Class: 323-03

Assignment: MongoDB Enrollment Project Document Database Design

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Parent Table Name	Child Table Name	Multiplicity	Direction	Design Pattern	Comments	Rationale
departments	courses	1..1 to 1..*	parent to child	One to Many	Departments have a wide variety of courses to offer.	Since Departments offer many courses, each with different topics and level of difficulty (undergrad, grad, lowerclass, upperclass) that often changes each year, one to many is the best course of action.
departments	majors	1..1 to 1..*	parent to child	One to Many	Departments have a decent number of majors to offer.	A department can have many majors that is offered. One to Many is a reasonable design.
courses	sections	1..1 to 0..*	parent to child	One to Few	Number of sections within a course normally does not exceed 10 sections. Some courses may not be offered at all per semester (zero sections).	Since a course doesn't have a number of sections that exceeds a great amount, it makes sense to have sections embedded
majors	studentmajor	0..* to 0..*	Parent to child	One to Squillions	The number of students that can declare a major is substantial to have students embedded	Since Majors can have so many students, it makes more sense to have them referenced rather than on a single document.

students	studentmajor	0..* to 0..*	Parent to child	One to Many	Students can have multiple majors.	There's only a reasonable number of majors to declare to.
sections	enrollment	0..* to 0..*	parent to child	One to Many	Enrollment serves as the junction table between Student and Section. A section has at most a specified number of students with no inclination to require scaling.	Since sections has a capped amount of students, one to many seems to be the appropriate design pattern
students	enrollment	0..* to 0..*	parent to child	One to Many	Enrollment serves as the junction table between Student and Section. Students will be enrolled in multiple sections at a time, but this is updated every semester and typically won't exceed the maximum unit cap	Since students can be enrolled in multiple sections, one to many sounds like the best course of action