

A close-up, low-angle shot of a brown leather basketball with black lines, resting on a polished wooden floor. The floor has a black curved line passing behind the ball. The background is dark and out of focus.

Advanced Shot Chart

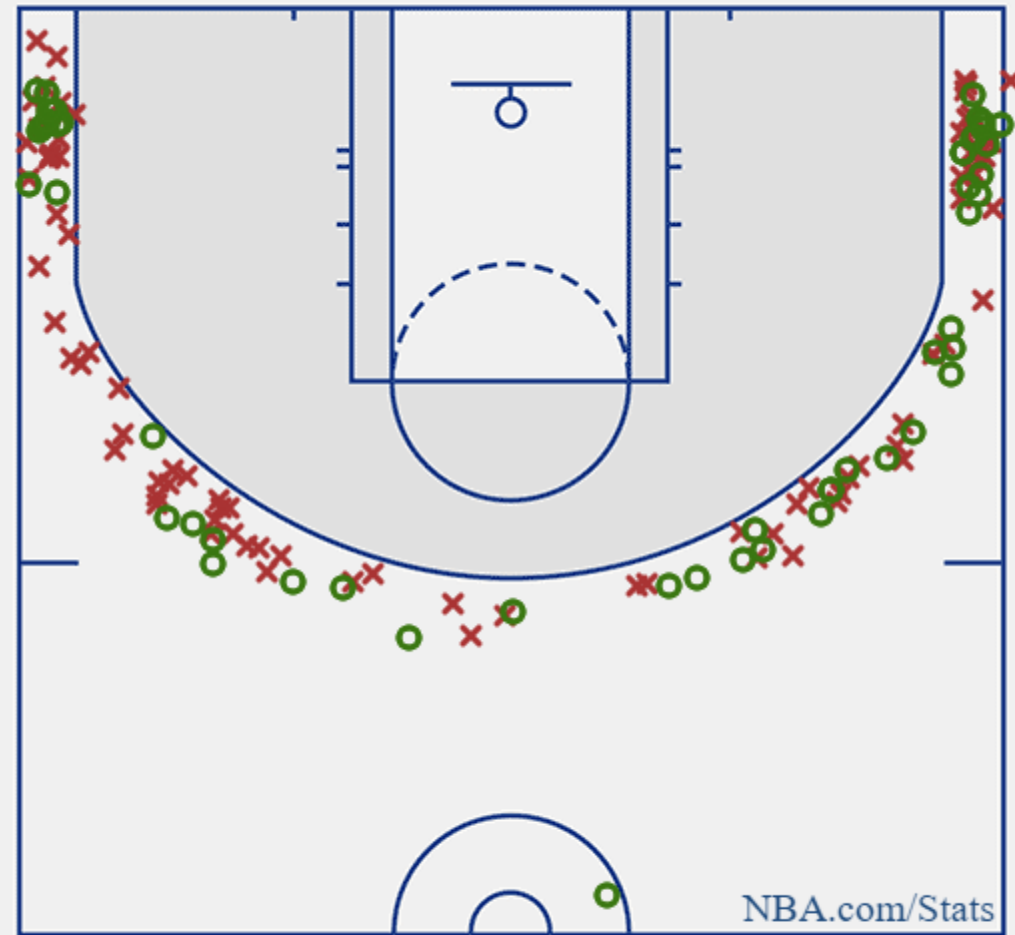
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Presentation's Content

- What is a shot chart?
- Why do we need to improve the shot chart?
- Is it interesting? ..Is it difficult?
- So how are you going to do it?
- How did it go?
- Any plans for future work?

FG3A for Gilgeous-Alexander, Shai during the 2018-19 Regular Season



FG%: **36.7** % (51-139)

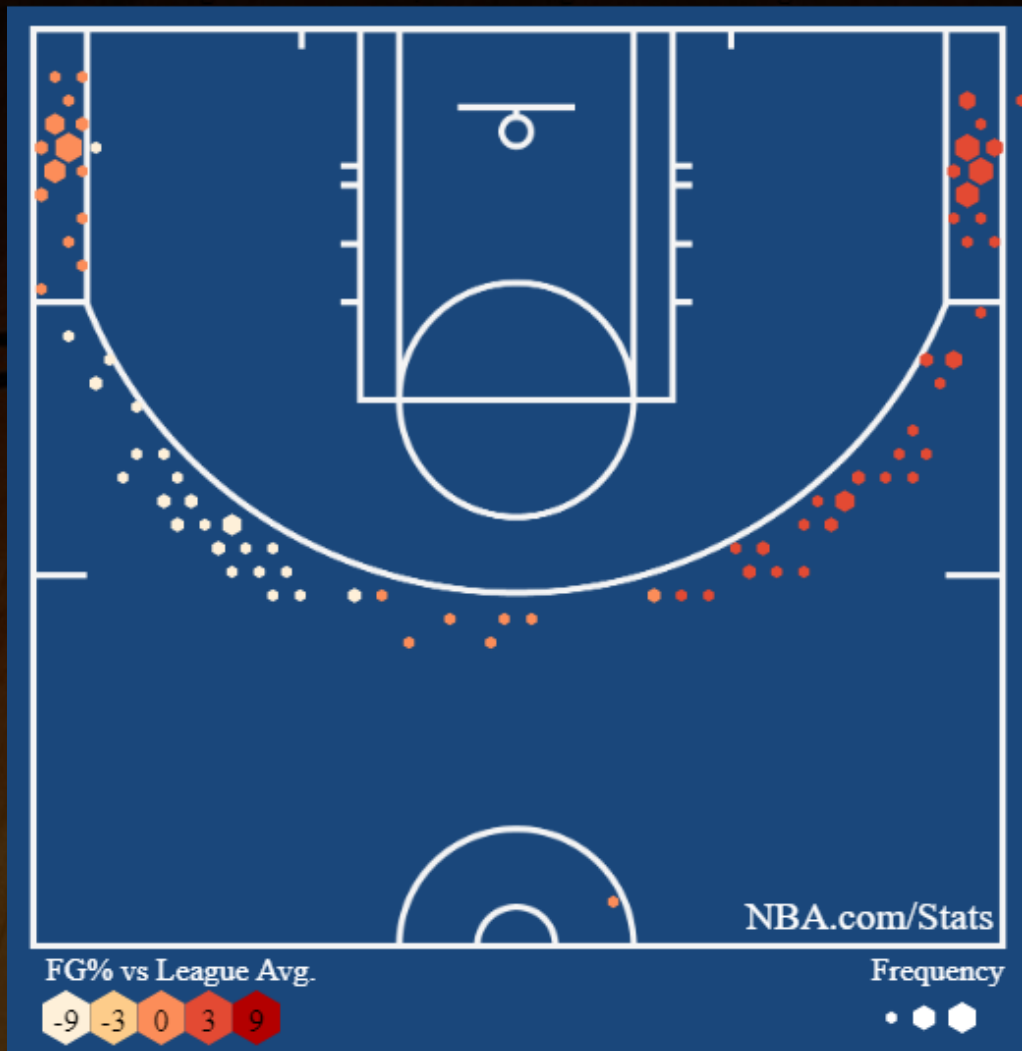
● Made Shot × Missed Shot

Shot Chart

Not very exciting

Taken directly from nba.com

FG% for Gilgeous-Alexander, Shot during the 2018-19 Regular Season



Hexagon Chart

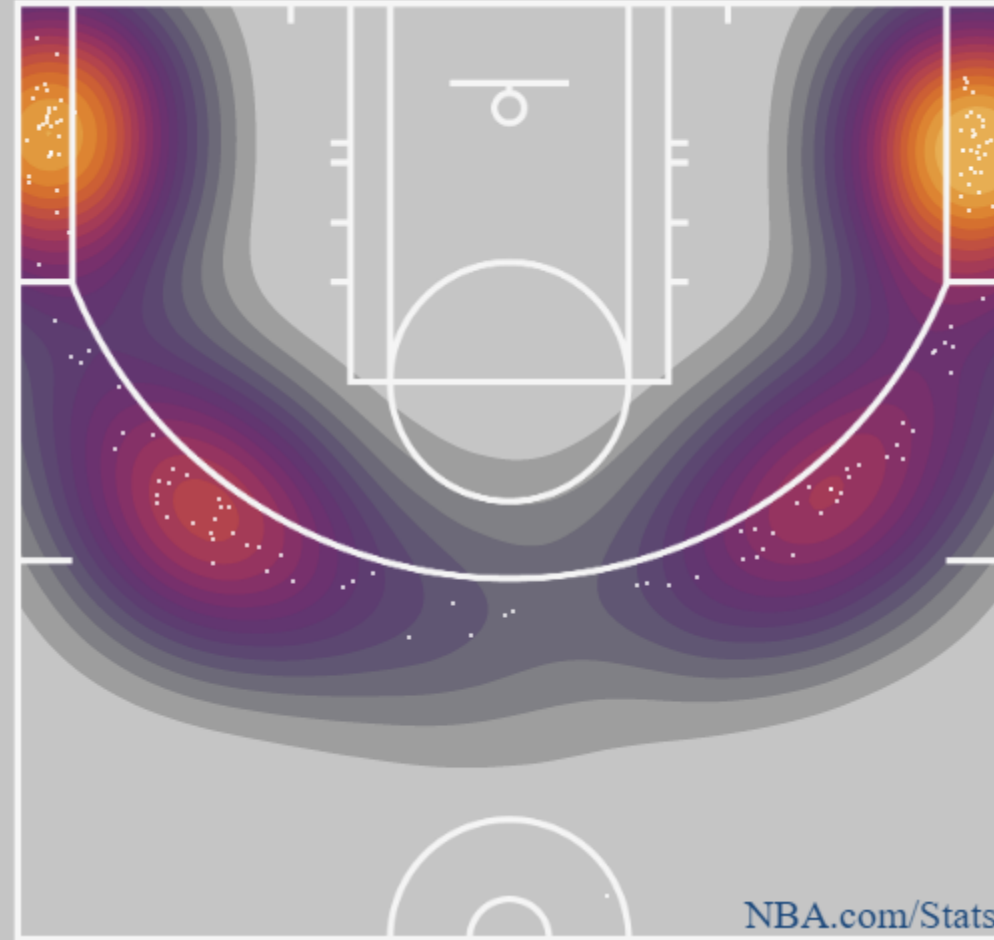
Essentially an improved shot chart

Condenses two variables

More exciting

Could it be even more exciting?

FG3A for Gilgeous-Alexander, Shai during the 2018-19 Regular Season



Heat map

It's exciting, but..

Doesn't portray information well

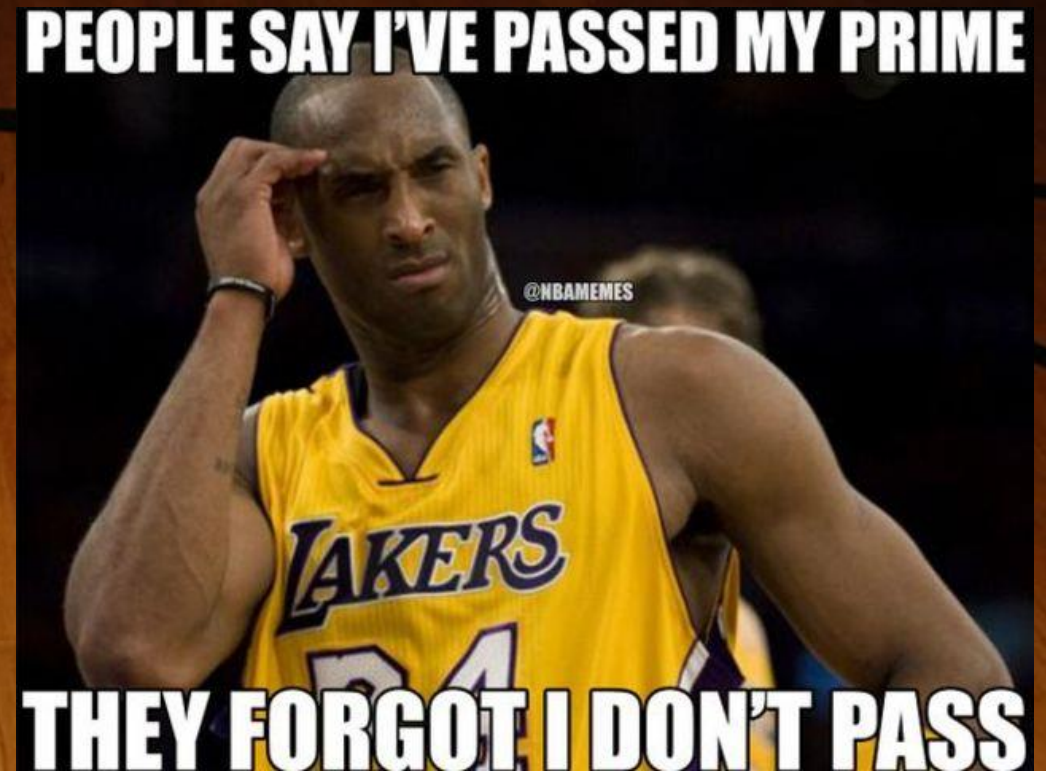
Could it be even more exciting?

So how can we make it better?

- Add effects?
- Interactivity?
- More colours?
- Make it 3D? <- **Winner!**

Basketball statistics are boring!

- No, they are not
- It's a game, it's fun
- Plenty of room for creative solutions



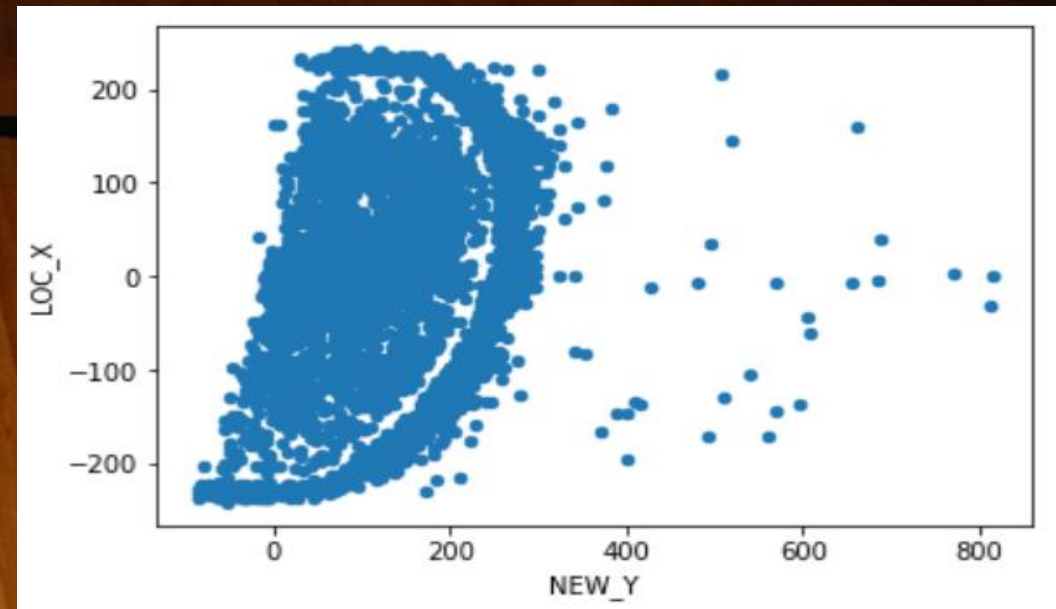
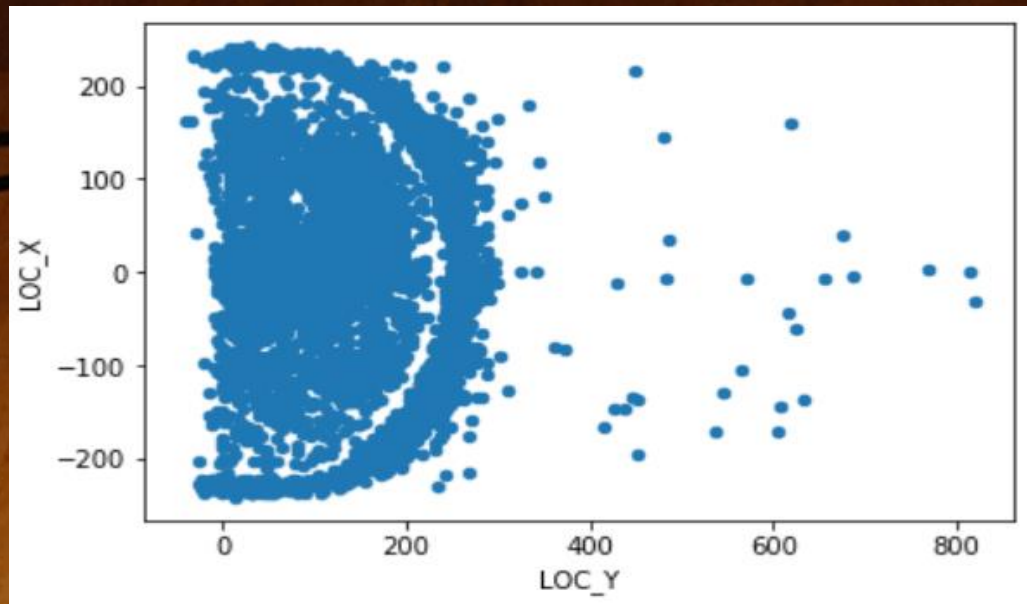
Sounds easy!

- It really isn't
- Many variables to account for
- Hard to come up with novel methods
- Hard to measure efficiency
- But let's try anyway

So, what's the plan?

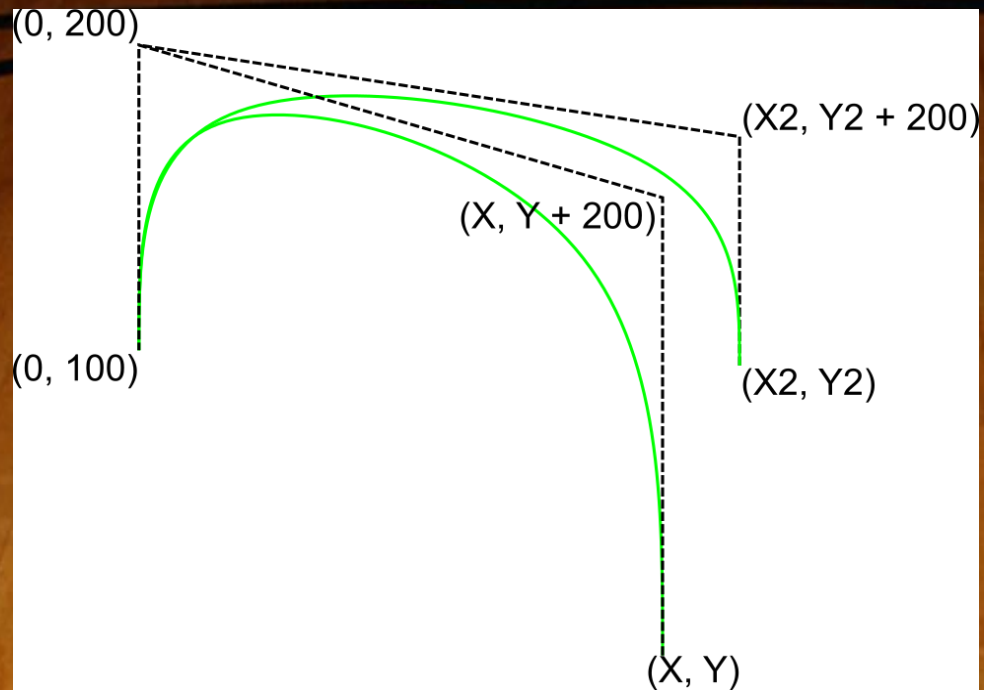
- Create a new method or two to visualize basketball shots
- Make it 3D
- Compare it to standard shot charts
- Decide if it's any good

Implementation

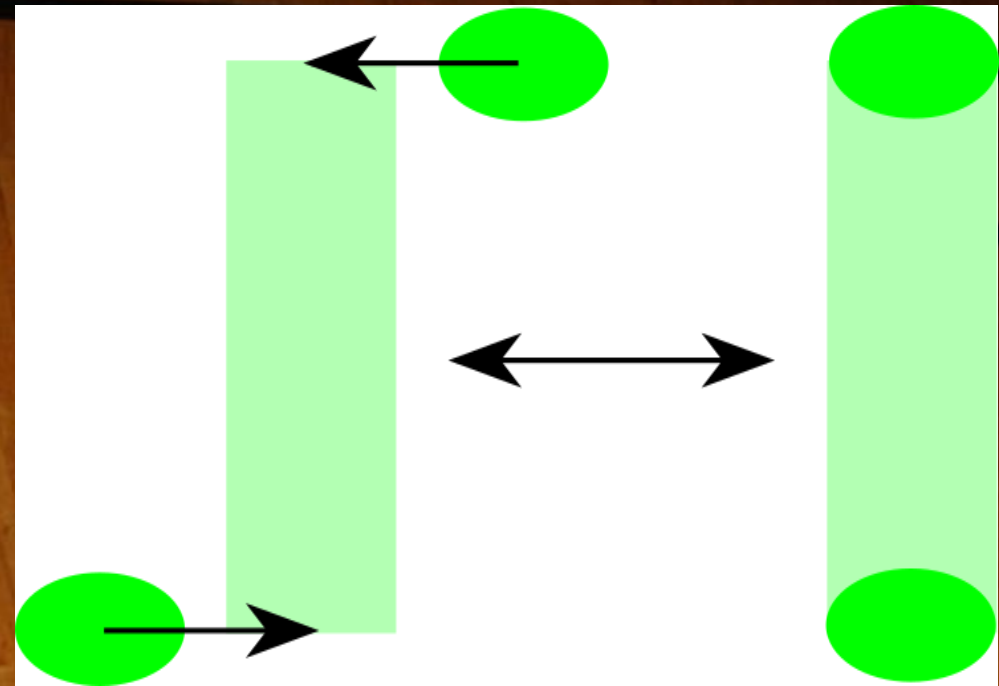


The idea (s) continued

Curve plot

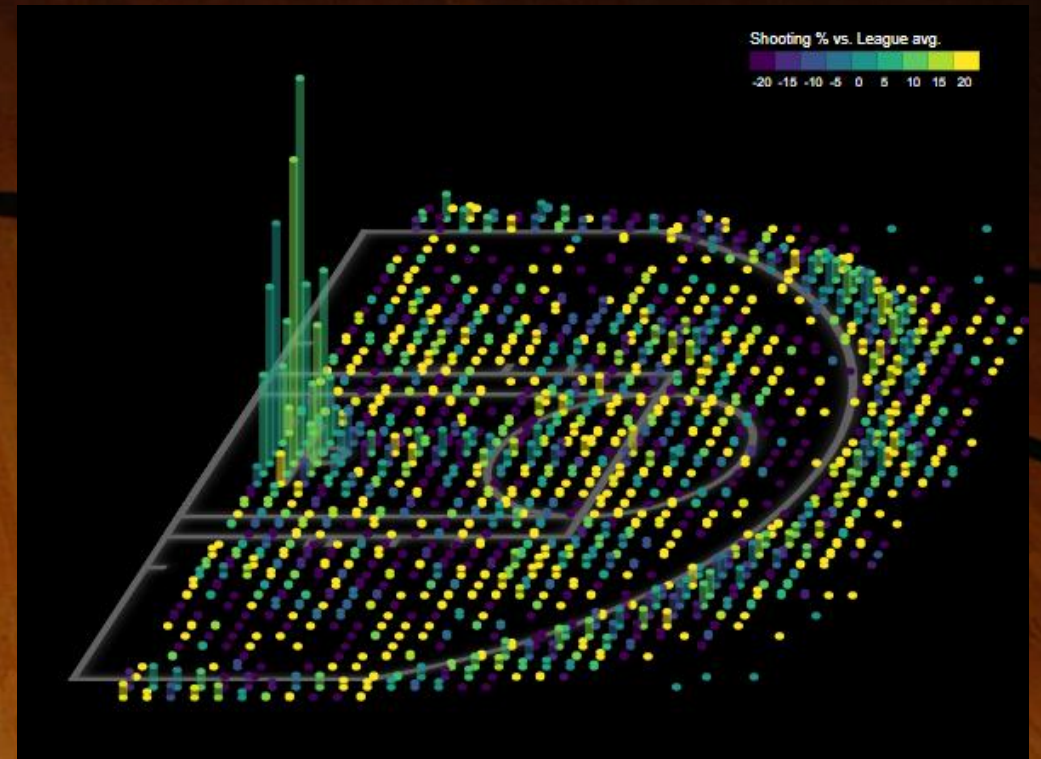
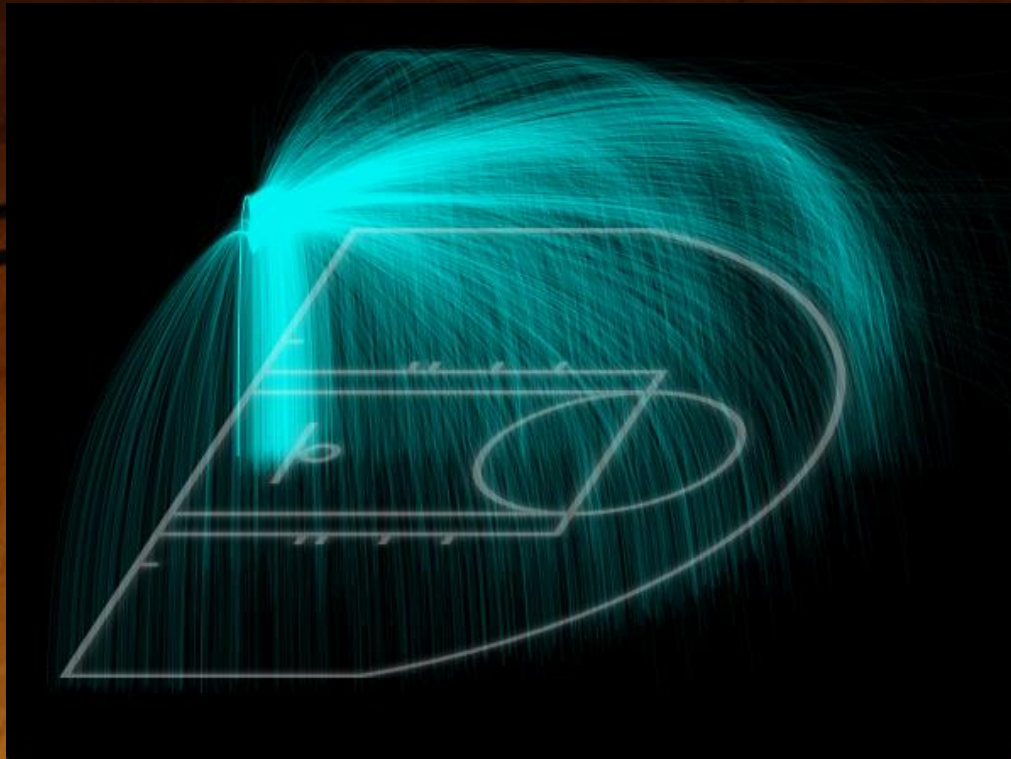


Column plot





Results



A photograph of a wooden basketball court floor. A curved black line, likely a free-throw line, arcs across the middle of the frame. The text "Demo time!" is written in a bold, white, sans-serif font, centered on the floor between the two black lines.

Demo time!

Future work

- Better interface
- Include different statistics
- More seasons, regular/playoff option
- Optimize performance
- Experiment with viewing angle
- Experiment with curve attributes