Criterion A Planning

1. Define the problem

Image dehazing has become important in the areas of computer vision with the development of society. Image dehazing can help computer easier to recognize the image in some hostile environment. Thus, It can strengthening the ability of monitoring. The aim of this project is to produce a haze-free image which quantity as highest as possible. The working sketch of dehazing as shown below.

Taken from <https://www.lix.polytechnique.fr/Labo/Frank.Nielsen/INF555/HallFamePj2009/>

After I had described my problem, my computer science teacher agreed to be my advisor(supervisor). My friend Kate who enjoy photographing agreed to be my client(end user).

1. Rationale for solution

One purpose of dehazing is helping monitoring. The image after image dehazing should try its best to get the closet resolution as the image before and it should looks very natural. The algorithm also should apply in lots of situations. Thus, the model built by me need to be trained with lots of images.

I decided to use Matlab because it has following characteristics:

* + Matlab is more suitable to analysis datas. It has lots of methods which can simplify the calculation.
  + Matlab can process the image. The forms of pictures which can be accepted by Matlab is various such as JPEG, BMP, PCX and so on. It also has various methods to process the image.
  + Matlab has tools for graphical interface. It has lots of extend tools which is suitable for scientific calculation.

1. Criteria for success
   1. A clear graphical interface can represent on the screen. Client can easily understand how to manipulate it.
   2. Client can input a picture and get the picture after dehazing.
   3. The processed picture should be dehazed successfully.
   4. The picture outputted by the computer should be detailed enough. It can be recognized by both computer and human.
   5. The picture outputted by the computer should be natural.
   6. This product can be used for all pictures. No matter it is a picture about nature or foods.