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Course: **Human-Computer Interaction**

Topic: **Statistical data analysis in HCI research**

Resource: **A mock-up case (student assignment)**

The experiment investigates the potential effects of placing a menu component within the user interface of a specially developed web application. Specifically, four menu design options are examined: drop-down menu at the top, pop-up menu at the bottom, docked menu on the left, and docked menu on the right.

45 participants accessed the test application and worked with specially prepared tasks in all four versions of the menu in the previously defined order. The total time taken to complete a task cycle with each individual menu was measured. These time values for each individual participant are available in an Excel file (below).

Perform a statistical analysis of the available data and draw appropriate conclusions.

#### DATA

CASE 01	Top menu	Bottom menu	Left menu	Right menu
	Task completion times [in seconds]			
Participant 01	29.51	32.19	38.25	38.08
Participant 02	26.23	37.58	36.96	40.1
Participant 03	28.54	37.1	36.05	42.01
Participant 04	34.57	32.92	39.79	39.04
Participant 05	31.26	36.09	48.16	42.86
Participant 06	22.63	37.98	36.24	44.76
Participant 07	30.03	35.86	39.8	40.9
Participant 08	29.05	26.97	35.86	38.48

Participant 09	26.77	35.4	37.52	40.68
Participant 10	31.51	33.49	36.59	39.96
Participant 11	29.25	35.13	37.19	39
Participant 12	31.59	35.12	40.28	43
Participant 13	27.97	28.18	42.36	41.61
Participant 14	32.05	28.97	33.79	42.02
Participant 15	28.82	23.56	39.84	40.77
Participant 16	31.41	27.95	43.74	33.98
Participant 17	27.78	34.02	45.44	39.54
Participant 18	28.66	36.62	36.68	38.45
Participant 19	33.10	22.07	38.58	40.35
Participant 20	25.38	30.69	47.52	41.22
Participant 21	27.24	29.45	40.7	35.89
Participant 22	31.95	24.68	38	36.8
Participant 23	35.42	34.91	37.31	36.81
Participant 24	29.20	31.47	32.75	39.93
Participant 25	33.44	29.19	34.52	42.56
Participant 26	23.22	34.65	31.03	40
Participant 27	28.29	33.05	36.45	44.46
Participant 28	28.62	31.47	35.61	40.05
Participant 29	30.81	31.47	41.3	39.87
Participant 30	34.99	27.82	37.84	38.76
Participant 31	30.88	34.02	39.66	41.29
Participant 32	24.38	36.58	38.96	44.38
Participant 33	33.91	39.75	36.91	37.91
Participant 34	29.26	36.12	38.26	45.66
Participant 35	27.08	28.25	45.28	40.59
Participant 36	28.15	36.01	25.09	48.23
Participant 37	29.37	27.06	34.61	40.65
Participant 38	28.52	33.95	37.94	37.68
Participant 39	30.38	30.19	43.6	35.02
Participant 40	28.15	36.12	37.79	40.77
Participant 41	28.07	28.81	36.78	37.97
Participant 42	27.49	31.46	43.63	43.41

Participant 43	34.89	33.45	45.9	48.73
Participant 44	24.61	44.72	28.2	38.25
Participant 45	27.78	34.63	41.14	41.44