**Video Script: Section 8 Video 3 – Making a bubble chart in ggplot2**

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| No. | Description | Action on screen | Narration |
| 1 | Introduction  (Outcome and why it is desirable)  This should give the viewer an idea of the outcome of the task at the beginning of the videos and set the stage and expectations of the viewer. | Refer to PPT | In this video, we’re going to build a bubble chart in ggplot2 and a shiny app to use it on our economic dataset. |
| 2 | Context(Problem/Solution)  Present the viewer with a real-world solution and how the situation would pose as a challenge. It always helps to draw the viewer's attention using a use-case. Metadata template can be used here. |  | The second tab of our dashboard will contain a bubble chart. There is no bubble chart function in R but we can easily build one with ggplot2. |
| 3 | Guidance (How to do it and how it works): | Open R and run:  shiny::runApp(“bubbleChart”)  A description... | Open RStudio and run:  shiny::runApp(“bubbleChart”) |
| 4 |  |  | Our bubble chart function will need four arguments:   * The data, as a data frame. * The name of the column for the x axis. * The name of the column for the y axis. * The name of the column for the size of the bubble. |
| 5 |  |  | In essence, we only need to map the size of the geom\_point to the relevant column. But we can do better and make the plot prettier and more accurate. |
| 6 |  | Open bubbleChart/server.R in an editor. | Open bubbleChart/server.R in the editor. |
| 7 |  | Highlight where relevant. | bubbleChart()is a function which makes a bare bubbleChart with ggplot2.  We map the arguments to the aesthetics x and y.  We also map radius to the point size.  We actually use 2 geom\_points on top of each other: the first one is coloured and a bit transparent, the second one is a empty circle (shape=1). The result is a nice looking bubble with a solid outer ring. |
| 8 |  | Highlight “guides” | The points in the legend tend to be very small, so we override them with guides. |
| 9 |  |  | We add more information to this simple bubble chart later in shinyServer(). The indicators descriptions are used for the axes’ title and legends. |
| 10 |  |  | We use scale\_size\_area() to map the area of the circles to the data, and not the radius.  This way, doubling the value doubles the size of the circle, instead of making it 4 times bigger if we used the radius. |
| 11 |  |  | In UI.R, we set ‘animate=TRUE’ in the declaration of the slider to enable the user to see the bubble chart update over time. |
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| 16 | Conclusion:The video concludes by showing the viewer that the goal has been achieved, and reminding them why they should be happy about that. A PowerPoint summary slide with the key points emphasized would make it easier for the viewer to remember what was covered in the video | Back to PPT | We’ve seen  how to build a bubble chart in ggplot2 with multiple layers,  how to customize the legends  and how to make an animation with a slider.  In the next video, we’ll see how to make conditional panels. |