

# Lab2: Rasterization

February 4, 2008

## 1 Introduction

The goal of the lab this week is to implement at least two rasterization algorithms for lines and triangles. Each of the algorithms you must implement were discussed in lectures and pseudo code is provided in the notes.

## 2 Lab Guidelines

All functions that need to be implemented are flagged in the code. In the **vector class** you will need to implement the **distance function** for computing the signed distance of a point from a line. This is the single most important function for the entire lab as most of the raster algorithms depend on this function. In the vector class, the **Distance()** function and **Normal2D()** function. You must also implement at least one of the following algorithms for rasterizing lines.

1. **Bresenham's Algorithm** for computing a line explicitly
2. Implicit line raster algorithm
3. Parametric line raster algorithm

You also must to implement at least one of the following algorithms for rasterizing triangles.

1. Explicit triangle raster algorithm
2. Implicit triangle raster algorithm
3. Parametric triangle raster algorithm

**Note:** As before all code must be commented and adhere to correct coding standards

### 3 Submission

Please upload your code as an archive, one of (**.tar .tar.gz .tar.bzip,.zip etc..**) for information on using any of the archiving tools mentioned previously please consult the man pages or ask a demonstrator. File must be no larger than **2Mb**. This week's submission is due **21:00 hrs this Wednesday**. You may resubmit your code as many times as you like up to the deadline.