The first problem blending the image

If I wrap both of the image it won’t blend properly

If I wrap one of the image then it blends quite smoothly

Before I though about using cv::stitching but I found out to be quite complicated, so I thought about cv::blender but to my demise, it was a failure as well.

Then add weighted saved my life as it was quite easy to implement

Next problem I found is a two way problem  
should I do a4 sheet detection which is predefined to me and I just need to search that?(Don’t know if it’s possible)

Or

should I do corner detection which will be quite easy and after detection I can define the distance between two points on the length of a4 as the length and estimate the data?

So far used good features to track and harris corner detector but couldn’t find any viable results

Since my room floor contains square patterns, It is getting quite difficult to detect the corner

Then I found out that traditional way is the best way to deal with these kind of problems

Gaussian Blur—dilate using 7\*7 kernel—Laplacian

But Laplacian is getting more prominent on the foot..

Maybe it can be used to find out the foot measurement?

I continue using Houghtransform to get the values of the corners

After trying different variations, I finally give up and focus on fixing the environment

Black floor and white a4 sheet might provide me with better accuracy of corners

After that

* Read the input
* Convert to gray
* Gaussian blur
* Get largest contour – This was easy because I took the images on a black paper to make it much more contrasting. I easily got the largest contour as the a4 sheet.
* But let me try goodFeaturestoTrack agin!
* Now the corners generated are totally random. So, the perspective projection is changing. How to fix that
* The solution is ordering the data
* So corners usually contain x and y values. And the top left corner contains the lowest value and the bottom right corner contains the highest value. So I have to sort them accordingly.
* Yay! Got the Corners
* But now the next challenge is how to get the size of the feet.
* I tried using the blended image for pre-processing, but due to blending, the feet came out thicker. Have to change the blending methods.
* Maybe poisson blending can help? But it didn’t.
* Finally got the feet mask using draw contour and making thicker lines and applying threshold and floodfill algorithm saved me(the most challenging yet)
* Now I got a rough mask and then I applied opening to get a clean mask.
* For feet I found a solution:
* How about copying the synthesized top view of the image and create a blank image with the exact dimension as an a4 paper?
* This will help me a lot of computation. But it won’t work because of perspective. I don’t have the camera parameters to calculate . This is moving much towards photogrammetry issue.
* I created my own bounding rect formula to convert my contours to rectangle co-ordinates
* In this way I found my minimum length and width of the a4 sheet as well as the feet.
* No I will use pixel per metric ratio to find out the unit of each pixel
* I used boundingrect to find out the length and height of the a4sheet as well as the feet bounding box
* Then I finally got the result.
* The accuracy is nearly 93 percent