Gesture + Noise Recording , 22.5.14, Lorenz Gruber, Final Year Project

Gesture to be Recorded:

01 – double knock
02 – tick move
03 – ind move + 90 deg turn right
04 – right left right left
05 – z move

File name structure in csvNoise_20Hz:

Each .csv file is named as g[XX]_[YY]_t[ZZ].mat:
[XX]: gesture index
[YY]: tester ID
[ZZ]: trial index

Each .csv file has 8 columns (the gyro data was recorded as well.)

t	epoch time in ms
tRel	relative time in s
x	in g
y	in g
z	in g
alpha	
beta	
gamma	

Details

- All samples at 20Hz
- Use my I-Phone 4
- Phone is attached to right arm, use the fitness band and tissue pack to properly fix it to the arm.
- The handlebar used was a flat handle bar.
- During all g00, the right arm was constantly held at the handle bar. During all the g00 recordings, none of the gestures defined above was performed.
- For g012-5, Alex noted the stop time of each gesture.
- For the right left right left move, I moved the right arm slightly to the right and did it then.
- For the Z move, I move the are slightly up.
- Gesture one was omitted as it requires both hands and hence to dangerous on bike.

Recordings

Filename (.csv)	User name – on server	Duration (s)	Description
g00_A1_t01	n-accel1	51	Cycle down Burnthwaite Road and accelerate on bike, standing.
g00_A1_t02	n-accel2	51	s.a. (see above)
g00_L1_t01	n-low1	64	Cycle down Burnthwaite Road and try to make as little movement as possible.
g00_L1_t02	n-low2	62	s.a.

g00_T1_t02	n-traffic2	141	Cycle round Fulham in normal traffic. But keep right arm at handlebar constantly
g00_T1_t03	n-traffic3	141	s.a.
g00_T1_t04	n-traffic4	149	s.a.
g00_T1_t05	n-traffic5	144	s.a.
g00_T1_t06	n-traffic6	159	s.a.
g02_L1_t01	g2-1	34	Perform gesture 2, 5 times whilst cycling on bike
g02_L1_t02	g2-2	32	Perform gesture 2, 4 times whilst cycling on bike
g02_L1_t03	2-2	36	Perform gesture 2, 5 times whilst cycling on bike, but stronger movement and tried to have are almost horizontal instead of bending down…
g02_L1_t04	2-1	33	s.a.
g03_L1_t01	g3-1	30	Perform gesture 3, 5 times whilst cycling on bike
g03_L1_t02	g3-2	32	s.a.
g04_L1_t01	g4-1	34	Perform gesture 3, 5 times whilst cycling on bike
g04_L1_t02	g4-2	30	s.a.
g05_L1_t01	g5-1	35	Perform gesture 3, 5 times whilst cycling on bike
g05_L1_t02	g5-2	31	s.a.

End times of gestures

The time was stopped on a separate phone and the following are the approximate end times of the gestures:

This shows the raw table

Filename	rep1	rep2	rep3	rep4	rep5
g02_L1_t01	6.6	12.1	17.4	22.1	27.6
g02_L1_t02	5.4	11.4	16	20.1	24.1
g03_L1_t01	7.4	12.6	17.4	22.7	
g03_L1_t02	7.4	12.4	16.8	21.4	25.5
g04_L1_t01	7.9	12.6	17.8	22.5	26.5
g04_L1_t02	7.5	12.1	16.0	19.9	23.7
g05_L1_t01	7.7	13.1	18.5	24.1	27.8
g05_L1_t02	7.3	11.7	15.9	20.1	24.1

I changed some of the times afterwards, so this table was used in MATLAB:

Filename	rep1	rep2	rep3	rep4	rep5
g02_L1_t01	6.6	12.1	17.4	22.1	26.7
g02_L1_t02	6	11.4	15.5	20.1	23.5

g03_L1_t01	7	12.6	17.4	22	150
g03_L1_t02	6.5	12.4	16.8	21.4	25.5
g04_L1_t01	7	12	17	21.5	25.5
g04_L1_t02	6.5	11.5	15.3	19.2	23
g05_L1_t01	7.7	13.1	18.5	24.1	27.8
g05_L1_t02	7.3	11.7	15.9	20.1	24.1

Screenshot from http://www.acceldatacollect.appspot.com/listData

Data samples taken

The "Av. sampling frequ" might be higher thatn the "Orig. sampling frequ". Reason for that is that the sample period is 2ms less than the value entered. Through tests, it was found out that those 2ms make the measurements more accurate.

Start time	User	Duration	# of samples	Av. F_s	Orig. F_s	Data Gap		Entity key
2014-05-22 17:41:49.275000	n-accel2	51.6	997	19.31	20.0	0	json csv plot	5169874951208960
2014-05-22 17:40:39.082000	n-accel1	51.0	981	19.24	20.0	0	json csv plot	5989482754998272
2014-05-22 17:39:05.101000	n-low2	62.8	1216	19.36	20.0	0	json csv plot	5709875686408192
2014-05-22 17:37:26.603000	n-low1	64.4	1219	18.93	20.0	0	json csv plot	4878478868480000
2014-05-22 17:32:19.626000	n-traffic6	159.1	3007	18.90	20.0	0	json csv plot	4834382976122880
2014-05-22 17:29:28.684000	n-traffic5	144.4	2743	18.99	20.0	0	json csv plot	6261447063502848
2014-05-22 17:26:42.417000	n-traffic4	149.4	2839	19.00	20.0	0	json csv plot	4919286963372032
2014-05-22 17:23:46.569000	n-traffic3	141.1	2696	19.11	20.0	0	json csv plot	5153329663442944
2014-05-22 17:21:00.338000	n-traffic2	141.9	2697	19.01	20.0	0	json csv plot	6270957731708928
2014-05-22 17:07:56.898000	g5-2	31.9	617	19.36	20.0	0	json csv plot	5135547156660224
2014-05-22 17:06:26.014000	g5-1	35.8	694	19.36	20.0	0	json csv plot	5159953845190656
2014-05-22 17:04:57.061000	g4-2	30.2	582	19.27	20.0	0	json csv plot	5156771542859776
2014-05-22 17:02:55.363000	g4-1	34.6	669	19.33	20.0	0	json csv plot	5719721496281088
2014-05-22 17:01:02.135000	g3-2	32.9	633	19.25	20.0	0	json csv plot	5200761940082688
2014-05-22 16:59:15.669000	g3-1	30.9	596	19.31	20.0	0	json csv plot	5699942098141184
2014-05-22 16:57:26.966000	g2-2	32.5	626	19.25	20.0	0	json csv plot	5732824904630272
2014-05-22 16:55:54.107000	g2-1	34.6	656	18.98	20.0	0	json csv plot	5115857952833536
2014-05-22 16:55:54.107000	g2-1	34.6	656	18.98	20.0	0	json csv plot	5763711893504000
2014-05-22 16:08:05.712000	tt	5.4	104	19.33	20.0	0	json csv plot	5708007778287616
2014-04-24 20:54:38.243000	Flo	5.2	162	31.36	30.0	0	json csv plot	5727902603673600

Sheet with the end times of gestures

G2_1 ✓ => 5 times

①	②
6.6	6.4
12.1	11.4
17.4	16.0
22.1	20.1
27.6	24.1

G2_2 ✓ => 5 times

G3_1 ✓ => 5 times

7.4
12.6
17.4
22.7

G3_2 ✓ => 5 times

7.4
12.4
16.8
21.4
25.5

G4_1 => 5 times

7.9
12.6
17.8
22.5
26.5

G4_2 => 5 times

7.5
12.1
16.0
19.9
23.7

G5_1 => 5 times

7.7
13.1
18.5
24.1
27.8

G5_2 => 5 times

7.3
11.7
15.9
20.1
24.1