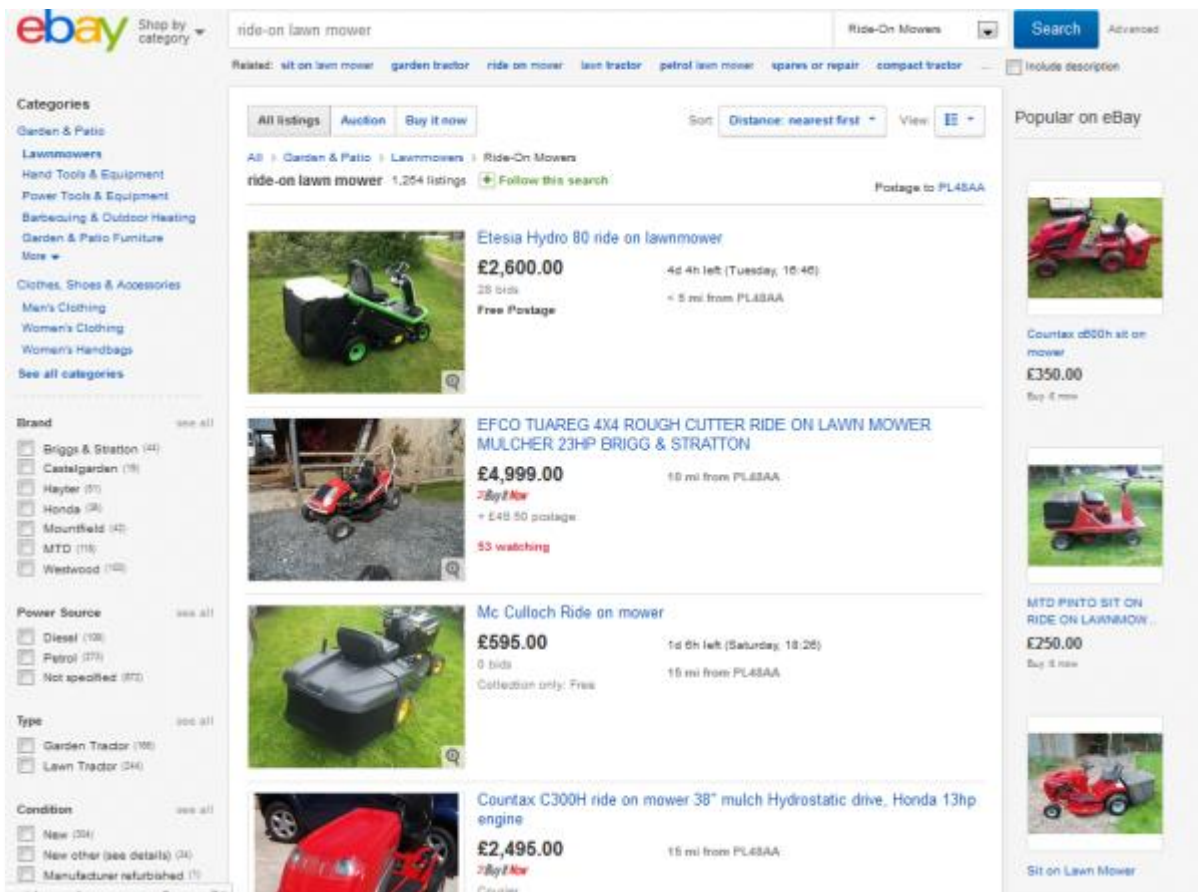# ISAD353 Advanced Databases and Data Management 2016-17

Assignment 2 - Practical application development and documentation (ISAD353/C1/W1)

This individual assignment constitutes 35% of the overall mark for the module and assesses the following Assessed Learning Outcome:

Develop a complex application capable of handling unstructured data. Critically evaluate current and emerging approaches for analysing and interpreting data using data mining and business intelligence techniques.

eBay (http://www.ebay.co.uk), the popular auction site, uses full text searching to help users to find items for sale and presents text and image results in a number of ways including sorted by distance (i.e. nearest first).

You are required to develop an application using Oracle 12c and Oracle Application Express 5.0 to demonstrate the following:

- full text search,
- text and image display, and
- location sorting (e.g. nearest first)

You must use Oracle Text and Oracle's ORDImage and Spatial object types.

Your application should also include a means of populating your system with appropriate data.

You may wish to incorporate additional features but this must not be to the detriment of the core requirements above.

The choice of application area is up to you (e.g. restaurants, surfing beaches, National Trust properties, hospitals, WiFi hotspots) but you should ensure that you have sufficient test data to enable your application to be demonstrated to its fullest extent.

You should submit a single **zip** file via the DLE comprising:

1. A report (**.pdf** format) with:
   a. A brief overview of your application;
   b. A list of any assumptions you have made;
   c. Your SQL CREATE statements for your database objects, e.g. tables, views, procedures, functions, sequences and/or database triggers;
   d. A set of relevant screen shots showing your application in operation together with a written commentary where appropriate;
   e. A copy of the region source from your Application Express report page – you should ensure that this is presented in a legible way with highlighted reserved words and indentation. You may find that this is more easily included as an appendix but do ensure that you refer to it.
   f. A copy of any custom Application Express process code together with an account of how and when it is run. As above, you may find that this is more easily included as an appendix but do ensure that you refer to it.
   g. A critical appraisal of your solution highlighting worthy features, together with any shortcomings and how they might be resolved (approx. 300 words);
2. An export (**.sql** format) of your APEX application.

Note that the format of these files **must** be correct.

To achieve a threshold pass mark in this assignment, you must implement successfully at least two of the three elements (text, image or spatial).

Assessment Criteria

Deliverable	Maximum Marks
Appropriateness of application To achieve any marks for this section, you must have an application scenario which is capable of utilising full text search, image display and location sorting.	5

Quality of database objects To achieve a mark of 40% or above in this section, you must show how you have implemented all of your tables with appropriate table and column names, data types and entity and referential integrity. To achieve a mark of 60% or above in this section, you must also show how you have implemented a significant amount of data integrity using a variety of methods. To achieve a mark of 80% or above in this section, you must also show how you have implemented complete data integrity using a variety of methods. Marks will be reduced for database objects (tables, views, sequences, triggers, procedures and functions) being omitted, poor presentation of code, constraints without explicitly assigned names and deviation from the recommended naming convention.	**20**
Quality of application including provision of search and display features and additional features To achieve a mark of 40% or above in this section, you must be able to illustrate and document that your application implements any two of the following to a basic level: full text search, image display and location sorting To achieve a mark of 60% or above in this section, you must be able to illustrate and document that your application implements the following to a basic level: full text search, image display and location sorting To achieve a mark of 80% or above in this section, you must be able to illustrate and document that your application implements full text search, image display and location sorting to a basic level with at least one to an advanced level and incorporates innovative features Marks will be reduced for the use of insufficient and inappropriate test data.	**60**

Validity of critical appraisal To achieve a mark of 40% or above in this section, you must provide a superficial account of the problem areas and worthy features. To achieve a mark of 60% or above in this section, you must provide a substantial account of the problem areas and worthy features, together with suggestions for improvement. To achieve a mark of 80% or above in this section, you must provide a complete account of the problem areas and worthy features, together with suggestions for improvement and an indication as to how these may be realised.	**15**
TOTAL	**100**

Deadline for submission: **Thursday 12th January 2017 by 10am via the DLE**

Marked work will be returned within 20 working days of the submission deadline (i.e. on or before 10th February 2016).

Ismini Vasileiou
Email: Ismini.vasileiou@plymouth.ac.uk

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