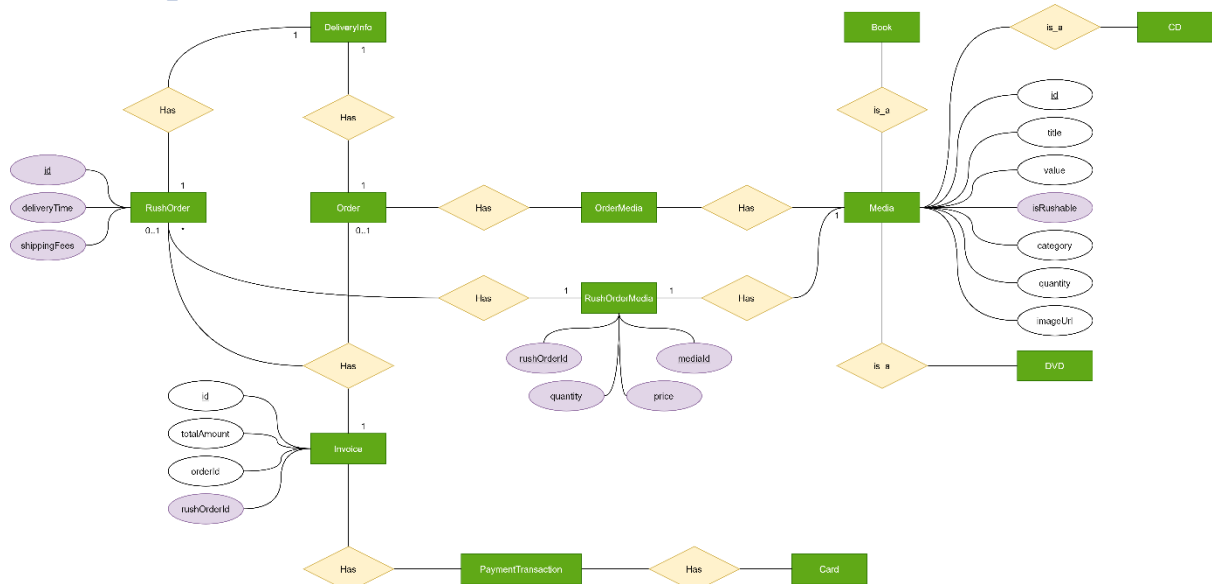


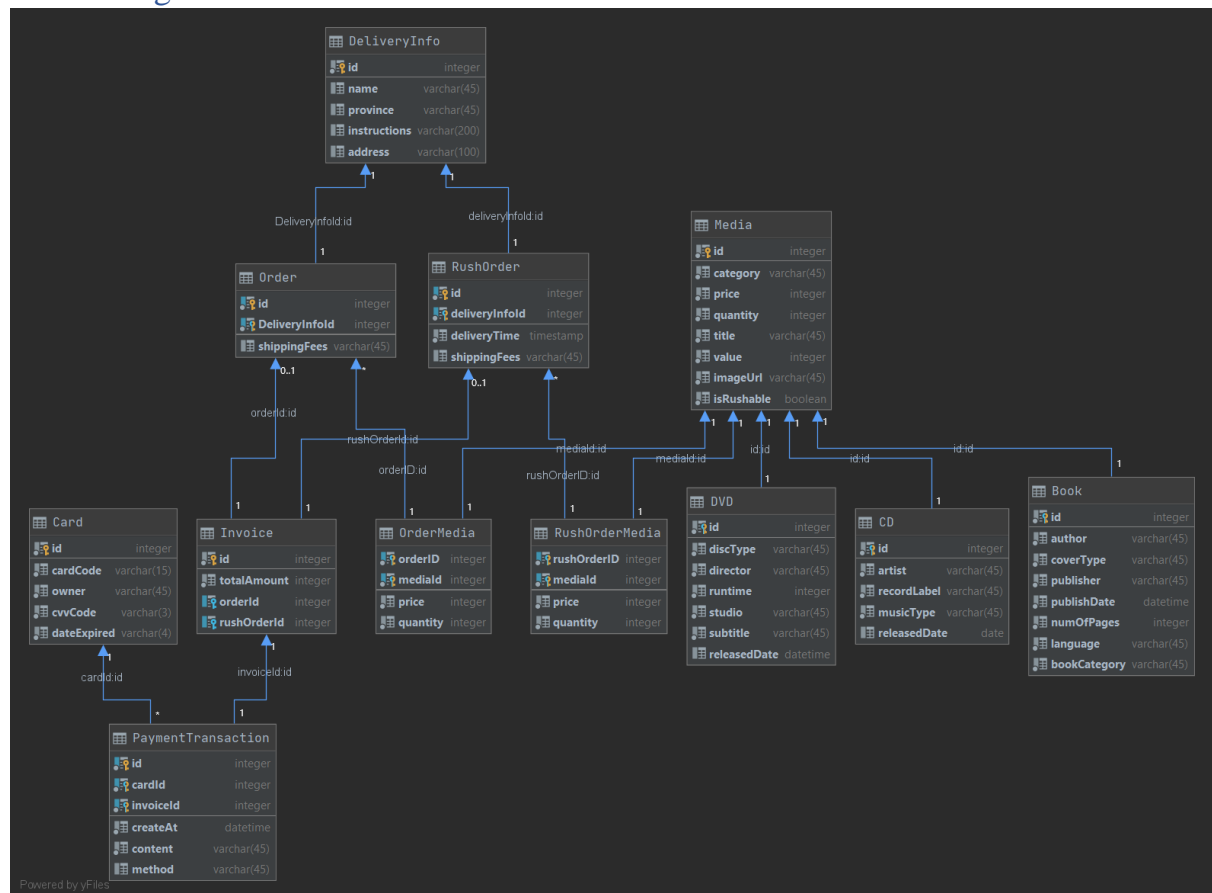
Data Modeling – Place Rush Order

1. Conceptual Data Model



2. Database Design

2.1. Logical Data Model



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
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 product
7.			imageUrl	VARCHAR(45)	Yes	Product image path
8.			isRushable	Boolean	Yes	Rush delivery support status

RushOrderMedia

#	PK	FK	Column Name	Data type	Mandatory	Description
1.	x	x	rushOrderId	Integer	Yes	Id of rush order it belongs
2.	x	x	mediaId	Integer	Yes	Id of media
3.			price	Integer	Yes	Price at placed time
4.			quantity	Integer	Yes	Number of bought items

Invoice

#	PK	FK	Column Name	Data type	Mandatory	Description
1.	x	x	id	Integer	Yes	auto increment
2.			totalAmount	Integer	Yes	total charge
3.		x	orderId	Integer	No	normal order id
4.		x	rushOrderId	Integer	No	rush order id

RushOrder

#	PK	FK	Column Name	Data type	Mandatory	Description
1.	x		id	Integer	Yes	auto increment
2.			deliveryTime	Timestamp	Yes	scheduled delivery time
3.			shippingFees	Integer	Yes	shipping fee for rush delivery
4.		x	deliveryInfoId	Integer	Yes	delivery info id

Scripts:

```
BEGIN;
CREATE TABLE "Media"
(
    "id"            INTEGER PRIMARY KEY AUTOINCREMENT 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,
```

```

        "isRushable" BOOLEAN NOT NULL
    );
CREATE TABLE "DeliveryInfo"
(
    "id" INTEGER PRIMARY KEY AUTOINCREMENT NOT NULL,
    "name" VARCHAR(45),
    "province" VARCHAR(45),
    "instructions" VARCHAR(200),
    "address" VARCHAR(100)
);
CREATE TABLE "RushOrder"
(
    "id" INTEGER NOT NULL,
    "deliveryTime" TIMESTAMP NOT NULL,
    "shippingFees" VARCHAR(45),
    "deliveryInfoId" INTEGER NOT NULL,
    PRIMARY KEY ("id", "deliveryInfoId"),
    CONSTRAINT "fk_RushOrder_DeliveryInfo1"
        FOREIGN KEY ("deliveryInfoId")
            REFERENCES "DeliveryInfo" ("id")
);
CREATE TABLE "RushOrderMedia"
(
    "rushOrderID" INTEGER NOT NULL,
    "mediaId" INTEGER NOT NULL,
    "price" INTEGER NOT NULL,
    "quantity" INTEGER NOT NULL,
    PRIMARY KEY ("rushOrderID", "mediaId"),
    CONSTRAINT "fk_rushOrdermedia_rushOrder"
        FOREIGN KEY ("rushOrderID")
            REFERENCES "RushOrder" ("id"),
    CONSTRAINT "fk_RushOrderMedia_Media1"
        FOREIGN KEY ("mediaId")
            REFERENCES "Media" ("id")
);
CREATE INDEX "RushOrderMedia.fk_rushOrdermedia_rushOrder_idx" ON
"RushOrderMedia" ("rushOrderID");
CREATE INDEX "RushOrderMedia.fk_RushOrderMedia_Media1_idx" ON
"RushOrderMedia" ("mediaId");
CREATE TABLE "Invoice"
(
    "id" INTEGER PRIMARY KEY NOT NULL,
    "totalAmount" INTEGER NOT NULL,
    "orderId" INTEGER,
    "rushOrderId" INTEGER,
    CONSTRAINT "fk_Invoice_Order1"
        FOREIGN KEY ("orderId")
            REFERENCES "Order" ("id"),
    CONSTRAINT "fk_Invoice_RushOrder1"
        FOREIGN KEY ("rushOrderId")
            REFERENCES "RushOrder" ("id")
);
CREATE INDEX "Invoice.fk_Invoice_Order1_idx" ON "Invoice" ("orderId");
CREATE INDEX "Invoice.fk_Invoice_RushOrder1_idx" ON "Invoice"
("rushOrderId");
COMMIT;

```