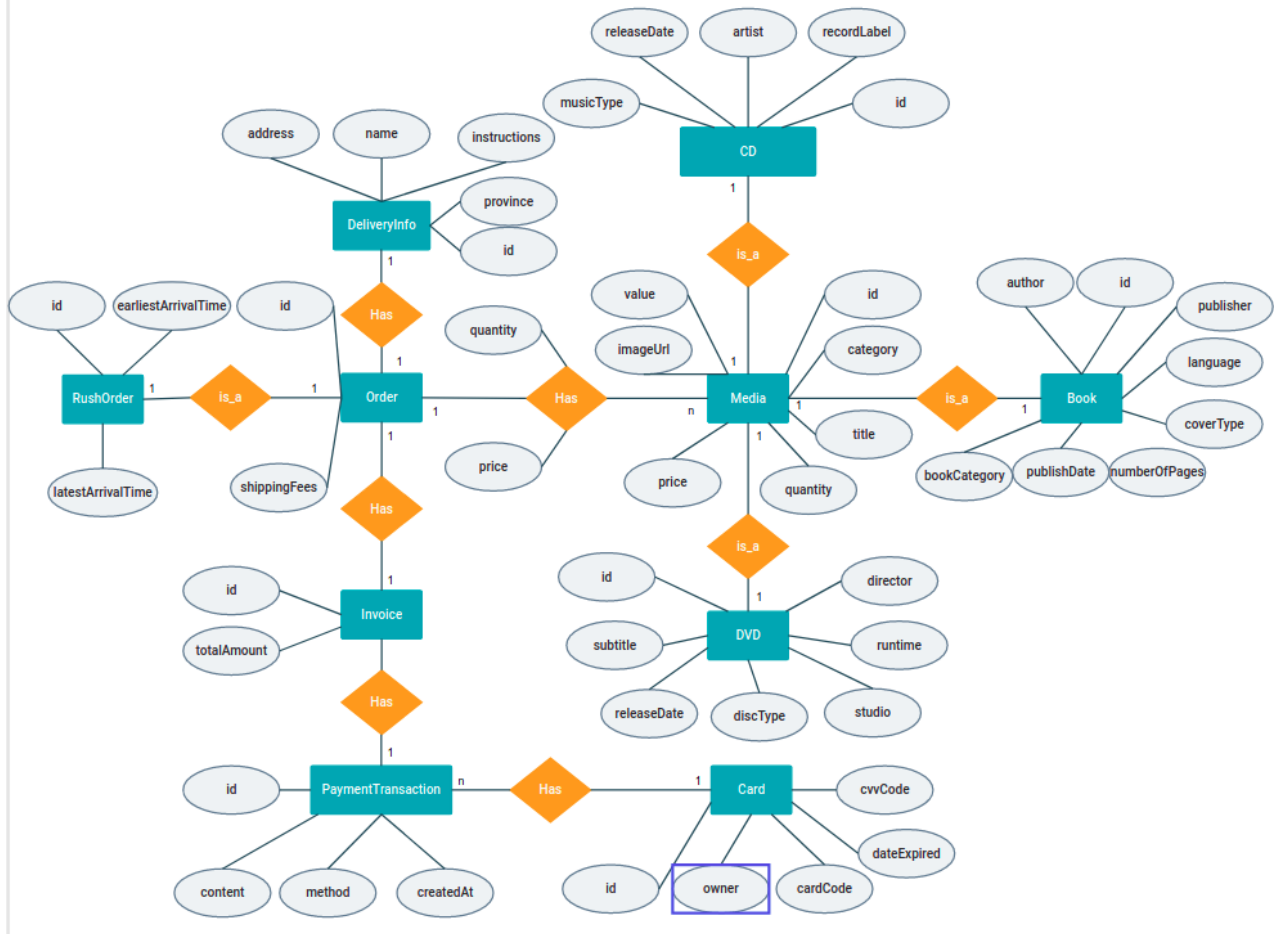
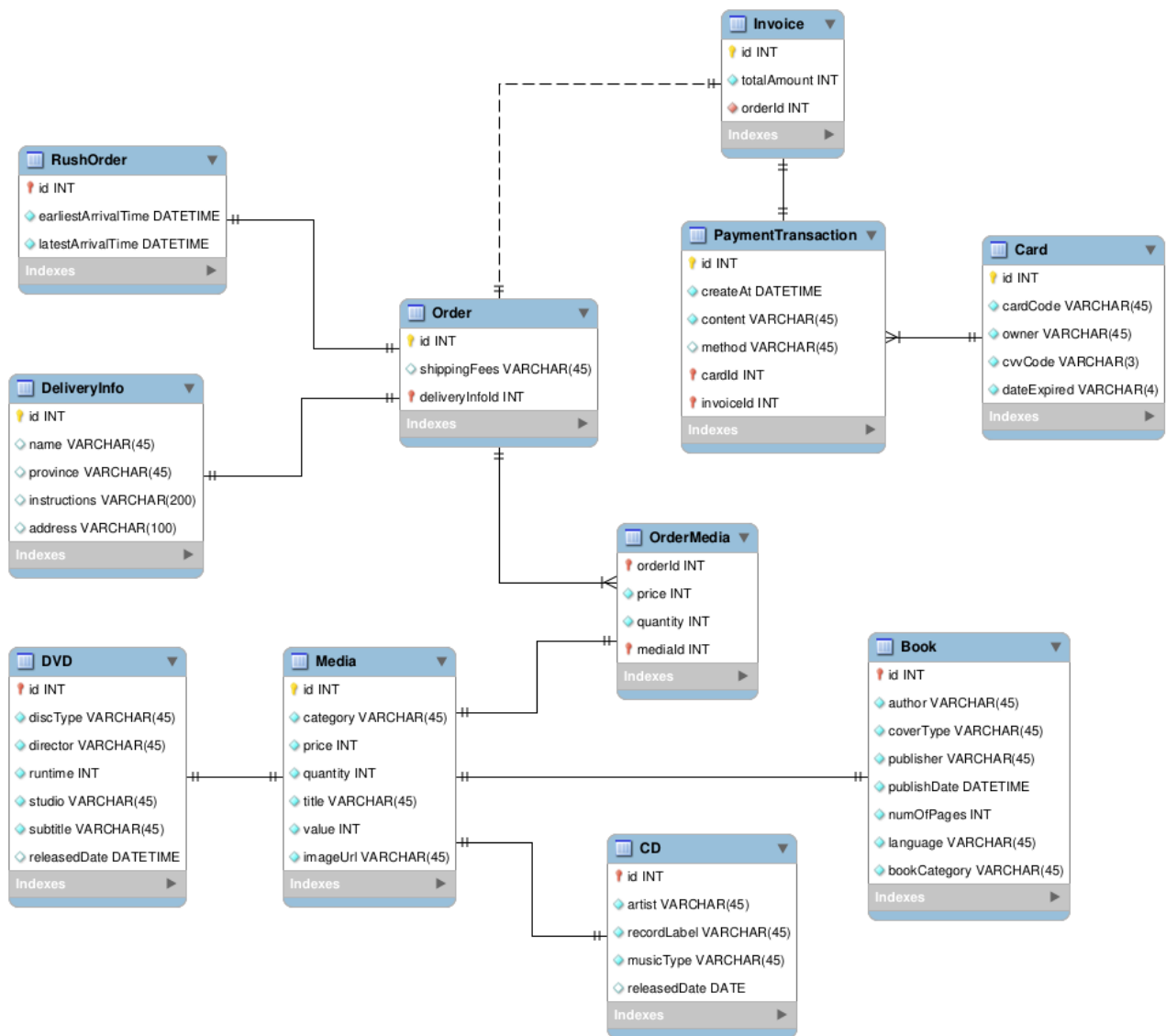


2.1. CONCEPTUAL DATA MODEL



2.2. DATABASE DESIGN

2.2.1. Logical Data Model



2.2.2 Physical Data Model

- Media

#	PK	FK	Column Name	Data type	Mandatory	Description
1.	x		id	Integer	Yes	ID, auto increment
2.			category	VARCHAR(45)	Yes	Media type, e.g, CD, DVD
3.			price	Integer	Yes	Current price
4.			quantity	Integer	Yes	Number of products
5.			title	VARCHAR(45)	Yes	Product name
6.			value	Integer	Yes	Value of the product
7.			imageUrl	VARCHAR(45)	Yes	Product image path

- CD

#	PK	FK	Column Name	Data type	Mandatory	Description
1.		x	id	Integer	Yes	ID, same as ID of Media of which type is CD

2.			artist	VARCHAR(45)	Yes	Artist's name
3.			recordLabel	VARCHAR(45)	Yes	Record label
4.			musicType	VARCHAR(45)	Yes	Music genres
5.			releasedDate	DATE	No	Release date

- Book

#	PK	FK	Column Name	Data type	Mandatory	Description
1.		x	id	Integer	Yes	ID, same as ID of Media of which type is Book
2.			author	VARCHAR(45)	Yes	Author
3.			coverType	VARCHAR(45)	Yes	Cover type
4.			publisher	VARCHAR(45)	Yes	Publishing house
5.			publishDate	DATETIME	Yes	Date of publishing
6.			numOfPages	Integer	Yes	Page number
7.			language	VARCHAR(45)	Yes	Language
8.			bookCategory	VARCHAR(45)	Yes	Book category

- DVD

#	PK	FK	Column Name	Data type	Mandatory	Description
1.		x	id	Integer	Yes	ID, same as ID of Media of which type is DVD
2.			discType	VARCHAR(45)	Yes	Disc type
3.			director	VARCHAR(45)	Yes	Director
4.			runtime	Integer	Yes	Duration
5.			studio	VARCHAR(45)	Yes	Manufacturer
6.			subtitle	VARCHAR(45)	Yes	Subtitles
7.			releasedDate	DATETIME	Yes	Release date

- Card

#	PK	FK	Column Name	Data type	Mandatory	Description
1.	x		id	Integer	Yes	ID, auto increment
2.			cardCode	VARCHAR(45)	Yes	Card code
3.			owner	VARCHAR(45)	Yes	Cardholders
4.			cvvCode	VARCHAR(3)	Yes	CVV code
5.			dateExpired	VARCHAR(4)	Yes	Expiration date

- DeliveryInfo

#	PK	FK	Column Name	Data type	Mandatory	Description
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1.	x		id	Integer	Yes	ID, auto increment
2.			name	VARCHAR(45)	Yes	Receiver name
3.			province	VARCHAR(45)	Yes	Provinces
4.			instructions	VARCHAR(200)	No	Delivery instructions
5.			address	VARCHAR(100)	Yes	Delivery address

- Order

#	PK	FK	Column Name	Data type	Mandatory	Description
1.	x		id	Integer	Yes	ID
2.			shippingFees	VARCHAR(45)	Yes	Shipping fee
3.		x	deliveryInfoId	Integer	Yes	Delivery Info ID

- RushOrder

#	PK	FK	Column Name	Data type	Mandatory	Description
1.		x	id	Integer	Yes	ID
2.			earliestArrivalTime	DATETIME	Yes	Earliest expected delivery time
3.			latestArrivalTime	DATETIME	Yes	Latest expected delivery time

- OrderMedia

#	PK	FK	Column Name	Data type	Mandatory	Description
1.		x	mediaId	Integer	Yes	Media ID
2.		x	orderId	Integer	Yes	Order ID
3.			price	Integer	Yes	Selling price
4.			quantity	Integer	Yes	Number

- Invoice

#	PK	FK	Column Name	Data type	Mandatory	Description
1.	x		id	Integer	Yes	ID
2.			totalAmount	Integer	Yes	Total
3.		x	orderId	Integer	Yes	Order ID

- PaymentTransaction

#	PK	FK	Column Name	Data type	Mandatory	Description
1.	x		id	Integer	Yes	ID
2.			createAt	DATETIME	Yes	Date of creation
3.			content	VARCHAR(45)	Yes	Transaction contents
4.			method	VARCHAR(45)	Yes	Payment methods
5.		x	cardId	Integer	Yes	ID of used card

6.		x	invoiceId	Integer	Yes	Invoice ID
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- Database script

```

create table Aims.Media(
    id integer primary key auto_increment not null,
    category varchar(45) not null,
    price integer not null,
    quantity integer not null,
    title varchar(45) not null,
    `value` integer not null,
    imageUrl varchar(45) not null
);

create table Aims.CD(
    id integer primary key not null,
    artist varchar(45) not null,
    recordLabel varchar(45) not null,
    musicType varchar(45) not null,
    releasedDate date,
    constraint `fk_CD_Media1` foreign key (id) references Media(id)
);

create table Aims.Book(
    id integer primary key not null,
    author varchar(45) not null,
    coverType varchar(45) not null,
    publisher varchar(45) not null,
    publishDate datetime not null,
    numOfPages integer not null,
    `language` varchar(45) not null,
    bookCategory varchar(45) not null,
    constraint `fk_Book_Media1` foreign key (id) references Media(id)
);

create table Aims.DVD(
    id integer primary key not null,
    discType varchar(45) not null,
    director varchar(45) not null,
    runtime integer not null,
    studio varchar(45) not null,
    subtitle varchar(45) not null,
    releasedDate datetime,
    constraint `fk_DVD_Media1` foreign key (id) references Media(id)
);

create table Aims.Card(
    id integer primary key auto_increment not null,
    cardCode varchar(45) not null,
    `owner` varchar(45) not null,

```

```
        cvvCode varchar(3) not null,  
        dateExpired varchar(4) not null  
    );
```

```
create table Aims.DeliveryInfo(  
    id integer primary key auto_increment not null,  
    `name` varchar(45),  
    province varchar(45),  
    instructions varchar(200),  
    address varchar(100)  
);
```

```
create table Aims.`Order`(  
    id integer not null,  
    shippingFees varchar(45),  
    deliveryInfoId integer not null,  
    primary key (id, deliveryInfoId),  
    constraint `fk_Order_DeliveryInfo1` foreign key (deliveryInfoId) references DeliveryInfo(id)  
);
```

```
create table Aims.RushOrder(  
    id integer primary key not null,  
    earliestArrivalTime datetime not null,  
    latestArrivalTime datetime not null,  
    constraint `fk_RushOrder_Order` foreign key (id) references `Order`(id)  
);
```

```
create table Aims.OrderMedia(  
    orderId integer not null,  
    price integer not null,  
    quantity integer not null,  
    mediaId integer not null,  
    primary key (orderId, mediaId),  
    constraint `fk_OrderMedia_Order` foreign key (orderId) references `Order`(id),  
    constraint `fk_OrderMedia_Media1` foreign key(mediaId) references Media(id)  
);
```

```
create table Aims.Invoice(  
    id integer primary key not null,  
    totalAmount integer not null,  
    orderId integer not null,  
    constraint `fk_Invoice_Order1` foreign key (orderId) references `Order`(id)  
);
```

```
create table Aims.PaymentTransaction(  
    id integer not null,  
    createAt datetime not null,  
    content varchar(45) not null,  
    method varchar(45),
```

```
cardId integer not null,  
invoiceId integer not null,  
primary key(id, cardId, invoiceId),  
constraint `fk_PaymentTransaction_Card1` foreign key(cardId) references Card(id),  
constraint `fk_PaymentTransaction_Invoice1` foreign key(invoiceId) references Invoice(id)  
);
```