SixPivot Code Puzzles

General Directions

Complete the following puzzle by producing a solution that has both a web frontend and a C# backend. As we need to see that you can fit into our teams, you should be using modern frameworks and libraries. Your solution must be able to be built without additional software or commercial add-ons (Nuget/npm packages are allowed).

We want to see what the code you write at SixPivot will be like.

All code should be considered ready for production!

Submissions

Share a private Bitbucket or GitHub repository containing your solution and with *sixpivotcodereviews*

The Problem

Write a program that lets the user generate a shape with the dimensions of their choosing using a semi-natural language interface. So that we can see you're comfortable on both ends, the language parsing should be done server-side.

User Story

As a user I want to generate shapes with natural language so that I don't have to enter values in boxes

Acceptance Criteria

- User enters a sentence to draw a shape
- Supported shapes:
  - Triangles
  - Rectangles
  - Squares
  - Pentagons
  - Hexagons
  - Heptagons
  - Octagons
  - Circles
  - Ovals
  - Parallelograms
- Language parsing should be done on the server
- Distances are in pixels

To keep things simple, we'll fix the allowed format to the following:

```
Draw a(n) <shape> with a(n) <measurement> of <amount> (and a(n) <measurement> of <amount>)
```

Examples:

```
Draw a circle with a radius of 100
Draw a rectangle with a width of 250 and a height of 400
Draw an octagon with a side of 200
Draw an isosceles triangle with a height of 200 and a width of 100
```

Stretch Goal

If you thought that was too easy, add support for some 3D shapes.