

## **CHAPTER 3**

### **RESEARCH METHODOLOGY**

#### **1. Literature Studies**

Finding references through journals about Image Enlargement, to gain knowledge about interpolation method, various parameter as benchmark (PSNR). All of these journals as a reference for making this program.

#### **2. Resize Image Sample**

This project use 30 images, Images will be downsized on several scales, 2x, 4x, 6x. After downsizing, the downsize images are used as input image to be enlarged. Images must be downsized because in the calculation of PSNR the resolution of the original image and the result image must be the same, so that calculations can be made.

#### **3. Implementation with Bilinear Interpolation**

The downsize image will be enlarged using Bilinear Interpolation method with several scales, 2x, 4x, 6x. Then, counting the PSNR value of each processed images.

#### **4. Implementation with Bicubic Interpolation**

The downsize image will be enlarged using Bicubic Interpolation method with several scales, 2x, 4x, 6x. Then, counting the PSNR value of each processed images.

#### **5. Testing and Evaluation of Image Enlargement Process**

Calculate how much time is used in enlarging an image with 2 interpolation methods. So we know which method is faster and more effective.

## 6. Report

After enlarging with 2 methods and we get the PSNR value of each image , we can determine the best method for Image Enlargement between Bilinear Interpolation and Bicubic Interpolation by their PSNR value. The better method for image enlargement has the higher PSNR value. And we know which method is faster to do the enlargement by calculate the time process.

