What is parallax?

Parallax means change in position of the object when viewed from different places or line of sight i.e., when one sees same object from different line of sights the object will seem to have been displaced but in real scenario its actually not. This later was not a case for our implementation.

When camera is not placed perpendicular to the object?

The camera should be placed perpendicular to the objects for which the dimensions are to be measured. If camera is not placed perpendicularly the round object might appear as oval, a rectangular object might appear as square object which will lead to false dimensions of objects.

Reference object method?

From the input image reference object can be identified either by specifying the position of the reference object like leftmost, rightmost, topmost, bottommost, middle one or by specifying a colour or shape of the reference object which should be unique from other objects in the image.

Scale of reference object to compute the dimensions?

Scale for reference object can be in inches or millimetres or centimetres. Now, after knowing the dimension of reference object in any of the scale mentioned above, the number of pixels occupied for the reference object is calculated. Now, each pixel length is calculated by dividing ‘number of pixels occupied’ by ‘length of object’, using this ratio dimensions of other objects in the image are calculated.

Image pre-processing and processing?

The input image read is converted to grayscale image and is blurred slightly once this is done the noise in the image has to be reduced

Object segmentation in an image?

To differentiate the object from the background a function from opencv called threshold is used. Each pixel will be having some value when this value is grater than the threshold value specified than it is coloured white else it is coloured black. The white coloured pixels form outlines of object in the image. Threshold function takes three arguments first one being the source image in grayscale, second one is the threshold value and third one is the value which is to be given if pixel value is more than (sometimes less than) the threshold value.

OpenCV (Open source Computer Vision)?

It is a library available in java, python and C++. It has vast number of applications like gesture recognition, 2D and 3D feature toolkits, object identification and many more. This library was used in our project to read image, convert it to grayscale, identify objects from the background in the image, specify the edges of the objects and finally to calculate dimensions of these edges.