

# What does a Software Engineering degree from SUNY Oswego look like?

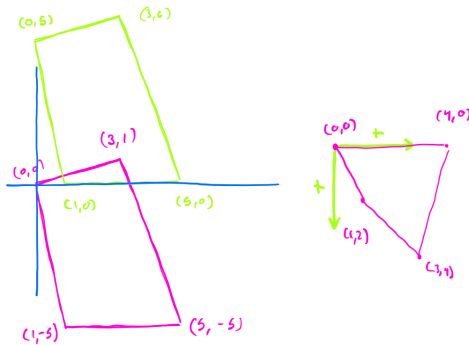
## Introduction:

As a software engineer, I find it difficult to explain what I do to people outside of the field. I wanted to find a way to represent the work I have done in a way that might be pleasant to someone who has not been exposed to the world of programming.

## Objective:

Convert any series of java projects or classes into a cohesive artistic composition.

### Drawing in Javafx



## Features:

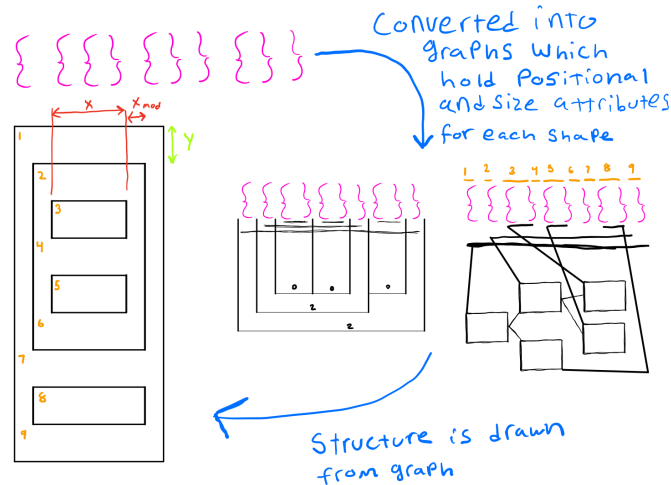
### Intuitive GUI

- Works with any amount of java classes
- The program comes packed with many different customization options for the end composition. such as:
  - Multiple Color scheme
  - Geometry construction
  - Rotation
  - Add/remove components

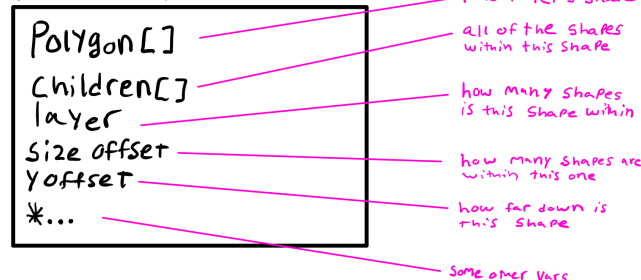
```
function(){  
  for(){  
    if(){  
      3else{  
    }  
  }  
  if(){  
  }  
}
```

Some Code

Parse code into its basic functional structure



### Anatomy of a Node



## Implementation:

The system will first ask the user what files and preferences they would like to use. After this is confirmed, the system will use a series of regular expressions and pacers to break down all the java code from these files into some of their basic components. The main things that the pacers are looking for is the code structure and variables.

## Code structure:

After the parser breaks down the code into a representation of its basic structure, the system then starts building the components used in the final composition. Operators such as for loops and if statements are made into polygons, which are structured within each other. After this a graph representing the code is constructed, where each node holds relevant information regarding the encapsulation, position, and size of each polygon. To keep the structure consistent, each level has the same color to keep it aesthetically consistent.

Another way this will be displayed is by finding a tally of all occurrences of any given variable name. Once all of these are found they will be represented throughout the composition in a way that is scaled to the net number of occurrences. The shape and size of these objects will be customizable.

Once all these objects are made, they are put into a composition, and converted into an image. These structures are built using javafx.

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