Firefly feature requests
Aimed primarily at science raft laboratory images taken at test stands
Based on ~9 years working with LSST prototype sensor lab images
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priority   feature
DS9-like features
1 continuous coordinate and ADU readout under mouse pointer
    Firefly can do this and pass the result to JS for display.
    We need to design the screen layout, where this info, and other analysis results should be displayed.
    When zoomed out, FF does not merge pixels, it displays a random pixel
1 mosaic display of multi-extesion FITS files with/without overscan displayed
    In the short term, the server Python code will have to do this work:
    Reading the multiple extensions and creating a pixel array that FF can handle (with or w/o overscan).
1 magnifier and full image thumbnail windows
    FF does this.
1 scroll-wheel zoom
    FF is not going to do this
3 standard, selectable zoom levels
    FF does this
1 middle-mouse pan
    FF does panning by dragging
2 rotate and reflect
    FF does this with Rotate and Flip commands
3 display pixel table
    FF does not do this. It gives dynamic readout.
1 scale contrast to max/min of pixels in region
    We don't understand what it is
1 contrast scale segment-by-segment
    Unless I'm confused, this probably needs to be done on the server.
2 zscale' mapping (see e.g. https://wcs2kml.googlecode.com/svn-history/r25/trunk/python/fitsimage.py)
    FF supports zscale stretch
2 asinh, sinh, log scaling
    FF supports log stretch
2 import regions files with circle/box display
    FF supports ds9 regions
1 multi-frame functionality: coordinate and scale locking, blinking,
    FF supports multiple images in Expanded View. You can WCS align and blink them in single image view
    with Auto Play.
2 user-controlled tiling
    What control is wanted?
2 annotation
    FF supports markers (circle with label), you can save them. More work is beeing done on it for other projects.
2 colormap options

    FF supports all ds9 color maps and legacy Spitzer maps. They will be revamped as none of them are good
    enough.

IRAF/imexamine functionality:
    vi-like keystroke commands tied to mouse pointing (see e.g.
1 https://www.noao.edu/kpno/manuals/ice/node31.html)
    FF does not support it
2 pop-up graphics windows
    FF Expanded View is a pop-up.
1 select region, display statistics, display histogram with mean and sd
    FF does allow selecting region and displaying statistics, histogram can be added later

aperture photometry -- define aperture, point at source, get background-subtracted counts, get radial profile with fit, fit Gaussian

2 averaged row/column traces with limits

3 3D surface/lego, contour map display

1 image math (sum, difference, quotient of 2 or more images) and display of result

We need to make a list of desired window/display types, and desired parameters and user interactions. All above can be done on the server. FF does not do it as of now.

General features:

1 configuration file for defaults

Fits visualization parameters define the default configuration.

1 standalone operation

What does this mean?

2 support for linux and windows

FF should be working in IE, Chrome, and Firefox on Windows. Recently introduced bugs, which affect IE and Chrome display on Windows, will be fixed.