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Assignment #2
Senior Project

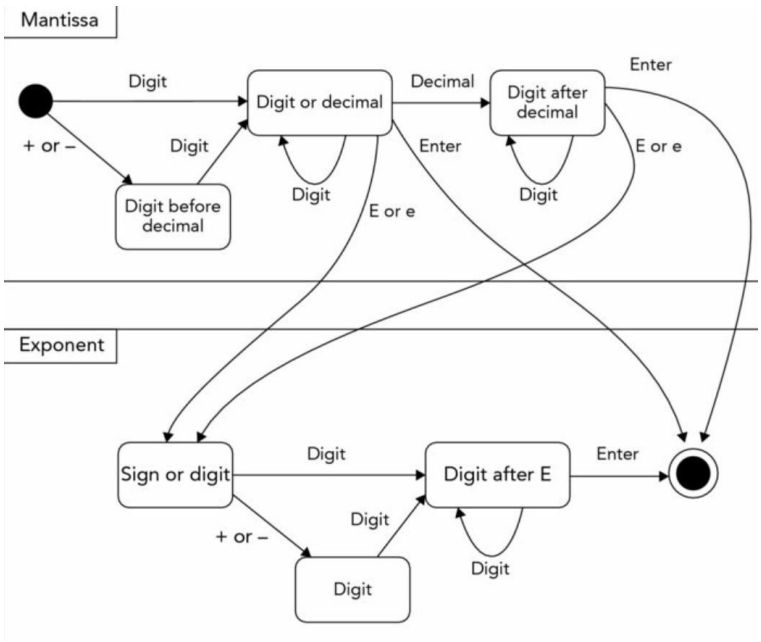
1. A component-based architecture regards pieces of the system as loosely coupled components that provide services for each other. A service-oriented architecture is similar except the pieces are implemented as services, often running on separate computers communicating across a network. The two are similar, but the pieces are more separated in a service-oriented architecture.

2. For this application, a monolithic architecture would probably work well because it's a
relatively small, self-contained application. A data-centric approach also works well in this example. For tic-tac-toe in particular, it's easy to build tables of moves and the best responses, so it will probably use some data-centric or rule-based techniques.

3. The user interface is basically the same. The only changes are: (1) The program needs to exchange information with another instance of the program across the Internet, and there's no computer opponent as well.

4. The ClassyDraw application can store each drawing in a separate file, so it doesn't need much of a database. Operating system tools can let the user manage files.

5.



6. All these classes represent drawable objects, so they share common properties required for drawing, such as foreground and background colors. They also define their drawing position using an upper-left corner, width, and height. Some classes require additional data specific to their shape, which isn't shared among them. For instance, the Text class needs font details and the text to display, while the Star class requires the number of points for the star. Certain properties apply only to specific classes. Rectangle, Ellipse, and Star can be filled, so they need a fill color. Meanwhile, classes that involve lines—Line, Rectangle, Ellipse, and Star—require line-related attributes like thickness and dash style.

7.