Summary Sheet for NeXT Interface Builder Lab

Process

1) Draw User Interface

2) Make Connections

3) Create Custom Object
- *Subclass Object or View*
- *Instantiate Custom Object*
- *Edit Object Using Inspector*
- *Add Actions and Outlets*
- *Make Connections to Custom Object*

4) Save IB files (create directory and name)

5) Create Project

6) Un-parse Custom Object

7) Add Instance Variables to ".h" Files

8) Add Code to ".m" Files

9) Save .h and .m Files

10) Make and Run

Note: all steps in italic can be skipped if you are not creating custom objects.

Include Files

Catch All (with slower compiles)
```
#import <appkit/applit.h>
```

For faster compile and line replace with:
```
#import <appkit/Form.h>
#import <appkit/Control.h>
```

If you are doing Postscript Wraps:
```
#import <dpsclient/wraps.h>
```

Sample message statements:

Getting data from Sliders:
```
myFloat = [sender floatValue];
```
Sending data to Sliders:
```
[sliderOutlet setFloatValue:myFloat];
```
Getting data from Forms:
```
myDouble = [myForm doubleValueAt:0];
myFloat  = [myForm floatValueAt:0];
myInt    = [myForm intValueAt:0];
myStr    = [myForm stringValueAt:0];
```
Sending data to Forms:
```
[outForm setDoubleValue:myDouble at:0];
[outForm setFloatValue:myFloat at:0];
[outForm setIntValue:myInt at:0];
[outForm setStringValue:myString at:0];
```

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Sample Postscript drawSelf::

Add to .m file to draw a line

```
- drawSelf:(NXRect*)r :(int)c
{
NXEraseRect(&bounds);
PSsetgray(NX_BLACK);
PSsetlinewidth(5.0);
PSnewpath();
  PSmoveto(50.0, 20.0);
  PSlineto(100.0, 70.0);
PSstroke();
return self;
}
```

Accessing the Center of a View

```
xo = bounds.size.width/2.0;
yo = bounds.size.height/2.0;
```

To Initialize New Objects

Subclass of non-views:

```
+new{
    self = [super new];
    floatValue = 0.7;
    return self;
}
```

Subclass of views:

```
+newFrame:(const NXRect *)tF{
    self = [super new];
    floatValue = 0.7;
    return self;
}
```

Sample Postscript Commands

To move the pen:
`PSmoveto(x, y);`

To draw a line:
`PSlineto(x, y);`

To translate the origin:
`PStranslate(x, y);`

To rotate the coordinate system:
`PSrotate(angle in degrees);`

To scale the coordinate system:
`PSscale(xmag, ymag);`

To draw an arc:
`PSarc(x,y,radius,angle1,angle2);`

To draw a smoth curve:
`PScurveto(x1,y1,x2,y2,x3,y3,...);`

To set the gray level use:
`PSsetgray(NX_BLACK);`

```
Or use NX_WHITE, NX_LTGRAY,
and NX_DKGRAY.  White is 1.0 and
Black is 0.0.
```

Sample UNIX Commands

`$ pwd` - present working directory
`$ cd <DIR>` - change directory
`$ ls` - list files
`$ make` - compile and link

To Debug

```
$ make debug
$ gdb progname
gdb> b drawSelf::
gdb> run
```