

Telling stories with data

Course Overview

Summary

When effectively analysed and presented in a clear and compelling way, data has the potential to create impact. Whether that's changing perceptions, offering counterintuitive insights or prompting action, impact happens when data acts as the catalyst for change. As we work through the stages of rising value, we gather our data and clean it, following that with filtering and analysis.

But, at the heart of driving change is the skill of finding and telling stories using, where relevant, compelling visualisations. A modern data scientist will work with many different types of visualisation, from common graphs to advanced statistical plots to geographic representations. It is the elements of visualisation and storytelling that our stakeholders care about, because it's the elements they will see.

Learning Outcomes

By the end of this course you will understand how to produce and present appropriate data visualisations that deliver a connected and relevant narrative.

To achieve this, you will:

- Explore data visualisation best practice and understand the principles behind effective data visualisations
- Examine where visualisations can be used to misrepresent or deceive and the impact this has on our outcomes
- Evaluate complex stories and their impact
- Create a narrative that tells the story of the data

Learning Experience

Number of modules	7 (+ reflective workbook)
Modality	Asynchronous / Self-directed / Online
Notional learning hours	3 hours (total)
Assessment	Formative
Certificate	Certificate of completion

Each module contains learning content that introduces the key concepts in the module, providing examples and case studies that demonstrate these concepts in practice. Each module contains a series of formative questions to support your learning. Learning is applied in activities throughout, and provides a basis for undertaking data analysis and visualisation to tell a data story. The learning is consolidated through an activity where the learner examines how to create an engaging narrative using data published by the London Fire Brigade.

Module Summary

Module Name	Description
Rising value to the public	When effectively analysed and presented in a clear and compelling way, data has the potential to create impact: <ul style="list-style-type: none"> • Data, • Filter, • Visualise, • Story.
Communicating outputs	There's something breathtaking about data that is communicated well — it's a lot like marvelling at an architectural masterpiece. Think about how you felt last time you looked at an engineering or architectural

	<p>masterpiece, how did it make you feel? Did you feel elated? Motivated? Educated?</p> <p>Data communicated well can do exactly the same. Alternatively, when not done well you end up suffering a long presentation of poorly presented, cluttered and misleading charts that don't seem to be relevant to your problem.</p> <p>In this module we are going to cover:</p> <ul style="list-style-type: none"> • The purpose of data visualisation • Inspiring with data • Fundamentals of effective data visualisation
<p>Data visualisation formats</p>	<p>Visualisations have the power to distil complex data sets into clear and concise stories. Used properly, they have the ability to condense a huge amount of information into a compact and easily digestible form.</p> <p>The human brain is adept at recognizing and interpreting visual patterns. Stimulating our visual senses and leveraging their natural inclination towards visual stimuli, data visualisations are far more likely to capture attention and be remembered compared to textual or numerical data. By carefully crafting the design and layout, visualisations can guide viewers through a narrative, presenting powerful stories that are engaging and memorable.</p> <p>In this module we are going to cover:</p> <ul style="list-style-type: none"> • The data visualisation toolkit • Best practices for creating impact with different types of data visualisation • Using infographics • Adding interactivity • Selecting the right visualisation format
<p>Fundamentals of visual perception</p>	<p>Visualising data enables us to grasp difficult concepts or identify new patterns quickly. One key thing to understand</p>

	<p>is how the human eye and brain can help us to effectively communicate insights from data.</p> <p>In this module, we introduce the key tricks that help the eye and brain process and understand data much faster.</p> <p>We will cover:</p> <ul style="list-style-type: none"> ● Visualisation and the visual cortex ● Cognitive aspects of data visualisation ● Using colour ● Best practices and examples
<p>Visual deception</p>	<p>Visual representations of data vastly decrease the amount of time it takes to communicate a message. However, not all data visualisations are equal. In some cases, a combination of tricks are used to either emphasise a point or, in some cases, mislead the viewer. In this module we look at visual deception in data visualisation and how to avoid it.</p> <p>In this module we'll explore the following:</p> <ul style="list-style-type: none"> ● Baseline failure ● Multiple scales ● Adding depth and area ● Percentages ● Area and stacked area charts
<p>Turning a visualisation into a story</p>	<p>Data visualisations are a powerful way of bringing data to life. They help convey messages quickly and succinctly. However on their own they can lack context and the risks of misinterpretation are high.</p> <p>To add context to the visualisation, try to build a strong story with clear headline and narrative.</p> <p>This module goes through the steps you should take in putting your story into words for the best possible impact:</p> <ul style="list-style-type: none"> ● Choosing the right format ● Planning and framing your story ● Drafting your story

	<ul style="list-style-type: none"> • Polishing, publishing and promoting your story
<p>Telling the story of the London Fire Brigade</p>	<p>In this exercise, learners review data published by the London Fire Brigade covering a short period before and after several stations were closed in 2014. Using the skills developed throughout the module, learners must build an engaging narrative using this data.</p>