

# 부산대학교 수강신청시스템 데이터베이스 설계

팀명:  
팀원들:  
작성일:

## 1. Summary of Requirements

- 공통요구사항: 부산대학교 학생들이 학기별로 수강 신청을 원활하게 할 수 있는 기능
- 팀 요구사항 1:
- 팀 요구사항 2:
- 팀 요구사항 3:

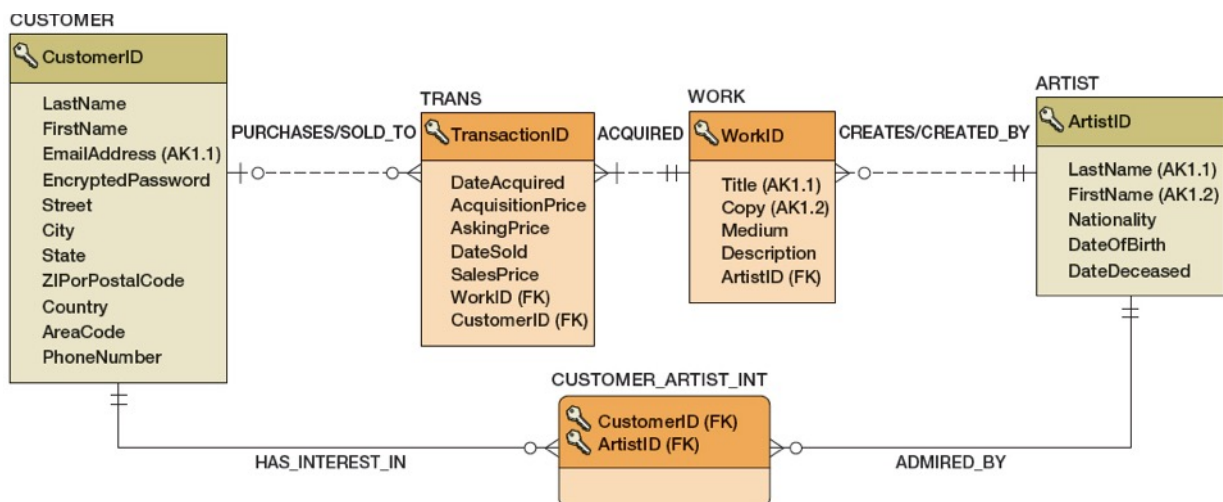
\* Please refer to Figure 6-34 in the textbook.

Summary of View Ridge Gallery Database Requirements
Track customers and their interest in specific artists
Record the gallery's purchases
Record customer's purchases
Report how fast an artist's works have sold and at what margin
Show the artists represented by the gallery on a Web page
Show current inventory on a Web page
Show all the works of art that have appeared in the gallery on Web pages

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## 2. Database Design

\* Please refer to Figure 6-37 in the textbook.



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### 3. Summary of Database Design Relationships

\* Please refer to Figure 6-38 in the textbook.

Relationship		Cardinality		
Parent	Child	Type	MAX	MIN
ARTIST	WORK	Nonidentifying	1:N	M-O
WORK	TRANS	Nonidentifying	1:N	M-M
CUSTOMER	TRANS	Nonidentifying	1:N	O-O
CUSTOMER	CUSTOMER_ARTIST_INT	Identifying	1:N	M-O
ARTIST	CUSTOMER_ARTIST_INT	Identifying	1:N	M-O

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### 4. Actions to Enforce Minimum Cardinality for Required Parents and Children

\* Please refer to Figure 6-39 and 6-40 in the textbook.

ARTIST Is Required Parent	Action on ARTIST (Parent)	Action on WORK (Child)
Insert	None.	Get a parent.
Modify key or foreign key	Prohibit—ARTIST uses a surrogate key.	Prohibit—ARTIST uses a surrogate key.
Delete	Prohibit if WORK exists—data about a work and its related transaction is never deleted (business rule). Allow if no WORK exists (business rule).	None.

(a) For the ARTIST-to-WORK Relationship

WORK Is Required Parent	Action on WORK (Parent)	Action on TRANS (Child)
Insert	None.	Get a parent.
Modify key or foreign key	Prohibit—WORK uses a surrogate key.	Prohibit—WORK uses a surrogate key.
Delete	Prohibit—data about a work and its related transaction is never deleted (business rule).	None.

(b) For the WORK-to-TRANS Relationship

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TRANS Is Required Child	Action on WORK (Parent)	Action on TRANS (Child)
Insert	INSERT trigger on WORK to create row in TRANS. TRANS will be given data for DateAcquired and AcquisitionPrice. Other columns will be null.	Will be created by INSERT trigger on WORK.
Modify key or foreign key	Prohibit—surrogate key.	Prohibit—TRANS must always refer to the WORK associated with it.
Delete	Prohibit—data related to a transaction is never deleted (business rule).	Prohibit—data related to a transaction is never deleted (business rule).

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## 5. Column Properties for the Database Design

\* Please refer to Figure 6-41 in the textbook.

ARTIST

Column Name	Type	Key	NULL Status	Remarks
ArtistID	Int	Primary Key	NOT NULL	Surrogate Key IDENTITY (1,1)
LastName	Char (25)	Alternate Key	NOT NULL	Unique (AK1.1)
FirstName	Char (25)	Alternate Key	NOT NULL	Unique (AK1.2)
Nationality	Char (30)	No	NULL	IN ('Canadian', 'English', 'French', 'German', 'Mexican', 'Russian', 'Spanish', 'United States')
DateOfBirth	Numeric (4)	No	NULL	(DateOfBirth < DateDeceased) (BETWEEN 1900 and 2999)
DateDeceased	Numeric (4)	No	NULL	(BETWEEN 1900 and 2999)

(a) Column Characteristics for the ARTIST Table

WORK

Column Name	Type	Key	NULL Status	Remarks
WorkID	Int	Primary Key	NOT NULL	Surrogate Key IDENTITY (500,1)
Title	Char (35)	Alternate Key	NOT NULL	Unique (AK1.1)
Copy	Char (12)	Alternate Key	NOT NULL	Unique (AK1.2)
Medium	Char (35)	No	NULL	
Description	Varchar (1000)	No	NULL	DEFAULT value = 'Unknown provenance'
ArtistID	Int	Foreign Key	NOT NULL	

(b) Column Characteristics for the WORK Table

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