Visualising Multi Dimensional Data
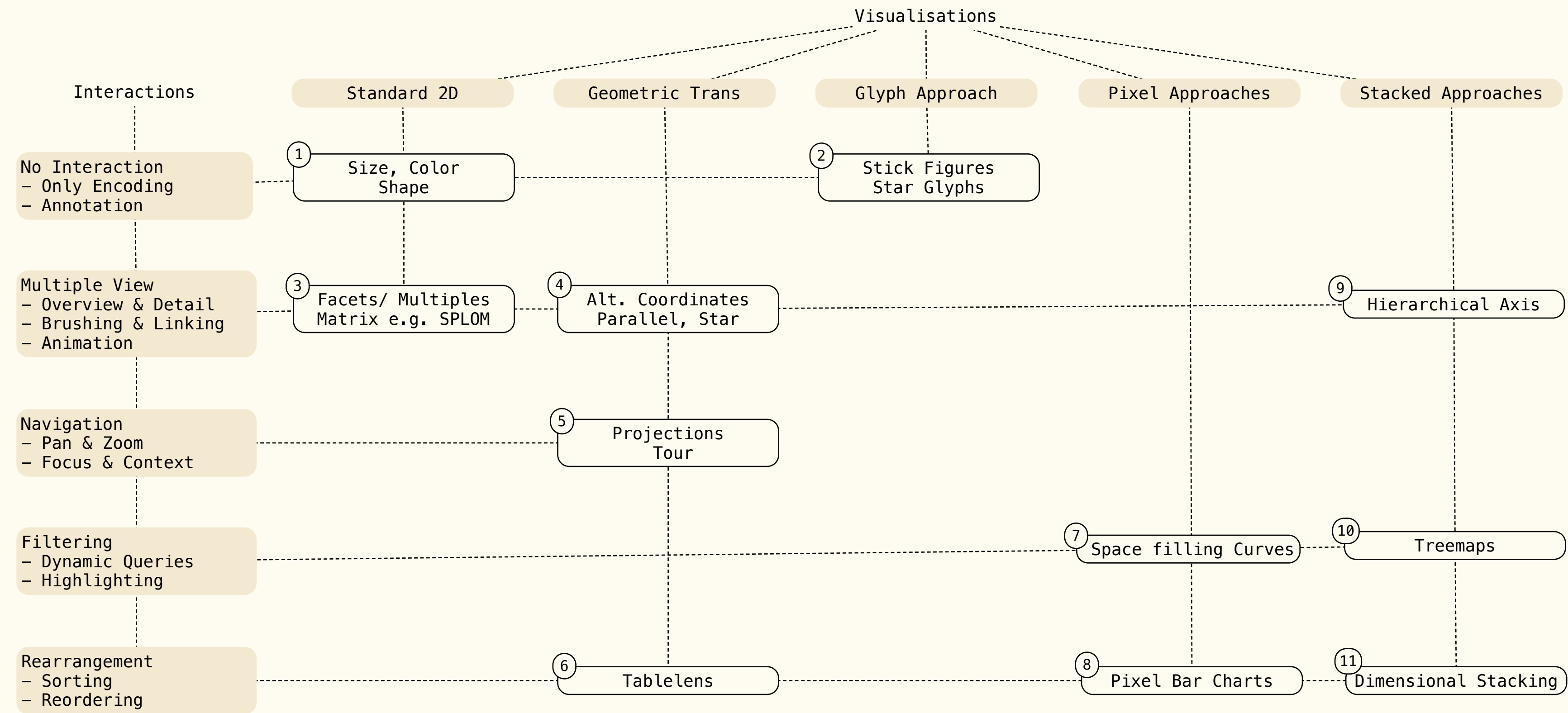
dimensions (p) > 3, observations (n) > 10K

EDA —> Data, Sample, Bin, Model

Visualisations

| Standard 2D | Geometric Trans | Glyph Approach | Pixel Approaches | Stacked Approaches |

Interactions

No Interaction
– Only Encoding
– Annotation

① Size, Color Shape

② Stick Figures Star Glyphs

Multiple View
– Overview & Detail
– Brushing & Linking
– Animation

③ Facets/ Multiples Matrix e.g. SPLOM

④ Alt. Coordinates Parallel, Star

⑨ Hierarchical Axis

Navigation
– Pan & Zoom
– Focus & Context

⑤ Projections Tour

Filtering
– Dynamic Queries
– Highlighting

⑦ Space filling Curves

⑩ Treemaps

Rearrangement
– Sorting
– Reordering

⑥ Tablelens

⑧ Pixel Bar Charts

⑪ Dimensional Stacking

OBJECTIVE

* Learn techniques for EDA of multi-dimensional data

* Use interaction to better explore data

INTENT

"I don't know, what I don't know." – why we explore data through visualisations

STRATEGIES

* Avoid "over encoding"

* Use space & multiples intelligently

* Use interaction to generate relevant view

* Reduce problem space

AUDIENCE

* Analyst, Data Scientist & anybody doing data analysis

* Have prior experience in data analysis and viz

* Familiarity with viz tools like R, Python, Tableau

SPEAKER

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