

Human Performance and Heat Map Entropy in System State Judgment Task using a Visual Interface Screen

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```
# Defining a Heatmap Combined Probability Distribution Function with Weights
def entropy_calc(data):

    # Total number of pixels, X and Y
    #     NROW=1280
    #     NCOL=1024

    a = range(0,10280,1)
    b = range(0,1024,1)

    # Calculate Weighted Values 'df'
    total_duration = sum(data['duration'])
    alpha_lst = data['duration']/total_duration
    x_f_lst = data['Fixation point X']
    y_f_lst = data['Fixation point Y']

    ent_val = 0
    for x in a:
        for y in b:
            tmp_val = 0
            for i in range(len(data)):
                alpha = alpha_lst[i]
                x_f = x_f_lst[i]
                y_f = y_f_lst[i]
                tmp_val += alpha*g_dist(x+1,y+1,x_f,y_f)

            ent_val += (-1 * tmp_val) * np.log2(tmp_val)

    return ent_val
```

Fig.S1. Python Code Used

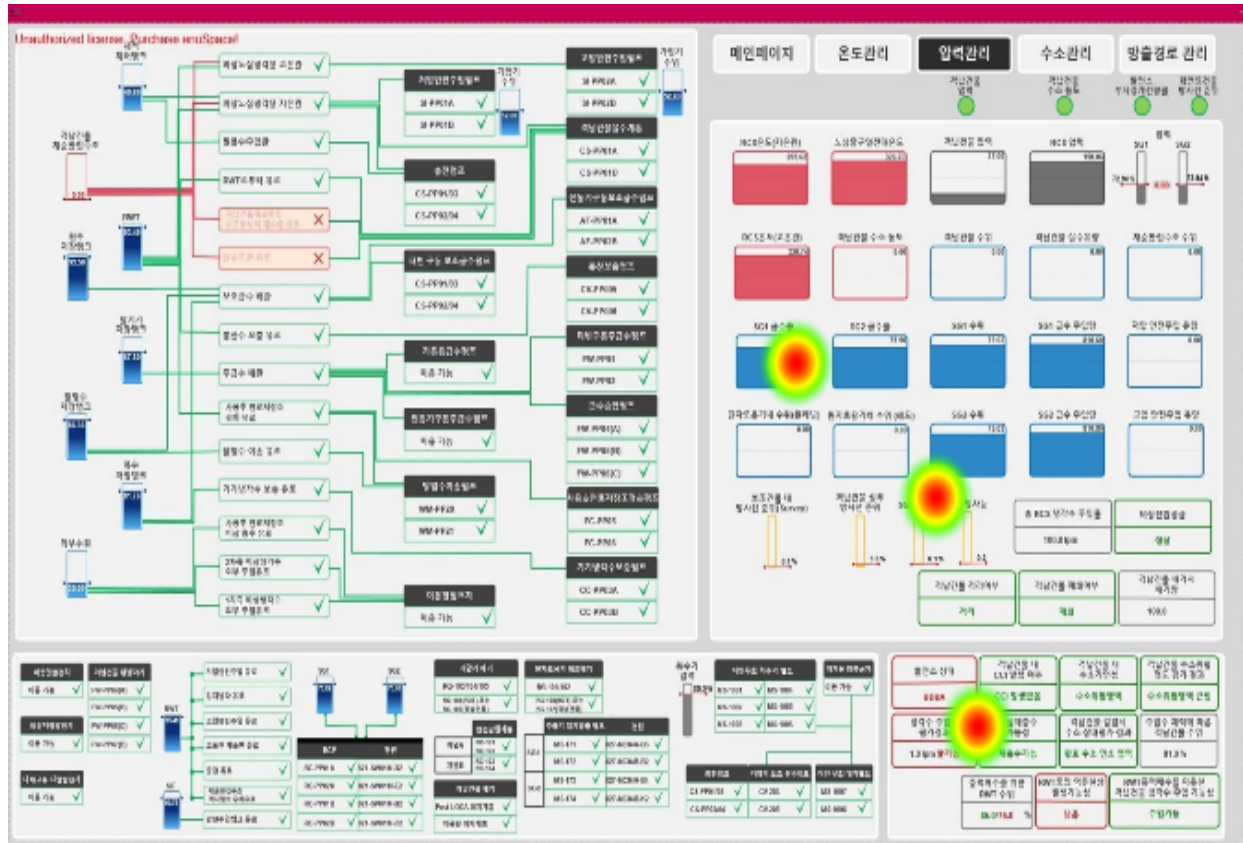


Fig S4 (a). heat map of correct judgment

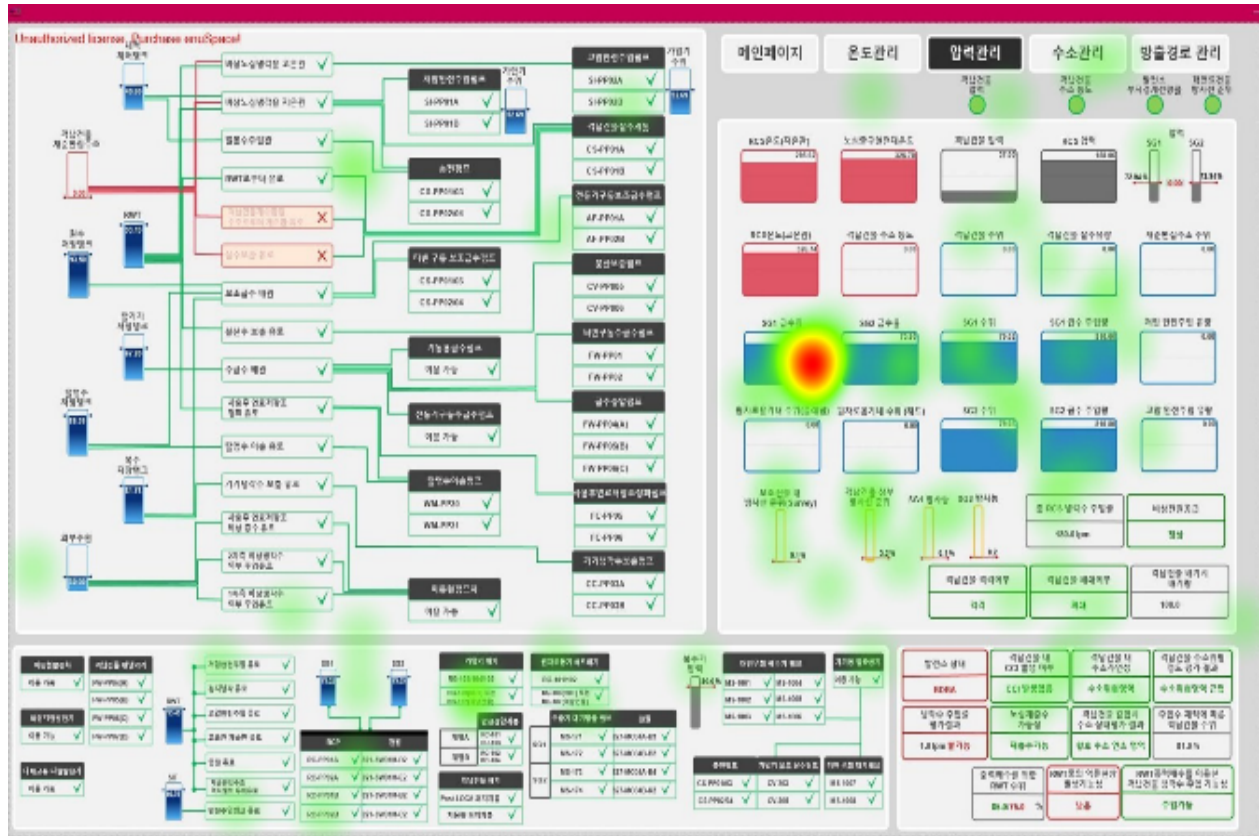


Fig. S4 (b). incorrect judgment