Search for suitable 3D graphics package

github.com/nspyrison/PoC_WebGL_shiny
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NUMBATS seminar, 10/08/2020

Goal:

Identify a graphics engine, then make interactive interface for:

- **Touring in 3D**
- **function visualization of multivariate data**

Optimize:

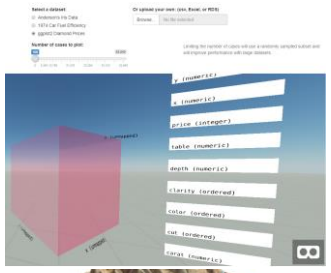
- Quality
- Fast; for interactive use
- Extensible; web and XR

Backend:

WebGL ~~vs HTML~~

- 3D, speed, quality

Review R packages with WebGL backend:

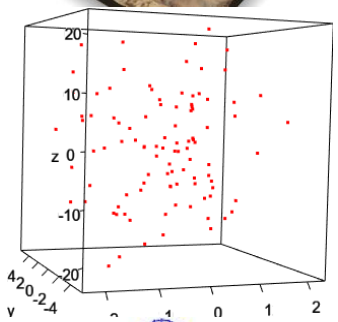


{adit}, github only
William Murphy (2016)

- Shiny and VR,
- public dev hidden when hired

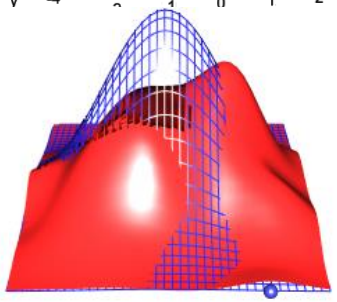
{rayshader}
Tyler Morgan-Wall (2020)

- High fidelity
- Too slow for interactive use



{rgl}
Duncan Murdoch (2008-2020)

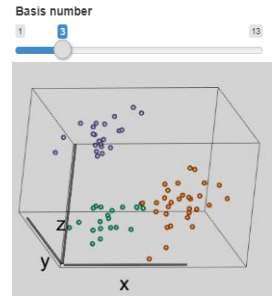
- Extensible
- Exportable as html widget



{shinyRGL}
Jeff Allen (2013)

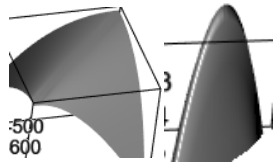
- Allows {rgl} use in shiny
- Annoying wall of text
- Consumed into {rgl} directly

Explore {rgl} geoms and displays:



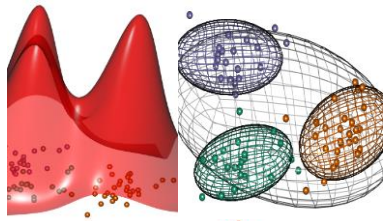
3D scatter plot

- Tour - animation of many linear projections of multivariate data



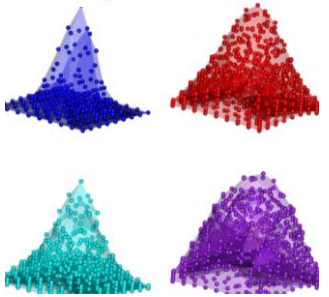
Function surfaces

- by equation



Meshes and surfaces

- 2D/3D Kernel Densities



3D scatter plot with triangles between points

- alpha hull
- Delaunay triangulation

ebsmonash.shinyapps.io/MultivariateFunctionVis/

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