Problem
Cooking is about techniques and ratios, but traditional recipes are rather "cookbook", and don't give the reader any intuition about the importance or role of the various ingredients. There is great flexibility in cooking, but recipes don't expose this.

Previous work
Existing online tools allow searching by ingredient, but don't provide much help as to whether it's ok to leave out the sour cream. Research projects have focused on flavor networks and ingredient substitutions, which don't provide actionable insight to the cook.

Visualization design
Enter a search term. The page displays the ingredient distribution for all results.

Brush
Drag across ranges of ingredients to filter the results.

Select
Click on individual recipes to see details and a link to the full recipe.

User testing comments
“Love the clean and minimal design... I like how fluid everything is.”
“I like how I can see what I can make with a limited amount of ingredients.”
“It's awesome to see the spread and distribution [of ingredients] for so many recipes.”

Aside: AllRecipes organization
Allrecipes gives each recipe a unique ID number, which we used to generate URLs for scraping. A few URLs are invalid (black), but most return a recipe page. However, more than half of those are for a single recipe: "Johnsonville Italian Style Three Cheese Chicken Sausage Skillet Pizza" (gray). Uncategorized recipes are shown in light gray.

Future work
Our parsing of ingredients covers many common cases, but still needs a larger list of known ingredients. We also began investigating clusters of recipes in "ingredient space", which is a promising way to explore without a text search.