" cardinality includes in it the primary key of that table as a foreign key.

Tables

❑ Tables have full, descriptive names reflecting the entities/events they are supposed to represent; the names appear in the singular.

❑ The master files appear on the outside and the transaction files (whose job is to link master files) on the inside in order to avoid crossing lines.

❑ All transaction files have date fields in them. Name each date field uniquely.

❑ There are no single-column look-up tables; each look-up table has a dedicated primary key. The reason is …

Fields

❑ Fields have full, descriptive names reflecting the attributes they are supposed to represent, particularly for unique, application-specific fields. Be prepared to use the same field names in the implementation process.

❑ Derived (calculated) fields are not stored. Instead, the historic fields based on which the derived fields can be recalculated in the future are stored in the appropriate transaction files.

❑ Foreign keys and the primary keys they represent have identical names.

❑ A uniform set of conventions in naming fields is followed consistently. Example: avoid using the hyphen in some fields (*material-name*) while the underscore in others (*material_name*).

❑ If any field names have to be abbreviated, those abbreviations are meaningful and easy to guess.

❑ Primary and foreign key fields are explicitly designated as such.