NGEE ANN
SCHOOL OF INFOCOMM TECHNOLOGY

Databases	Day **1**
	2 hours
Tutorial 1 **Introduction to Databases**	

Learning Objectives

- Learn to identify attributes in objects/entities
- Learn to identify relevant attributes by examining documents
- Learn to identify business queries from the perspectives of different users
- Learn to identify additional relevant attributes by examining the business queries

REFERENCES

(i) Receipt documents: NP Library Loan Receipt; Uniqlo Sales Receipt

ACTIVITIES

Task 1 – Identify attributes of everyday objects

Recommended Time allotted: 20 mins

Working in teams of 2 or 3 students, look around you in the class or outside the classroom. Identify 3 common objects and for each object, list at least **5** attributes describing the object. An attribute describes the characteristic or property of an object.

Example: A fast food restaurant, such as McDonald's at Beauty World or Clementi Mall.

Object/ Entity: Fast Food Restaurant
Attributes: *Restaurant name, address, telephone number, restaurant manager, seating capacity, opening hours, name of food, type of food, price of food, restaurant floor area.*

Use the following template to complete this task:

Name of Object	Brief Description	List of Attributes
Fast Food Restaurant	A typical fast food restaurant which serves food, snacks and drinks	*Restaurant name* *address* *Telephone number* *restaurant manager* *seating capacity* *opening hours* *name of food* *type of food* *price of food* *restaurant floor area*

Name of Object	Brief Description	List of Attributes
PC Notebook		
Projector		
Taxi		

Task 2 – Identify data attributes in formal records

Materials: (a) NP Library loan record   (b) Uniqlo sales receipt – refer to the appendices at the end of this document.

Time allotted: 40 mins (10 mins for 1st document, 10 mins for review and repeat 2nd document)

In Task 1, your team has identified common objects and intuitively listed attributes that you believed are useful for the organisation. In this exercise, your team needs to examine the given documents and closely identify all the relevant data attributes printed in the document

Use the template below to complete this task:

Document Name	Brief Description	List of Attributes
NP Library Loan Record		

Uniqlo Sales Receipt		

Task 3 – Identify typical business queries from different users' perspectives

Recommended Time allotted: 30 mins

Working in your teams identify at least 3 typical business queries for (a) NP Library System and (b) Uniqlo Sales System from the following users' perspectives:
- (i) End user e.g. customer or borrower
- (ii) Staff
- (iii) Management

Example: A fast food restaurant, such as McDonald's at Beauty World or Clementi Mall.

User	Typical Queries
Customer	Which drink has lesser sugar? Which burger contains beef? How much is the delivery charge?
Staff	How many burgers of each type was sold today? How many more fish burgers are there? What is the mode of payment for each sales? How many sales are there for each mode of payment?
Management	Which is the bestselling burger for this month and how many were sold? What branch is most popular with customers in the last 3 months? Were there more takeaways or dine-ins in the past year at the Changi Airport branches?

Task 4 – Quick Rounding Up: Identify additional attributes needed (*Optional*)

Recommended Time allotted: 10 mins

Review the attributes identified in task 2 above. Are these attributes sufficient to answer the queries identified in task 3 above?   If not, what are some additional attributes required for answering the business queries.

Example: A fast food restaurant, such as McDonald's at Beauty World or Clementi Mall.

Attributes: *Restaurant name, address, telephone number, restaurant manager, seating capacity, opening hours, name of food, type of food, price of food, restaurant floor area.*

Additional Attributes: *Ingredients of each food, sales transaction type (takeaway or dine-in), payment mode, inventory of each food, delivery charges, date and time of payment, name and quantity of food sold in each sales transaction, etc.*

Appendix A – NP Library Loan Receipt

SelfCheck L2

Ngee Ann Polytechnic
Lien Ying Chow Library

Customer name: CHIA KIM HEOK
Customer ID: ****9942

Title: Einstein's riddle : riddles, paradoxes, and conundrums to stretch your mind / Jeremy Stangroom.
ID: A4006105
Due: 05/11/2015 23:59

Title: Financial fraud / Balvinder Sandhu.
ID: A4532716
Due: 05/11/2015 23:59

Title: Apple Watch for dummies / by Marc Saltzman.
ID: A4624482
Due: 05/11/2015 23:59

Title: The iPhone photographer : how to take professional photographs with your iPhone / Michael Fagans.
ID: A4623517
Due: 05/11/2015 23:59

Title: Be careful what you wish for / Jeffrey Archer.
ID: A4623965
Due: 05/11/2015 23:59

Title: Ethical leadership : creating and sustaining an ethical business culture / Andrew
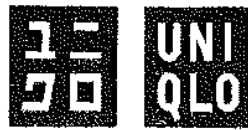ID: A4692249
Due: 05/11/2015 23:59

Total items: 6
06/10/2015 13:29

Please :
- retain this receipt as proof of loan.
- report loss of Card immediately.
- feedback problems with DVDs/CDs at Circulation Counter.

THANK YOU & HAVE A NICE DAY!

Appendix B – Uniqlo Sales Receipt

WWW.UNIQLO.COM

UNIQLO Somerset
313 Orchard Road #03-27/34
Singapore 238895
TEL:6834 4073
GST REG NO:200816544K

2000040797241 x	1	34.90 T	
W's denim shorts			
2000041816897 x	1	24.90 T	
W's chino shorts			

Total   2   59.80
Cash   60.00
Change
Cash   -0.20

GST   3.91

Date   Time Store POS Empl Tran No
06/04/2013 17:27 0003   5 5236   197
You were served by CHAI LING, S

2013040617270003050197