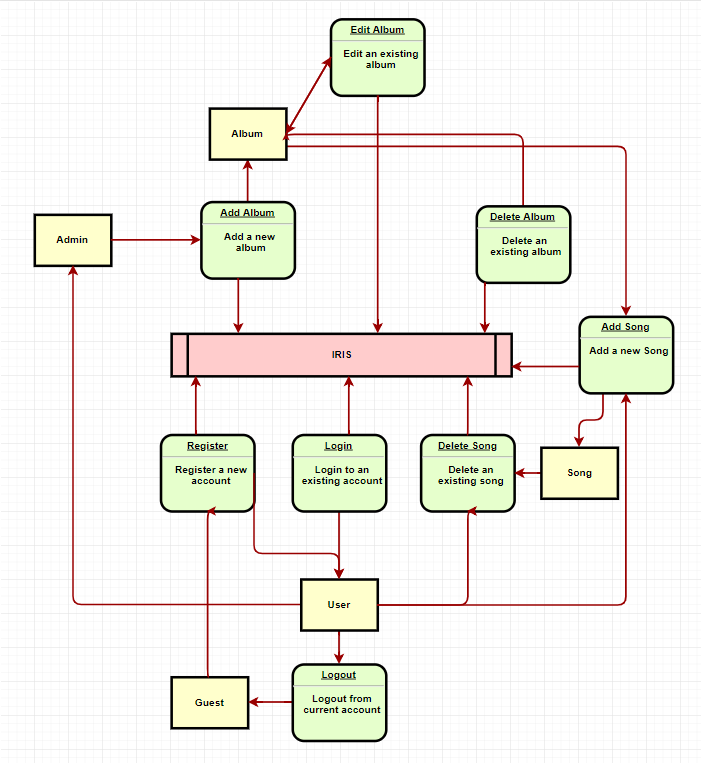
**关系数据库管理系统**

设计报告

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# 系统需求分析，最终给出数据流图与数据元素表

数据流图：

数据元素表：

1. Genre

|  |  |
| --- | --- |
| id | genre\_name |
| 1 | Pop |
| 2 | Classical |
| 3 | Jazz |
| 4 | Country |

1. Song

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| id | file\_type | song\_title | album\_id | is\_favorite |
| 4 |  | You Belong With Me | 1 | 0 |
| 6 |  | Give Your Heart A Break | 13 | 0 |
| 7 |  | Stitches | 14 | 0 |
| 8 |  | Love Story | 1 | 0 |

1. Artist

|  |  |  |
| --- | --- | --- |
| id | gender | artist\_name |
| 1 | Female | Taylor Swift |
| 2 | Female | Demi Lovato |
| 3 | Male | Charlie Puth |
| 4 | Male | Shawn Mendes |

1. Album

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| id | artist\_id | album\_title | genre\_id | album\_logo | is\_favorite | user\_id |
| 1 | 1 | Fearless | 1 | https://upload.wikimedia.org/wikipedia/en/thumb/8/86/Taylor\_Swift\_-\_Fearless.png/220px-Taylor\_Swift\_-\_Fearless.png | 0 | 1 |
| 5 | 1 | 1989 | 1 | https://upload.wikimedia.org/wikipedia/en/thumb/f/f6/Taylor\_Swift\_-\_1989.png/220px-Taylor\_Swift\_-\_1989.png | 0 | 1 |
| 13 | 2 | Give Your Heart a Break | 1 | https://upload.wikimedia.org/wikipedia/en/thumb/f/f6/Taylor\_Swift\_-\_1989.png/220px-Taylor\_Swift\_-\_1989.png | 0 | 1 |
| 14 | 4 | Stitches | 1 | https://t2.genius.com/unsafe/220x220/https%3A%2F%2Fimages.rapgenius.com%2F3b4e501efa5af6642e9f15e1452b8026.600x600x1.jpg | 0 | 1 |
| 15 | 1 | Red | 1 | https://upload.wikimedia.org/wikipedia/en/thumb/c/c0/Taylor\_Swift\_-\_Red\_%28Single%29.png/220px-Taylor\_Swift\_-\_Red\_%28Single%29.png | 0 | 1 |
| 17 | 3 | Nine Track Mind | 1 | https://direct.rhapsody.com/imageserver/images/Alb.243008322/500x500.jpg | 0 | 1 |

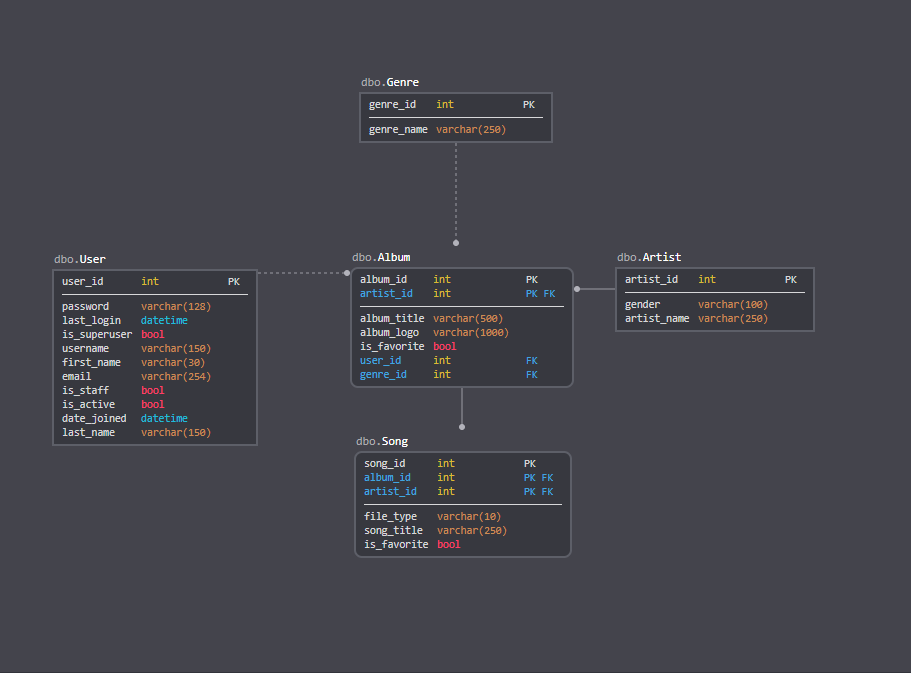
1. Users

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| id | password | is\_superuser | username | email | is\_staff |
| 1 | Admin123456 | 1 | admin | admin@example.com | 1 |
| 2 | 123456 | 0 | test | test@example.com | 0 |
| 3 | 123456 | 0 | JavieraStephanie | javierastephanie@yahoo.com | 0 |

1. Permissions

|  |  |  |  |
| --- | --- | --- | --- |
| id | content\_type\_id | codename | Name |
| 1 | 1 | add\_logentry | Can add log entry |
| 2 | 1 | change\_logentry | Can change log entry |
| 3 | 1 | delete\_logentry | Can delete log entry |
| 4 | 1 | view\_logentry | Can view log entry |
| 5 | 2 | add\_permission | Can add permission |
| 6 | 2 | change\_permission | Can change permission |
| 7 | 2 | delete\_permission | Can delete permission |
| 8 | 2 | view\_permission | Can view permission |
| 9 | 3 | add\_group | Can add group |
| 10 | 3 | change\_group | Can change group |
| 11 | 3 | delete\_group | Can delete group |
| 12 | 3 | view\_group | Can view group |
| 13 | 4 | add\_user | Can add user |
| 14 | 4 | change\_user | Can change user |
| 15 | 4 | delete\_user | Can delete user |
| 16 | 4 | view\_user | Can view user |
| 17 | 5 | add\_contenttype | Can add content type |
| 18 | 5 | change\_contenttype | Can change content type |
| 19 | 5 | delete\_contenttype | Can delete content type |
| 20 | 5 | view\_contenttype | Can view content type |
| 21 | 6 | add\_session | Can add session |
| 22 | 6 | change\_session | Can change session |
| 23 | 6 | delete\_session | Can delete session |
| 24 | 6 | view\_session | Can view session |
| 25 | 7 | add\_song | Can add song |
| 26 | 7 | change\_song | Can change song |
| 27 | 7 | delete\_song | Can delete song |
| 28 | 7 | view\_song | Can view song |
| 29 | 8 | add\_album | Can add album |
| 30 | 8 | change\_album | Can change album |
| 31 | 8 | delete\_album | Can delete album |
| 32 | 8 | view\_album | Can view album |
| 33 | 9 | add\_genre | Can add genre |
| 34 | 9 | change\_genre | Can change genre |
| 35 | 9 | delete\_genre | Can delete genre |
| 36 | 9 | view\_genre | Can view genre |
| 37 | 10 | add\_artist | Can add artist |
| 38 | 10 | change\_artist | Can change artist |
| 39 | 10 | delete\_artist | Can delete artist |
| 40 | 10 | view\_artist | Can view artist |

# 数据库系统的概念模式（E-R图）



# 数据库系统的逻辑模式：分析关系模式的范式等级，将所有关系规范到3NF

1. Artist -> Album -> Song
2. Genre -> Album -> Song
3. User -> Album -> Song