Team Project: SVG Reader

# Overviews

The objective of this project is to design and implement an SVG file rendering application using **C++** programming language and **Object-Oriented Programming** (OOP) principles. The application will parse an SVG file, render the vector graphics, and handle user interactions if applicable.

# Functional Requirements

## SVG Reading and Parsing

* The program must have the capability to read SVG files and parse their content.
* SVG file parsing should handle various SVG elements, attributes, and their hierarchical structure.
* Implement classes representing SVG elements (e.g., Circle, Path, Text) using object-oriented definition.

## Rendering

* Implement a rendering engine that utilizes the parsed SVG data to draw vector graphics on the screen.
* Use object-oriented design patterns to represent different SVG elements as objects and render them accordingly.
* Support for rendering basic shapes, text, border, and fill is mandatory.

## Interactivity (optional)

* Zoom in/out
* Rotate

# Object-Oriented Design

* Implement a well-organized class hierarchy representing different SVG elements.
* Utilize inheritance, encapsulation, and polymorphism to create a robust and flexible design.
* Consider implementing design patterns for object creation and traversing SVG elements.

# Documentation

* Provide detailed documentation describing the class hierarchy, methods, and their functionality.
* Include UML diagrams representing the class relationships and interactions within the rendering module.
* Comment the source code thoroughly to enhance readability and understanding for future developers.