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| https://lh6.googleusercontent.com/ENp5iVIZzIHv2b4n4mkS4vHt4UkEBlWYmz738CY-LLW4hqPglKHQ6jUh7UR0d4Ymmrr709Maa1nSxWlKGCsAkajArO1QhFOMQzxwHhEhk0zqlMRi4_H7oj2RIxwzkiz_qKiY_Giy | **Work Integrated Learning Programmes Division**  **M.Tech (Data Science and Engineering)** |

**Data Visualization & Interpretation   
(DSECL ZG555)**

**Second Semester, 2020 -21**

**Assignment 1 – PS7 - [CONSTRUCTION DATA ANALYSIS] - [Weightage 12%]**

1. **Problem Statement**

The purpose of the Survey of Construction (SOC) is to provide national and regional statistics on starts and completions of new single-family and multifamily housing units and statistics on sales of new single-family houses in the United States.The Construction Price Indexes provide price indexes for single-family houses sold and for single-family houses under construction. The houses sold index incorporates the value of the land and is available quarterly at the national level and annually by region. The indexes for houses under construction are available monthly at the national level. The indexes are based on data funded by HUD and collected in the Survey of Construction (SOC).

[Reference](https://catalog.data.gov/dataset/construction-price-indexes) 1

[Reference](https://www.census.gov/construction/cpi/) 2

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You have been consulted to present these visualization results for single-family houses sold and for single-family houses under construction to **The Department of Housing and Urban Development.** With the given context, you need to create visualizations to effectively understand the data and create a dashboard using TABLEAU. (Use the concepts learned in the class).

**The objectives include**

**Demonstrate the VISUALISATION CONTEXT**

1. **KNOW YOUR AUDIENCE(First question is answered for you)**
2. List the primary groups or individuals to whom you’ll be communicating.

**The Department of Housing and Urban Development**

1. If you had to narrow that to a single person, who would that be?
2. What does your audience care about?
3. What action does your audience need to take?
4. What is at stake? What is the benefit if the audience acts in the way you want them to? What are the risks if they don’t?
5. **WHAT?**

* What is that you are trying to communicate? What questions are you trying to answer/display in your visualizations? Write these as specific questions. You need to come up with 3 questions at least, each of which will be answered using one Viz.
* **Data preparation needed to answer the specific queries must be done.**

1. **Present the BIG IDEA**.

* It should: (1) articulate your point of view, (2) convey what’s at stake, and (3) be a complete (and single!) sentence.

1. **HOW?**
   1. Chart 1: What type of viz did you create? Why did you select the viz that you did?
   2. Chart 2: What type of viz did you create? Why did you select the viz that you did?
   3. Chart 3: What type of viz did you create? Why did you select the viz that you did?
   4. For each of the Visualisation, identify at least 3 Gestalt principles employed.
   5. For each of the Visualisation, mention how you strategically used pre-attentive attributes to draw the audience's attention.
2. **Create your dashboard**
3. **Deliverables**

Zipped file containing

1. The word doc with answers to question 1 through 4 above.
2. The tableau workbook(.twbx) with 3 Sheets(Each sheet should have 1 visual) and 1 Dashboard comprising all three visuals.
3. The source file after preprocessing(if any).

The file name should be the respective group name.

1. **Deadline**

* The strict deadline for submission of the assignment is **< June 30, 2021> EoD.**
* Late submissions won’t be evaluated.

1. **How to submit**

* This is a group assignment.
* All members of the group will work on the same problem statement.
* Each group should zip the deliverables and upload in CANVAS in respective locations under ASSIGNMENT Tab.
* Assignment submitted via means other than through CANVAS will not be graded

1. **Evaluation**

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| **Sl. No** | **Criteria** | **Description** |
| 1 | Know your audience.  (10%) | * Getting to know our audience and understanding their needs and what drives them is an important early part of the process for successfully communicating with data. |
| 2. | WHAT?  Effective Formulation of Contextual Questions  (25%) | * Identify what needs to be communicated very clearly and frame the questions accordingly justifying the context. |
| 3 | BIG IDEA (10%) | * The Big Idea can help us get clear and succinct on the main message we want to get across to our audience |
| 4 | Choice of appropriate visuals  (25%) | * Identify the appropriate visuals for communicating the message |
| 5 | No clutter in the visuals  (10%) | * The visuals presented should not have any unwanted elements that reduces the understanding of data |
| 6 | Audience attention  (10%) | * The visuals presented should have the right kind of visual cues that helps the audience to focus the attention wherever required. |
| 7 | Dashboard in Tableau  (10%) | * Use Principles of Effective Dashboard Design to come up with an interesting Dashboard |

**ALL GROUP MEMBERS WILL BE CREDITED THE SAME MARKS. IT’S INDIVIDUAL’S RESPONSIBILITY TO ENSURE HIS/HER PARTICIPATION AS WELL AS TEAM’S RESPONSIBILITY TO ENSURE EVERYONE’S PARTICIPATION.**