**Database specifications for AIMS Application**

1. **ER-Diagram**

**Diagram

Description automatically generated**

1. **Table relationships**

****

1. **Table specifications**

**Customer**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **PK** | **FK** | **Name** | **Data type** | **Mandatory** | **Description** |
| 1 | x | x | customer\_id | int | X | ID of customer |
| 2 |  |  | customer\_name | varchar(256) | x | Name of customer |
| 3 |  |  | customer\_phone | varchar(12) |  | Phone number of customer |
| 4 |  |  | customer\_city | varchar(32) | x | City of customer |
| 5 |  |  | customer\_district | varchar(48) | x | District of customer |
| 6 |  |  | customer\_house | varchar(128) | x | Home address of customer |

**Credit card**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **PK** | **FK** | **Name** | **Data type** | **Mandatory** | **Description** |
| 1 | x | x | creditcard\_number | varchar(25) | x | Number of creditcard |
| 2 |  |  | cardholder\_name | varchar(48) | x | Name of the cardholder |
| 3 |  |  | balance | float | x | Current balance of the credit card |
| 4 |  |  | security\_code | varchar(8) | x | Security code of the credit card |
| 5 |  |  | issuing\_bank | varchar(128) | x | Bank hosting the creditcard |
| 6 |  |  | expriration\_date | date | x | Expriration date of the credit card |

**Media**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **PK** | **FK** | **Name** | **Data type** | **Mandatory** | **Description** |
| 1 | x | x | media\_id | varchar(4) | x | Id of the media item |
| 2 |  |  | media\_title | varchar(128) | x | Name of the media item |
| 3 |  |  | media\_price | float | x | Price of the media item |
| 4 |  |  | media\_stock | int | x | Current available quantity of media item |
| 5 |  |  | media\_rush\_support | bit | x | 1 if the media support rush order, 0 otherwise |

**Book**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **PK** | **FK** | **Name** | **Data type** | **Mandatory** | **Description** |
| 1 | x | x | book\_id | varchar(4) | x | Id of the book. |

**Author**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **PK** | **FK** | **Name** | **Data type** | **Mandatory** | **Description** |
| 1 | x | x | author\_id | varchar(4) | x | Author’s id |
| 2 |  |  | author\_name | varchar(128) | x | Author’s name |

**BookAuthor**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **PK** | **FK** | **Name** | **Data type** | **Mandatory** | **Description** |
| 1 | x |  | book\_id | varchar(4) | x | Id of the book |
| 2 | x |  | author\_id | varchar(4) | x | Id of author of the book |

**Disc**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **PK** | **FK** | **Name** | **Data type** | **Mandatory** | **Description** |
| 1 | x | x | disc\_id | varchar(4) | x | Id of the disc. |
| 2 |  |  | disc\_length | float | x | Duration of the disc |

**Cd**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **PK** | **FK** | **Name** | **Data type** | **Mandatory** | **Description** |
| 1 | x | x | cd\_id | varchar(4) | x | Id of the CD |

**Track**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **PK** | **FK** | **Name** | **Data type** | **Mandatory** | **Description** |
| 1 | x | x | track\_id | varchar(4) | x | Id of the track |
| 2 |  |  | track\_length | float | x | Duration of the track |

**CDTrack**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **PK** | **FK** | **Name** | **Data type** | **Mandatory** | **Description** |
| 1 | x |  | cd\_id | varchar(4) | x | ID of the cd |
| 2 | x |  | track\_id | varchar(4) | x | ID of the track in CD |

**DVD**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **PK** | **FK** | **Name** | **Data type** | **Mandatory** | **Description** |
| 1 | x |  | dvd\_id | varchar(4) | x | ID of the DVD |

**Artist**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **PK** | **FK** | **Name** | **Data type** | **Mandatory** | **Description** |
| 1 | x | x | artist\_id | varchar(4) | x | Artist’s ID |
| 2 |  |  | artist\_name | varchar(128) | x | Artist’s name |

**DiscArtist**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **PK** | **FK** | **Name** | **Data type** | **Mandatory** | **Description** |
| 1 | x |  | disc\_id | varchar(4) | x | ID of the disc |
| 2 | x |  | artist\_id | varchar(4) | x | ID of the artists of the disc |

**AIMSOrder**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **PK** | **FK** | **Name** | **Data type** | **Mandatory** | **Description** |
| 1 | x | x | order\_id | int | x | ID of the order |
| 2 |  |  | customer\_id | int | x | ID of customer placed the order |
| 3 |  |  | date\_placed | date | x | Date when the order is placed |
| 4 |  |  | cost | float | x | Cost of the order |
| 5 |  |  | is\_rushed | bit | x | 1 for rushed order, 0 otherwise |

**OrderDetails**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **PK** | **FK** | **Name** | **Data type** | **Mandatory** | **Description** |
| 1 | x |  | order\_id | int | x | Id of the order |
| 2 | x |  | media\_id | varchar(4) | x | Id of the media in the order |
| 3 |  |  | quantity | int | x | Quantity of the media item in the order |

**Cart**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **PK** | **FK** | **Name** | **Data type** | **Mandatory** | **Description** |
| 1 | x |  | media\_id | varchar(4) | x | Id of the media in the cart |
| 2 |  |  | quantity | int | x | Quantity of the media in the cart |

**BankTransaction**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **PK** | **FK** | **Name** | **Data type** | **Mandatory** | **Description** |
| 1 | x |  | transaction\_id | int | x | Id of the transaction |
| 2 |  |  | transaction\_detail | varchar(256) |  | Detail of the transaction |
| 3 |  |  | transaction\_amount | float | x | Amount of the transaction |
| 4 |  |  | transaction\_time | datetime | x | Time that the transaction is performed |
| 5 |  |  | creditcard\_number | varchar(25) | x | Number of the credit card used to perform the transaction |

**Invoice**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **PK** | **FK** | **Name** | **Data type** | **Mandatory** | **Description** |
| 1 | x |  | invoice\_id | int | x | ID of the invoice |
| 2 |  |  | order\_id | int | x | ID of the order corresponding to the invoice |
| 3 |  |  | transaction\_id | int | x | ID of the transaction used to pay the order |