

E-R Modeling Assignment

Due: Printed Copy of E-R Diagram in class on March 29, 2007

Your task is to develop an E-R model for a database to be used by North Carolina Swimming (NC Swim), the parent organization for many swim clubs in the state. The database could be used by NC Swim to, among other things:

- maintain records of clubs, swimmers, swim meets,
- which clubs are competing at a meet, what events are offered at a meet
- which swimmers are entered in a given event at a meet and which heat they are in
- show all swimmers entered in an event at a meet, grouped by heat, their seed time. Thus, the database can be used to generate heat sheets and psych sheets for meets.
- times achieved at these events by swimmers

Use a tool like Visio to draw the E-R diagram, available as a part of the MSDNAA distribution.

See (http://msdn07.e-academy.com/elms/Storefront/Home.aspx?campus=uncw_cs). The database should contain information about :

- swim clubs registered with NC Swim
 - club id - unique
 - club name
 - address
 - phone number
 - year established
 - head coach
- swim officials registered with NC Swim
 - official id - unique
 - name - first, last, middle initial
 - phone number
 - address
 - officials have different levels of certification - Local, State, National
- swim coaches registered with NC Swim
 - coach id - unique
 - name - first, last, middle initial
 - address
 - phone number
 - date of birth
 - swimming certifications (a coach may zero or more certifications like Level 1, Level 2, National etc.)
 - clubs they have been affiliated with (including start date and end date)- a coach is associated with zero or 1 club at any time
- swimmers registered with NC swim
 - swimmer id - unique
 - name - first, last, middle initial
 - gender - male or female
 - date of birth

- age - derived
 - current age group - derived. Age groups are 8-under, 9-10, 11-12, 13-14, and Senior. Also, Men swim separately from Women. An example of an age group would be 11-12 Women, or Senior Men.
 - clubs they have been affiliated with (including start date and end date) - a swimmer may swim for one club, or be independent
- swim meets sanctioned by NC Swim
 - Meet sanction number - unique
 - dates held - swim meets may be 1 or more days long
 - place where meet was held
 - whether the meet was a Short Course Yards meet (swum in 25 yard pools like at UNCW) or Long Course Meters meet (swum in 50 meter pools)
 - which club hosted the meet - some meets are jointly hosted by 2 or more clubs
 - maximum number of swimmers allowed to enter the meet
 - which officials officiated at the meet and in what capacity and at which session. A meet will have 1 or more sessions, and each session has officials working as a Starter, Stroke and Turn Judge, Meet Referee, Finish Judge
- Events that were held at a meet
 - Each event at a meet has a number (1,2,3.....) and is in a meet session, like Friday PM, Saturday AM etc.
 - Each event has a stroke designation (Free, Breast, Back, Fly, Individual Medley, Free Relay, Medley Relay)
 - a distance - 25, 50, 100, 200, 400, 800, 1000, 1500 in Short Course Yards. Also, 50, 100, 200, 400, 800, 1000, 1500 meters in Long Course Meters meets.
 - qualifying times associated with the event and an age group
 - * For each age group there are the following, progressively faster, qualifying times - BB, A, AA, AAA, AAAA, T16
 - * These qualifying times can change once a year.
- Swimmers enter events at a meet. For each such entry, we need to be able to record
 - which heat they were in. For instance, the 11-12 Men's 100 yard Breaststroke event at a meet may have 10 heats. A swimmer could be in Heat 5 in this event.
 - the swimmer's entry time (i.e. their seed time)
 - the actual time achieved by the swimmer. Sometimes a swimmer may fail to show up for an event (a No Show) or be disqualified (DQ).