

Analysis of WIMP applications

#menus	Menus in menu bar
#cmds	Commands in menus
#dlogs	Commands that lead to a dialog box
#smenus	Sub-menus
#scmds	Commands in sub-menus
#sdlogs	Commands in sub-menus that lead to a dialog box

Tcmds Total commands: $\#cmds - \#smenus + \#scmds$

Tdlogs Total dialog boxes: $\#dlogs + \#sdlogs$

Ccmds/M Mean commands per menu: $\#cmds / \#menus$

Ccmds/SM Mean commands per sub-menu: $\#scmds / \#smenu$

#palettes Palettes and toolbars

#tools Widgets in palettes and toolbars

#prefs Preference pages

#options Options in preference pages

macros Whether macros can be defined

Number of commands

	Word6	Excel5	Persuasion3	Photoshop4	Xpress3	Canvas3		
Criteria	W6	E5	Pe3	P4	X3	C3	Avg	s
#menus	8	8	7	8	7	8	7.7	0.5
#cmds	106	84	97	111	99	74	95.2	13.8
#dlog	69	44	20	27	40	21	36.8	18.6
#smenu	1	15	27	26	13	22	17.3	9.8
#scmds	3	58	73	82	65	121	67.0	38.4
#sdlog	0	20	20	40	10	28	19.7	13.9
Tcmds	108	127	143	167	151	173	144.8	24.5
Tdlogs	69	64	40	67	50	49	56.5	11.8
Ccmds/M	13.3	10.5	13.9	13.9	14.1	9.3	12.5	2.1
Ccmds/SM	3.0	3.9	2.7	3.2	5.0	5.5	3.9	1.1
#palettes	9	13	5	11	6	6	8.3	3.2
#tools	125	106	54	77	68	60	81.7	28.0
#prefs	12	10	1	8	5	11	7.8	4.2
#options	113	76	11	51	82	27	60.0	37.7
macros	yes	yes	no	yes	no	yes		

Successive versions

Criteria	Excel 4->5			Word 5->6			Photoshop 2.5->4		
	E4	E5	%	W5	W6	%	P2	P4	%
#menus	8	8	0%	8	8	0%	7	8	+14%
#cmds	93	84	-10%	107	106	-1%	78	111	+42%
#dlog	60	44	-27%	55	69	+25%	21	27	+29%
#smenu	0	15	+·	0	1	+·	19	26	+37%
#scmds	0	58	+·	0	3	+·	56	82	+46%
#sdlog	0	20	+·	0	0	+·	39	40	+3%
Tcmds	93	127	+37%	107	108	+1%	115	167	+45%
Tdlogs	60	64	+7%	55	69	+25%	60	67	+12%
Ccmds/M	11.6	10.5	-10%	13.4	13.3	-1%	11.1	13.9	+25%
Ccmds/SM	0	3.9	+·	0	3	+·	2.9	3.2	+7%
#palettes	8	13	+63%	3	9	+200%	6	11	+83%
#tools	108	106	-2%	63	125	+98%	49	77	+57%
#prefs	0	10	+·	10	12	+20%	9	8	-11%
#options	0	76	+·	52	113	+117%	58	51	-12%
macros	yes	yes		no	yes		no	yes	

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