# FaceMatch List File Syntax

FaceMatch List Files are tab separated lists of image annotations, where each line in the file marks all annotations for a given image.

There are three types of annotations simple, complex, and attributes.

Simple annotations are of the form <char>[x,y;w,h], which marks a rectangular region in the image. The leading character indicates what the region represents (e.g. f=face, p=profile). The integer dimensions mark the region's rectangle: x and y are the upper left corner of the rectangle, the width to the right of the image, and the height extends down the image. For example: f[103,44;40,40] denotes a simple 40x40 pixel face region with the origin at (103,44).

Possible characters are:

* f (faces)
* p (profiles)
* u (user defined region, areas defined by users on PL)
* s (skin patches)
* n (noses)
* m (mouths)
* i (eyes)
* e (ears)
* a (animals)
* b (bodies)
* l (legs)
* t (tails)
* h (heads)

Complex annotations are annotations that have additional simple, complex, and attribute annotations embedded inside them. They take the format <char>{[x,y;w,h] ...<additional simple, complex, attribute annotations>...} where the character again indicates what the region is pointing to, and the ints the dimension of the rectangle. Complex annotations can only be for Faces, Profiles, Skin Patches, Animals, and Heads, all other's must be simple annotations (though these may be simple as well, they have the option of being complex). Attributes are of the form <char>[<string>] where the character identifies what the attribute is, and the string marks the value. NOTE: attributes can only be assigned inside of complex annotations.

Possible attributes are and their values are:

* g (gender): male|female
* a (age): adult|youth
* t (skin tone): dark|light
* o (occlusions): (sun)glasses,patch,mustache,beard
* w (wound): blood,bruise,scar
* k (kind/species): cat|dog|horse
* b (breed): free text
* d (id/tag): free text
* r(rotation): 3 comma separated float values, the roll, yaw, and pitch detailing how the object of an annotation is oriented.

Examples:

p{[68,36;101,101]    e[18,22;30,30]    m[23,70;43,26]    i[58,33;28,27]    n[41,47;24,24]    d[Jenn]} denotes a profile region with an ear, mouth, eye, nose and ID.

a{[10,25;757,590]    k[dog]    h{[0,0;206,200]    i[44,59;34,31]    i[110,57;38,39]    n[68,105;61,51]    m[68,154;58,23]}    b[156,74;533,260]    l[150,309;131,281]    l[531,227;226,363]} is an animal region annotating a dog with the respective head and leg regions.

The different simple, complex, and attribute annotations have a required hierarchy: mentioned above and reiterated here:

* Only Animals, Profiles, Faces, and Skin can be on the top level.
* Profiles, Faces, and Skin can then have the attributes Gender, Age, Skin Tone, Glasses, Wounds, and Id/tag.
* Animals can have the attributes Breed, kind, and Id/tag.
* Profiles, Faces, and Skin can additionally have the sub features: Ears, Eyes, Nose, and Mouth.
* While an Animal can have the sub features: Body, Legs, Tail, and Head.
* The Head can additionally have Ears, Eyes, Mouth, and Nose.

Below is the illustration of the image region hierarchy:

