Subject: Re: Spin button widget??
Posted by peter.albert@gmx.de on Mon, 26 Sep 2005 09:26:17 GMT
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Hi David,

well, Edwards is right with his comment, double(0.1) is not the same as 0.1d:

```
IDL> print, double(0.1), format = '(f20.18)'
0.100000001490116119
IDL> print, 0.1d, format = '(f20.18)'
0.100000000000000006
```

The problem in the code is the variable "invInc", calculated from "1d/state.increment". In my case invInc (more or less) equals 10 when the increment is set to 0.1d, while it is somewhat smaller than 10 in case of the increment being 0.1:

```
IDL> print, 1d / 0.1d, format = '(f10.7)'
10.0000000
IDL> print, 1d / double(0.1), format = '(f10.7)'
 9.9999999
```

This difference later makes the variable "integerized" different to LONG64(integerized) (used in the following IF statement), where "CEIL(integerized)" is used to round to the nearesf fraction.

Well, and this is where things go wrong, as this IF statement just takes care of cases where e.g. the starting value is something like "2.4 times the increment". In that case FLOOR and CEIL just work fine for the "up" and "down" event.

As a possible solution I would suggest to just count the multiples of the increment instead of the value itself and to increase or decrease just thie multiple: This can be done by adding a new tag to the "state" structure, which is at first filled with "ROUND(start_value / increment):

```
(in function cw_itupdownfield)
   state = {VALUE: value, $
      INCREMENT: increment, $
      SPINTIME: spinTime, $
      NNN: round(value / increment), $
      UNITS: units}
```

Then, the function "cw_itupdownfield_updown" can get rid of the IF statement (if (integerized eq LONG64(integerized))), and instead two

lines of code like

```
state.nnn = keyword_set(down) ? state.nnn - 1 : state.nnn + 1
newvalue = state.nnn * state.increment
```

will do the trick.

Then the function "cw_itupdownfield_value" also needs one addiitional line (after line 180:)

```
state.nnn = round(newvalue / state.increment)
```

I just gave it a quick check but it worked fine so far.

Best regards,

Peter
