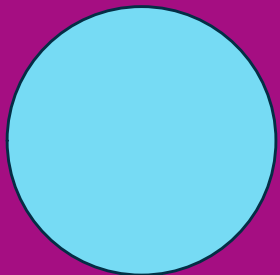


# SWIMMING INFORMATION DATABASE



Blaise Swartwood, Brian Beasley, Ben  
Graham

CSSE333 Database Systems

5/10/2023

# THE PROBLEM

The slide features a dark blue background with a vertical band of a slightly darker shade on the left. In the bottom right corner, there are several thin, white, parallel diagonal lines that create a sense of motion or a modern design element.

### 2023 NCAA DIVISION III SWIMMING AND DIVING CHAMPIONSHIPS – MEN'S CUTS

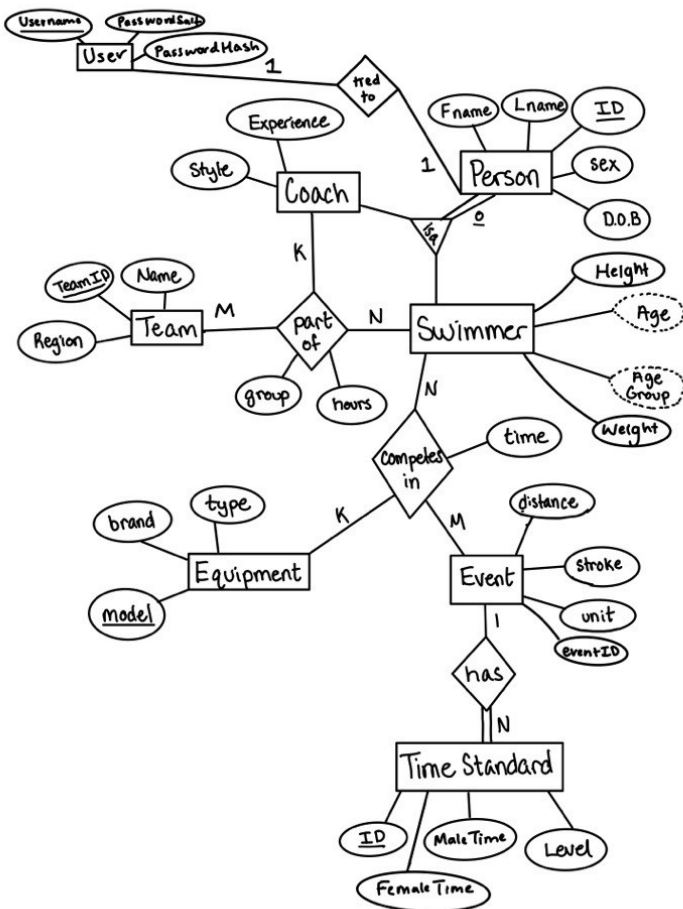
EVENT	A STANDARD	B STANDARD
50 Free	19.46*	20.51*
100 Free	43.31	45.11*
200 Free	1:36.74	1:39.80*
500 Free	4:20.26	4:32.31*
1650 Free	15:02.59	16:16.65
100 Back	46.91*	49.68*
200 Back	1:43.63*	1:49.86
100 Breast	52.11	55.78*
200 Breast	1:53.85	2:02.30*
100 Fly	47.19	49.02*
200 Fly	1:45.31*	1:50.85
200 IM	1:45.47	1:51.45
400 IM	3:47.19	4:01.49

## THE PROBLEM

- ▶ No easy way for swimmers to compare all their best swim times to a certain time standard
- ▶ No data collection on current suits used by swimmers to aid in the buying process

## Swimming Information DB ER Diagram

Brian Beasley  
Blake Swartwood



## OUR SOLUTION

- ▶ Person
  - ▶ Swimmer
  - ▶ Coach
- ▶ User
- ▶ Event
- ▶ Equipment
- ▶ Team
- ▶ Time Standard

Targeted to small swimming communities such as the one in Terre Haute

# CHALLENGES

The image features a dark blue background with a vertical gradient, transitioning from a lighter shade on the left to a darker shade on the right. The word "CHALLENGES" is centered in a white, sans-serif font. In the bottom right corner, there are several thin, white, diagonal lines that create a sense of motion or a modern design element.

# CHALLENGES

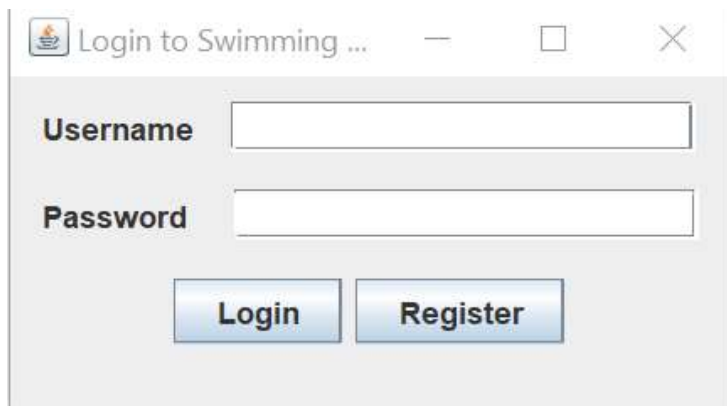
- ▶ Time data type
- ▶ User/registration
- ▶ Admin vs user
- ▶ GIT

# SOLUTIONS

- ▶ Stored in seconds, parsed to look like a time
- ▶ Added a username attribute to person, changed how menu appear
- ▶ Hid visibility and certain field texts based on being admin or not
- ▶ Got better – resolved skill issue

# FUNCTIONALITY

The image features a dark blue background with a vertical band of a slightly darker shade on the left. In the center-right, the word 'FUNCTIONALITY' is written in a white, sans-serif, all-caps font. In the bottom right corner, there are several thin, white, parallel diagonal lines that create a sense of motion or a modern design element.

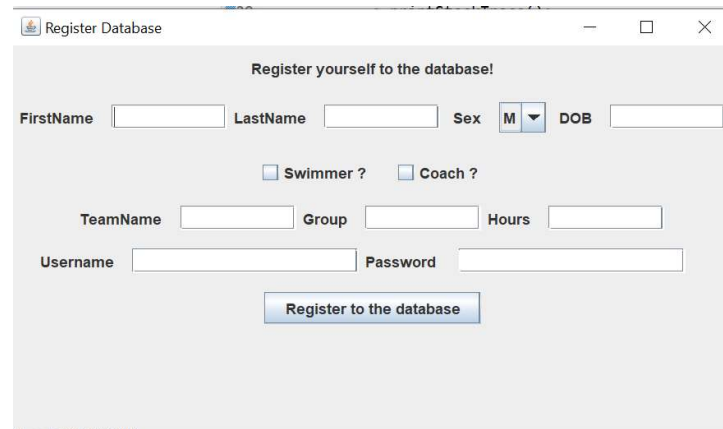


Login to Swimming ...

Username

Password

Login Register



Register Database

Register yourself to the database!

FirstName  LastName  Sex  DOB

☐ Swimmer ? ☐ Coach ?

TeamName  Group  Hours

Username  Password

Register to the database

# LOGIN & REGISTER



SwimmingMain

Event Distance50StrokeButterflyUnitSCYAll EventsSearch For TimesLevel

Seach For Time Off A Cut

Firstname	Lastname	Age	Height	Weight	Team Name	Age Group	Group	Hours Per Week
Blaise	Swartwood	19	68	150	Kamehameha Swim Club	Collegiate	National	15
Distance	Stroke	Unit	Time	Equipment	Brand			
100	Backstroke	LCM	1:01.56	GX-Sonic	Mizuno			
200	Backstroke	LCM	2:23.15	GX-Sonic	Mizuno			
100	Breaststroke	LCM	1:09.15	GX-Sonic	Mizuno			
200	Breaststroke	LCM	2:29.41	GX-Sonic	Mizuno			
100	Butterfly	LCM	58.74	GX-Sonic	Mizuno			
200	Butterfly	LCM	2:08.91	GX-Sonic	Mizuno			
50	Freestyle	LCM	26.01	GX-Sonic	Mizuno			
100	Freestyle	LCM	54.31	GX-Sonic	Mizuno			
200	Freestyle	LCM	1:59.66	GX-Sonic	Mizuno			
400	Freestyle	LCM	4:13.13	GX-Sonic	Mizuno			
200	IM	LCM	2:14.15	GX-Sonic	Mizuno			
400	IM	LCM	4:49.99	GX-Sonic	Mizuno			
100	Backstroke	SCY	55.24	GX-Sonic	Mizuno			
200	Backstroke	SCY	1:58.79	GX-Sonic	Mizuno			
100	Breaststroke	SCY	59.24	GX-Sonic	Mizuno			
200	Breaststroke	SCY	2:07.64	GX-Sonic	Mizuno			
100	Butterfly	SCY	52.10	GX-Sonic	Mizuno			
200	Butterfly	SCY	1:53.45	GX-Sonic	Mizuno			
50	Freestyle	SCY	22.12	GX-Sonic	Mizuno			
100	Freestyle	SCY	47.98	GX-Sonic	Mizuno			
200	Freestyle	SCY	1:44.78	GX-Sonic	Mizuno			
400	Freestyle	SCY	4:49.18	GX-Sonic	Mizuno			
200	IM	SCY	1:56.87	GX-Sonic	Mizuno			
400	IM	SCY	4:20.69	GX-Sonic	Mizuno			

Edit Database

View All Time Standards

SEARCHING - USER

# SEARCHING - ADMIN

SwimmingMain

FirstName: Brian LastName: Beasley Event Distance: 100 Stroke: Butterfly Unit: SCY ☐ All Events Search For Times Level: Search For Time Off A Cut

Firstname	Lastname	Age	Height	Weight	Team Name	Age Group	Group	Hours Per Week
Brian	Beasley	20	72	185	PlainField Community Aquatics	Collegiate	Seniors	13
Distance	Stroke	Unit	Time	Equipment	Brand			
100	Butterfly	SCY	54.49	Venzo	TYR			

Edit Database View All Time Standards

# SEARCHING – TIME OFF FEATURE

SwimmingMain

FirstName: Brian    LastName: Beasley    Event Distance: 100    Stroke: Butterfly    Unit: SCY    ☒ All Events    Search For Times    Level: Futures    Search For Time Off A Cut

Firstname	Lastname	Age	Height	Weight	Team Name	Age Group	Group	Hours Per Week
Brian	Beasley	20	72	185	PlainField Community Aquatics	Collegiate	Seniors	13

Distance	Stroke	Unit	Cut Level	Swimmer Time	Cut Time	Time Off
400	Freestyle	SCY	Futures	4:21.15	4:37.09	-15.94
400	Freestyle	LCM	Futures	4:16.15	4:09.99	06.16
50	Freestyle	SCY	Futures	22.44	21.39	01.05
200	Backstroke	SCY	Futures	2:04.34	1:52.79	11.55
50	Freestyle	LCM	Futures	25.20	24.89	00.31
100	Backstroke	SCY	Futures	59.87	52.09	07.78
100	Freestyle	SCY	Futures	48.21	46.49	01.72
200	Butterfly	SCY	Futures	2:03.94	1:53.79	10.15
100	Butterfly	SCY	Futures	54.49	51.09	03.40
200	Backstroke	LCM	Futures	2:19.86	2:11.89	07.97
100	Breaststroke	LCM	Futures	1:04.83	1:08.69	-03.86
100	Butterfly	LCM	Futures	1:02.50	58.39	04.11
200	Butterfly	LCM	Futures	2:26.07	2:10.29	15.78
200	Breaststroke	SCY	Futures	2:04.34	2:08.59	-04.25
100	Backstroke	LCM	Futures	1:05.34	1:00.79	04.55
100	Freestyle	LCM	Futures	55.68	53.79	01.89
100	Breaststroke	SCY	Futures	54.15	58.69	-04.54
200	Breaststroke	LCM	Futures	2:26.87	2:29.09	-02.22
200	Freestyle	SCY	Futures	1:51.84	1:41.79	10.05
200	Freestyle	LCM	Futures	2:02.45	1:58.09	04.36

Edit Database    View All Time Standards

# TIME STANDARD

Time Standards						
Distance	Stroke	Unit	Cut Level	Male Time	Female Time	
100	Backstroke	LCM	Futures	1:00.79	1:06.89	
200	Backstroke	LCM	Futures	2:11.89	2:23.99	
100	Breaststroke	LCM	Futures	1:08.69	1:15.99	
200	Breaststroke	LCM	Futures	2:29.09	2:43.39	
100	Butterfly	LCM	Futures	58.39	1:04.79	
200	Butterfly	LCM	Futures	2:10.29	2:21.99	
50	Freestyle	LCM	Futures	24.89	27.39	
100	Freestyle	LCM	Futures	53.79	59.39	
200	Freestyle	LCM	Futures	1:58.09	2:07.79	
400	Freestyle	LCM	Futures	4:09.99	4:28.79	
100	Backstroke	SCY	Futures	52.09	58.09	
200	Backstroke	SCY	Futures	1:52.79	2:04.99	
100	Breaststroke	SCY	Futures	58.69	1:05.99	
200	Breaststroke	SCY	Futures	2:08.59	2:22.69	
100	Butterfly	SCY	Futures	51.09	57.49	
200	Butterfly	SCY	Futures	1:53.79	2:05.49	
50	Freestyle	SCY	Futures	21.39	24.09	
100	Freestyle	SCY	Futures	46.49	52.09	
200	Freestyle	SCY	Futures	1:41.79	1:52.59	
400	Freestyle	SCY	Futures	4:37.09	5:03.49	
100	Butterfly	SCY	NCAA D3 A	47.19	52.92	
200	Butterfly	SCY	NCAA D3 A	1:45.39	1:56.99	
50	Freestyle	SCY	NCAA D3 A	19.46	22.72	
100	Butterfly	SCY	NCAA D3 B	49.02	56.29	
200	Butterfly	SCY	NCAA D3 B	1:50.99	2:05.49	
50	Freestyle	SCY	NCAA D3 B	20.51	23.63	

Edit Database
View All Time Standards

Update Swimming Database

EditType **Update** **Change Editing Type**

**Update Best Time** **Update Person Info** **Update Team Membership** **Update Time Standard**

Search for Time: FirstName  LastName  Event Distance 50  Stroke **Butterfly**  Unit **SCY**  **Search For Time**

# EDIT PAGE – ADMIN UPDATE

Event Distance	50	Stroke	Butterfly	Unit	SCY	<input type="checkbox"/> All Events	Search For Times	Level		Search For Time Off A Cut	
Firstname	Blaise	Lastname	Swartwood	Age	19	Height	68	Weight	150	Team Name	Kamehameha Swim Club
										Age Group	Collegiate
										Group	National
										Hours Per Week	15

ADD Into Swimming Database

EditType Add ▼ Change Editing Type

Add Best Race: Equipment Model Venzo Event Distance 200 ▼ Stroke Butterfly ▼ Unit SCY ▼ Time 1:59.99 Add Best Race

# EDIT PAGE – USER ADD

## BACK-END

- Lots of Create, Remove, Update, Delete stored procedures
- Index on first name + last name -> common for searching
- Trigger to catch duplicate people
- Multi-valued table function for searching times and gathering swimmer/coach info
- View for time standard

**Can't have SQL injecttion**

**If you don't have a database**

THANK YOU  
FOR  
LISTENING!  
QUESTIONS?