Semestral work DBS 2025

Theme: Sports Complex Database

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CP-0 Topic Statement + Bonus

Theme: Sports Complex Database

Motivation: The motivation is to simplify and accelerate the daily operations of the sports complex, solve issues with scheduling conflicts, payment transactions, and monitoring the use of individual sports facilities.

Short Description: This project focuses on the design and implementation of a database system for managing reservations in the sports complex, which includes group/solo trainings with trainer or without. The goal is to effectively digitize the process of reservations, payments, reservation collisions etc.

Taxonomic and Operational Scope: The proposed system will include several taxonomic levels (records of branches, sports halls, clients, trainers and trainings) and will handle operational data such as attendance at training sessions, payments.

Bonus: Detailed List of Entities and Relationships

Entities(WHO and WHAT):

1. **Branch** - <u>address</u>(city, street, house number)
2. **Sports Hall** - <u>name</u>, size, specialization
3. **User** - <u>login</u>, password
4. **Client** (derives from User) - preferences in sports
5. **Trainer** (derives from User) - specialization, education
6. **Personal Data** - <u>name</u>, <u>surname</u>, <u>date of birth</u>, <u>e-mail</u>, <u>phone number</u>
7. **Reservation** - status, reservation date
8. **Payment** - amount, payment date, payment method
9. **Training** - type, training date

Relationships(What does):

1. Branch **contains** Sports Halls
2. User **has** Personal data
3. Client **makes** Reservation
4. Client **makes** Payment
5. Trainer **is assistant for** trainer

6. Trainer **conducts** trainings
7. Reservation **includes** Payment
8. Reservation **applies to** Training
9. Training **takes place in** Sports hall