

Visualization – Exercise Sheet 8

Task 1: Consider the following environments:

- a computer
- a smartphone
- a VR/AR environment

For each of the environments, describe how a user could perform the following interactions:

- Select
- Zoom
- Translate visible area (Panning)

Task 2: Describe an application for lens-based interaction not mentioned in the lecture. Think about what your lens should look like and what interaction options are needed.

Task 3: For each of the visual representations listed below, explain how a Magic Lense could be realized in it. For instance, think about color and transparency choices and annotation placement. The visual representations are:

- Alternating presentation (Highlighting)
- Suppression (Filtering)
- Enrichment

Task 4: Explain the three stages of the Model-View-Controller Pattern based on the following example: <https://gallery.shinyapps.io/050-kmeans-example/>

Task 5: Using application examples, explain when it is appropriate to use direct interaction / direct pointing devices and when it is appropriate to use indirect interaction / indirect pointing devices.