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**Topic 1:** Website of an online store with computers and computer parts

**Description**: The online store will be designed to allow users to easily browse, compare and purchase computers and computer parts. The store's database will contain a catalog of products divided into categories (e.g. processors, graphics cards, laptops), information on availability, prices, technical specifications and customer opinions. The frontend will provide functionalities such as product search, filtering by technical parameters, shopping cart system and ordering process with integration of payment systems. Additionally, the administration panel will allow you to manage the assortment, promotions and orders.

**Proposed tables:**

• **Products table:** Product ID, Name, Category, Price, Specification, Quantity in stock.

• **Categories table:** Category ID, Category Name, Description.

• **Order Table:** Order ID, Customer ID, Order Date, Status.

• **Customers table:** Customer ID, First Name, Last Name, Email Address, Purchase History.

• **Reviews table:** Review ID, Product ID, Customer ID, Review Content, Rating.

**Topic 2:** Cinema website with a seat purchase/reservation system:

**Description**: The ticket reservation system will enable users to browse the cinema repertoire, select films, screenings, seats in the cinema hall and purchase tickets online. The database will store information about films, available screenings, cinema halls and their seating arrangements, as well as reservations and transactions. The frontend will provide an interactive selection of seats on the floor plan, options for filtering films by genre or screening date, and the online purchase and payment process. The administration panel will allow you to manage the repertoire, screenings and rooms.

**Proposed tables:**

• **Movies table:** Movie ID, Title, Description, Duration, Genre.

• **Screenings table**: Screening ID, Film ID, Date and Time, Room ID.

• **Cinema Room table**: Room ID, Number of Seats, Seat Arrangement.

• **Reservations table**: Reservation ID, Session ID, Customer ID, Selected Seats.

• **Tickets table:** Ticket ID, Reservation ID, Price, Status (paid, unpaid).

**Topic 3:** Library reader service system

**Description**: This system will be used to manage library resources, register readers, borrow and reserve books. The database will contain a catalog of books, audiobooks, magazines and other materials, along with information about availability, location in the library and borrowing history. The frontend will enable readers to search for materials, check loan status and reserve items online. For library employees, there is a panel for managing resources, registering loans and returns, and servicing readers' accounts.

**Proposed tables:**

• **Book Table:** Book ID, Title, Author, ISBN, Status (available, borrowed).

• **Readers table:** Reader ID, Name, Surname, Library Card Number.

• **Borrowing Table:** Borrowing ID, Book ID, Reader ID, Borrowing Date, Return Date.

• **Reservations table**: Reservation ID, Book ID, Reader ID, Reservation Date.

• **Borrowing History table**: History ID, Book ID, Reader ID, Borrowing Date, Return Date.

**Topic 4**: Advertising portal for viewing and publishing local advertisements (e.g. OLX, Allegro).

**Description**: This portal will allow users to browse and publish ads in various categories (e.g. real estate, automotive, electronics). The database will store ads with descriptions, photos, price and contact details of the advertiser, as well as information about users and their activity history. The frontend will provide a simple and intuitive interface for searching for ads filtered by category, location and price, as well as forms for creating and managing ads. The comment and rating system will allow interaction between users.

**Proposed tables:**

• **Advertisement table:** Advertisement ID, Title, Description, Category, Price, Publication Date.

• **Users table:** User ID, First Name, Last Name, Email Address, Phone Number.

• **Category table**: Category ID, Category Name, Category Description.

• **Photos table:** Photo ID, Advertisement ID, File path, Description.

• **Activity History table**: Activity ID, User ID, Activity Type (publishing, editing), Date and Time.

**Topic 5:** Financial and online banking applications

Description: Application for managing personal finances and using online banking services. The database will contain user accounts, their transactions, budget plans, investments and loans. The frontend will enable users to view balances, conduct transactions (transfers, online payments), manage the budget, analyze expenses and investments using data visualization. Additionally, the notification system will inform users about important financial events. The security of access to the application will be ensured by advanced methods of authentication and data encryption.

**Proposed tables:**

• **Users table:** User ID, First Name, Last Name, Email Address, Encrypted Password.

• **Account Table**: Account ID, User ID, Balance, Currency.

• **Transactions table:** Transaction ID, Account ID, Amount, Date, Transaction Type.

• **Investments table**: Investment ID, User ID, Investment Type, Amount, Start Date.

• **Budget Plans table:** Plan ID, User ID, Description, Assumed Budget, Period.

**Topic 6**: Application for making online payments such as PayPal

**Description**: The project involves the creation of an online payment application, similar to PayPal, which allows users to quickly send and receive money, manage accounts and payment cards, and make payments for online purchases. The application database will store detailed information about users, their bank accounts, credit/debit cards, transaction history and standing orders. The application frontend will provide an intuitive user interface for managing funds, making payments, requesting money from other users, and viewing transaction history. The app will also feature advanced security features, including two-step verification, to ensure users' financial and personal information is protected.

**Proposed tables:**

• **Users table**: User ID, First Name, Last Name, Email Address, Encrypted Password.

• **Account Table:** Account ID, User ID, Balance, Currency.

• **Transactions table:** Transaction ID, Account ID, Amount, Date, Transaction Type.

• **Investments table:** Investment ID, User ID, Investment Type, Amount, Start Date.

• **Budget Plans table:** Plan ID, User ID, Description, Assumed Budget, Period.