Instruction

1) Please describe your experience designing/implementing data visualizations and animations of the visualizations. How many years of experience do you have? How often do you create visualizations and animations?

I made my first visualization using D3 in Jeff's vis class in 2014. It's about five years now. For the past five years I've made some visualizations but most of them are static (for papers, posters etc.) I only started creating animated visualizations in the past few weeks (making web slides explaining equations, in which I needed animations to explain things better)

Here are the different stages of visualization
LINK (ANONYMIZED TO GET REVIEW)
(The marks represent the house price data in SF and NY. First plot shows the elevation of the houses in two regions, The second plot shows the elevation vs. price per sqft.)

Imagine that you're an animation designer such that you want to design the animation for the transitions between the stages.

2) Please explain how you're going to animate the ***graphical components*** of the visualization with the ***timing information***?

Stage 0: blank canvas
Step 0.1 label the x axis: SF, NY
Step 0.2 label the y axis: elevation
Step 0.3 render the marks for SF
Step 0.4 label the max elevation for SF
Step 0.5 render the marks for NY
Step 0.6 label the max elevation for NY
Step 0.7 erase the y-axis (elevation)
Step 0.8 label "0.0 ft" at the bottom, between the two cities
Step 0.9 erase the x-axis (city)
Step 0.10 render a color legend to the side of the graph to remind users to color encodings (so they don't have to recall)
… and we get to => Stage 1
Step 1.1 shrink all tick marks to circle marks
Step 1.2 push all marks towards the right, push the three data labels "0.0ft", "239.5ft", "744.8ft" towards the right as well
Step 1.3 render the x axis title "price"
Step 1.4 render the x axis tick labels "293.0 per sqft", "1776.0 per sqft", and "4601.0 per sqft"
Step 1.5 erase the x axis title
Step 1.6 render the green and blue rectangle area backgrounds
… and we get to => Stage 2
Step 2.1 erase the green and blue rectangle area backgrounds
Step 2.2 render y axis title "elevation"
Step 2.3 render x axis title "price per sqft"
Step 2.4 push the y axis title "elevation" to the left. In the mean time, render the x axis titles and the marks one by one: "square feet" , "price", etc.
Step 2.5 push all x axis titles down by one row, render "year built" and all the marks
Step 2.6 push all the axis titles down by one row, render "bathrooms" and all the marks
Step 2.7 push all the axis titles down by one row, render "bedrooms" and all the marks
Step 2.8 push all the axis titles down, render "price", and "square feet", render all the marks
… and we get to => Stage 3

3) Could you think of another animation design?

(You are free to assume: more/less number of data, shorter/longer animation time, different data distributions, the different number of cardinality (the number of categories), or the different message/task that you want to convey through the transition.)

As an alternative design, I think going from stage 2 to stage 3 could be less elaborate. For an audience that's already familiar with the scatterplot matrix, we don't have to render plots row by row. We can render all the scatterplots at the same time.

Here is one version of the animation for the transitions.
LINK (ANONYMIZED TO GET REVIEW)

4) Please list the changes of the visualization ***graphic components*** along with the ***timing information***.

Expand the scale (and all marks on that scale) until the scale takes the full height (2 secs)
Shrink tick marks to circle marks and push them to the left and right edges (1 sec)
Move the circles towards the center, according to the x and y scales (2 sec)
Draw green background (bottom to the top); draw blue background (left to the right) (1 sec)
Collect all circles in a smaller scatterplot (elevation x price per sqft)
Render the other scatterplots (I'm not sure why the individual scatterplots are rendered in the current order)