

Visual accounting: presentations your clients won't forget

CPA Australia Discussion Group

Business Analytics



Count 5s!

Number Mix!!

5

Find the Number

5	1	5	3	2	2	5	3
4	5	6	2	5	1	2	1
5	9	2	5	3	4	9	5
3	8	4	2	8	5	4	2
6	6	5	4	3	1	5	2
5	4	1	7	2	7	3	9

5

five

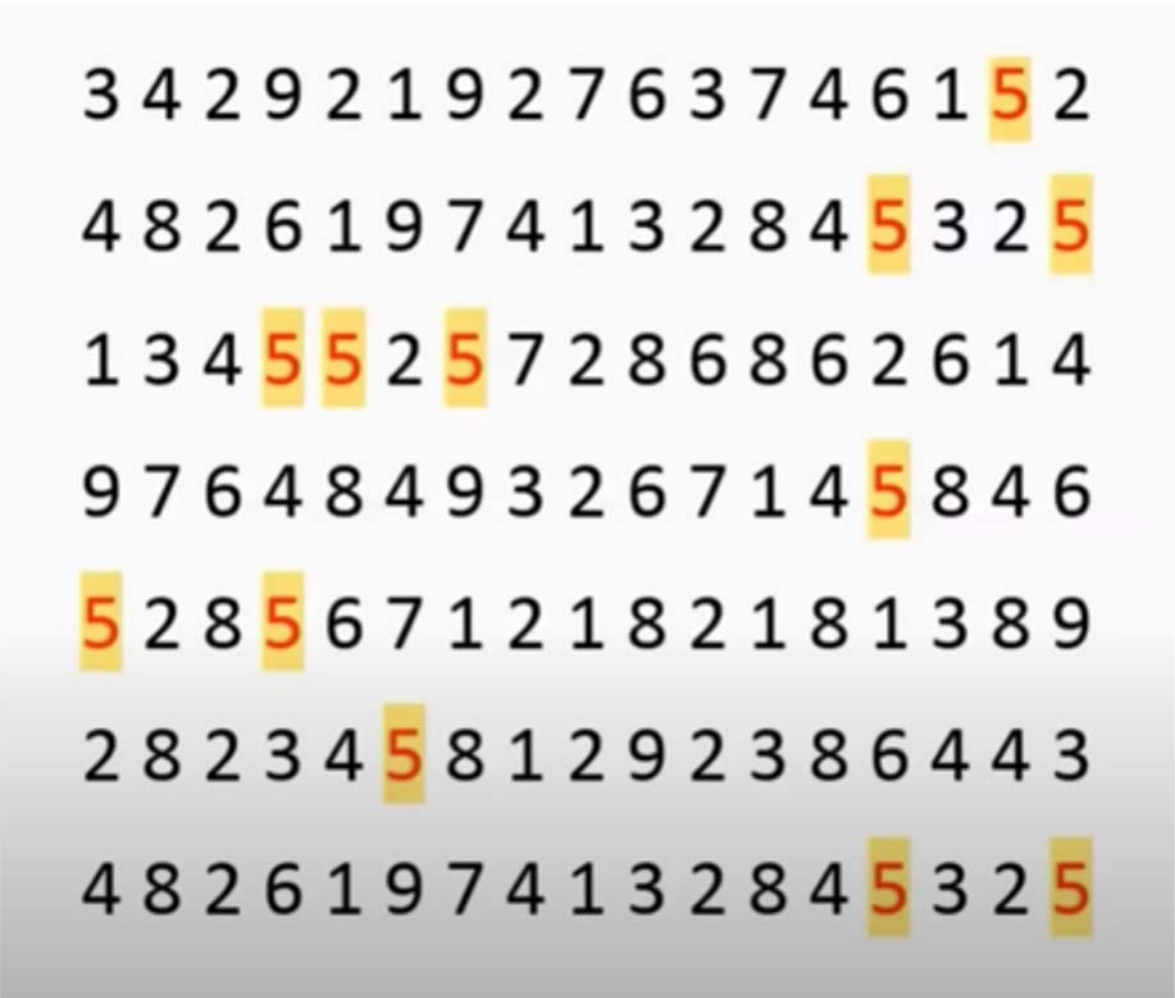
--	--	--	--

vfie

What about this one? – 30 sec!

3 4 2 9 2 1 9 2 7 6 3 7 4 6 1 5 2
4 8 2 6 1 9 7 4 1 3 2 8 4 5 3 2 5
1 3 4 5 5 2 5 7 2 8 6 8 6 2 6 1 4
9 7 6 4 8 4 9 3 2 6 7 1 4 5 8 4 6
5 2 8 5 6 7 1 2 1 8 2 1 8 1 3 8 9
2 8 2 3 4 5 8 1 2 9 2 3 8 6 4 4 3
4 8 2 6 1 9 7 4 1 3 2 8 4 5 3 2 5

What about now?

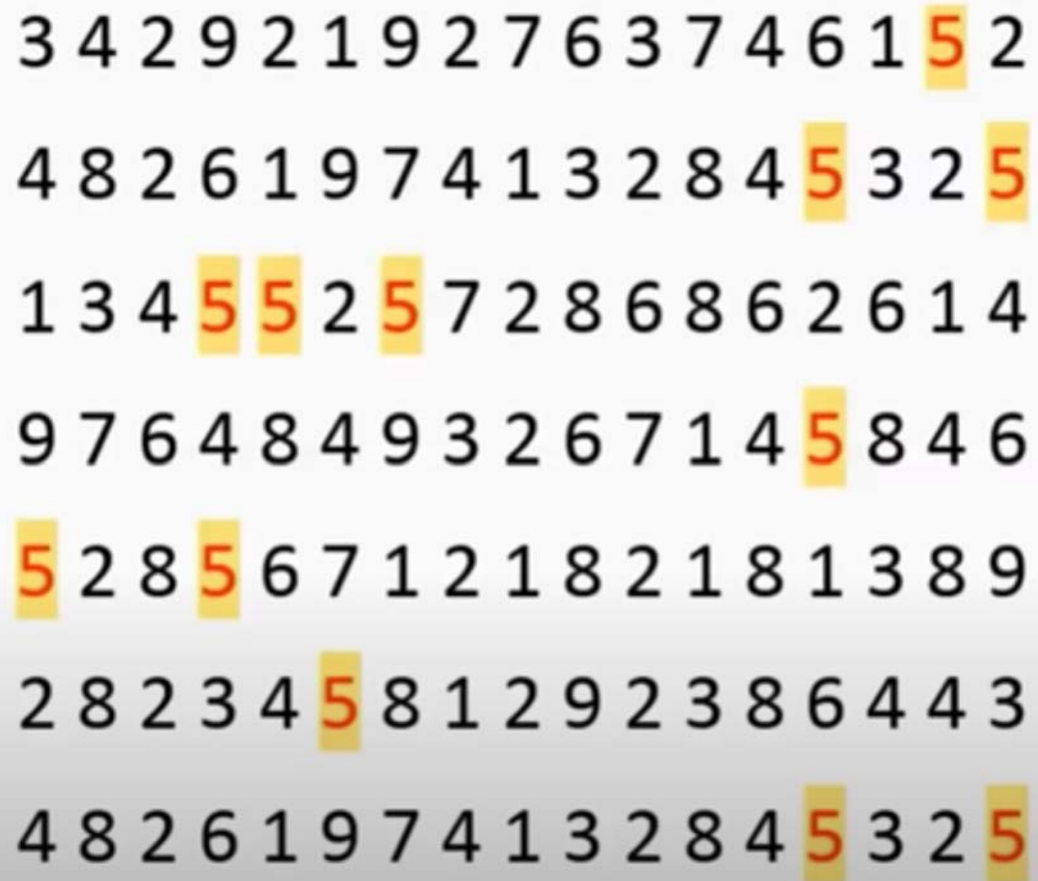


A 7x15 grid of numbers. The numbers are arranged in 7 rows and 15 columns. The following cells are highlighted in yellow:

- Row 1: Column 14 (5)
- Row 2: Column 12 (5), Column 14 (5), Column 15 (5)
- Row 3: Column 4 (5), Column 5 (5), Column 7 (5)
- Row 4: Column 14 (5)
- Row 5: Column 1 (5), Column 5 (5)
- Row 6: Column 7 (5)
- Row 7: Column 12 (5), Column 14 (5), Column 15 (5)

3	4	2	9	2	1	9	2	7	6	3	7	4	6	1	5	2
4	8	2	6	1	9	7	4	1	3	2	8	4	5	3	2	5
1	3	4	5	5	2	5	7	2	8	6	8	6	2	6	1	4
9	7	6	4	8	4	9	3	2	6	7	1	4	5	8	4	6
5	2	8	5	6	7	1	2	1	8	2	1	8	1	3	8	9
2	8	2	3	4	5	8	1	2	9	2	3	8	6	4	4	3
4	8	2	6	1	9	7	4	1	3	2	8	4	5	3	2	5

What about now? – 12!

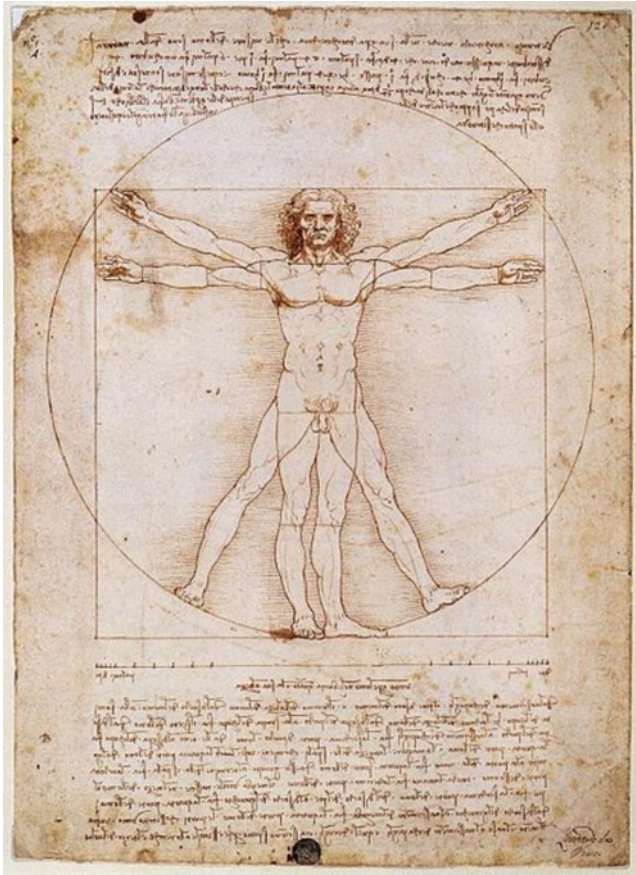


3 4 2 9 2 1 9 2 7 6 3 7 4 6 1 5 2
4 8 2 6 1 9 7 4 1 3 2 8 4 5 3 2 5
1 3 4 5 5 2 5 7 2 8 6 8 6 2 6 1 4
9 7 6 4 8 4 9 3 2 6 7 1 4 5 8 4 6
5 2 8 5 6 7 1 2 1 8 2 1 8 1 3 8 9
2 8 2 3 4 5 8 1 2 9 2 3 8 6 4 4 3
4 8 2 6 1 9 7 4 1 3 2 8 4 5 3 2 5

- Human cognition!
 - Contrast
 - Attention
 - Critical information
- Talk the “brain”s language!

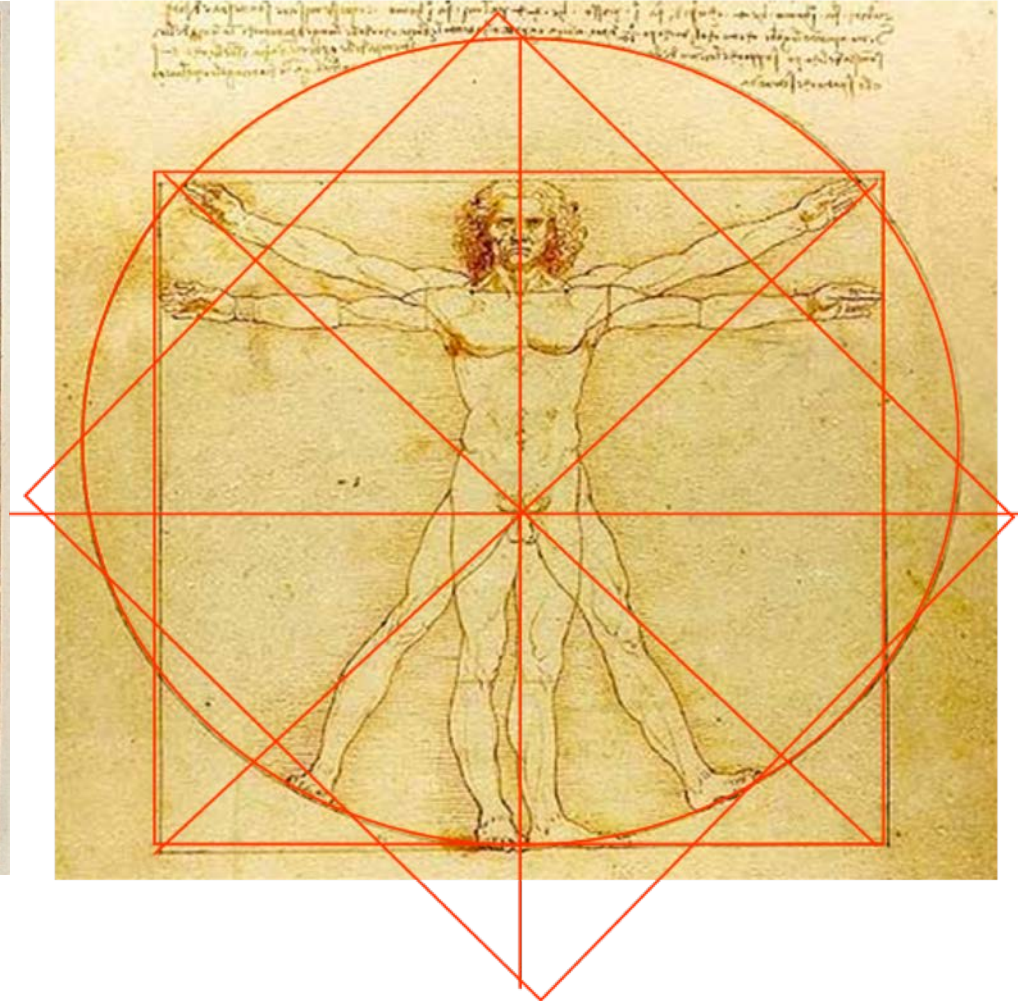
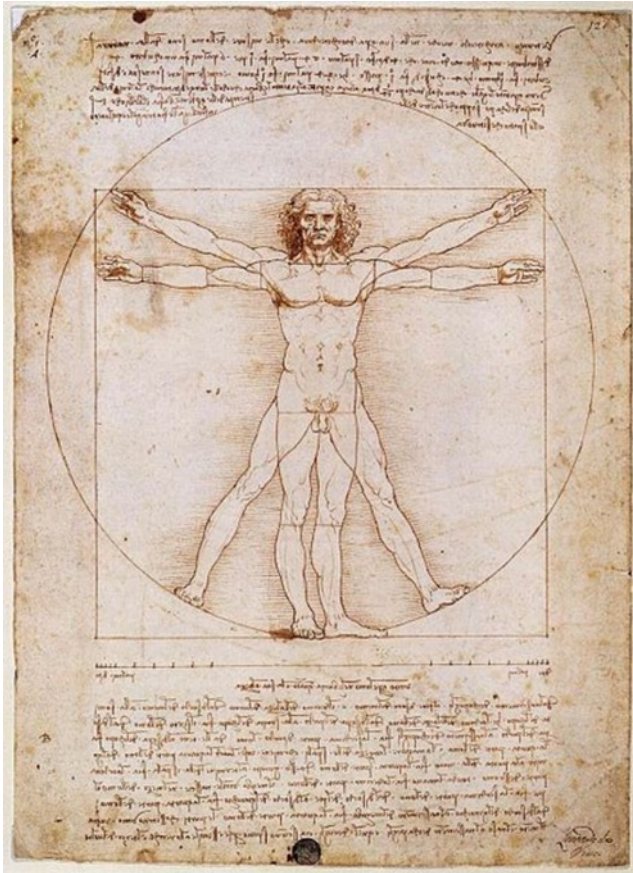
What about

Vitruvian Man



What about

Vitruvian Man



120 numbers -> a simple message



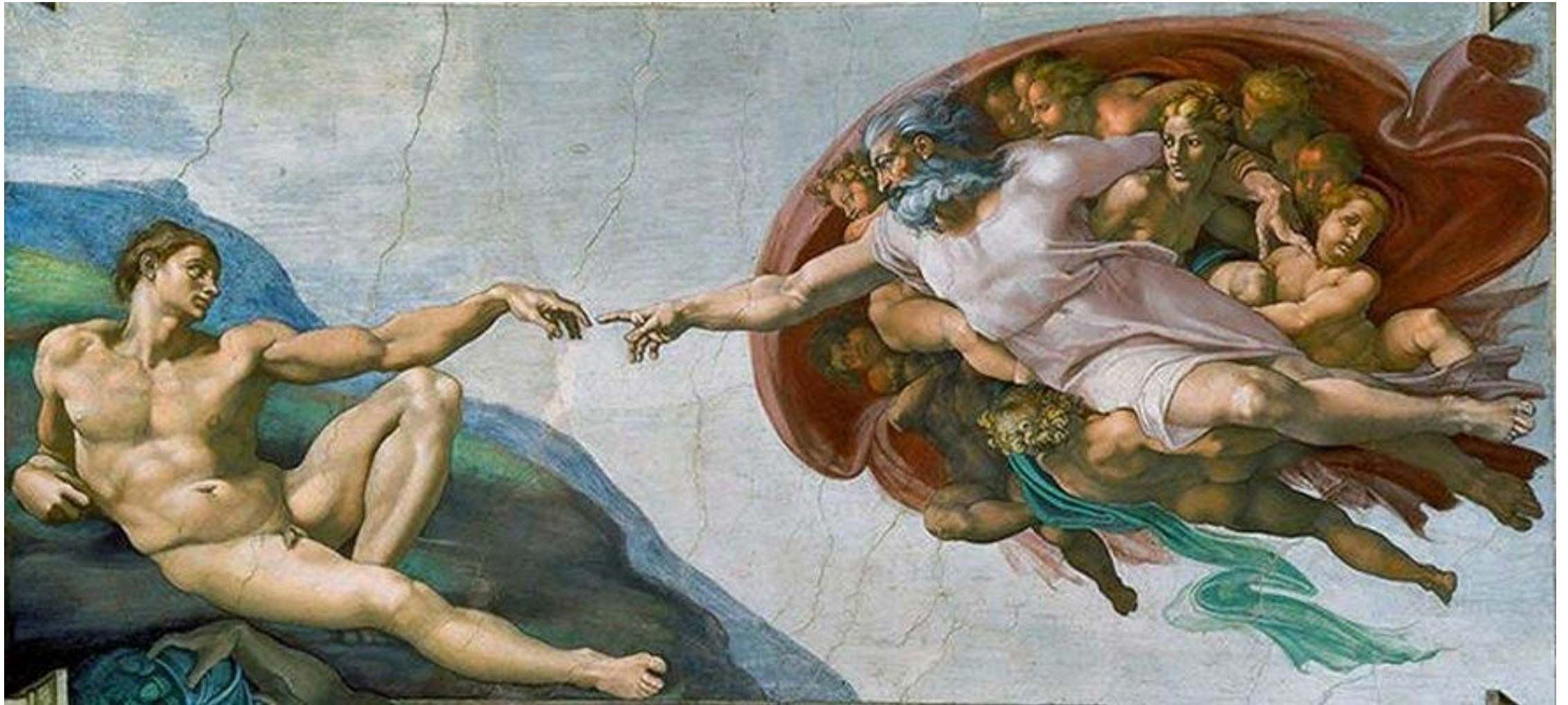
- [Hans Rosling's 200 Countries, 200 Years, 4 Minutes - The Joy of Stats](#)

Data visualization

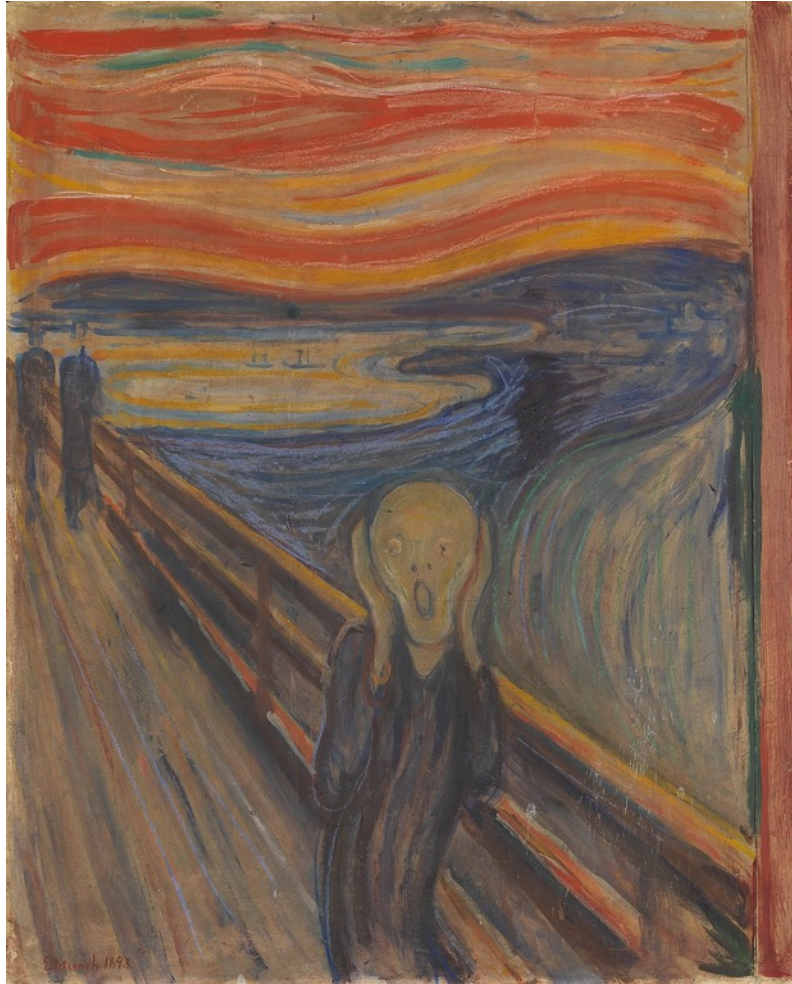
- putting **data** into a chart, graph, or other **visual format** that helps inform **analysis** and interpretation.
- access and engagement with different stakeholders.

Why data vis?

- Look at "quantities" of data quickly
- More insights of a problem and new understanding
- Shared view of a situation and alignment for needed actions



'Adam's Creation Sistine Chapel ceiling' by Michelangelo



The Scream, Edvard Munch

AASB Conceptual Framework and data viz

QUALITATIVE CHARACTERISTICS OF USEFUL FINANCIAL INFORMATION	QC4
Fundamental qualitative characteristics	QC5
Relevance	QC6
Materiality	QC11
Faithful representation	QC12
Applying the fundamental qualitative characteristics	QC17
Enhancing qualitative characteristics	QC19
Comparability	QC20
Verifiability	QC26
Timeliness	QC29
Understandability	QC30
Applying the enhancing qualitative characteristics	QC33

- Present data that is easy to comprehend and understand
- Concise to highlight essential characteristics
- Be action oriented

Understanding?

- Perceiving: what do I **see**?
- Interpreting: what does it **mean** given the subject?
- Comprehending: what does it **mean** to me



What data is shown?
How is the data presented?
What features are observable?

What features are interesting?
What features are unexpected?
What features are important?

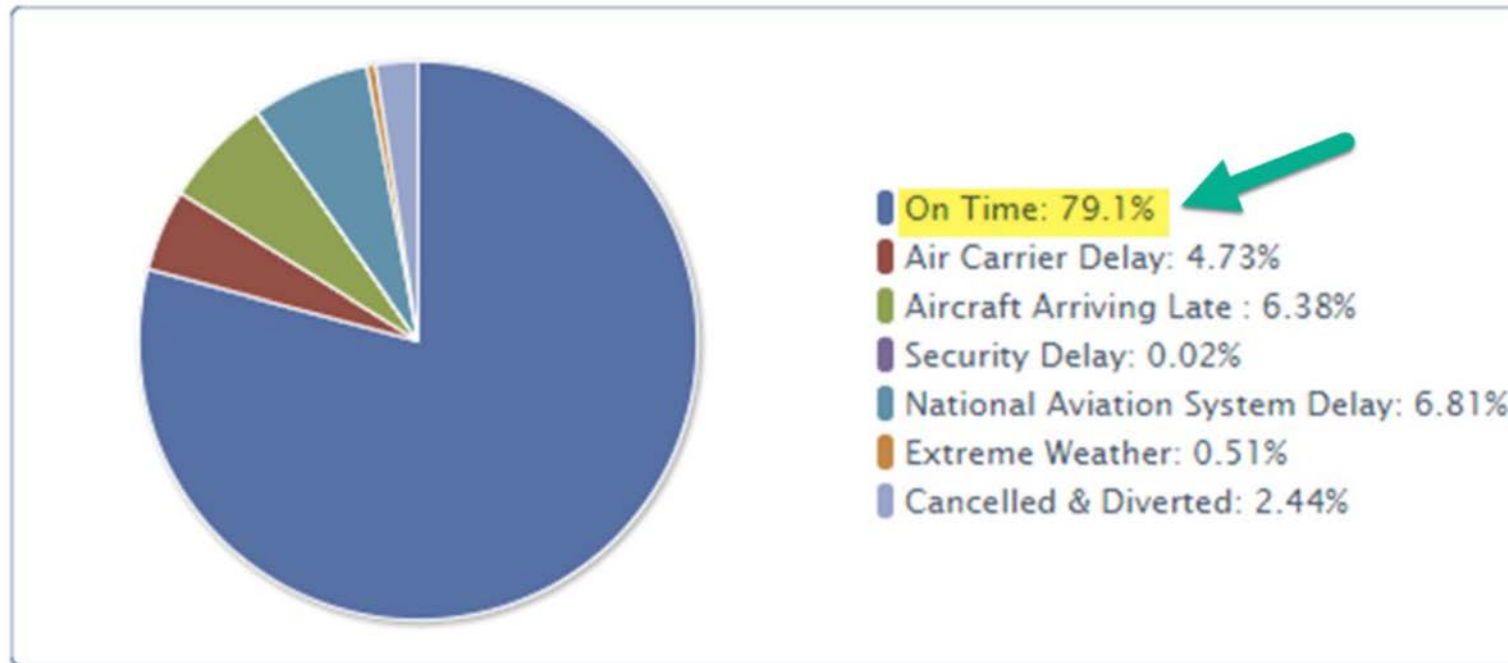
What have I learnt?
What do I feel?
What do I now do?



Why do Data Visualizations Fail?

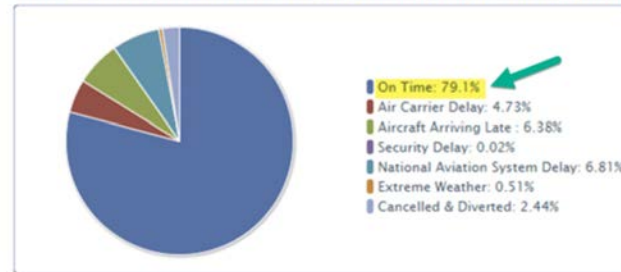
- What question the audience was asking?

Flight Delays by Cause
Boston, MA: Logan International (September, 2017 - February, 2018)



Remake 1: Focus on Main Message

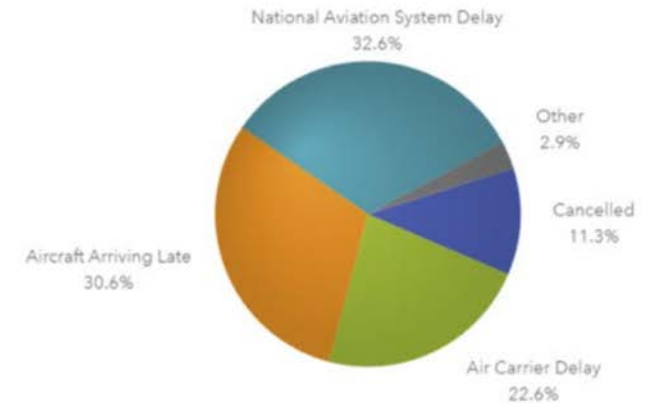
Flight Delays by Cause
Boston, MA: Logan International (September, 2017 - February, 2018)



Boston Logan International On-Time Flight Performance (Sept 2017-Feb 2018)

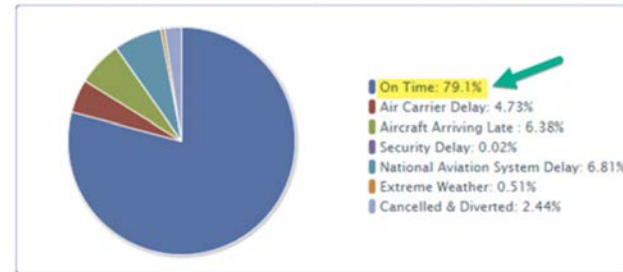
Flights On-Time
79.1%

Delays are caused by multiple factors



Remake 2: Answer the Audience's Real Question

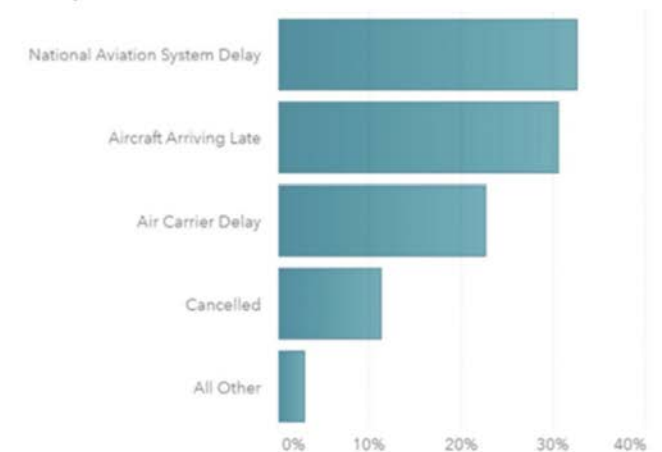
Flight Delays by Cause
Boston, MA: Logan International (September, 2017 - February, 2018)



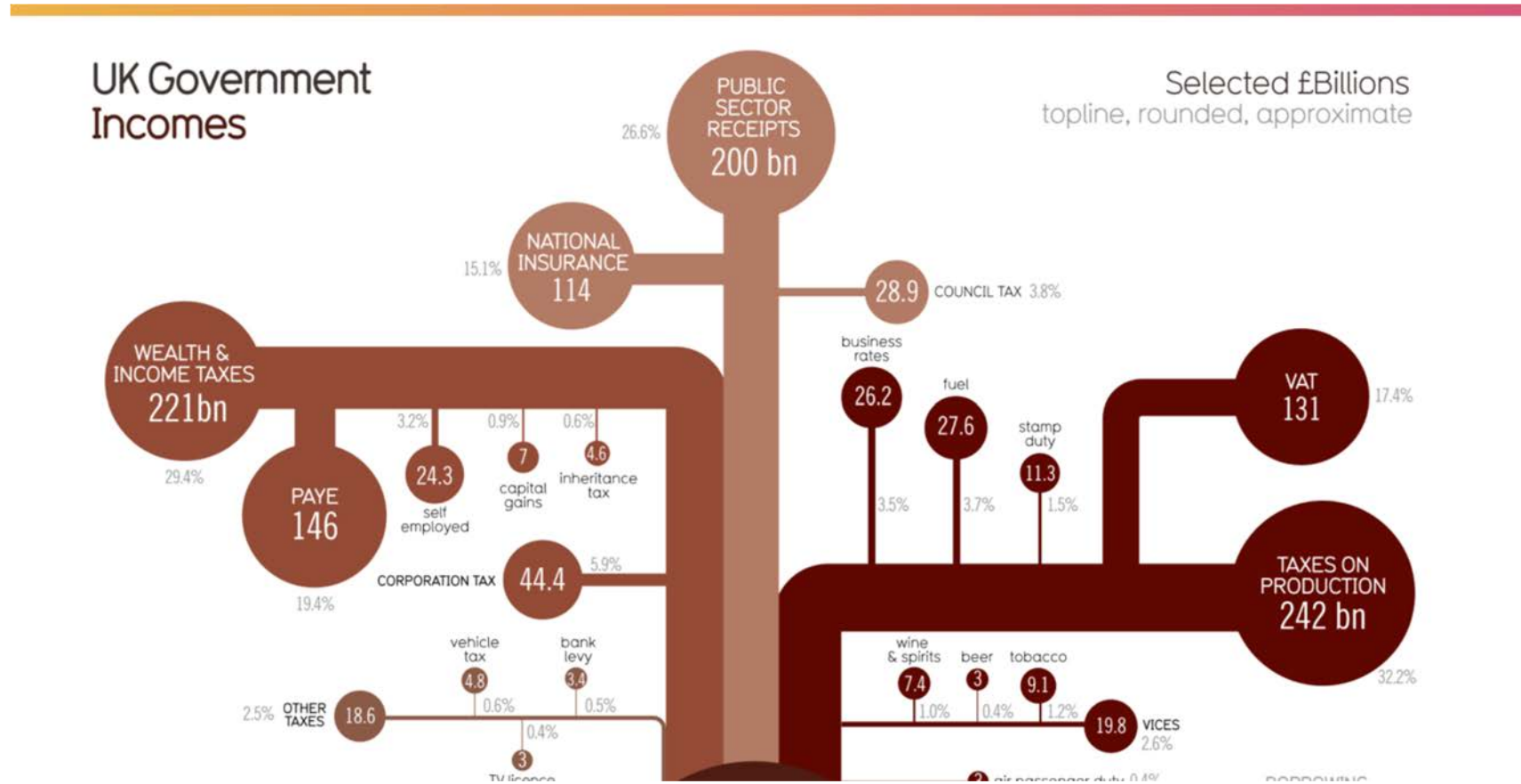
Boston Logan International On-Time Flight Performance (Sept 2017-Feb 2018)

Flights On-Time
79.1%

Delays are attributed to NAS and the Aircraft



Information is beautiful

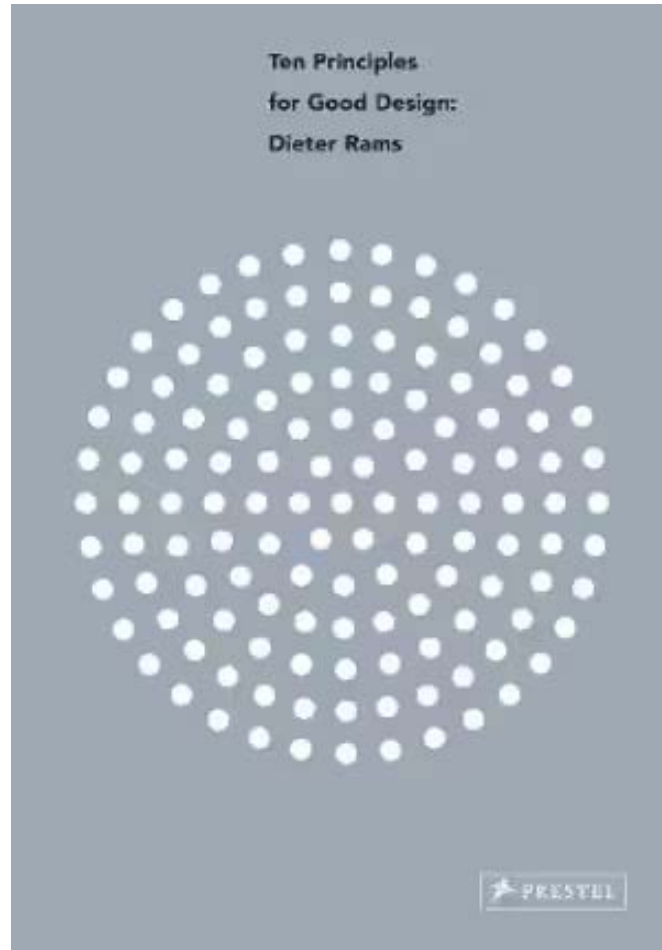


Visualizations design process

- Formulating your **brief**: planning, defining and initiating your project.
- Working with **data**: gathering, handling and preparing your data.
- Establishing your **editorial thinking**: defining what you will show your audience.



Ten principles of good design



10 Principles of Good Design Dieter Rams



1 Good design is innovative.

The possibilities for innovation are not, by any means, exhausted. Technological development is always offering new opportunities for innovative design. But innovative design always develops in tandem with innovative technology, and can never be an end in itself.



2 Good design makes a product useful.

A product is bought to be used. It has to satisfy certain criteria, not only functional, but also psychological and aesthetic. Good design emphasizes the usefulness of a product whilst disregarding anything that could possibly detract from it.



3 Good design is aesthetic.

The aesthetic quality of a product is integral to its usefulness because products we use every day affect our person and our well-being. But only well-executed objects can be beautiful.



4 Good design makes a product understandable.

It clarifies the product's structure. Better still, it can make the product talk. At best, it is a self-explanatory



5 Good design is unobtrusive.

Products fulfilling a purpose are like tools. They are neither decorative objects nor works of art. Their design should therefore be both neutral and restrained, to leave room for the user's self-expression.



6 Good design is honest.

It does not make a product more innovative, powerful or valuable than it really is. It does not attempt to manipulate the consumer with promises that cannot be kept.



7 Good design is long-lasting.

It avoids being fashionable and therefore never appears antiquated. Unlike fashionable design, it lasts many years – even in today's throwaway society.



8 Good design is thorough to the last detail.

Nothing must be arbitrary or left to chance. Care and accuracy in the design process show respect towards the user.



9 Good design is environmentally friendly.

Design makes an important contribution to the preservation of the environment. It conserves resources and minimizes physical and visual pollution throughout the lifecycle of the product.



10 Good design is as little design as possible.

Less, but better – because it concentrates on the essential aspects, and the products are not burdened with non-essentials. Back to purity, back to simplicity.

Good Visualization design

Good visualisation
design is
Trustworthy

Is it reliable?
*Is the handling of the data **reasonable**
and **faithful** to the subject?
Does the representation and
presentation design have **integrity**?*

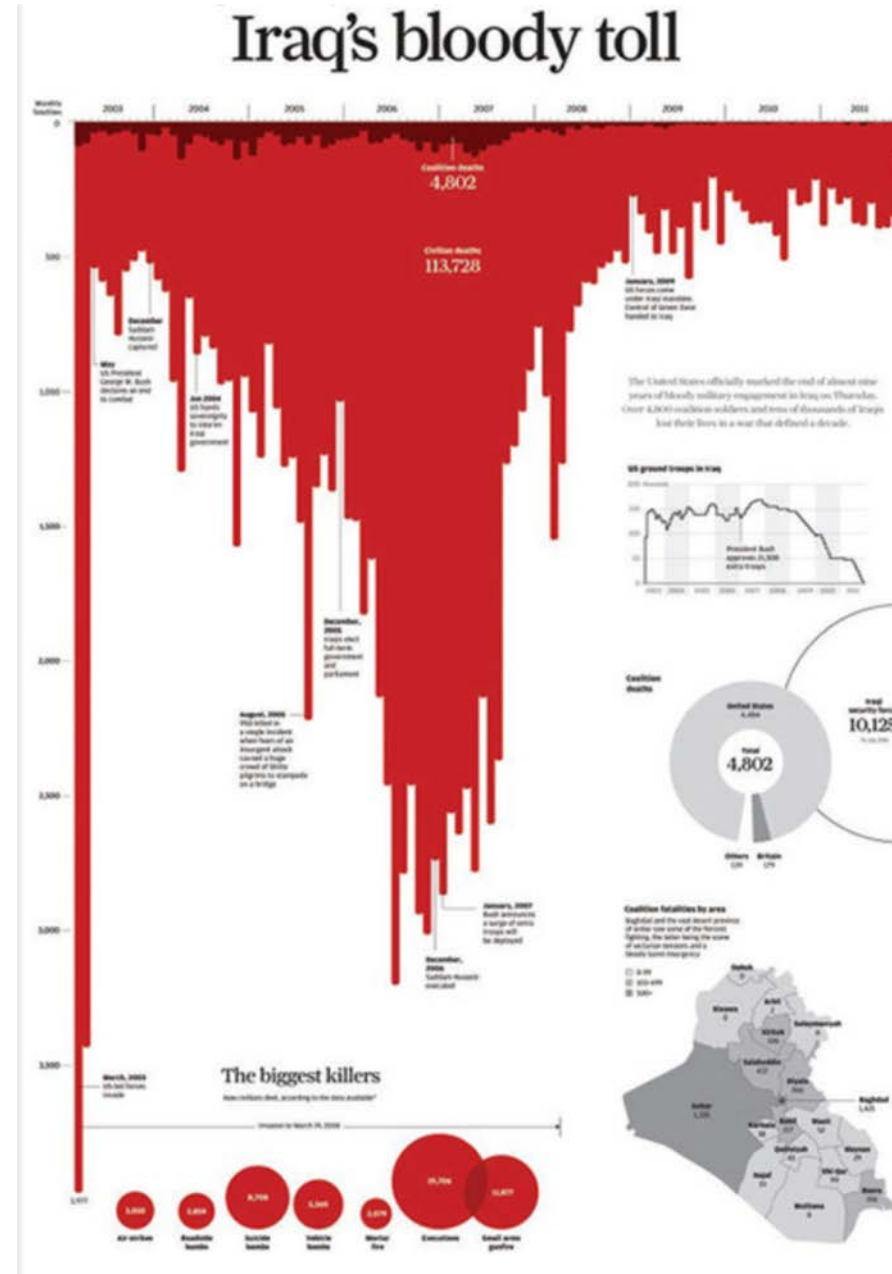
Good visualisation
design is
Accessible

Is it usable?
*Is the portrayal of the data and
the subject **relevant**? Is the
representation and presentation
design **suitably understandable**?*

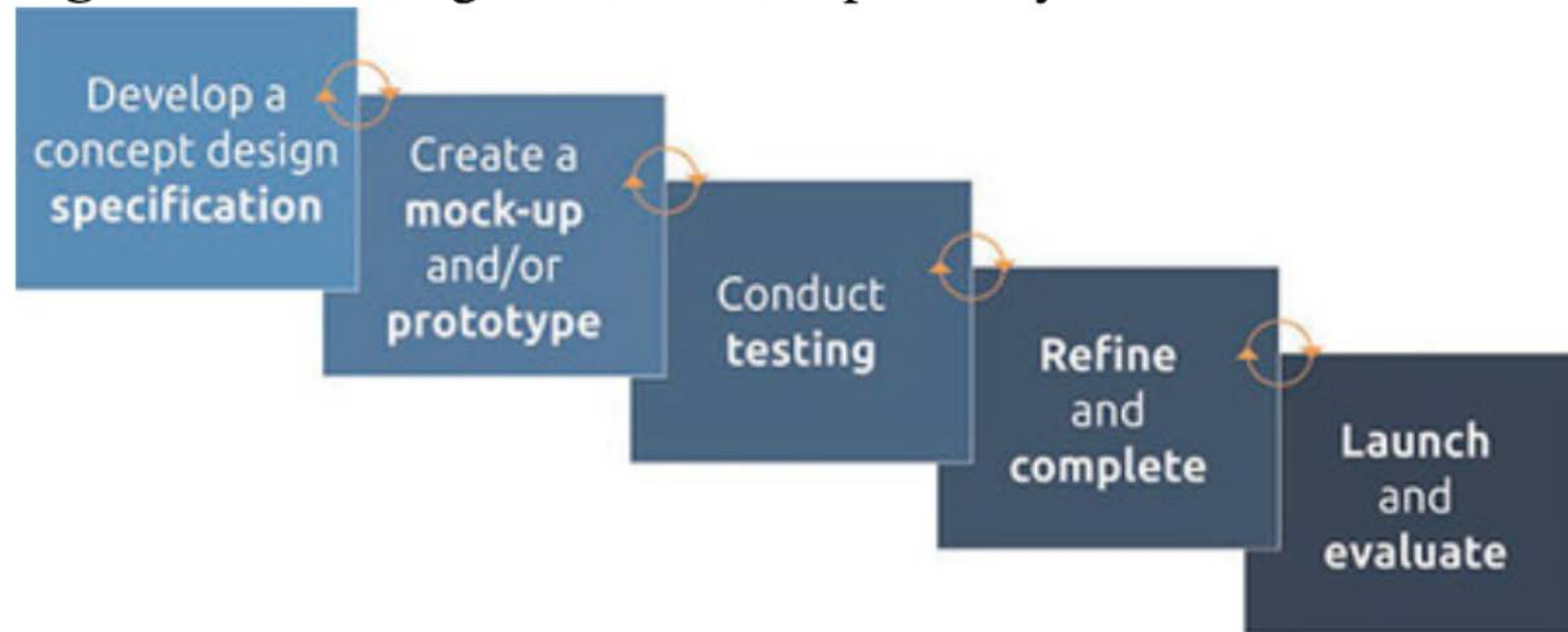
Good visualisation
design is
Elegant

Is it aesthetic?
*Is the representation and
presentation design **appealing**?*

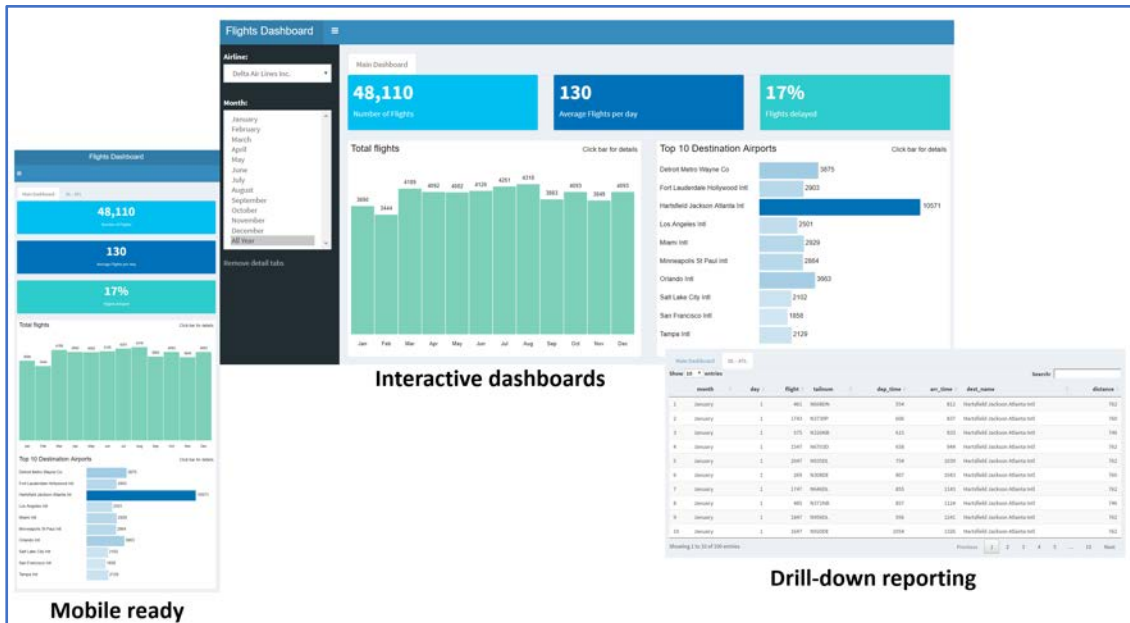
Examples



Design solution development

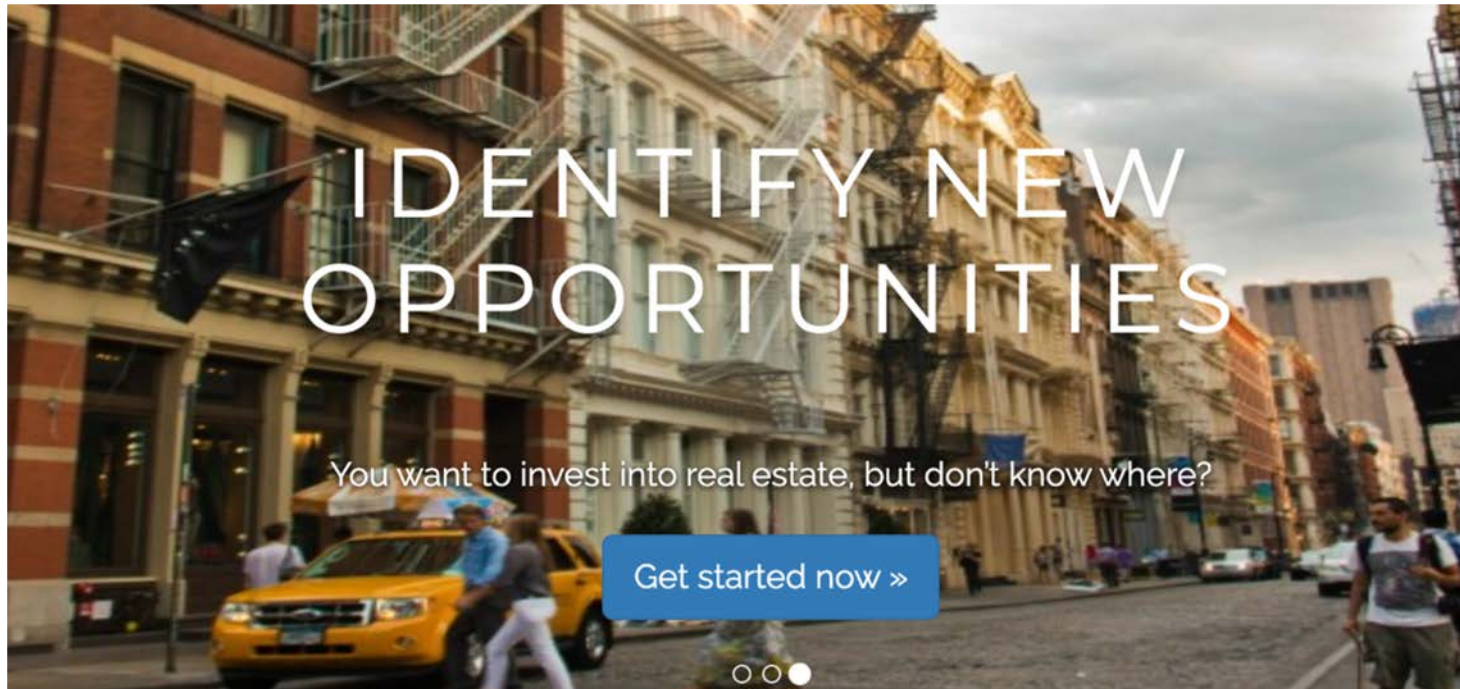


What to use?



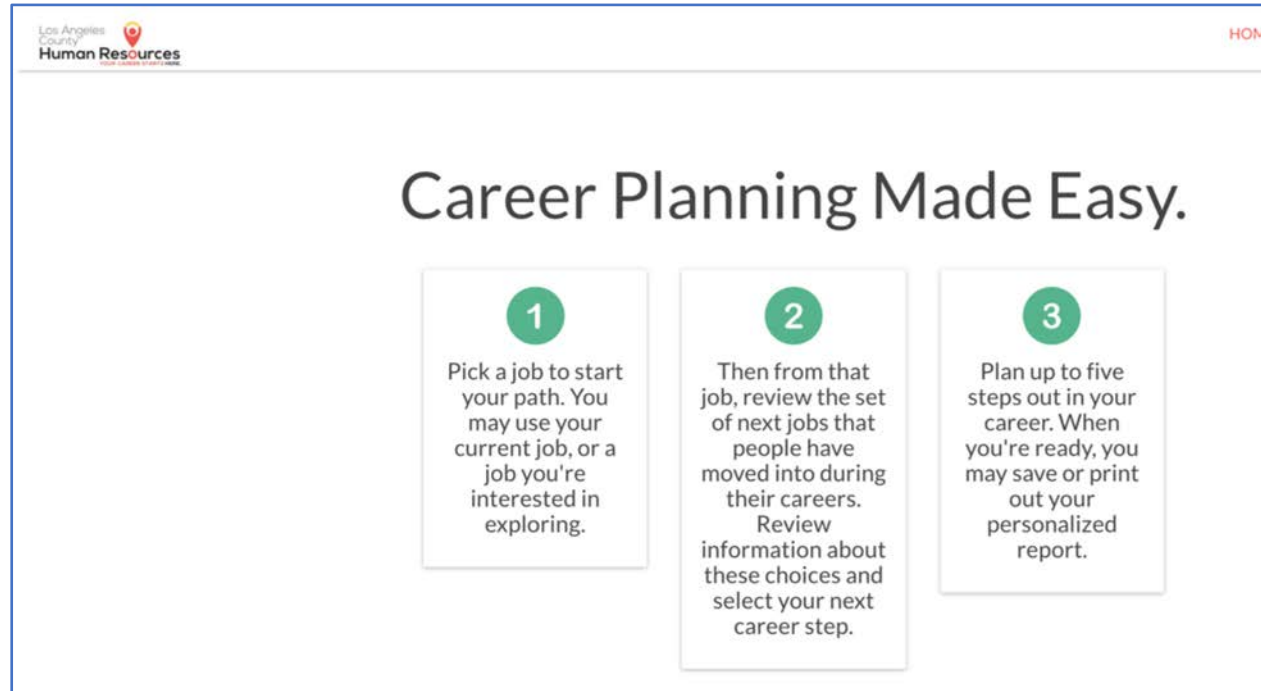
Inspirations — [RStudio Shiny Gallery](#)

- [Identifying real estate investment opportunities](#)
-



Inspirations – [RStudio Shiny Gallery](#)

- [Career PathFinder](#)

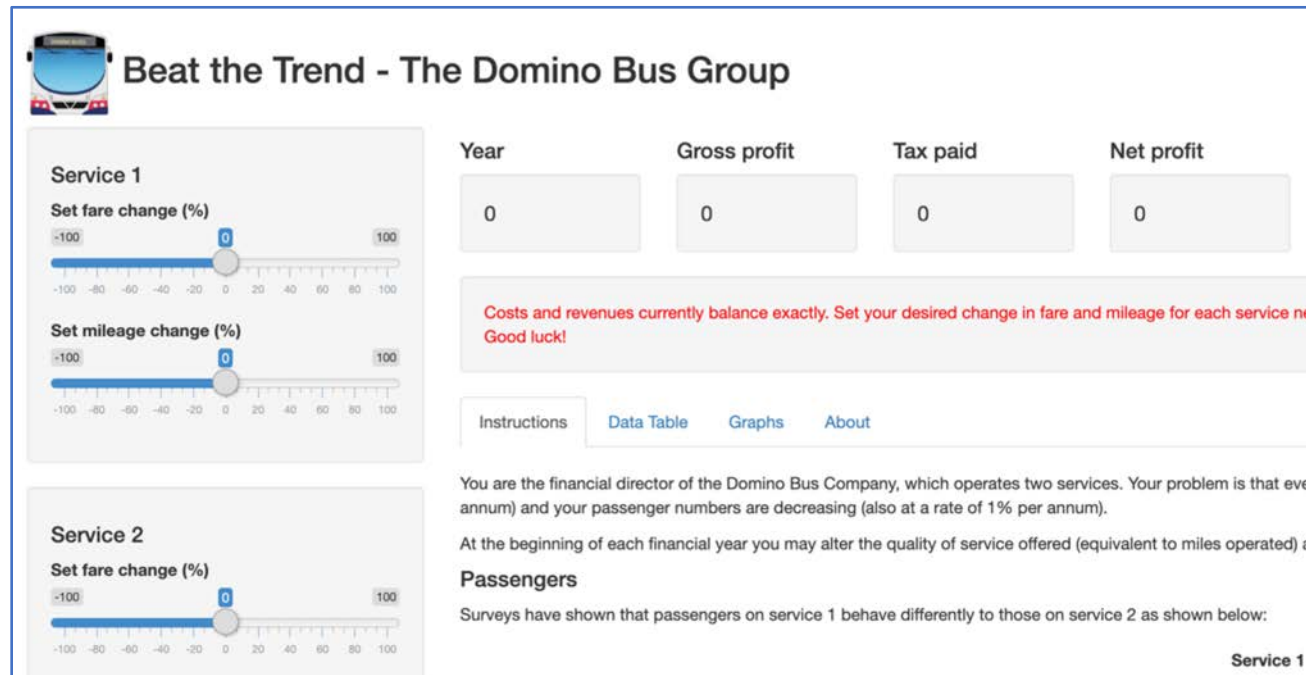


The screenshot shows the 'Career PathFinder' web application. At the top left is the 'Los Angeles County Human Resources' logo with the tagline 'YOUR CAREER STARTS HERE'. At the top right is a 'HOME' link. The main heading is 'Career Planning Made Easy.' Below this, there are three numbered steps in green circles:

- 1**
Pick a job to start your path. You may use your current job, or a job you're interested in exploring.
- 2**
Then from that job, review the set of next jobs that people have moved into during their careers. Review information about these choices and select your next career step.
- 3**
Plan up to five steps out in your career. When you're ready, you may save or print out your personalized report.

Inspirations – [RStudio Shiny Gallery](#)

- [A bus company simulation game](#)



The screenshot displays the 'Beat the Trend - The Domino Bus Group' Shiny application. The interface is divided into several sections:

- Service 1 Controls:** Two sliders for 'Set fare change (%)' and 'Set mileage change (%)', both ranging from -100 to 100. The 'Set fare change (%)' slider is currently set to 0.
- Service 2 Controls:** A slider for 'Set fare change (%)' ranging from -100 to 100, currently set to 0.
- Financial Summary:** Four boxes showing 'Year' (0), 'Gross profit' (0), 'Tax paid' (0), and 'Net profit' (0).
- Message Box:** A red text box stating: 'Costs and revenues currently balance exactly. Set your desired change in fare and mileage for each service now. Good luck!'
- Navigation:** Tabs for 'Instructions', 'Data Table', 'Graphs', and 'About'.
- Instructions:** A text area explaining the role of the financial director and the goal of the simulation.
- Passengers:** A section titled 'Passengers' with a sub-header 'Service 1'.

Inspirations

- [Financial assets comparison tool](#)

