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Homework 5

I began my assignment with my best project to date, namely the paint remake program. I had a solid base to work with and I had a few ideas for improvements.

I started with the new feature. At the end of Homework 4, I had a working program with a good implementation of Factory and Command patterns. However, the user was required to draw their shapes blindly, then the shape they had created would render on the form. I wanted to add a new feature that would allow the user to see and manipulate their shape as they were drawing it. My program uses a List<Shape> shapeList object to render and re-render the field upon modification. My previous attempt was waiting for user input, then creating a shape and adding it to the list, then rendering the list to the page. I accomplished my visible shape drawing feature by dynamically creating and updating the last element of the shapeList while the user was drawing on the field, then, I replace that last element in the array with the real shape the user has drawn. This gives a nice dynamic view to the user and they are able to make much more accurate drawings.

To improve my work further, I wanted to improve the logic of my design. I ended up combining the strategy and factory patterns for my shape logic. The Factory uses an abstraction that creates a concrete factory for a specific shape. Then that factory will return the shape abstraction data. I also knew that my modularity was poor on Homework 4. I suffered from class-bloating in that my main class, ShapeApp, ended up doing an enormous majority of the work. I created several new classes, namely Command, Commander, File Manager, and Utility to create much more cohesive code.