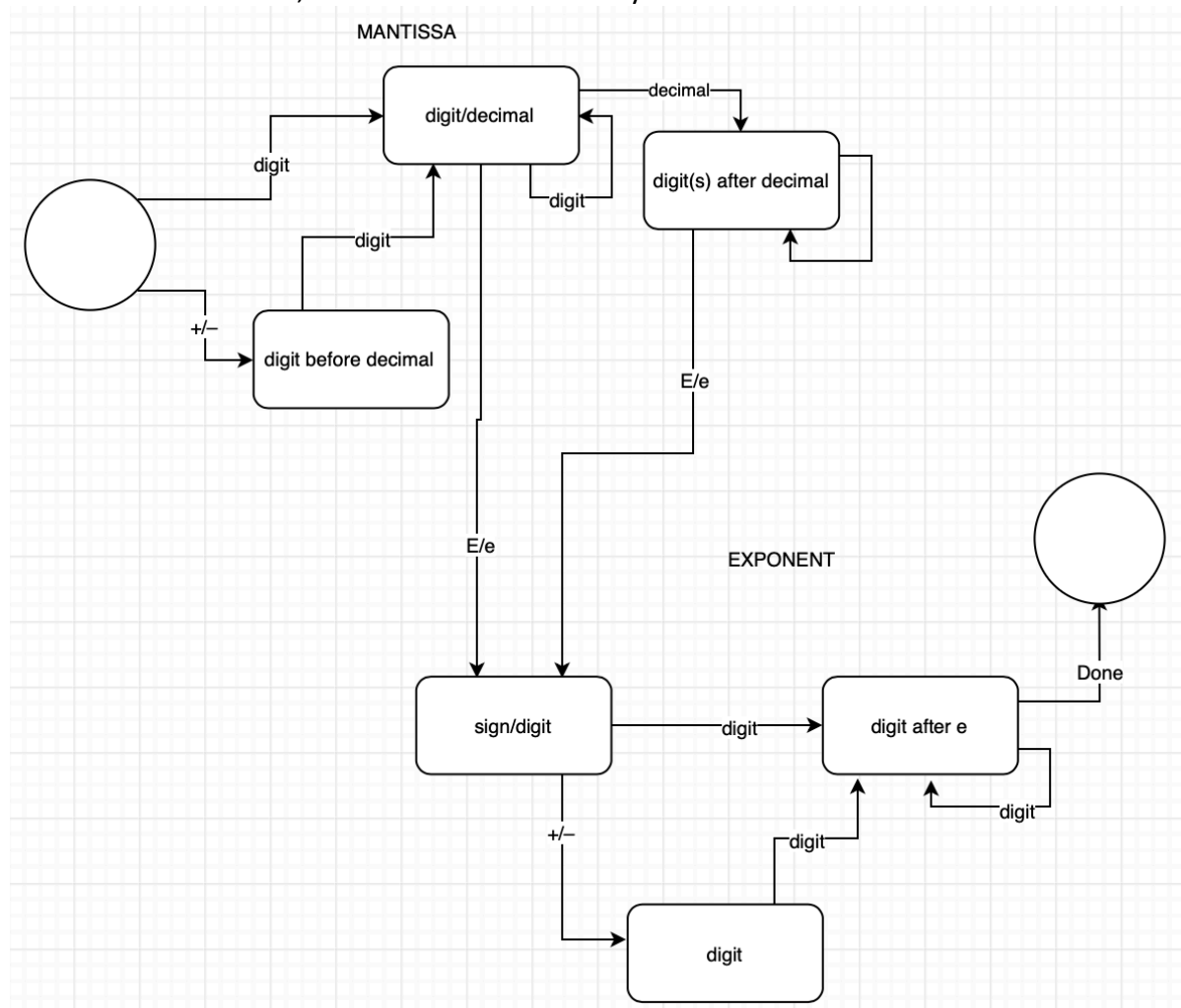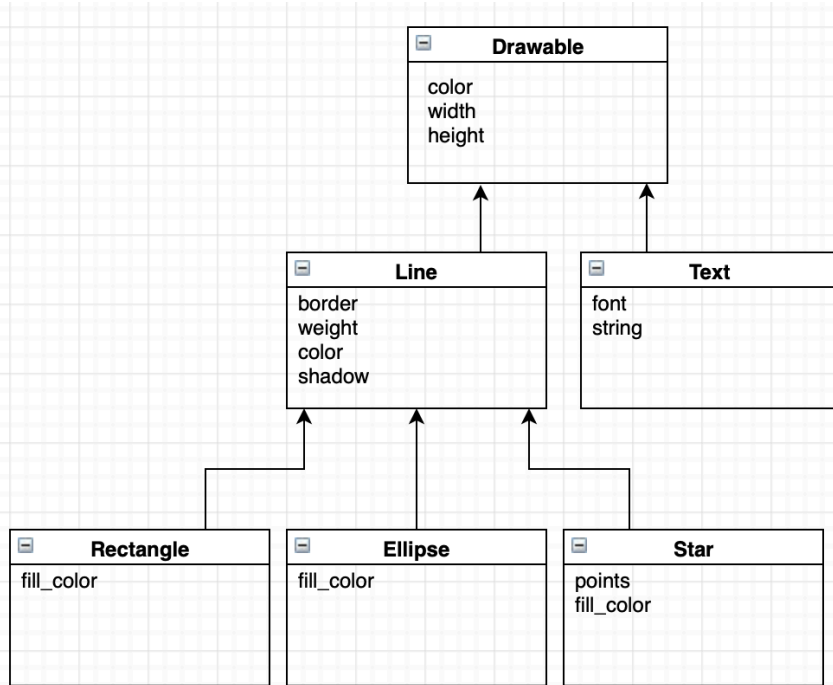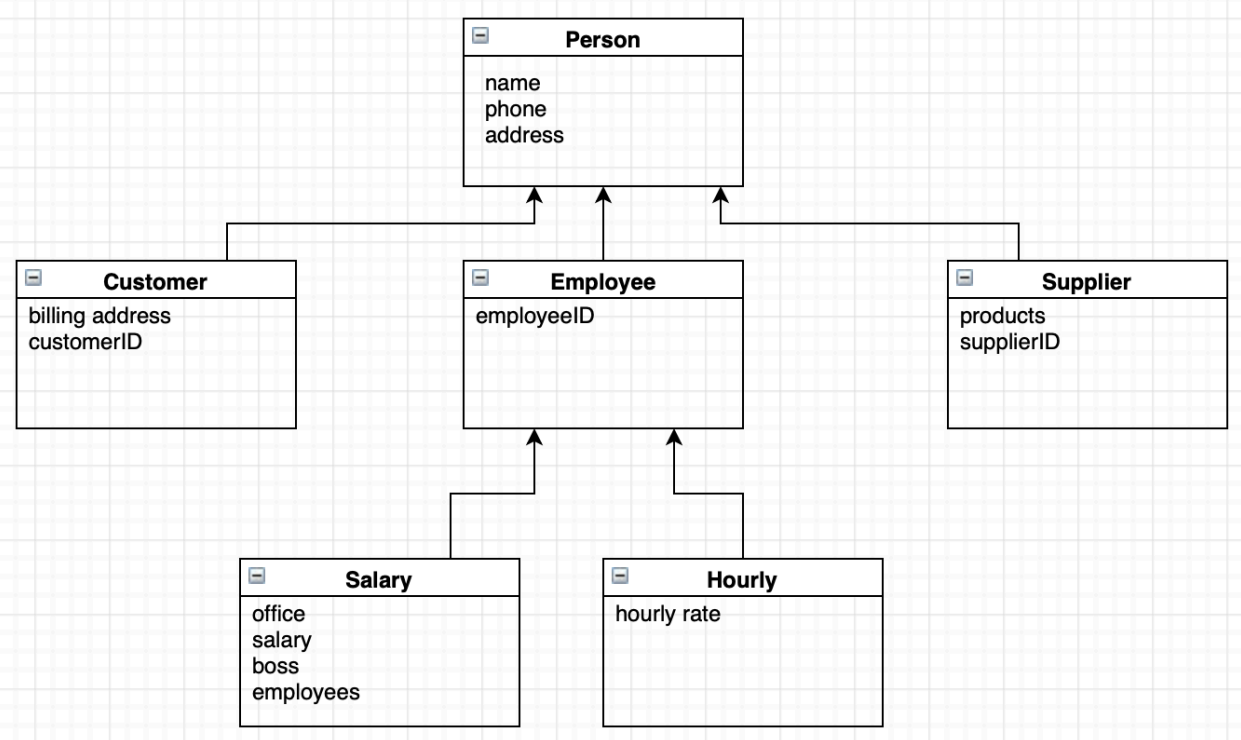Jackson Myers

CMSI 402

HW2

1. Component-based architectures implement the system as a combination of components that provide services to one another. However, service-based architectures implement the system as individual services that run on separate machines and communicate over a network.
2. A monolithic architecture would be the best implementation because the app doesn't need to interact with anything external.
3. Using a service-based architecture that implements web services on something like AWS would be best for two users to communicate over the internet.
4. No need for a database because each drawing can be stored as a file. The user can use the operating system tools to manage their files. The tool could store a temporary file until the file has saved, to aid in disaster recovery.

MANTISSA

digit/decimal — decimal — digit(s) after decimal

digit

digit

digit before decimal

E/e

E/e

EXPONENT

sign/digit — digit — digit after e

Done

+/−

digit

digit

digit

+/−

digit

5.
6. It seems like there's a hierarchy to these classes. Rectangle, ellipse, star, and text all inherit the line class because it is the most basic element of drawing. The line class carries all the generic properties like color, border, shadow, and weight. The other classes can implement the line in a certain shape like a 7-point star and other properties like fill color.

Drawable

color
width
height

Line

border
weight
color
shadow

Text

font
string

Rectangle

fill_color

Ellipse

fill_color

Star

points
fill_color

7.

Person

name
phone
address

Customer

billing address
customerID

Employee

employeeID

Supplier

products
supplierID

Salary

office
salary
boss
employees

Hourly

hourly rate

8.
9. Employees property is empty for entry-level salaried workers and boss is empty for executive level.