Difference in Room Annotation

April 1, 2019

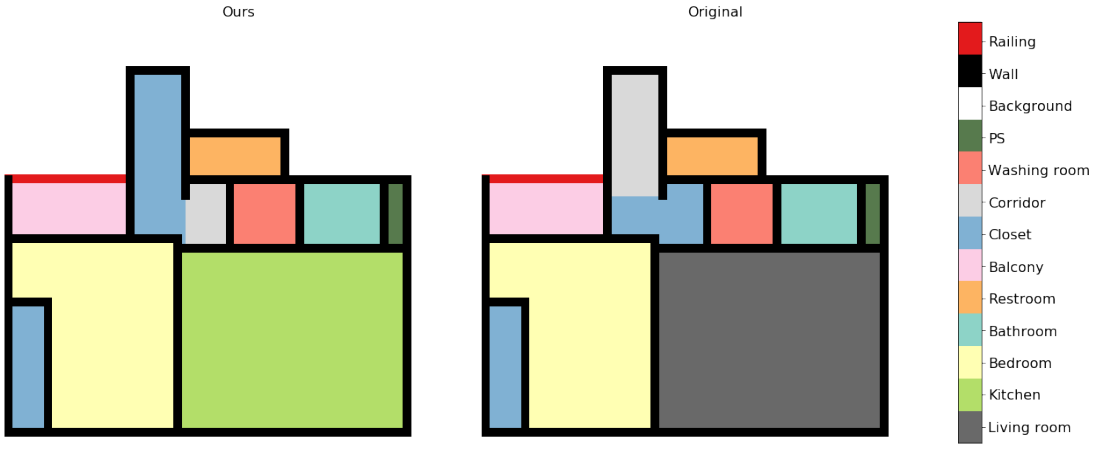
1 Examples of different annotations

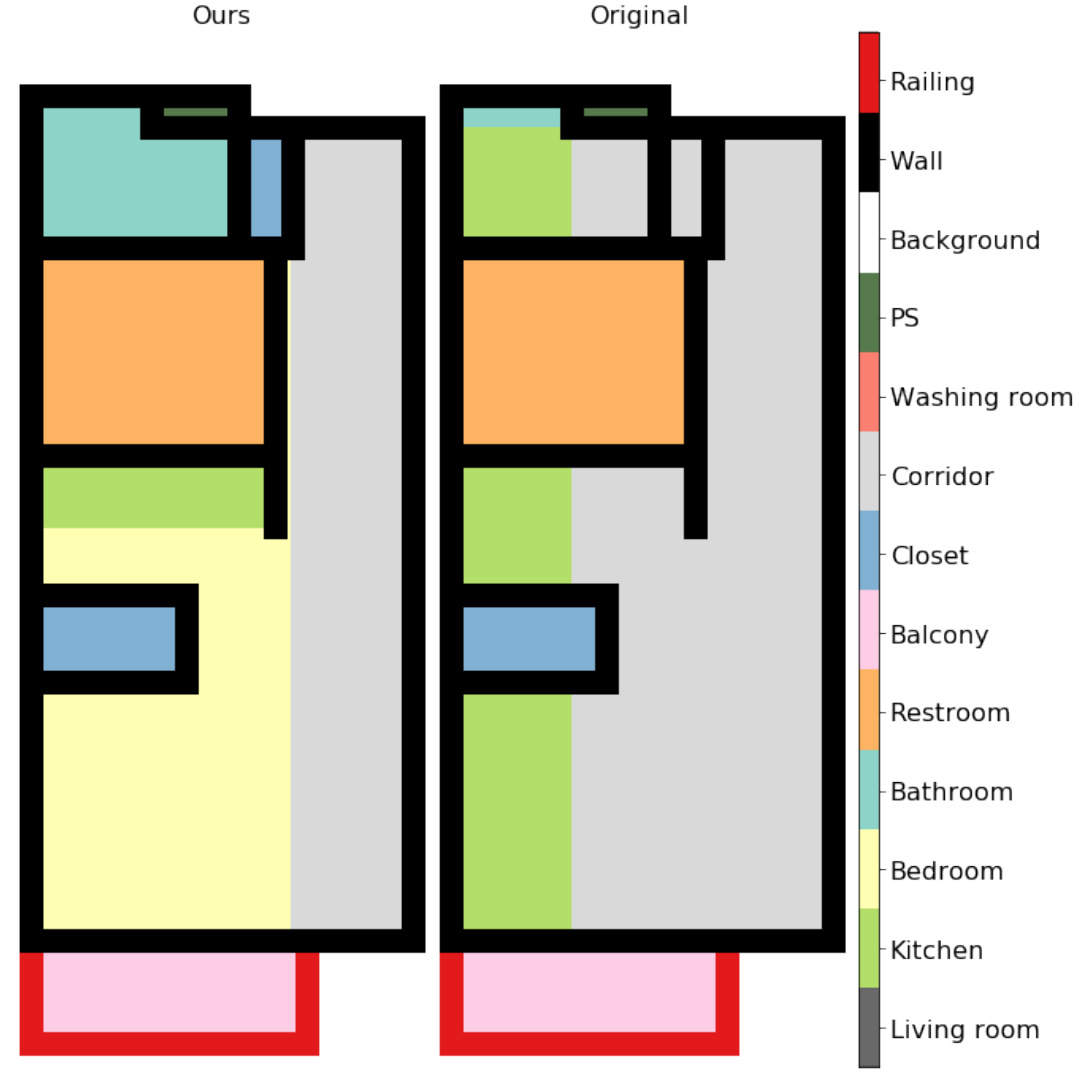
In the annotation file of Liu et al. the room label is marked with a center coordinate of the room. The shape of the room is then inferred based on the junctions. We noticed that sometimes there are two L joints with different orientations at the same location. We added a functions that merges these joints into a correct T joint. Another issue we came across was that sometimes long wall segment was not splitted by the junctions that were in the wall. We added a function that splits the wall according to the junctions. Inference of the correct room shape is not perfect, but based on our qualitative review our way of representing the room shapes is better.

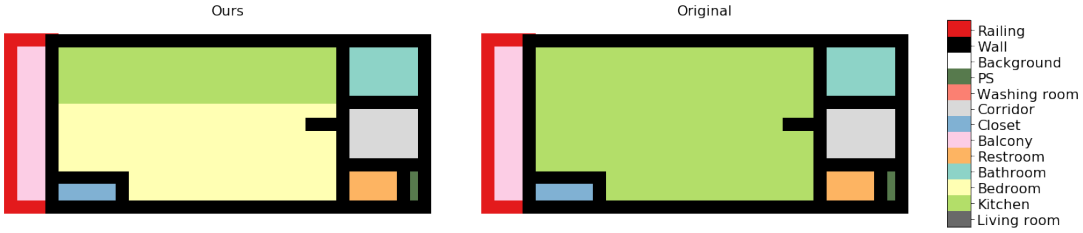
After our experiments Liu et al. have removed there floorplan dataset from Github and only left the annotation files. The source images are no longer available. Here we show a couple of examples illustrating the difference in the annotation.

```
In [3]: import torch
        import numpy as np
        from floortrans.loaders.augmentations import (Compose,
                                                      DictToTensor)
        from floortrans.loaders.floorplan_loader import Floorplan
        from floortrans.plotting import discrete_cmap_furukawa
        from mpl_toolkits.axes_grid1 import AxesGrid
        discrete_cmap_furukawa()
        import matplotlib.pyplot as plt
        %matplotlib inline

        data_aug = Compose([DictToTensor(data_format='furukawa')])

        data_path = 'data/'
        # Setup Dataloader
        d_set = Floorplan(data_path, 'train.txt', label_format='txt', mode='seg with hmap points
        d_set_bug = Floorplan(data_path, 'train.txt', label_format='txt', mode='seg with hmap po

        room_channel = 21
        room_classes = [ "Living room", "Kitchen", "Bedroom", "Bathroom" ,"Restroom", "Balcony",
        n_rooms = 13
        diff = 0
        for i, sample in enumerate(d_set):
            sample_b = d_set_bug[i]
```

```
rooms_bug = sample_b['label'][room_channel]
rooms = sample['label'][room_channel]

if (rooms-rooms_bug).sum() != 0:
    diff += 1
    fig = plt.figure(figsize=(20,12))
    grid = AxesGrid(fig, 111,
                    nrows_ncols=(1, 2),
                    axes_pad=0.05,
                    cbar_mode='single',
                    cbar_location='right',
                    cbar_pad=0.1
                    )

    img = [rooms, rooms_bug]
    titles = ['Ours', "Original"]

    for i, ax in enumerate(grid):
        ax.set_axis_off()

        im = ax.imshow(img[i], cmap='rooms_furukawa', vmin=0, vmax=n_rooms+0.1)
        ax.set_title(titles[i], fontsize=16)

    cbar = ax.cax.colorbar(im, ticks=np.arange(n_rooms) + 0.5)
    cbar.ax.set_yticklabels(room_classes, fontsize=16)
    plt.show()
if diff >= 10:
    break
```




Ours
Original
Railing
Wall
Background
PS
Washing room
Corridor
Closet
Balcony
Restroom
Bathroom
Bedroom
Kitchen
Living room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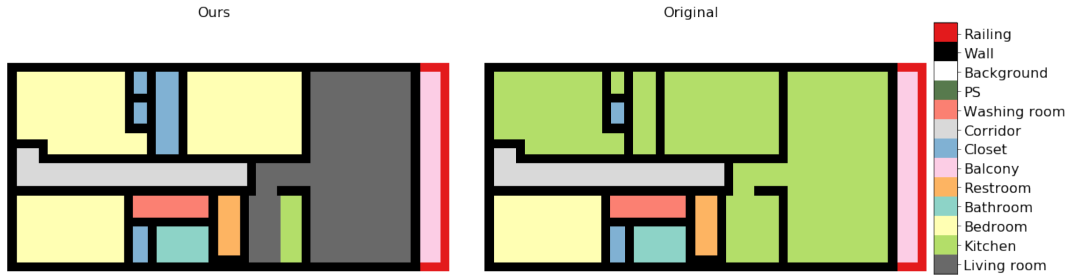
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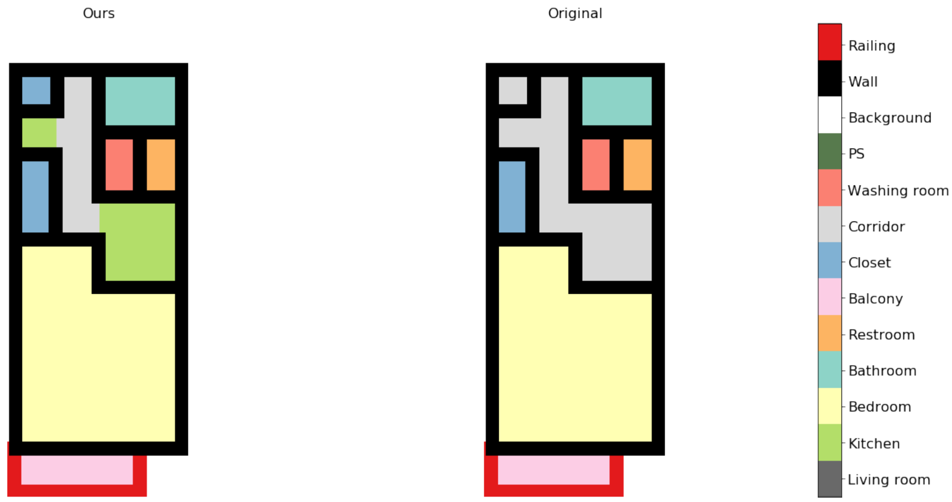
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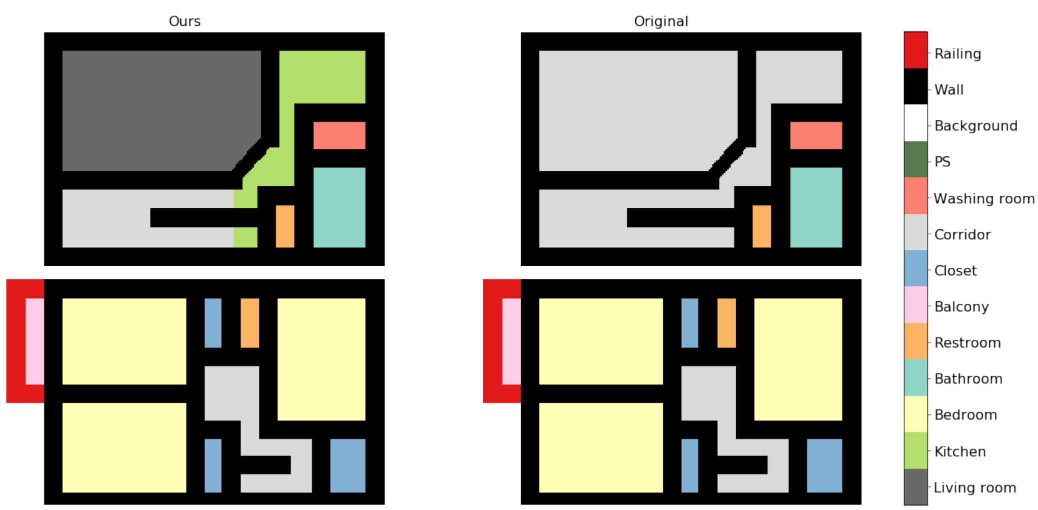
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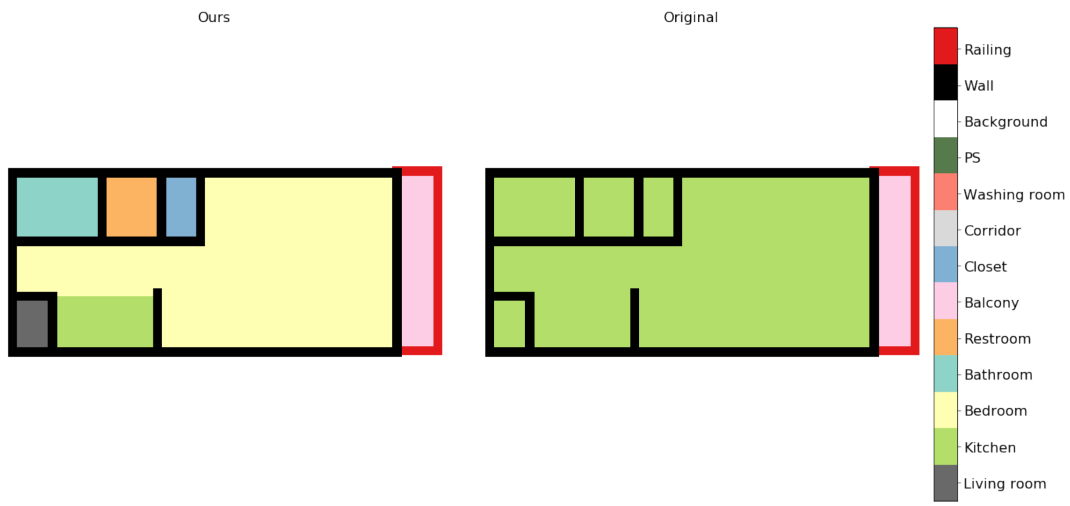
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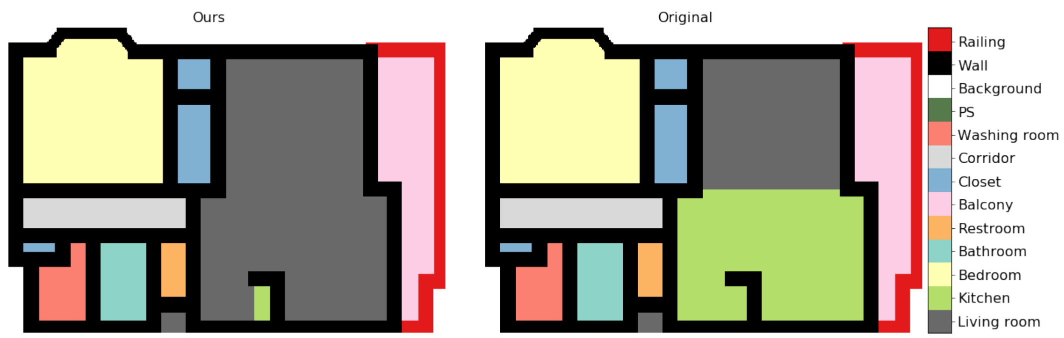
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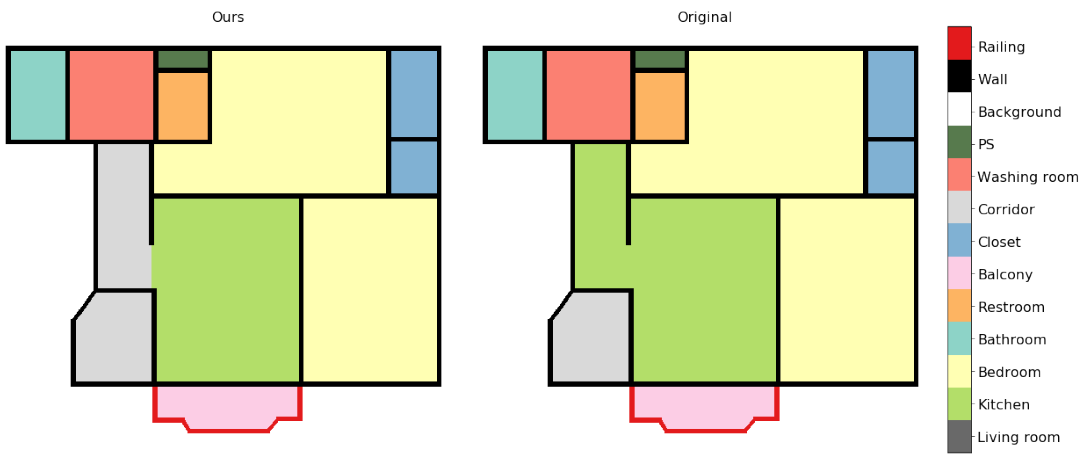
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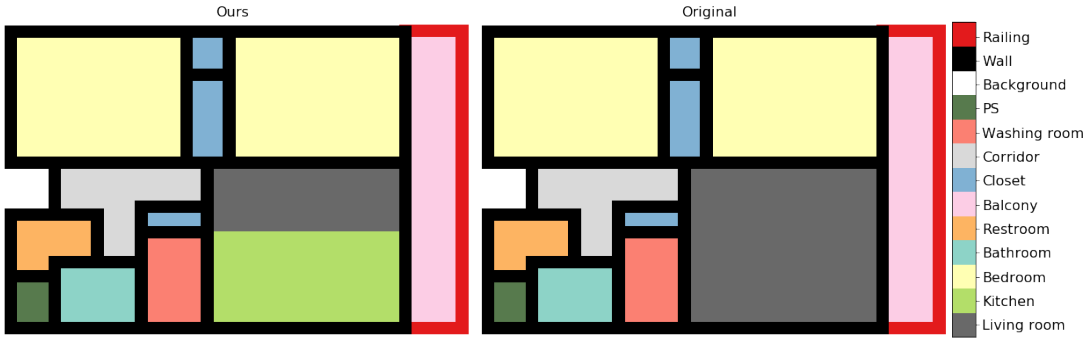
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