Univariate Analysis of Variance

Between-Subjects Factors

		N
Method	Flipping	648
	Home	648
	RuntimeBar	648
	TapNFlip	648
AppsNumber	1	864
	2	864
	3	864
Distance	0	607
	1	663
	2	690
	3	632
Participant	P1	216
	P10	216
	P11	216
	P12	216
	P2	216
	P3	216
	P4	216
	P5	216
	P6	216
	P7	216
	P8	216
	P9	216

Tests of Between-Subjects Effects

Dependent Variable:ARTRechecksforMethod

Source		Type III Sum of Squares	df	Mean Square
Intercept	Hypothesis	3.038E9	1	3.038E9
	Error	5856141.188	11.051	529920.657 [a]
Method	Hypothesis	1.483E8	3	4.945E7
	Error	2.127E7	33.632	632479.121 [b]
AppsNumber	Hypothesis	4.428E7	2	2.214E7
	Error	9701678.660	22.481	431552.414 [c]
Distance	Hypothesis	693221.911	3	231073.970
	Error	1.280E7	37.208	344096.945 [d]
Participant	Hypothesis	5837350.444	11	530668.222
	Error	6326737.935	10.567	598737.145 [e]
Method * AppsNumber	Hypothesis	1.503E7	6	2504847.176
	Error	1.974E7	70.996	278083.503 [f]
Method * Distance	Hypothesis	3.859E7	9	4288104.616
	Error	5.752E7	114.794	501056.757 [g]
Method * Participant	Hypothesis	2.098E7	33	635850.520
	Error	9724753.229	26.571	365985.578 [h]
AppsNumber * Distance	Hypothesis	8986258.670	6	1497709.778
	Error	3.352E7	75.607	443345.401 [i]

a. .996 MS(Participant) - 3.11E-006 MS(Method * Participant) - 4.84E-005 MS(AppsNumber * Participant) + 1.05E-005 MS(Distance * Participant) + 4.36E-005 MS(Method * AppsNumber * Participant) - 1.07E-005 MS(Method * Distance * Participant) + .000 MS(AppsNumber * Distance * Participant) - .006 MS(Method * AppsNumber * Distance * Participant) + .009 MS(Error)
b. .985 MS(Method * Participant) - .001 MS(Method * AppsNumber * Participant) + .000 MS(Method * Distance * Participant) + .006 MS(Method * AppsNumber * Distance * Participant) + .010 MS(Error)
c. .987 MS(AppsNumber * Participant) - .000 MS(Method * AppsNumber * Participant) + .000 MS (AppsNumber * Distance * Participant) - .005 MS(Method * AppsNumber * Distance * Participant) + .017 MS(Error)
d. .949 MS(Distance * Participant) + .001 MS(Method * Distance * Participant) - .001 MS(AppsNumber * Distance * Participant) + .014 MS(Method * AppsNumber * Distance * Participant) + .037 MS(Error)
e. 1.017 MS(Method * Participant) + 1.032 MS(AppsNumber * Participant) + 1.021 MS(Distance * Participant) - 1.058 MS(Method * AppsNumber * Participant) - 1.003 MS(Method * Distance * Participant) - 1.041 MS(AppsNumber * Distance * Participant) + 1.032 MS(Method * AppsNumber * Distance * Participant) + .000 MS(Error)
f. .973 MS(Method * AppsNumber * Participant) - .006 MS(Method * AppsNumber * Distance * Participant) + .033 MS(Error)
g. .909 MS(Method * Distance * Participant) + .033 MS(Method * AppsNumber * Distance * Participant) + .058 MS(Error)
h. 1.041 MS(Method * AppsNumber * Participant) + .987 MS(Method * Distance * Participant) - 1.008 MS (Method * AppsNumber * Distance * Participant) - .020 MS(Error)
i. .924 MS(AppsNumber * Distance * Participant) + .014 MS(Method * AppsNumber * Distance * Participant) + .062 MS(Error)

Tests of Between-Subjects Effects

Dependent Variable:ARTRechecksforMethod

Source		F	Sig.
Intercept	Hypothesis	5733.823	.000
Method	Hypothesis	78.182	.000
AppsNumber	Hypothesis	51.302	.000
Distance	Hypothesis	.672	.575
Participant	Hypothesis	.886	.578
Method * AppsNumber	Hypothesis	9.008	.000
Method * Distance	Hypothesis	8.558	.000
Method * Participant	Hypothesis	1.737	.074
AppsNumber * Distance	Hypothesis	3.378	.005

Tests of Between-Subjects Effects

Dependent Variable:ARTRechecksforMethod

Source		Type III Sum of Squares	df	Mean Square
AppsNumber * Participant	Hypothesis	9511844.246	22	432356.557
	Error	5208228.220	17.015	306095.315[j]
Distance * Participant	Hypothesis	1.127E7	33	341608.678
	Error	2.333E7	42.904	543851.709[k]
Method * AppsNumber * Distance	Hypothesis	7.894E7	18	4385539.495
	Error	7.034E7	170.688	412074.698[l]
Method * AppsNumber * Participant	Hypothesis	1.818E7	66	275495.803
	Error	6.382E7	154.181	413924.217[m]
Method * Distance * Participant	Hypothesis	5.069E7	99	511977.494
	Error	6.412E7	154.945	413831.957[n]
AppsNumber * Distance * Participant	Hypothesis	2.957E7	66	448019.945
	Error	6.386E7	154.292	413910.795[o]
Method * AppsNumber * Distance * Participant	Hypothesis	5.979E7	144	415226.015
	Error	7.860E8	2070	379706.695[p]

j. 1.024 MS(Method * AppsNumber * Participant) + 1.008 MS(AppsNumber * Distance * Participant) - 1.007 MS(Method * AppsNumber * Distance * Participant) - .024 MS(Error)
k. .982 MS(Method * Distance * Participant) + 1.019 MS(AppsNumber * Distance * Participant) - .994 MS (Method * AppsNumber * Distance * Participant) - .006 MS(Error)
l. .911 MS(Method * AppsNumber * Distance * Participant) + .089 MS(Error)
m. .963 MS(Method * AppsNumber * Distance * Participant) + .037 MS(Error)
n. .961 MS(Method * AppsNumber * Distance * Participant) + .039 MS(Error)
o. .963 MS(Method * AppsNumber * Distance * Participant) + .037 MS(Error)
p. MS(Error)

Tests of Between-Subjects Effects

Dependent Variable:ARTRechecksforMethod

Source		F	Sig.
AppsNumber * Participant	Hypothesis	1.412	.236
Distance * Participant	Hypothesis	.628	.916
Method * AppsNumber * Distance	Hypothesis	10.643	.000
Method * AppsNumber * Participant	Hypothesis	.666	.969
Method * Distance * Participant	Hypothesis	1.237	.117
AppsNumber * Distance * Participant	Hypothesis	1.082	.341
Method * AppsNumber * Distance * Participant	Hypothesis	1.094	.218

Post Hoc Tests

Method

Multiple Comparisons

ARTRechecksforMethod
Bonferroni

(I) Method	(J) Method	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Flipping	Home	592.204*	34.2335	.000	501.800	682.607
	RuntimeBar	542.199*	34.2335	.000	451.795	632.603
	TapNFlip	51.869	34.2335	.779	-38.535	142.273
Home	Flipping	-592.204*	34.2335	.000	-682.607	-501.800
	RuntimeBar	-50.005	34.2335	.866	-140.408	40.399
	TapNFlip	-540.335*	34.2335	.000	-630.739	-449.931
RuntimeBar	Flipping	-542.199*	34.2335	.000	-632.603	-451.795
	Home	50.005	34.2335	.866	-40.399	140.408
	TapNFlip	-490.330*	34.2335	.000	-580.734	-399.926
TapNFlip	Flipping	-51.869	34.2335	.779	-142.273	38.535
	Home	540.335*	34.2335	.000	449.931	630.739
	RuntimeBar	490.330*	34.2335	.000	399.926	580.734

Based on observed means.
The error term is Mean Square(Error) = 379706.695.

*. The mean difference is significant at the 0.05 level.

Univariate Analysis of Variance

Tests of Between-Subjects Effects

Dependent Variable:ARTRechecksforAppsNumber

Source		Type III Sum of Squares	df	Mean Square
Intercept	Hypothesis	3.091E9	1	3.091E9
	Error	6799125.976	11.058	614874.179 [a]
Method	Hypothesis	5.563E7	3	1.854E7
	Error	2.116E7	33.728	627421.594 [b]
AppsNumber	Hypothesis	1.201E8	2	6.007E7
	Error	6985759.368	22.819	306137.823 [c]
Distance	Hypothesis	339585.341	3	113195.114
	Error	1.523E7	36.977	411873.976 [d]
Participant	Hypothesis	6771083.093	11	615553.008
	Error	3577621.509	7.355	486405.248 [e]
Method * AppsNumber	Hypothesis	4841568.704	6	806928.117
	Error	1.955E7	72.115	271038.220 [f]
Method * Distance	Hypothesis	8090932.100	9	898992.456
	Error	6.077E7	116.299	522551.454 [g]
Method * Participant	Hypothesis	2.079E7	33	629871.323
	Error	7231451.277	21.365	338469.218 [h]
AppsNumber * Distance	Hypothesis	1358101.080	6	226350.180
	Error	3.859E7	75.548	510791.079 [i]

a. .996 MS(Participant) - 3.11E-006 MS(Method * Participant) - 4.84E-005 MS(AppsNumber * Participant) + 1.05E-005 MS(Distance * Participant) + 4.36E-005 MS(Method * AppsNumber * Participant) - 1.07E-005 MS(Method * Distance * Participant) + .000 MS(AppsNumber * Distance * Participant) - .006 MS(Method * AppsNumber * Distance * Participant) + .009 MS(Error)
b. .985 MS(Method * Participant) - .001 MS(Method * AppsNumber * Participant) + .000 MS(Method * Distance * Participant) + .006 MS(Method * AppsNumber * Distance * Participant) + .010 MS(Error)
c. .987 MS(AppsNumber * Participant) - .000 MS(Method * AppsNumber * Participant) + .000 MS (AppsNumber * Distance * Participant) - .005 MS(Method * AppsNumber * Distance * Participant) + .017 MS(Error)
d. .949 MS(Distance * Participant) + .001 MS(Method * Distance * Participant) - .001 MS(AppsNumber * Distance * Participant) + .014 MS(Method * AppsNumber * Distance * Participant) + .037 MS(Error)
e. 1.017 MS(Method * Participant) + 1.032 MS(AppsNumber * Participant) + 1.021 MS(Distance * Participant) - 1.058 MS(Method * AppsNumber * Participant) - 1.003 MS(Method * Distance * Participant) - 1.041 MS(AppsNumber * Distance * Participant) + 1.032 MS(Method * AppsNumber * Distance * Participant) + .000 MS(Error)
f. .973 MS(Method * AppsNumber * Participant) - .006 MS(Method * AppsNumber * Distance * Participant) + .033 MS(Error)
g. .909 MS(Method * Distance * Participant) + .033 MS(Method * AppsNumber * Distance * Participant) + .058 MS(Error)
h. 1.041 MS(Method * AppsNumber * Participant) + .987 MS(Method * Distance * Participant) - 1.008 MS (Method * AppsNumber * Distance * Participant) - .020 MS(Error)
i. .924 MS(AppsNumber * Distance * Participant) + .014 MS(Method * AppsNumber * Distance * Participant) + .062 MS(Error)

Tests of Between-Subjects Effects

Dependent Variable:ARTRechecksforAppsNumber

Source		F	Sig.
Intercept	Hypothesis	5027.324	.000
Method	Hypothesis	29.552	.000
AppsNumber	Hypothesis	196.203	.000
Distance	Hypothesis	.275	.843
Participant	Hypothesis	1.266	.385
Method * AppsNumber	Hypothesis	2.977	.012
Method * Distance	Hypothesis	1.720	.092
Method * Participant	Hypothesis	1.861	.068
AppsNumber * Distance	Hypothesis	.443	.848

Tests of Between-Subjects Effects

Dependent Variable:ARTRechecksforAppsNumber

Source		Type III Sum of Squares	df	Mean Square
AppsNumber * Participant	Hypothesis	6697374.287	22	304426.104
	Error	5359114.966	16.281	329158.479[j]
Distance * Participant	Hypothesis	1.354E7	33	410177.738
	Error	2.551E7	42.761	596655.590[k]
Method * AppsNumber * Distance	Hypothesis	1.546E7	18	858726.597
	Error	7.756E7	172.657	449199.577[l]
Method * AppsNumber * Participant	Hypothesis	1.758E7	66	266419.087
	Error	6.966E7	154.914	449686.302[m]
Method * Distance * Participant	Hypothesis	5.251E7	99	530452.829
	Error	7.003E7	155.734	449662.023[n]
AppsNumber * Distance * Participant	Hypothesis	3.408E7	66	516380.777
	Error	6.972E7	155.033	449682.770[o]
Method * AppsNumber * Distance * Participant	Hypothesis	6.480E7	144	450028.888
	Error	9.122E8	2070	440681.516[p]

j. 1.024 MS(Method * AppsNumber * Participant) + 1.008 MS(AppsNumber * Distance * Participant) - 1.007 MS(Method * AppsNumber * Distance * Participant) - .024 MS(Error)
k. .982 MS(Method * Distance * Participant) + 1.019 MS(AppsNumber * Distance * Participant) - .994 MS (Method * AppsNumber * Distance * Participant) - .006 MS(Error)
l. .911 MS(Method * AppsNumber * Distance * Participant) + .089 MS(Error)
m. .963 MS(Method * AppsNumber * Distance * Participant) + .037 MS(Error)
n. .961 MS(Method * AppsNumber * Distance * Participant) + .039 MS(Error)
o. .963 MS(Method * AppsNumber * Distance * Participant) + .037 MS(Error)
p. MS(Error)

Tests of Between-Subjects Effects

Dependent Variable:ARTRechecksforAppsNumber

Source		F	Sig.
AppsNumber * Participant	Hypothesis	.925	.575
Distance * Participant	Hypothesis	.687	.866
Method * AppsNumber * Distance	Hypothesis	1.912	.018
Method * AppsNumber * Participant	Hypothesis	.592	.992
Method * Distance * Participant	Hypothesis	1.180	.177
AppsNumber * Distance * Participant	Hypothesis	1.148	.243
Method * AppsNumber * Distance * Participant	Hypothesis	1.021	.418

Post Hoc Tests

AppsNumber

Multiple Comparisons

ARTRechecksforAppsNumber
Bonferroni

(I) AppsNumber	(J) AppsNumber	Mean Difference (I-J)	Std. Error	Sig.
1	2	-391.875*	31.9389	.000
	3	-642.726*	31.9389	.000
2	1	391.875*	31.9389	.000
	3	-250.851*	31.9389	.000
3	1	642.726*	31.9389	.000
	2	250.851*	31.9389	.000

Based on observed means.
The error term is Mean Square(Error) = 440681.516.

*. The mean difference is significant at the 0.05 level.

Multiple Comparisons

ARTRechecksforAppsNumber
Bonferroni

(I) AppsNumber	(J) AppsNumber	95% Confidence Interval	
		Lower Bound	Upper Bound
1	2	-468.398	-315.352
	3	-719.249	-566.202
2	1	315.352	468.398
	3	-327.374	-174.327
3	1	566.202	719.249
	2	174.327	327.374

Based on observed means.
The error term is Mean Square(Error) = 440681.516.

Univariate Analysis of Variance

Tests of Between-Subjects Effects

Dependent Variable:ARTRechecksforDistance

Source		Type III Sum of Squares	df	Mean Square
Intercept	Hypothesis	3.086E9	1	3.086E9
	Error	6921798.301	11.060	625868.418 [a]
Method	Hypothesis	4.909E7	3	1.636E7
	Error	2.264E7	33.694	671893.699 [b]
AppsNumber	Hypothesis	5816184.215	2	2908092.108
	Error	7970618.081	22.736	350576.969 [c]
Distance	Hypothesis	8526203.616	3	2842067.872
	Error	1.526E7	37.069	411672.861 [d]
Participant	Hypothesis	6891605.242	11	626509.567
	Error	4446814.961	8.190	542937.926 [e]
Method * AppsNumber	Hypothesis	3.359E7	6	5597807.681
	Error	1.946E7	72.353	268935.118 [f]
Method * Distance	Hypothesis	2.936E7	9	3261753.037
	Error	6.294E7	115.942	542817.623 [g]
Method * Participant	Hypothesis	2.227E7	33	674855.366
	Error	7805548.948	22.162	352208.084 [h]
AppsNumber * Distance	Hypothesis	4443402.527	6	740567.088
	Error	3.995E7	75.396	529839.440 [i]

a. .996 MS(Participant) - 3.11E-006 MS(Method * Participant) - 4.84E-005 MS(AppsNumber * Participant) + 1.05E-005 MS(Distance * Participant) + 4.36E-005 MS(Method * AppsNumber * Participant) - 1.07E-005 MS(Method * Distance * Participant) + .000 MS(AppsNumber * Distance * Participant) - .006 MS(Method * AppsNumber * Distance * Participant) + .009 MS(Error)
b. .985 MS(Method * Participant) - .001 MS(Method * AppsNumber * Participant) + .000 MS(Method * Distance * Participant) + .006 MS(Method * AppsNumber * Distance * Participant) + .010 MS(Error)
c. .987 MS(AppsNumber * Participant) - .000 MS(Method * AppsNumber * Participant) + .000 MS (AppsNumber * Distance * Participant) - .005 MS(Method * AppsNumber * Distance * Participant) + .017 MS(Error)
d. .949 MS(Distance * Participant) + .001 MS(Method * Distance * Participant) - .001 MS(AppsNumber * Distance * Participant) + .014 MS(Method * AppsNumber * Distance * Participant) + .037 MS(Error)
e. 1.017 MS(Method * Participant) + 1.032 MS(AppsNumber * Participant) + 1.021 MS(Distance * Participant) - 1.058 MS(Method * AppsNumber * Participant) - 1.003 MS(Method * Distance * Participant) - 1.041 MS(AppsNumber * Distance * Participant) + 1.032 MS(Method * AppsNumber * Distance * Participant) + .000 MS(Error)
f. .973 MS(Method * AppsNumber * Participant) - .006 MS(Method * AppsNumber * Distance * Participant) + .033 MS(Error)
g. .909 MS(Method * Distance * Participant) + .033 MS(Method * AppsNumber * Distance * Participant) + .058 MS(Error)
h. 1.041 MS(Method * AppsNumber * Participant) + .987 MS(Method * Distance * Participant) - 1.008 MS (Method * AppsNumber * Distance * Participant) - .020 MS(Error)
i. .924 MS(AppsNumber * Distance * Participant) + .014 MS(Method * AppsNumber * Distance * Participant) + .062 MS(Error)

Tests of Between-Subjects Effects

Dependent Variable:ARTRechecksforDistance

Source		F	Sig.
Intercept	Hypothesis	4931.298	.000
Method	Hypothesis	24.355	.000
AppsNumber	Hypothesis	8.295	.002
Distance	Hypothesis	6.904	.001
Participant	Hypothesis	1.154	.428
Method * AppsNumber	Hypothesis	20.815	.000
Method * Distance	Hypothesis	6.009	.000
Method * Participant	Hypothesis	1.916	.056
AppsNumber * Distance	Hypothesis	1.398	.227

Tests of Between-Subjects Effects

Dependent Variable:ARTRechecksforDistance

Source		Type III Sum of Squares	df	Mean Square
AppsNumber * Participant	Hypothesis	7683616.194	22	349255.282
	Error	5713106.965	16.720	341694.857[j]
Distance * Participant	Hypothesis	1.351E7	33	409464.109
	Error	2.851E7	45.024	633277.531[k]
Method * AppsNumber * Distance	Hypothesis	6.407E7	18	3559659.317
	Error	7.864E7	173.099	454324.340[l]
Method * AppsNumber * Participant	Hypothesis	1.742E7	66	263914.475
	Error	7.048E7	155.079	454472.410[m]
Method * Distance * Participant	Hypothesis	5.464E7	99	551884.167
	Error	7.086E7	155.911	454465.024[n]
AppsNumber * Distance * Participant	Hypothesis	3.539E7	66	536178.507
	Error	7.053E7	155.199	454471.336[o]
Method * AppsNumber * Distance * Participant	Hypothesis	6.546E7	144	454576.631
	Error	9.351E8	2070	451732.999[p]

j. 1.024 MS(Method * AppsNumber * Participant) + 1.008 MS(AppsNumber * Distance * Participant) - 1.007 MS(Method * AppsNumber * Distance * Participant) - .024 MS(Error)
k. .982 MS(Method * Distance * Participant) + 1.019 MS(AppsNumber * Distance * Participant) - .994 MS (Method * AppsNumber * Distance * Participant) - .006 MS(Error)
l. .911 MS(Method * AppsNumber * Distance * Participant) + .089 MS(Error)
m. .963 MS(Method * AppsNumber * Distance * Participant) + .037 MS(Error)
n. .961 MS(Method * AppsNumber * Distance * Participant) + .039 MS(Error)
o. .963 MS(Method * AppsNumber * Distance * Participant) + .037 MS(Error)
p. MS(Error)

Tests of Between-Subjects Effects

Dependent Variable:ARTRechecksforDistance

Source		F	Sig.
AppsNumber * Participant	Hypothesis	1.022	.490
Distance * Participant	Hypothesis	.647	.903
Method * AppsNumber * Distance	Hypothesis	7.835	.000
Method * AppsNumber * Participant	Hypothesis	.581	.993
Method * Distance * Participant	Hypothesis	1.214	.139
AppsNumber * Distance * Participant	Hypothesis	1.180	.203
Method * AppsNumber * Distance * Participant	Hypothesis	1.006	.465

Post Hoc Tests

Distance

Multiple Comparisons

ARTRechecksforDistance
Bonferroni

(I) Distance	(J) Distance	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
0	1	35.175	37.7565	1.000	-64.532	134.883
	2	156.740*	37.4018	.000	57.970	255.511
	3	-18.756	38.1965	1.000	-119.625	82.113
1	0	-35.175	37.7565	1.000	-134.883	64.532
	2	121.565*	36.5518	.005	25.039	218.091
	3	-53.931	37.3646	.894	-152.604	44.741
2	0	-156.740*	37.4018	.000	-255.511	-57.970
	1	-121.565*	36.5518	.005	-218.091	-25.039
	3	-175.496*	37.0061	.000	-273.222	-77.771
3	0	18.756	38.1965	1.000	-82.113	119.625
	1	53.931	37.3646	.894	-44.741	152.604
	2	175.496*	37.0061	.000	77.771	273.222

Based on observed means.
The error term is Mean Square(Error) = 451732.999.

*. The mean difference is significant at the 0.05 level.

Univariate Analysis of Variance

Tests of Between-Subjects Effects

Dependent Variable:ARTRechecksforMethodAppsNumber

Source		Type III Sum of Squares	df	Mean Square
Intercept	Hypothesis	3.090E9	1	3.090E9
	Error	7085452.829	11.057	640801.614 [a]
Method	Hypothesis	5.967E7	3	1.989E7
	Error	2.214E7	33.695	657015.541 [b]
AppsNumber	Hypothesis	5477827.054	2	2738913.527
	Error	7998886.168	22.718	352098.479 [c]
Distance	Hypothesis	170675.305	3	56891.768
	Error	1.507E7	37.019	407097.630 [d]
Participant	Hypothesis	7056785.685	11	641525.971
	Error	5205107.249	9.216	564770.074 [e]
Method * AppsNumber	Hypothesis	1.193E8	6	1.988E7
	Error	1.834E7	72.650	252493.857 [f]
Method * Distance	Hypothesis	8670894.501	9	963432.722
	Error	6.126E7	116.029	528005.854 [g]
Method * Participant	Hypothesis	2.178E7	33	659902.177
	Error	6996998.864	21.088	331796.454 [h]
AppsNumber * Distance	Hypothesis	2769121.089	6	461520.182
	Error	3.869E7	75.514	512354.028 [i]

a. .996 MS(Participant) - 3.11E-006 MS(Method * Participant) - 4.84E-005 MS(AppsNumber * Participant) + 1.05E-005 MS(Distance * Participant) + 4.36E-005 MS(Method * AppsNumber * Participant) - 1.07E-005 MS(Method * Distance * Participant) + .000 MS(AppsNumber * Distance * Participant) - .006 MS(Method * AppsNumber * Distance * Participant) + .009 MS(Error)
b. .985 MS(Method * Participant) - .001 MS(Method * AppsNumber * Participant) + .000 MS(Method * Distance * Participant) + .006 MS(Method * AppsNumber * Distance * Participant) + .010 MS(Error)
c. .987 MS(AppsNumber * Participant) - .000 MS(Method * AppsNumber * Participant) + .000 MS (AppsNumber * Distance * Participant) - .005 MS(Method * AppsNumber * Distance * Participant) + .017 MS(Error)
d. .949 MS(Distance * Participant) + .001 MS(Method * Distance * Participant) - .001 MS(AppsNumber * Distance * Participant) + .014 MS(Method * AppsNumber * Distance * Participant) + .037 MS(Error)
e. 1.017 MS(Method * Participant) + 1.032 MS(AppsNumber * Participant) + 1.021 MS(Distance * Participant) - 1.058 MS(Method * AppsNumber * Participant) - 1.003 MS(Method * Distance * Participant) - 1.041 MS(AppsNumber * Distance * Participant) + 1.032 MS(Method * AppsNumber * Distance * Participant) + .000 MS(Error)
f. .973 MS(Method * AppsNumber * Participant) - .006 MS(Method * AppsNumber * Distance * Participant) + .033 MS(Error)
g. .909 MS(Method * Distance * Participant) + .033 MS(Method * AppsNumber * Distance * Participant) + .058 MS(Error)
h. 1.041 MS(Method * AppsNumber * Participant) + .987 MS(Method * Distance * Participant) - 1.008 MS (Method * AppsNumber * Distance * Participant) - .020 MS(Error)
i. .924 MS(AppsNumber * Distance * Participant) + .014 MS(Method * AppsNumber * Distance * Participant) + .062 MS(Error)

Tests of Between-Subjects Effects

Dependent Variable:ARTRechecksforMethodAppsNumber

Source		F	Sig.
Intercept	Hypothesis	4822.257	.000
Method	Hypothesis	30.276	.000
AppsNumber	Hypothesis	7.779	.003
Distance	Hypothesis	.140	.936
Participant	Hypothesis	1.136	.430
Method * AppsNumber	Hypothesis	78.732	.000
Method * Distance	Hypothesis	1.825	.071
Method * Participant	Hypothesis	1.989	.050
AppsNumber * Distance	Hypothesis	.901	.499

Tests of Between-Subjects Effects

Dependent Variable:ARTRechecksforMethodAppsNumber

Source		Type III Sum of Squares	df	Mean Square
AppsNumber * Participant	Hypothesis	7720015.953	22	350909.816
	Error	4982145.553	15.646	318426.627[j]
Distance * Participant	Hypothesis	1.337E7	33	405188.628
	Error	2.731E7	44.663	611537.964[k]
Method * AppsNumber * Distance	Hypothesis	1.121E7	18	622703.897
	Error	7.671E7	173.239	442820.167[l]
Method * AppsNumber * Participant	Hypothesis	1.632E7	66	247271.648
	Error	6.870E7	155.131	442858.588[m]
Method * Distance * Participant	Hypothesis	5.313E7	99	536623.068
	Error	6.907E7	155.967	442856.671[n]
AppsNumber * Distance * Participant	Hypothesis	3.419E7	66	518078.771
	Error	6.875E7	155.252	442858.309[o]
Method * AppsNumber * Distance * Participant	Hypothesis	6.378E7	144	442885.630
	Error	9.152E8	2070	442147.774[p]

j. 1.024 MS(Method * AppsNumber * Participant) + 1.008 MS(AppsNumber * Distance * Participant) - 1.007 MS(Method * AppsNumber * Distance * Participant) - .024 MS(Error)
k. .982 MS(Method * Distance * Participant) + 1.019 MS(AppsNumber * Distance * Participant) - .994 MS (Method * AppsNumber * Distance * Participant) - .006 MS(Error)
l. .911 MS(Method * AppsNumber * Distance * Participant) + .089 MS(Error)
m. .963 MS(Method * AppsNumber * Distance * Participant) + .037 MS(Error)
n. .961 MS(Method * AppsNumber * Distance * Participant) + .039 MS(Error)
o. .963 MS(Method * AppsNumber * Distance * Participant) + .037 MS(Error)
p. MS(Error)

Tests of Between-Subjects Effects

Dependent Variable:ARTRechecksforMethodAppsNumber

Source		F	Sig.
AppsNumber * Participant	Hypothesis	1.102	.429
Distance * Participant	Hypothesis	.663	.890
Method * AppsNumber * Distance	Hypothesis	1.406	.134
Method * AppsNumber * Participant	Hypothesis	.558	.996
Method * Distance * Participant	Hypothesis	1.212	.141
AppsNumber * Distance * Participant	Hypothesis	1.170	.215
Method * AppsNumber * Distance * Participant	Hypothesis	1.002	.480

Univariate Analysis of Variance

Tests of Between-Subjects Effects

Dependent Variable:ARTRechecksforMethodDistance

Source		Type III Sum of Squares	df	Mean Square
Intercept	Hypothesis	3.073E9	1	3.073E9
	Error	6457263.161	11.061	583781.802 [a]
Method	Hypothesis	3.235E7	3	1.078E7
	Error	2.245E7	33.709	665908.822 [b]
AppsNumber	Hypothesis	4510062.296	2	2255031.148
	Error	8093632.544	22.717	356279.416 [c]
Distance	Hypothesis	4073365.104	3	1357788.368
	Error	1.538E7	37.083	414857.987 [d]
Participant	Hypothesis	6427718.092	11	584338.008
	Error	4603753.982	8.362	550565.569 [e]
Method * AppsNumber	Hypothesis	3.753E7	6	6255019.642
	Error	2.005E7	72.106	278039.547 [f]
Method * Distance	Hypothesis	1.567E7	9	1740955.930
	Error	6.263E7	116.368	538237.283 [g]
Method * Participant	Hypothesis	2.207E7	33	668698.327
	Error	6941565.921	20.350	341110.946 [h]
AppsNumber * Distance	Hypothesis	1.244E7	6	2073692.183
	Error	4.040E7	75.362	536030.622 [i]

a. .996 MS(Participant) - 3.11E-006 MS(Method * Participant) - 4.84E-005 MS(AppsNumber * Participant) + 1.05E-005 MS(Distance * Participant) + 4.36E-005 MS(Method * AppsNumber * Participant) - 1.07E-005 MS(Method * Distance * Participant) + .000 MS(AppsNumber * Distance * Participant) - .006 MS(Method * AppsNumber * Distance * Participant) + .009 MS(Error)
b. .985 MS(Method * Participant) - .001 MS(Method * AppsNumber * Participant) + .000 MS(Method * Distance * Participant) + .006 MS(Method * AppsNumber * Distance * Participant) + .010 MS(Error)
c. .987 MS(AppsNumber * Participant) - .000 MS(Method * AppsNumber * Participant) + .000 MS (AppsNumber * Distance * Participant) - .005 MS(Method * AppsNumber * Distance * Participant) + .017 MS(Error)
d. .949 MS(Distance * Participant) + .001 MS(Method * Distance * Participant) - .001 MS(AppsNumber * Distance * Participant) + .014 MS(Method * AppsNumber * Distance * Participant) + .037 MS(Error)
e. 1.017 MS(Method * Participant) + 1.032 MS(AppsNumber * Participant) + 1.021 MS(Distance * Participant) - 1.058 MS(Method * AppsNumber * Participant) - 1.003 MS(Method * Distance * Participant) - 1.041 MS(AppsNumber * Distance * Participant) + 1.032 MS(Method * AppsNumber * Distance * Participant) + .000 MS(Error)
f. .973 MS(Method * AppsNumber * Participant) - .006 MS(Method * AppsNumber * Distance * Participant) + .033 MS(Error)
g. .909 MS(Method * Distance * Participant) + .033 MS(Method * AppsNumber * Distance * Participant) + .058 MS(Error)
h. 1.041 MS(Method * AppsNumber * Participant) + .987 MS(Method * Distance * Participant) - 1.008 MS (Method * AppsNumber * Distance * Participant) - .020 MS(Error)
i. .924 MS(AppsNumber * Distance * Participant) + .014 MS(Method * AppsNumber * Distance * Participant) + .062 MS(Error)

Tests of Between-Subjects Effects

Dependent Variable:ARTRechecksforMethodDistance

Source		F	Sig.
Intercept	Hypothesis	5263.151	.000
Method	Hypothesis	16.193	.000
AppsNumber	Hypothesis	6.329	.007
Distance	Hypothesis	3.273	.032
Participant	Hypothesis	1.061	.476
Method * AppsNumber	Hypothesis	22.497	.000
Method * Distance	Hypothesis	3.235	.002
Method * Participant	Hypothesis	1.960	.057
AppsNumber * Distance	Hypothesis	3.869	.002

Tests of Between-Subjects Effects

Dependent Variable:ARTRechecksforMethodDistance

Source		Type III Sum of Squares	df	Mean Square
AppsNumber * Participant	Hypothesis	7811796.732	22	355081.670
	Error	5527161.460	16.139	342479.445[j]
Distance * Participant	Hypothesis	1.361E7	33	412554.521
	Error	2.622E7	42.353	619149.179[k]
Method * AppsNumber * Distance	Hypothesis	7.301E7	18	4056044.282
	Error	8.063E7	172.205	468235.304[l]
Method * AppsNumber * Participant	Hypothesis	1.804E7	66	273317.968
	Error	7.259E7	154.746	469105.693[m]
Method * Distance * Participant	Hypothesis	5.407E7	99	546208.404
	Error	7.296E7	155.553	469062.275[n]
AppsNumber * Distance * Participant	Hypothesis	3.581E7	66	542566.890
	Error	7.265E7	154.863	469099.377[o]
Method * AppsNumber * Distance * Participant	Hypothesis	6.764E7	144	469718.324
	Error	9.377E8	2070	453002.821[p]

j. 1.024 MS(Method * AppsNumber * Participant) + 1.008 MS(AppsNumber * Distance * Participant) - 1.007 MS(Method * AppsNumber * Distance * Participant) - .024 MS(Error)
k. .982 MS(Method * Distance * Participant) + 1.019 MS(AppsNumber * Distance * Participant) - .994 MS (Method * AppsNumber * Distance * Participant) - .006 MS(Error)
l. .911 MS(Method * AppsNumber * Distance * Participant) + .089 MS(Error)
m. .963 MS(Method * AppsNumber * Distance * Participant) + .037 MS(Error)
n. .961 MS(Method * AppsNumber * Distance * Participant) + .039 MS(Error)
o. .963 MS(Method * AppsNumber * Distance * Participant) + .037 MS(Error)
p. MS(Error)

Tests of Between-Subjects Effects

Dependent Variable:ARTRechecksforMethodDistance

Source		F	Sig.
AppsNumber * Participant	Hypothesis	1.037	.479
Distance * Participant	Hypothesis	.666	.885
Method * AppsNumber * Distance	Hypothesis	8.662	.000
Method * AppsNumber * Participant	Hypothesis	.583	.993
Method * Distance * Participant	Hypothesis	1.164	.197
AppsNumber * Distance * Participant	Hypothesis	1.157	.232
Method * AppsNumber * Distance * Participant	Hypothesis	1.037	.369

Univariate Analysis of Variance

Tests of Between-Subjects Effects

Dependent Variable:ARTRechecksforAppsNumberDistance

Source		Type III Sum of Squares	df	Mean Square
Intercept	Hypothesis	3.061E9	1	3.061E9
	Error	6832236.808	11.060	617759.600 [a]
Method	Hypothesis	4.512E7	3	1.504E7
	Error	2.283E7	33.681	677925.245 [b]
AppsNumber	Hypothesis	5856315.116	2	2928157.558
	Error	7977311.757	22.728	350990.906 [c]
Distance	Hypothesis	2235469.776	3	745156.592
	Error	1.526E7	37.029	412182.474 [d]
Participant	Hypothesis	6802258.020	11	618387.093
	Error	4131046.912	7.765	531987.385 [e]
Method * AppsNumber	Hypothesis	3.781E7	6	6301868.154
	Error	2.032E7	71.977	282267.928 [f]
Method * Distance	Hypothesis	2.724E7	9	3026901.848
	Error	6.243E7	115.957	538400.538 [g]
Method * Participant	Hypothesis	2.247E7	33	681051.942
	Error	8587729.959	23.539	364832.838 [h]
AppsNumber * Distance	Hypothesis	1.347E7	6	2245481.844
	Error	4.022E7	75.223	534638.837 [i]

a. .996 MS(Participant) - 3.11E-006 MS(Method * Participant) - 4.84E-005 MS(AppsNumber * Participant) + 1.05E-005 MS(Distance * Participant) + 4.36E-005 MS(Method * AppsNumber * Participant) - 1.07E-005 MS(Method * Distance * Participant) + .000 MS(AppsNumber * Distance * Participant) - .006 MS(Method * AppsNumber * Distance * Participant) + .009 MS(Error)
b. .985 MS(Method * Participant) - .001 MS(Method * AppsNumber * Participant) + .000 MS(Method * Distance * Participant) + .006 MS(Method * AppsNumber * Distance * Participant) + .010 MS(Error)
c. .987 MS(AppsNumber * Participant) - .000 MS(Method * AppsNumber * Participant) + .000 MS (AppsNumber * Distance * Participant) - .005 MS(Method * AppsNumber * Distance * Participant) + .017 MS(Error)
d. .949 MS(Distance * Participant) + .001 MS(Method * Distance * Participant) - .001 MS(AppsNumber * Distance * Participant) + .014 MS(Method * AppsNumber * Distance * Participant) + .037 MS(Error)
e. 1.017 MS(Method * Participant) + 1.032 MS(AppsNumber * Participant) + 1.021 MS(Distance * Participant) - 1.058 MS(Method * AppsNumber * Participant) - 1.003 MS(Method * Distance * Participant) - 1.041 MS(AppsNumber * Distance * Participant) + 1.032 MS(Method * AppsNumber * Distance * Participant) + .000 MS(Error)
f. .973 MS(Method * AppsNumber * Participant) - .006 MS(Method * AppsNumber * Distance * Participant) + .033 MS(Error)
g. .909 MS(Method * Distance * Participant) + .033 MS(Method * AppsNumber * Distance * Participant) + .058 MS(Error)
h. 1.041 MS(Method * AppsNumber * Participant) + .987 MS(Method * Distance * Participant) - 1.008 MS (Method * AppsNumber * Distance * Participant) - .020 MS(Error)
i. .924 MS(AppsNumber * Distance * Participant) + .014 MS(Method * AppsNumber * Distance * Participant) + .062 MS(Error)

Tests of Between-Subjects Effects

Dependent Variable:ARTRechecksforAppsNumberDistance

Source		F	Sig.
Intercept	Hypothesis	4954.902	.000
Method	Hypothesis	22.185	.000
AppsNumber	Hypothesis	8.343	.002
Distance	Hypothesis	1.808	.163
Participant	Hypothesis	1.162	.428
Method * AppsNumber	Hypothesis	22.326	.000
Method * Distance	Hypothesis	5.622	.000
Method * Participant	Hypothesis	1.867	.059
AppsNumber * Distance	Hypothesis	4.200	.001

Tests of Between-Subjects Effects

Dependent Variable:ARTRechecksforAppsNumberDistance

Source		Type III Sum of Squares	df	Mean Square
AppsNumber * Participant	Hypothesis	7693999.362	22	349727.244
	Error	6725498.750	18.472	364083.425[j]
Distance * Participant	Hypothesis	1.354E7	33	410195.952
	Error	2.893E7	45.418	637048.651[k]
Method * AppsNumber * Distance	Hypothesis	6.173E7	18	3429641.233
	Error	7.814E7	173.022	451604.343[l]
Method * AppsNumber * Participant	Hypothesis	1.833E7	66	277724.953
	Error	7.005E7	155.050	451811.453[m]
Method * Distance * Participant	Hypothesis	5.419E7	99	547358.852
	Error	7.043E7	155.880	451801.121[n]
AppsNumber * Distance * Participant	Hypothesis	3.575E7	66	541659.884
	Error	7.011E7	155.170	451809.950[o]
Method * AppsNumber * Distance * Participant	Hypothesis	6.508E7	144	451957.229
	Error	9.273E8	2070	447979.757[p]

j. 1.024 MS(Method * AppsNumber * Participant) + 1.008 MS(AppsNumber * Distance * Participant) - 1.007 MS(Method * AppsNumber * Distance * Participant) - .024 MS(Error)
k. .982 MS(Method * Distance * Participant) + 1.019 MS(AppsNumber * Distance * Participant) - .994 MS (Method * AppsNumber * Distance * Participant) - .006 MS(Error)
l. .911 MS(Method * AppsNumber * Distance * Participant) + .089 MS(Error)
m. .963 MS(Method * AppsNumber * Distance * Participant) + .037 MS(Error)
n. .961 MS(Method * AppsNumber * Distance * Participant) + .039 MS(Error)
o. .963 MS(Method * AppsNumber * Distance * Participant) + .037 MS(Error)
p. MS(Error)

Tests of Between-Subjects Effects

Dependent Variable:ARTRechecksforAppsNumberDistance

Source		F	Sig.
AppsNumber * Participant	Hypothesis	.961	.541
Distance * Participant	Hypothesis	.644	.906
Method * AppsNumber * Distance	Hypothesis	7.594	.000
Method * AppsNumber * Participant	Hypothesis	.615	.987
Method * Distance * Participant	Hypothesis	1.212	.141
AppsNumber * Distance * Participant	Hypothesis	1.199	.182
Method * AppsNumber * Distance * Participant	Hypothesis	1.009	.457

Univariate Analysis of Variance

Tests of Between-Subjects Effects

Dependent Variable:ARTRechecksforMethodAppsNumberDistance

Source		Type III Sum of Squares	df	Mean Square
Intercept	Hypothesis	3.146E9	1	3.146E9
	Error	7352403.908	11.055	665047.087 [a]
Method	Hypothesis	5.736E7	3	1.912E7
	Error	2.306E7	33.688	684567.767 [b]
AppsNumber	Hypothesis	1.177E7	2	5884469.793
	Error	7548143.708	22.781	331341.833 [c]
Distance	Hypothesis	6666873.622	3	2222291.207
	Error	1.512E7	37.153	406855.525 [d]
Participant	Hypothesis	7324352.783	11	665850.253
	Error	4947173.269	8.833	560051.846 [e]
Method * AppsNumber	Hypothesis	3.358E7	6	5596189.057
	Error	1.877E7	72.654	258303.046 [f]
Method * Distance	Hypothesis	5.372E7	9	5968822.512
	Error	6.287E7	116.132	541378.410 [g]
Method * Participant	Hypothesis	2.269E7	33	687651.086
	Error	6707432.501	20.125	333285.290 [h]
AppsNumber * Distance	Hypothesis	8904787.961	6	1484131.327
	Error	3.940E7	75.638	520851.898 [i]

a. .996 MS(Participant) - 3.11E-006 MS(Method * Participant) - 4.84E-005 MS(AppsNumber * Participant) + 1.05E-005 MS(Distance * Participant) + 4.36E-005 MS(Method * AppsNumber * Participant) - 1.07E-005 MS(Method * Distance * Participant) + .000 MS(AppsNumber * Distance * Participant) - .006 MS(Method * AppsNumber * Distance * Participant) + .009 MS(Error)
b. .985 MS(Method * Participant) - .001 MS(Method * AppsNumber * Participant) + .000 MS(Method * Distance * Participant) + .006 MS(Method * AppsNumber * Distance * Participant) + .010 MS(Error)
c. .987 MS(AppsNumber * Participant) - .000 MS(Method * AppsNumber * Participant) + .000 MS (AppsNumber * Distance * Participant) - .005 MS(Method * AppsNumber * Distance * Participant) + .017 MS(Error)
d. .949 MS(Distance * Participant) + .001 MS(Method * Distance * Participant) - .001 MS(AppsNumber * Distance * Participant) + .014 MS(Method * AppsNumber * Distance * Participant) + .037 MS(Error)
e. 1.017 MS(Method * Participant) + 1.032 MS(AppsNumber * Participant) + 1.021 MS(Distance * Participant) - 1.058 MS(Method * AppsNumber * Participant) - 1.003 MS(Method * Distance * Participant) - 1.041 MS(AppsNumber * Distance * Participant) + 1.032 MS(Method * AppsNumber * Distance * Participant) + .000 MS(Error)
f. .973 MS(Method * AppsNumber * Participant) - .006 MS(Method * AppsNumber * Distance * Participant) + .033 MS(Error)
g. .909 MS(Method * Distance * Participant) + .033 MS(Method * AppsNumber * Distance * Participant) + .058 MS(Error)
h. 1.041 MS(Method * AppsNumber * Participant) + .987 MS(Method * Distance * Participant) - 1.008 MS (Method * AppsNumber * Distance * Participant) - .020 MS(Error)
i. .924 MS(AppsNumber * Distance * Participant) + .014 MS(Method * AppsNumber * Distance * Participant) + .062 MS(Error)

Tests of Between-Subjects Effects

Dependent Variable:ARTRechecksforMethodAppsNumberDistance

Source		F	Sig.
Intercept	Hypothesis	4730.037	.000
Method	Hypothesis	27.930	.000
AppsNumber	Hypothesis	17.760	.000
Distance	Hypothesis	5.462	.003
Participant	Hypothesis	1.189	.405
Method * AppsNumber	Hypothesis	21.665	.000
Method * Distance	Hypothesis	11.025	.000
Method * Participant	Hypothesis	2.063	.045
AppsNumber * Distance	Hypothesis	2.849	.015

Tests of Between-Subjects Effects

Dependent Variable:ARTRechecksforMethodAppsNumberDistance

Source		Type III Sum of Squares	df	Mean Square
AppsNumber * Participant	Hypothesis	7254885.426	22	329767.519
	Error	4612065.082	14.649	314833.855[j]
Distance * Participant	Hypothesis	1.334E7	33	404214.697
	Error	2.666E7	43.305	615746.149[k]
Method * AppsNumber * Distance	Hypothesis	2.219E7	18	1232952.957
	Error	7.944E7	172.871	459551.594[l]
Method * AppsNumber * Participant	Hypothesis	1.669E7	66	252953.482
	Error	7.128E7	154.994	459880.682[m]
Method * Distance * Participant	Hypothesis	5.445E7	99	549965.809
	Error	7.166E7	155.820	459864.266[n]
AppsNumber * Distance * Participant	Hypothesis	3.473E7	66	526237.130
	Error	7.133E7	155.114	459878.294[o]
Method * AppsNumber * Distance * Participant	Hypothesis	6.626E7	144	460112.313
	Error	9.394E8	2070	453792.310[p]

j. 1.024 MS(Method * AppsNumber * Participant) + 1.008 MS(AppsNumber * Distance * Participant) - 1.007 MS(Method * AppsNumber * Distance * Participant) - .024 MS(Error)
k. .982 MS(Method * Distance * Participant) + 1.019 MS(AppsNumber * Distance * Participant) - .994 MS (Method * AppsNumber * Distance * Participant) - .006 MS(Error)
l. .911 MS(Method * AppsNumber * Distance * Participant) + .089 MS(Error)
m. .963 MS(Method * AppsNumber * Distance * Participant) + .037 MS(Error)
n. .961 MS(Method * AppsNumber * Distance * Participant) + .039 MS(Error)
o. .963 MS(Method * AppsNumber * Distance * Participant) + .037 MS(Error)
p. MS(Error)

Tests of Between-Subjects Effects

Dependent Variable:ARTRechecksforMethodAppsNumberDistance

Source		F	Sig.
AppsNumber * Participant	Hypothesis	1.047	.475
Distance * Participant	Hypothesis	.656	.894
Method * AppsNumber * Distance	Hypothesis	2.683	.000
Method * AppsNumber * Participant	Hypothesis	.550	.997
Method * Distance * Participant	Hypothesis	1.196	.158
AppsNumber * Distance * Participant	Hypothesis	1.144	.248
Method * AppsNumber * Distance * Participant	Hypothesis	1.014	.441