

Multimedia Content Database Management

Database Requirements

1. General User
 - a. A general user is a unregistered user, registered user, or admin roles
 - b. A general user shall be able to create at most one account with an unique email.
 - c. A general user shall be able to register to many mailing lists
 - d. General User's confidential data shall be saved in the company servers
2. Roles
 - a. A role shall be used by many accounts.
3. Admin
 - a. An admin is a registered user
 - b. An admin is the only and only user that can edit the roles
 - c. An admin is the only and only user that can add new roles
 - d. An admin is the only and only user that can delete roles
4. Payment Method
 - a. A payment method is a bank account, paypal, or cryptocurrency
 - b. A bank account payment method is a credit card, or debit card
 - c. A cryptocurrency payment method only accepts BTC, ETH or BNB
 - d. A cryptocurrency payment method is linked to only on wallet address
 - e. A payment method can be linked to many premium accounts
5. Registered users
 - a. A registered user is a general user.
 - b. A registered user can login into his/her account from many Devices
 - c. A registered user shall do at least one IP address validation every time he/her changes visitor networks.
 - d. A registered user shall be able to create only one free basic account
 - e. A registered user shall be able to create only one premium account
 - f. A registered user with a basic account subscription can watch unlimited movies preview trailers.
 - g. A registered user with a premium subscription have access to all the multimedia content without any limitation
 - h. A registered user shall be able to choose at least a default payment method.
6. Account
 - a. An account is either a basic or premium account
 - b. An account shall belong to only one user
 - c. An account shall be located in only one region

- d. An account shall have at least one profile
 - e. An account can have many roles
- 7. Basic Account
 - a. A basic account is free for registered users
 - b. A basic account is an account
 - c. A basic account shall have one expiration date
 - d. A basic account shall have many users
 - e. A basic account shall have permissions to preview only music and video content.
- 8. Premium Account
 - a. A premium account is a paid account
 - b. A premium account is an account
 - c. A premium account shall have an expiration date
 - d. A premium account shall have many users
 - e. A premium account shall have permissions to preview unlimited video, music and ebooks multimedia content.
 - f. A premium account shall have permissions to download unlimited video, music and ebooks multimedia content.
 - g. A premium account shall have permissions to stream and unlimited video, music multimedia content.
 - h. A premium account shall have at least one preferred payment method.
- 9. Multimedia Content
 - a. A multimedia content is either a movie, music, or eBook
 - b. A multimedia content shall be either original or an exact copy of itself
 - c. A multimedia content shall have many authors
 - d. A multimedia content shall be located in at least one Content Delivery Network..
- 10. Video
 - a. Video multimedia content shall be previewed by many accounts
 - b. Video multimedia content shall be streamed by many premium accounts
 - c. Video multimedia content shall be downloaded by many premium accounts
 - d. Video multimedia content shall be able to be resumed as many times as needed
- 11. Music
 - a. Music multimedia content shall be previewed by many accounts
 - b. Music multimedia content shall be streamed by many premium accounts
 - c. Music multimedia content shall be downloaded by many premium accounts
 - d. Music multimedia content shall be able to be resumed as many times as needed e.
- 12. eBook
 - a. An eBook shall be preview by many accounts
 - b. An eBook shall be downloaded by many premium accounts
 - c. An eBook shall have many publishers

13. Content Delivery Network (CDN)

- a. A CDN shall be located in only one region
- b. A CDN contains many copies of the original multimedia content
- c. A CDN shall be represented in at least one manifest

14. Manifest Component

- a. A manifest shall have the ID's of many multimedia contents (copies)
- b. A manifest shall have the location (CDN) of many multimedia contents (copies)
- c. A manifest shall be located in the main cloud server (e.g AWS)

15. Region

- a. A region shall have many accounts
- b. A region shall have many CDN

16. Profile

- a. A profile shall be owned by only and only one account
- b. A profile shall have one alias

Homework (optional and extra-credit 2%)

Update the conceptual design (database requirements, ERD) for this database management system, so now, a user with a basic subscription can download unlimited music and eBooks but not video. Also a user with a basic subscription can stream only music for a limited time. Finally, provide a mechanism in this design so now users having a basic account, can automatically upgrade to a premium account without the need of creating a new account.