Conceptual Modeling Tips and Common Mistakes

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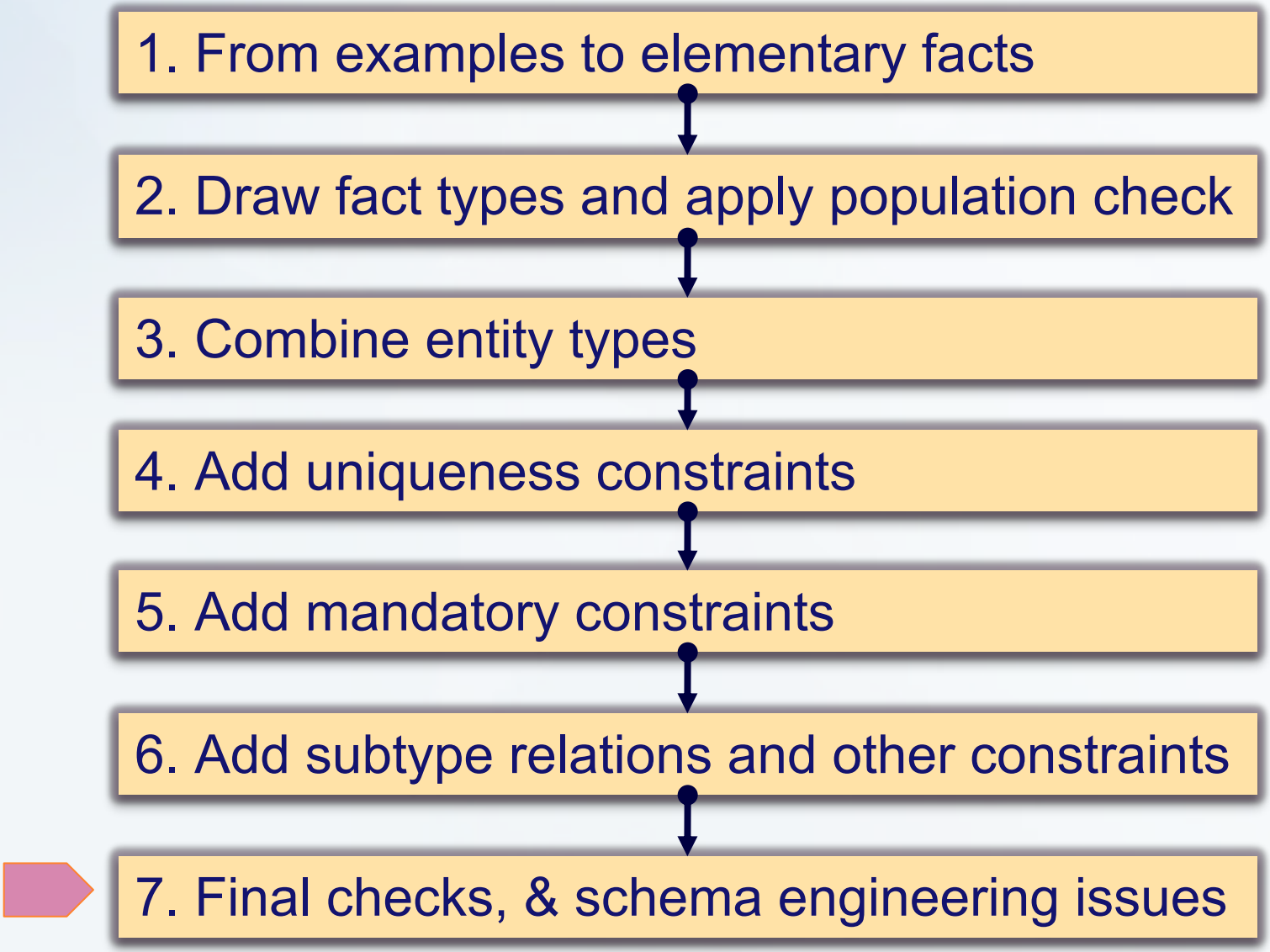
Keywords: frequency constraints, occurrence constraints, Cardinality, multiplicity, Rules, Business Rules, Business logic derivation rules, integrity constraints

Conceptual Schema Design Steps



Modeling Check List

- Check each role in the model, whether it should be unique?
- Check each role in the model, whether it should be Mandatory?
- Check each entity (Object Type) whether it has an identity?
- Check each leaf nodes whether should be Value Type?
- Check each value constraint whether it placed on Value Type only?
- The syntax of values and ranges in value constraints is correct.
- Check each subtype, that it is playing some roles.
- External uniqueness and disjunctive mandatory constraints are placed on the correct roles.
- Preferred: If you have subtypes, then their supper type should have a value constraint.

Naming

Role names:

- At least one role, in each relation, has a label.
- Names should be correct, expressive, and meaningful
- Naming style: for example “WorksFor”, “AffiliatedWith”, “IsOf”, etc.

Concept Names:

- Should be expressive and meaningful (as used in the domain), correct translation
- Naming style: for example “FacultyMember”, “NaturalPerson”
- Don’t use plural as concept labels (e.g., students, courses).

Readability\Beauty of Diagrams

- Place related properties beside each other (country, city…) or (name, fname, lname).
- Flip roles if needed.
- Lines are straight, and the whole diagram is balanced (as much as you can)
- Page layout is landscape if needed.
- The sizes of the concepts are equal, unless you what to emphasize the main concepts.
- Important concepts are placed in the middle, and all concepts are aligned.
- Roles are aligned and similar roles have the size.
- Populate a page as much as you can (BUT NOT too much)
- Do not clone concepts if not necessary
- Modularize a large diagram into pages (but keep very related concepts in the same page).first pages contain the most important
- Write your project details (name, course, year, project#, date,….) in each page.

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