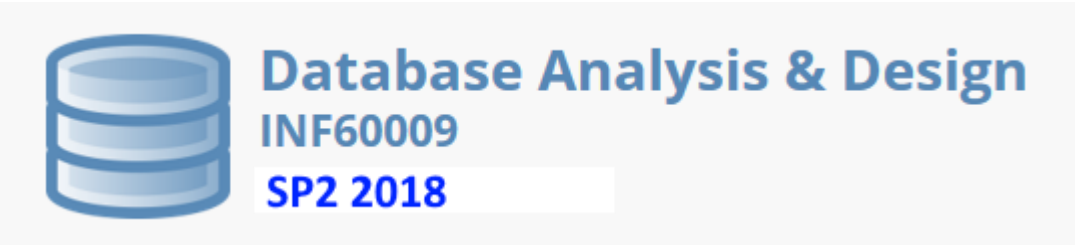

Distinction Task 2

Overview

- This is the **second** Distinction Task. It seeks to bring together, at an advanced level, all your modelling work, SQL skills, and data manipulation abilities – using a case study known as Urban Street Art Tours.
- You should only attempt this task if you feel you've gained high level mastery of the above ERD and SQL skills. Remember – you need to complete both Distinctions tasks successfully in order to be considered for a Distinction grade in this unit.
- Each part of this document has a number of marks associated with it.
- You will be awarded marks for how successfully you complete each part.
- Not all parts have to be completed for you to obtain marks.
- Some parts can be partially completed to obtain marks.

Getting Started

- Create a file named **DTASK2.PDF** (This is a PDF of the file named **DTASK2.DOCX** described below).
- This file will contain screen shots described in this document.
- Finally log into Doubtfire and submit this file into the appropriate **DTASK2** task in Doubtfire.

'Urban Street Art Tours'

Urban Street Arts Tours *(USAT) is an organisation than runs tours around inner and outer Melbourne. They take groups of street art enthusiasts to dedicated street art precincts. They have been running for about 2 years. The organisation plans to increase marketing and create more tours, and also expand further into other Australian states. USAT currently store all of their data in a spreadsheet (a sample is provided on Blackboard). To assist the USAT it is believed they need a database solution developed for them. USAT would like you to create an ERD, Relational Schema and Sample Database Tables for them. In the future, other students will develop a web interface to the database, a rich user experience, and analytical data tools and so on.*

Part 1 – Tours, Customers, Events, and Bookings

Part 1a. (worth up to 4 marks out of 20)

- Read the following narrative about USATs business:

> *The owner/manager of USAT, a self-professed street art lover, gives you the following information: USAT conduct a number of different tours to known graffiti and urban art precincts in areas of Melbourne. Each Tour has an ID, and a description, and may run many times in a year (such as the West Tour). Each time it is run it is called an 'Event'. The West Tour currently runs an event once a month (with an additional event during the December and January period – when the good weather and end-of-year parties create higher demand). Each event has a fee. Fees have usually increased by around 10% each year. USAT have a number of customers. Each customer has a name, id and gender. USAT customers make bookings for tour events. Payment is made by credit card. (you do not have to worry about recording credit card details etc.). The date that a booking is made is also recorded.*

- Create an **ERD** based on these details.
- Convert the ERD into a **Relational Schema.**
- The ERD must be drawn using a drawing package such as **Visio**.
- The symbols used in the ERD must match those used in lectures this semester.
- Do **not** introduce any surrogate keys into your solution.

Part1b. (worth up to 4 marks out of 20)

- Build a database using MS Access **or** Oracle via iSQLJr and SQL statements.
- Add the sample data (from the spreadsheet into the tables. Only use data from the areas labelled Customer, Tour Event, Tours and Bookings. Ignore the other data for now).
- **Note:** Your database solution must use a **single column primary key** in each table. This may require you to utilize **surrogate keys**.
- **Additional Data:** You must also add a **yourself** as a **customer**. Use your name and student id.

Part 1c. (worth up to 2 marks out of 20)

- Run queries that list the data in each of the tables

Now submit...

- Copy and Paste a screenshot your **ERD** into the file named **DTASK2.DOCX**
- Copy and Paste your **Relational Schema** into the file named **DTASK2.DOCX**
- Copy and Paste the **result set** of each of the queries into the file named **DTASK2.DOCX**

Part 2 – Products and Purchases

Part 2a. (worth up to 4 marks out of 20)

- The owner/manager now gives you further information:

  When customers attend a tour event, the customer often purchase merchandise offered by USAT (e.g. t-shirts, prints, food etc). USAT want to record what merchandise was purchased by each customer. The example spreadsheet shows the quantities of each item of merchandise that was purchased by each customer on a tour event. Some customers do not purchase any merchandise, some customers purchase one item of merchandise while other customers order many items of merchandise while attending the tour event. Each of the items of merchandise belongs to a single product category. Recording these details allows USAT to determine which category of products are most sought after, which tours are most popular, how much each customer is spending on each tour and so on.

- Copy the above **ERD** and make changes to include product purchase information.
- Reflect these changes in the **Relational Schema**.
- Do **not** introduce any surrogate keys into your solution.

Part 2b. (worth up to 4 marks out of 20)

- Make a Copy the previous database.
- **Implement the changes** described in your ERD and relational schema
- You will need to create some sample data for Merchandise, Categories and Purchases to adequately test your solution (some examples are provided in the sample data)
- **Additional Data:** Add additional data to the database so that the **customer with your details** makes tour event bookings and makes purchases.

Part 2c. (worth up to 2 marks out of 20)

- Run build and execute **queries** that show the following:
  - How much money has been spent by every USAT customer – in terms of merchandise purchases.
  - The total sales of each item of merchandise.
  - The total sales of each USAT tour event.
  - The total sales by merchandise category.
  - Show all purchases made by the customer with your details made on each tour event that they attended.

Now submit…

- Copy and Paste a screenshot your modified **ERD** into the file named **DTASK2.DOCX**
- Copy and Paste your modified **Relational Schema** into the file named **DTASK2.DOCX**
- Copy and Paste the **Query Design Grid** (MS Access) or **ALL SQL statements** (Oracle) into the file named **DTASK2.DOCX**
- Copy and Paste a screenshot of the **result set** of each query into the file named **DTASK2.DOCX**