



CA 50%

DATA ANALYTICS 2018

INTRODUCTION

- FOR THIS ASSIGNMENT YOU ARE REQUIRED TO:
 1. PREPARE, ANALYSE AND REPORT ON THE DATA IN THE LISTINGS.XLS WORKBOOK. (25%)
 2. DESIGN, CREATE AND REPORT ON A DASHBOARD THAT PRESENTS DATA RELEVANT TO APPROPRIATE KPI'S FOR THE AIRBNB DATA. (25%)
 3. WRITE A SUMMARY REPORT DETAILING THE WORK COMPLETED.
- THE SKILLS TO BE DEMONSTRATED WILL BE BASED ON BOTH LECTURES AND LABS AS WELL AS SELF DIRECTED LEARNING.

THE DATASET

- THE DATA RECORDS AIRBNB LISTINGS IN DUBLIN AS OF FEB 2017.
 - 6729 LISTINGS OF ACCOMMODATION
 - DETAILS OF ACCOMMODATION TYPE, LOCATION, DESCRIPTION, ACCESS, HOST DETAILS, PRICE, AMENITIES AND AVAILABILITY
- NUMERICAL AND CATEGORICAL DATA

GENERAL REQUIREMENTS

- USE OF AIRBNB DATA
- CHOOSE ONE USER (FOR EXAMPLE:)
 - PROPERTY MANAGEMENT COMPANY
 - PROPERTY INVESTOR
 - TRAVEL ORGANIZATION
 - ACADEMIC RESEARCHER
- DATA PREP AND ANALYSIS, DESCRIPTIVE STATISTICS
- EXCEL DASHBOARD.
- SUMMARY REPORT
- ALL YOUR OWN WORK.

1. DATA PREP AND ANALYSIS

- THE DATA REQUIRES CLEANING PRIOR TO BEING ANALYSED.
 - THERE MAY BE MISSING DATA, UNUSABLE DATA, INCONSISTENT DATA.
- ANALYSIS OF THE DATA USING EXCEL TO PRODUCE SUMMARY STATISTICS AND PRESENTATION OF THE DATA IN VISUAL FORM.
- YOU MAY CHOOSE A SUBSET OF THE DATA SHEET ON WHICH TO PERFORM YOUR ANALYSIS. THAT SUBSET IS CHOSEN WITH THE USER IN MIND.
- YOU MAY CHOOSE TO ADD DATA TO THE DATASET.

1. DATA PREP AND ANALYSIS

- YOU MUST FIRST FAMILIARISE YOURSELF WITH THE DATASET, UNDERSTAND THE DATA AND THEN IDENTIFY THE DATA SUITABLE FOR THE USER CHOSEN.
- THE ANALYSIS SHOULD PROVIDE AN OVERVIEW OF THE DATA TO THAT PARTICULAR USER.
- THIS DATA PREPARATION AND ANALYSIS IS TO BE YOUR OWN WORK.

2. DASHBOARD

- THE DASHBOARD SHOULD PROVIDE THE SAME USER WITH A WINDOW INTO THE DATA YOU HAVE PREPARED AND ANALYSED.
- SOME OF WHAT IS VISIBLE ON THE DASHBOARD WILL BE THE SUMMARY(OVERVIEW) STATISTICS FROM THE DATA PREP AND ANALYSIS WORK.
- YOU NEED TO DEMONSTRATE PROFICIENCY IN IDENTIFYING APPROPRIATE KPI'S, AS WELL AS THE CREATION AND CODING OF A DASHBOARD.
- DASHBOARD DESIGN AND IMPLEMENTATION IS TO BE YOUR OWN WORK.

2. DASHBOARD (KPI REQUIREMENTS)

- CHOOSE AT MINIMUM THREE APPROPRIATE KPI'S FOR YOUR DASHBOARD. THE KPI'S SHOULD BE APPROPRIATE TO THE USER(S) CHOSEN.
- INCLUDE A DESCRIPTION OF EACH KPI AND ITS PURPOSE IN THE SUMMARY REPORT.
- EXAMPLE:
 - TOP RATED LISTINGS BASED ON REVIEW SCORES
 - SATURATION OF LISTINGS IN A POST CODE AREA

2. DASHBOARD

- IMPLEMENT VISUAL REPRESENTATIONS FOR EACH KPI, CONSIDER HOW THE DATA WILL BE VIEWED AND FILTERED BY THE USER.
- CONSIDER THE LAYOUT OF THE DASHBOARD FOR EACH KPI

2. DASHBOARD

- BASIC COMPONENTS FOR VISUALISATION:
 - CHARTS
 - SINGLE VALUES
 - TEXT
 - SELECTORS
 - SLIDERS
- LAYOUT
 - BACKGROUND, DIVISIONS, GROUPINGS, IMAGES, CONTAINERS

3. SUMMARY REPORT

- A SUMMARY REPORT THAT DETAILS THE DATA ANALYTICS PROCESS UNDERTAKEN.
- THE REPORT SHOULD INCLUDE DETAIL ON:
 - DATA PREPARATION (ENSURING GOOD QUALITY CLEANED DATA)
 - DATA DISCOVERY (FAMILIARISATION WITH THE DATASET, DESCRIPTIVE STATISTICS)
 - MODEL PLANNING (DESIGN OF THE DASHBOARD, I.E. KPI'S CHOSEN AND RATIONALE)
 - AND MODEL BUILDING (DASHBOARD IMPLEMENTATION).
- THE REPORT SHOULD INCLUDE ALL SUMMARY STATISTICS AND DATA ANALYSIS CONDUCTED DURING THE DATA DISCOVERY AND PREPARATION STAGES IN RELATION TO THE USER CHOSEN.

GRADING SPECTRUM

User group/ KPIs	Data Prep/Analysis	Dashboard components	Result
3 basic KPIs	Basic descriptive statistics	Basic components included, simple layout	Baseline
3 KPIs appropriately chosen for one user group	Complete data discovery and data prep suitable for user group	Basic components positioned and appropriately used on one sheet, basic navigation	Good
3 KPIs > 1 user group (related groups)	Complete data discovery and data prep with additional data added	Multi sheet, consistent navigation, divisions, groups, new components learned	Excellent
> 3 KPIs appropriately chosen for >1 related user groups	Data discovery and data prep to very high standard, including graphical presentation in report and dashb.	Multi sheet, with differing purpose and component usage appropriate to user group, consistent theme, positioning and clarity of purpose	Outstanding

MARKING SCHEME

- <40% (FAIL): POOR DATA PREP AND ANALYSIS CONDUCTED. VERY FEW FEATURES HAVE BEEN IMPLEMENTED. THE DASHBOARD CONTAINS ERRORS THAT PREVENT IT FROM BEING DISPLAYED PROPERLY (E.G., SOURCE DATA ERRORS).
- 40 - 50%: SUMMARY REPORT CONTAINS ADEQUATE DETAILS ON WORK COMPLETED. SUFFICIENT DATA PREP AND ANALYSIS CONDUCTED TO PRESENT FOR THE USER GROUP CHOSEN. STUDENTS HAVE IMPLEMENTED MOST OF THE DASHBOARD FEATURES REQUESTED. THE DASHBOARD CAN BE DISPLAYED WITH NO ERRORS.
- 50-69%: SUMMARY REPORT WELL WRITTEN WITH DETAILS ON EACH STAGE OF THE PROCESS. GOOD DATA PREP AND ANALYSIS CONDUCTED AND DOCUMENTED WITH GRAPHICAL PRESENTATION OF THE WORK. ALL REQUIRED DASHBOARD FEATURES HAVE BEEN IMPLEMENTED. THE DASHBOARD MEETS THE VISUALISATION NEEDS OF THE IDENTIFIED KPI'S. ADDITIONAL DATA INCORPORATED BY STUDENT RELEVANT TO THE TOPIC AREA.
- 70% OR MORE: SUMMARY REPORT VERY WELL WRITTEN WITH ADDITIONAL MATERIAL INCLUDED AND RESEARCH CONDUCTED. STUDENTS HAVE DEMONSTRATED ALL THE ABOVE TO A HIGH LEVEL OF PROFICIENCY (E.G., VISUAL AND TECHNICAL QUALITY). IN ADDITION THE STUDENT HAS DEMONSTRATED INDEPENDENT LEARNING BY ADDING SOME FUNCTIONALITIES THAT HAVE NOT BEEN COVERED DURING THE CLASSES OR LABS

PROJECT ONE: ORIGINALITY

- THE PROJECT MUST BE YOUR OWN WORK AND WE WILL VERIFY THE ORIGINALITY OF THE WORK AGAINST THE WEB + OTHER STUDENT SUBMISSIONS.
- IF YOU DO RE-USE TECHNIQUES SOURCED EXTERNALLY, I EXPECT
 - YOU TO UNDERSTAND THESE TECHNIQUES
 - SPECIFICALLY INCLUDE A REFERENCE TO THE SOURCE OF THE TECHNIQUE (FAILURE TO ATTRIBUTE IS CONSIDERED PLAGARISM)

http://www.wit.ie/images/uploads/Policies_PDF/Academic_Regulations.pdf

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PROJECT : DELIVERY

THE ZIPPED SUBMISSION SHOULD INCLUDE:

- EXCEL DATA FILE AFTER DATA PREP WAS CONDUCTED INCLUDING THE DASHBOARD
- SUMMARY REPORT
- ALL CONTENT NEEDS TO BE INCLUDED IN A ZIPPED FOLDER LABELED WITH YOUR STUDENT NUMBER

PROJECT ONE: SUBMISSION

- THE PROJECT NEEDS TO BE SUBMITTED ON OR BEFORE THE DEADLINE
- LATE SUBMISSION WILL RESULT IN A REDUCED MARK OF 5% FOR EACH DAY LATE.
- THE ASSIGNMENT NEEDS TO BE SUBMITTED VIA MOODLE USING THE DEDICATED SUBMISSION FOLDER
- ALL CONTENT NEEDS TO BE INCLUDED IN A ZIPPED FOLDER LABELED WITH YOUR STUDENT NUMBER.
- DUE DATE FOR HANDUP IS SUNDAY 8TH APRIL BY 11:00PM USING ASSIGNMENT DROPBOX ON MOODLE IN THE MODULE ASSESSMENT AND RESOURCES TOPIC AREA.