

Team E CS605 - HB2

Note for the Oracle Database Design

1 The table name "ORDERT" has a "T" appended to the end such that the key word "Order" is not used as a table name.

List of Assumptions for the Requirements

Item #	Assumptions
1	One hardware can be required by many courses. One course requires at least one hardware.
2	One hardware could have one to many software programs installed;
3	One classroom can only have one type of computers (hardware with operating system) installed in them.
4	One course requires at least one software program.
5	There is only one publisher for one software program.
6	If there is no waitlist, enrollment happens when the client requests to enroll in a course.
7	Classes are assigned to one and only one classroom (i.e., multi-location classes or online classes are not offered).
8	One classroom can hold no class at certain time interval.
9	One course could be taught by multiple trainers and one specific class can be taught by only one trainer.
10	Each course requires zero to one course book. One course book can be used in zero to many courses
11	One course book can be written by one to many authors. One author can write zero to many course books.
12	Single order can be fulfilled by multiple shipments.
13	Each vendor name is unique and can be used as an identifier.
14	One course book can have one to many vendors. One vendor can supply zero to many course books.

List of Modifications from the Phase 1 ERD to the Phase 2 ERD

Item #	Change	Attribute	Entity
1	Added the following attributes to the VENDOR entity: Vendor_Name, Vendor_Address (Street1, Street2, City, State, Zip), Phone_Number. Also changed the	All attributes	VENDOR
2	Created an associative entity for SHIPMENT_LINE between COURSE_BOOK and SHIPMENT to hold the attribute for Quantity_Received.	N/A	SHIPMENT_LINE
3	Added an attribute to capture the shipment date.	Shipment_Date	SHIPMENT
4	Changed the dangler between CLIENT and MEMBERSHIP into an associative entity for MEMBERSHIP_PURCHASE and assigned a primary key:	N/A	MEMBERSHIP_PURCHASE
5	Added Initial_Date as an attribute on the CLIENT entity.	Initial_Date	CLIENT
6	Added an underscore in the name of the entity for COURSE_BOOK (the original ERD labeled it as COURSE BOOK).	N/A	COURSE_BOOK
7	Added an underscore in the name of the entity for ORDER_LINE (the original ERD labeled it as ORDER LINE).	N/A	ORDER_LINE
8	Modified the relationship between COURSE and COURSE_BOOK such that a COURSE may require zero to many coursebooks and a COURSE_BOOK may be	N/A	COURSE and COURSE_BOOK
9	The relationship between SHIPMENT and ORDER_LINE was removed. In its place, SHIPMENT is related to SHIPMENT_LINE (as described above).	N/A	SHIPMENT and ORDER_LINE

List of Modified Data Items (corrections, changes, generated dummy data, lookups)

Item #	Change	Field Name	Table
1	The original data file has duplicate "Class_ID"s used for classes with different names and different start/end dates. Those classes were reassigned to	Reference_Number	CLASS
2	The original data file has "Room_No" values of "1" and "2" for several classes, but these are not valid values based on the CLASSROOM table, which lists	Classroom_Number	CLASS
3	The original data file provided Class Start_Time, but our ERD did not include it as an attribute, so this field was intentionally excluded.	N/A	CLASS
4	To align with the narrative that there are 10 active employees, a new employee record was added.	All fields in the table	TRAINER
5	The original data file for HARDWARE_SOFTWARE and COURSE_SOFTWARE tables reference Software_IDs that do not exist in the SOFTWARE table. New	Software_ID	SOFTWARE
6	The original data file for the ENROLLMENT_REQUEST table references clients that are enrolled, but do not exist in the CLIENT table. New records were	Client_Number	CLIENT
7	The original data file for the CLIENT table includes zip codes with more than 5 digits. These values were modified to fit the requirement for standard zip	Zip	CLIENT
8	The original data files gave only the Author's initial for some First Name entries. Full first names were entered in those cases.	First_Name	AUTHOR

9	The original data file provides membership type, duration, price, and discounts that do not align with the narrative; we identified this as an inaccuracy in	All fields in the table	MEMBERSHIP
10	Assumed that "Macintosh" and "IBM" were the Hardware names.	Hardware_Name	HARDWARE
11	Assumed that "Macintosh" uses the "macOSX" operating system, and "IBM" uses the "Linux" operating system.	Operating_System	HARDWARE
12	The original data file separately lists data for the same shipment number and ISBN. To create uniquely identified rows of data, the quantity of course	All fields in the table	SHIPMENT_LINE
13	Assumed that the recipient of all book shipments is the same, so the address for the Northern Lights Technical School is repeated for all Shipment IDs.	All "address" fields	SHIPMENT
14	The original data file has multiple shipment dates for the same Shipment_ID. To align with the design whereby shipment_date is a single-valued attribute	SHIPMENT_DATE	SHIPMENT
15	The original data file provides books with the same title, but different authors and/or publishers. We assumed that these were valid separate ISBNs and	Course_Book_ISBN	COURSE_BOOK
16	The original data file includes courses that do not have a prerequisite (listed as "None"). These were removed from the table altogether, such that only	All fields in the table	COURSE_PREREQUISITES
17	Looked up Course_Book_ISBN from the COURSE_BOOK table by the provided Course Book Title.	Course_Book_ISBN	COURSE
18	Looked up Hardware_ID from the HARDWARE table by the provided Hardware_Req description.	Hardware_ID	COURSE
19	Looked up Reference_Number from the CLASS table by the provided Course Title. For the clients enrolled in Intermediate MS Word, there are 2 class	Reference_Number	ENROLLMENT_REQUEST
20	Looked up Course_Book_ISBN from the COURSE_BOOK table by the provided Course Book Title.	Course_Book_ISBN	COURSE_BOOK_VENDOR
21	Looked up Vendor_ID from the VENDOR table by the provided Vendor name. Inconsistencies in the vendor name (such as Tryoka/Troyoka, Bills books/Bills	Vendor_ID	COURSE_BOOK_VENDOR
22	Looked up Membership_Code from the MEMBERSHIP table by the membership description.	Membership_Code	MEMBERSHIP_PURCHASE
23	Looked up Author_ID from the AUTHOR table by the provided Author_Last name.	Author_ID	AUTHOR_BOOK_LISTING
24	Looked up Course_Book_ISBN from the COURSE_BOOK table by the provided Course Book Title.	Course_Book_ISBN	AUTHOR_BOOK_LISTING
25	Looked up Hardware_ID from the HARDWARE table by the provided Hardware_Req description.	Hardware_ID	HARDWARE_SOFTWARE
26	Looked up Vendor_ID from the VENDOR table by the provided Vendor name.	Vendor_ID	ORDER
27	Looked up Course_Book_ISBN from the COURSE_BOOK table by the provided Course Book Title.	Course_Book_ISBN	ORDER_LINE
28	Looked up Course_Book_ISBN from the COURSE_BOOK table by the provided Course Book Title.	Course_Book_ISBN	SHIPMENT_LINE
29	Looked up Vendor_ID from the VENDOR table by the provided Vendor name.	Vendor_ID	SHIPMENT
30	Looked up Unique_Code from the COURSE table by the provided Course Name.	Unique_Code	COURSE_PREREQUISITES
31	Looked up Unique_Code from the COURSE table by the provided Course Name.	Unique_Code	COURSE_SOFTWARE
32	Looked up Unique_Code from the COURSE table by the provided Course Name.	Unique_Code	QUALIFICATION
33	Generated dummy data since no data was provided.	Unique_Code	COURSE
34	Generated dummy data since no data was provided.	Course_Level	COURSE
35	Generated dummy data since no data was provided.	Enrollment_ID	ENROLLMENT_REQUEST
36	Generated dummy data since no data was provided.	Request_Date_Time	ENROLLMENT_REQUEST
38	Generated dummy data since no data was provided.	Payment	ENROLLMENT_REQUEST
39	Generated dummy data since no data was provided.	Middle_Name	TRAINER
40	Generated dummy data since no data was provided.	Street1	TRAINER
41	Generated dummy data since no data was provided.	Street2	TRAINER
42	Generated dummy data since no data was provided.	City	TRAINER
43	Generated dummy data since no data was provided.	State	TRAINER
44	Generated dummy data since no data was provided.	Zip	TRAINER
45	Generated dummy data since no data was provided.	Employee_Phone_Number	TRAINER
46	Generated dummy data since no data was provided.	Email_Address	TRAINER
47	Generated dummy data since no data was provided.	Employment_Start_Date	TRAINER
48	Generated dummy data since no data was provided.	Employment_End_Date	TRAINER
49	Generated dummy data since no data was provided.	Middle_Name	CLIENT
50	Generated dummy data since no data was provided.	Author_ID	AUTHOR
51	Generated dummy data since no data was provided.	Middle_Name	AUTHOR
52	Generated dummy data since no data was provided.	Membership_Code	MEMBERSHIP
53	Generated dummy data since no data was provided.	Hardware_ID	HARDWARE
54	Generated dummy data since no data was provided.	Hardware_Description	HARDWARE
55	Generated dummy data since no data was provided.	Order_Status	ORDER

56	Generated dummy data since no data was provided.	First_Name	SHIPMENT
57	Generated dummy data since no data was provided.	Middle_Name	SHIPMENT
58	Generated dummy data since no data was provided.	Last_Name	SHIPMENT
59	Generated dummy data since no data was provided.	Street1	SHIPMENT
60	Generated dummy data since no data was provided.	Street2	SHIPMENT
61	Generated dummy data since no data was provided.	City	SHIPMENT
62	Generated dummy data since no data was provided.	State	SHIPMENT
63	Generated dummy data since no data was provided.	Zip	SHIPMENT
64	Generated dummy data since no data was provided.	Qualification_ID	QUALIFICATION