
Subject: Re: tif image 16 bit. autolevel
Posted by [tojocky](#) on Mon, 02 May 2011 14:21:21 GMT
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I thing this is what I look for:

http://en.wikipedia.org/wiki/Histogram_equalisation

I did a variant of autolevel, but I intend to modify by wikipedia specification.

```
Image ImageAutolevel(const Image& img){
    uint64 histogram[256];
    for(int i=0;i<256;++i)
        histogram[i]=0;

    const RGBA *start = img;
    const RGBA *s = start;
    const RGBA *e = s + img.GetLength();
    while(s < e){
        histogram[(s->r+s->g+s->b)/3]++;
        s++;
    }
    int v_lower = -1;
    int v_upper = -1;

    for(int i=0;i<256&&(v_lower===-1||v_upper===-1);++i){
        if(v_lower===-1&&histogram[i]!=0)
            v_lower = i;
        if(v_upper===-1&&histogram[255-i]!=0)
            v_upper = 255-i;
    }

    // return if not sense to autolevel
    //if(v_lower==v_upper===-1)

    if(v_lower===-1)
        v_lower = 0;

    if(v_upper===-1)
        v_upper = 255;

    s = start;
    ImageBuffer w(img.GetSize());
    Unmultiply(w);
    RGBA *t = w;

    while(s < e) {
        t->r = s->r*255/v_upper;
        t->g = s->g*255/v_upper;
        t->b = s->b*255/v_upper;
```

```
t->a = s->a;  
t++;  
s++;  
}  
Premultiply(w);  
w.SetHotSpots(img);  
return w;  
}
```
