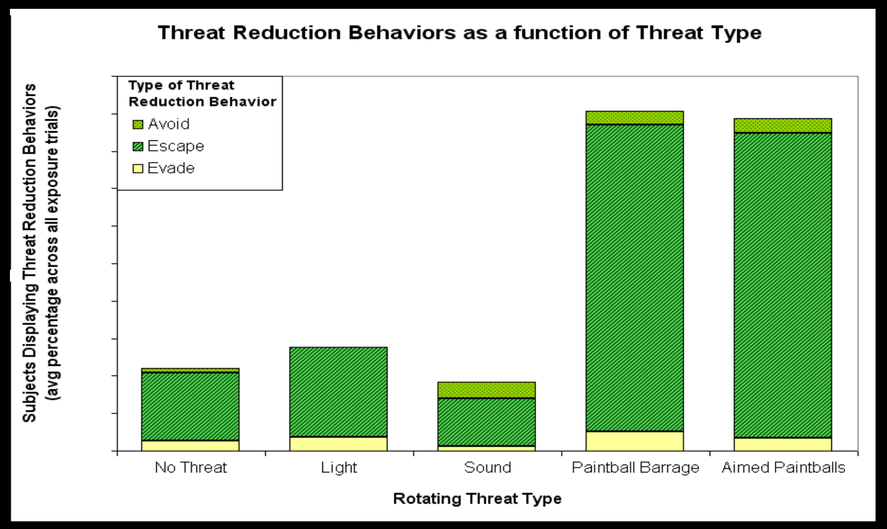
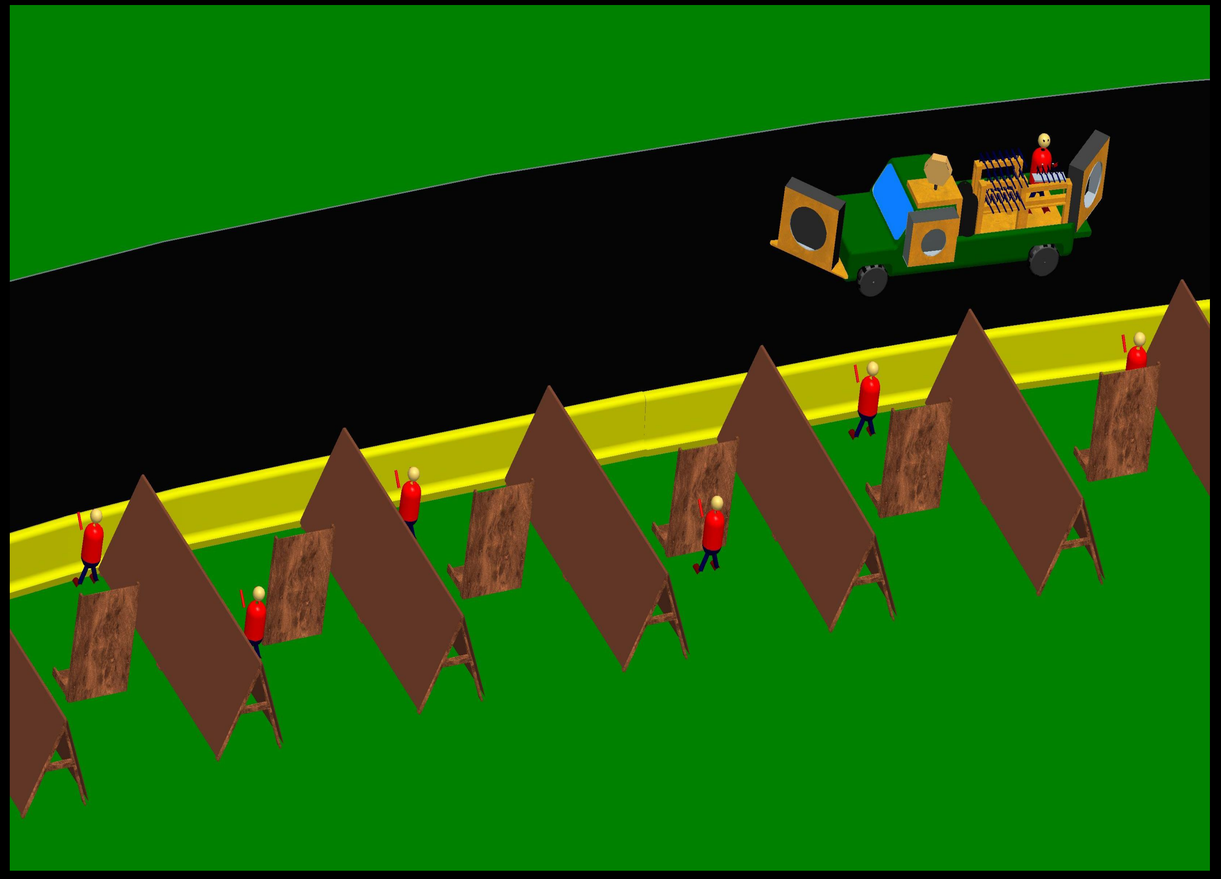
Convoy Protection: Aggressive Acts



- Examine threat reduction behaviors (avoidance, evasion, escape) to light, sound, and blunt impact threats from rock throwers while “attacking” a passing military truck.



HSRRB # A14133 Approved

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There are 8 separate posters in this file.

14. ABSTRACT
Non-lethal Weapon Effectiveness Testing at the Army's Target Behavioral Response Laboratory.

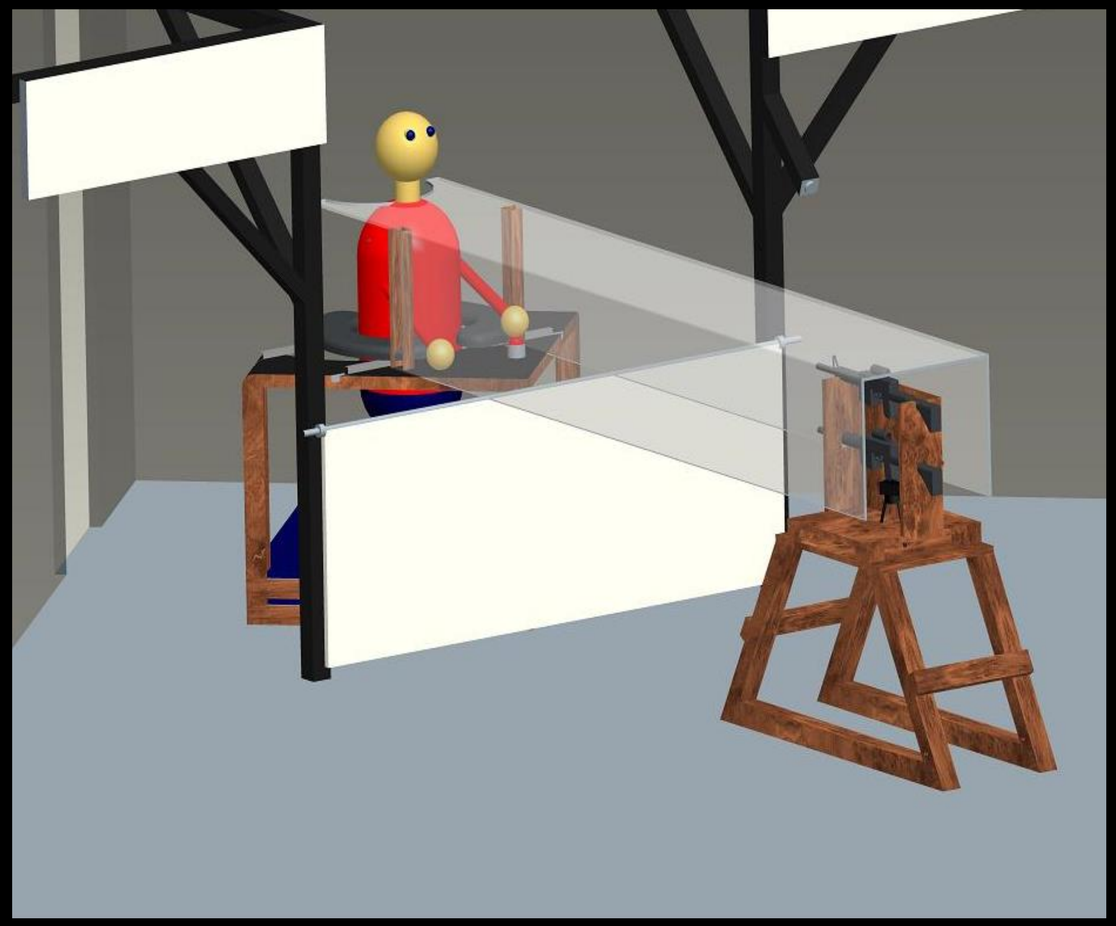
15. SUBJECT TERMS
Non-lethal weapons, effectiveness testing, convoy protection, aggressive acts, blunt impact, tactical checkpoint, crowd, motivation, human behavior, flight characterizations hand thrown projectiles, automation of experimental design, pyrotechnics, personnel areal denial

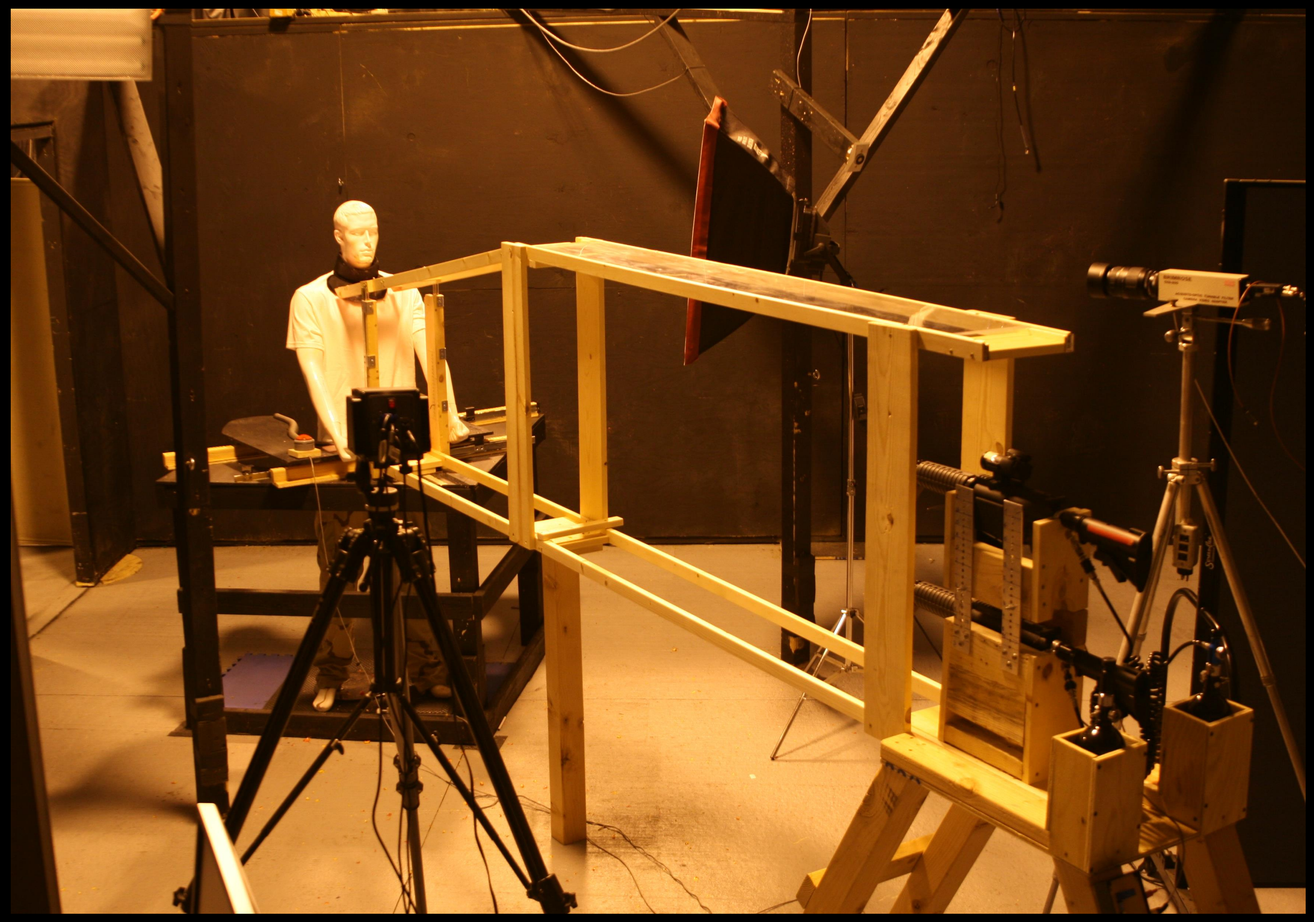
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			
unclassified	**unclassified**	**unclassified**	**Public Release**	**8**	

Blunt Impact Experiment: Self Induced Pain

UNCLASSIFIED

- Measure and analyze avoidance and escape behaviors to self-inflicted blunt impact.
- Examine tissue damage based on intensity and body location of hit.





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Tactical Checkpoint: Hail/Warn/Suppress

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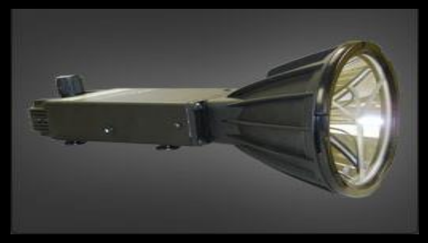
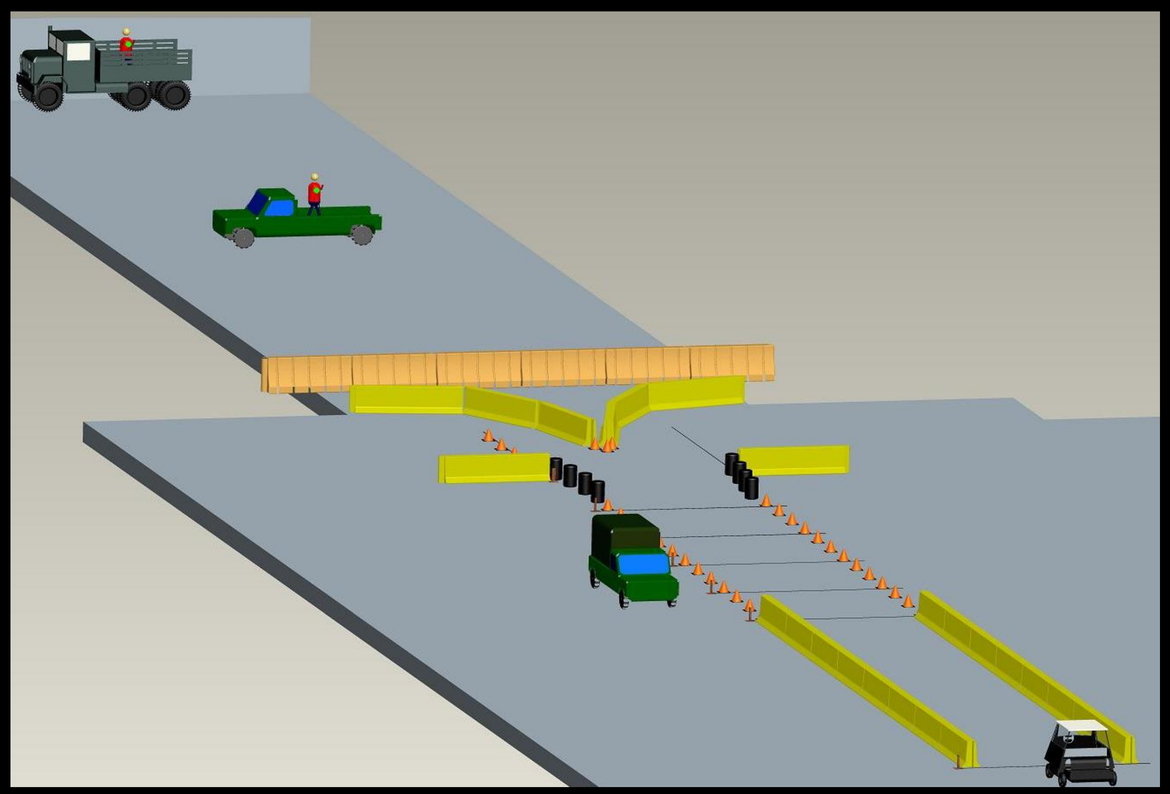
- Use standardized test bed to compare various non-lethal hail/warn/suppression technologies to baseline items (ie high beams) to determine effectiveness in a tactical checkpoint scenario.





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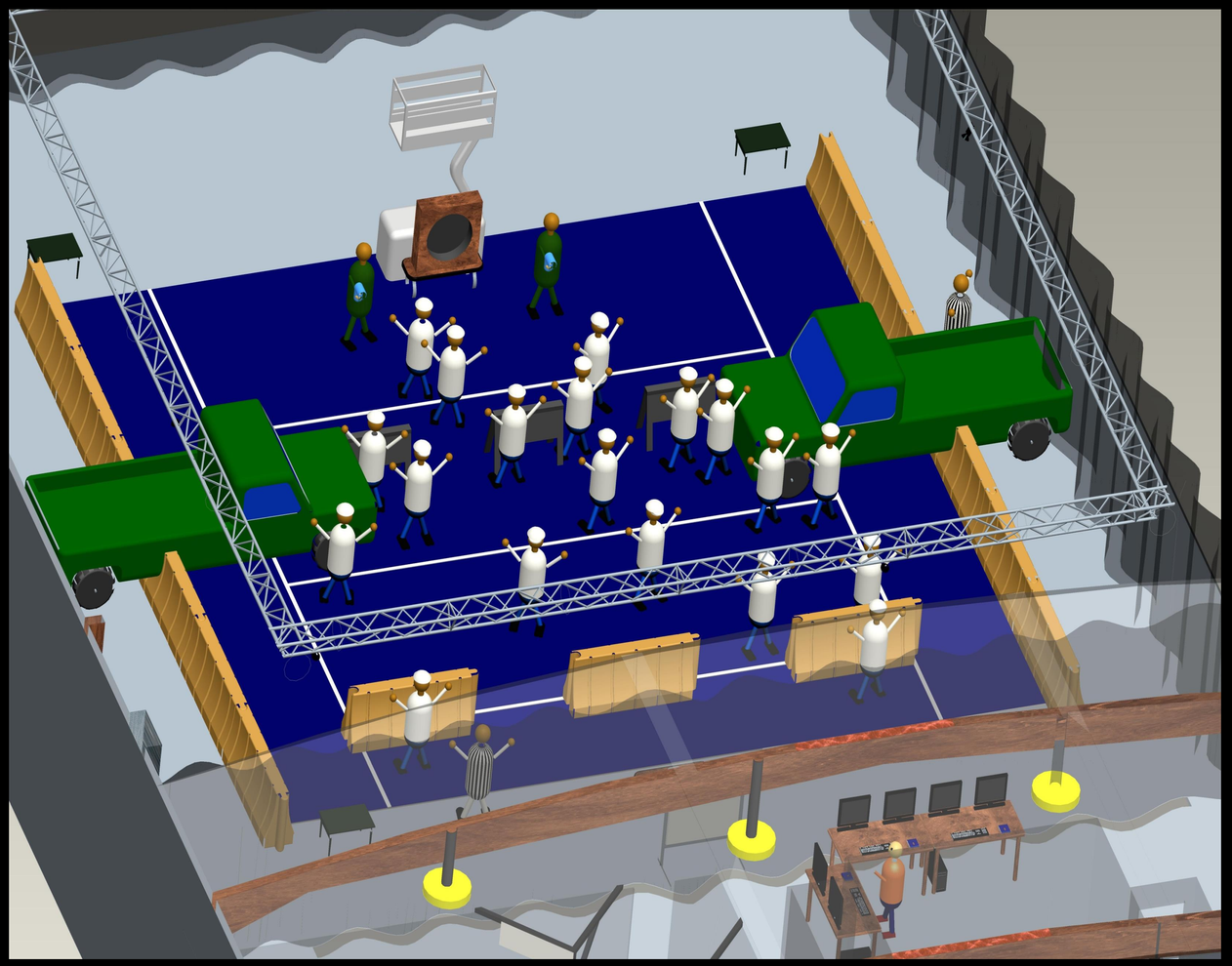
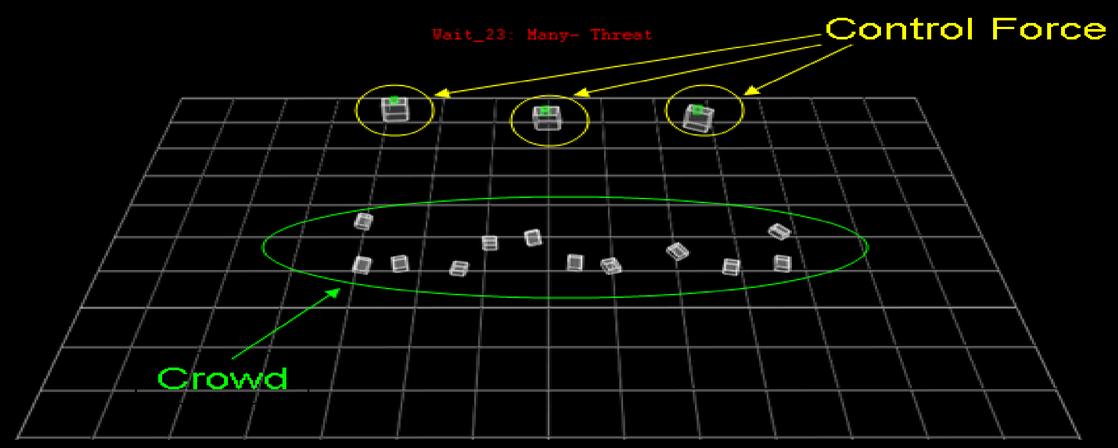
Crowd Studies: Motivation & Behavioral Manipulations

UNCLASSIFIED

- Examine threat reduction behaviors of crowds to both blunt impact and monetary penalties via motion capture system.



- Study and analyze effects of assigned motivated personalities on crowd dynamic.



ARDEC IRB # Submitted

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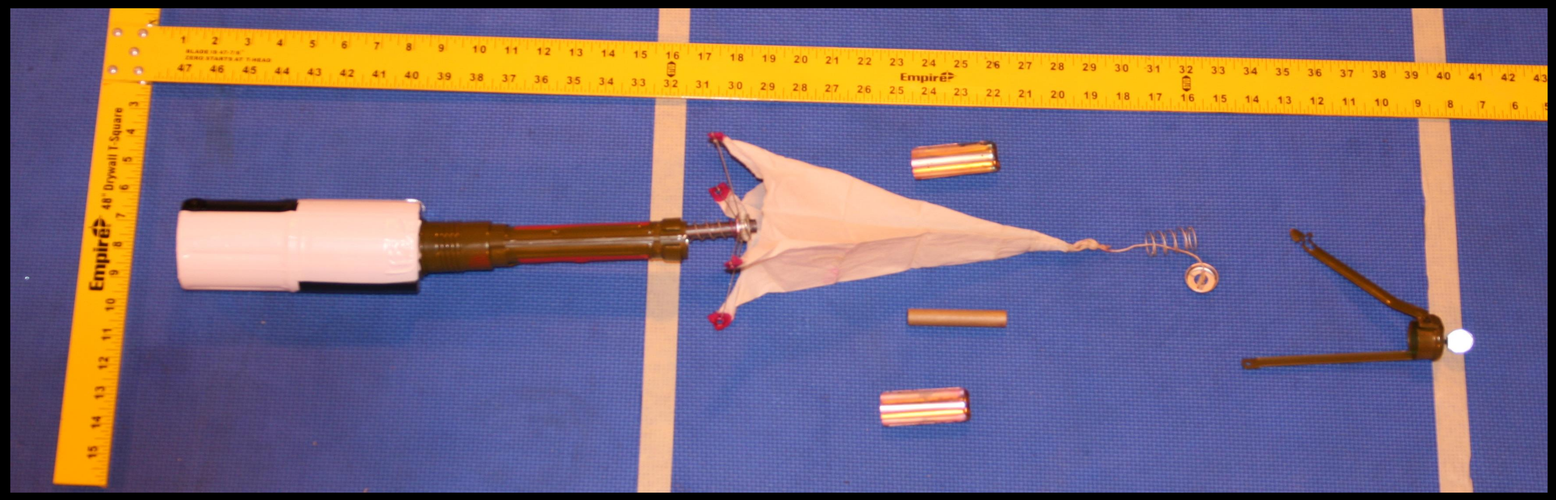
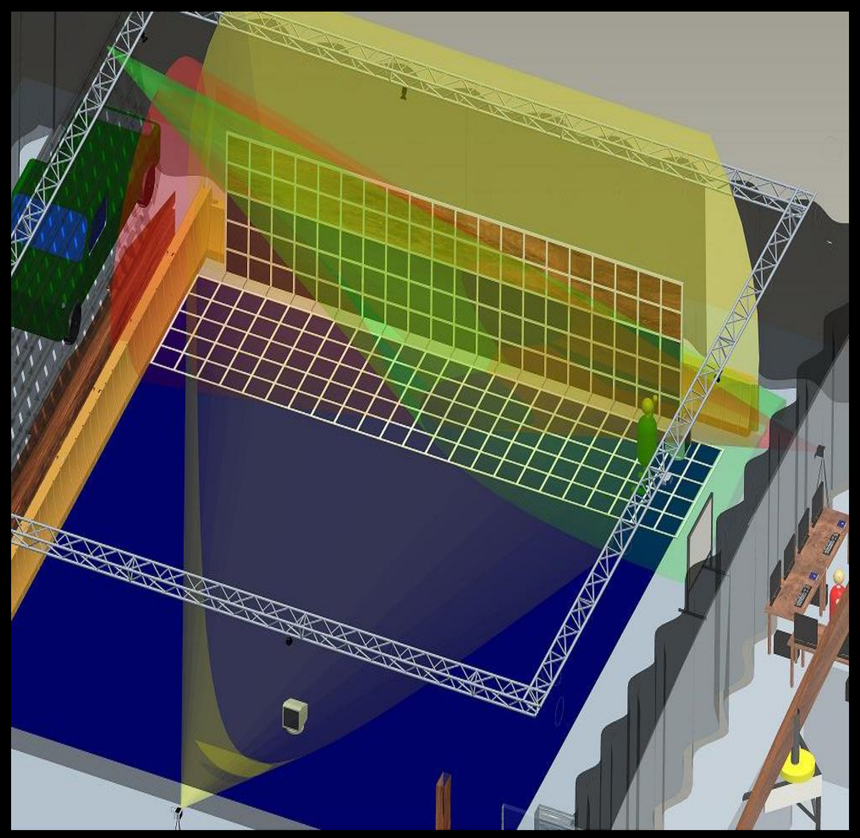
Flight Characterization: Hand thrown projectiles - RKG

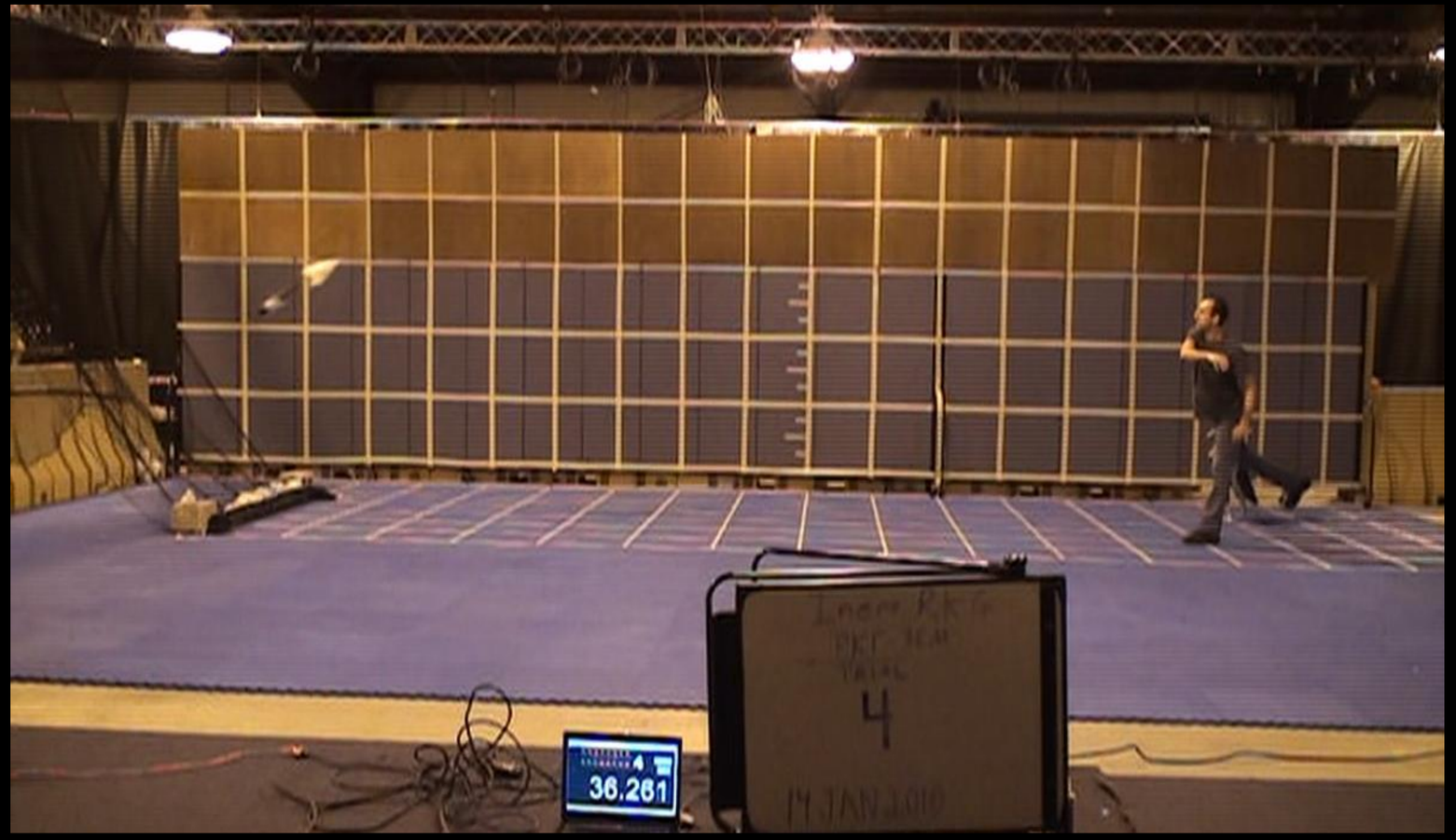
UNCLASSIFIED

- Real-time motion capture of 6DOF via VICON software/hardware system

- Multi-view camera setup coupled with (2x2ft) 3D grid allows for high res analysis.



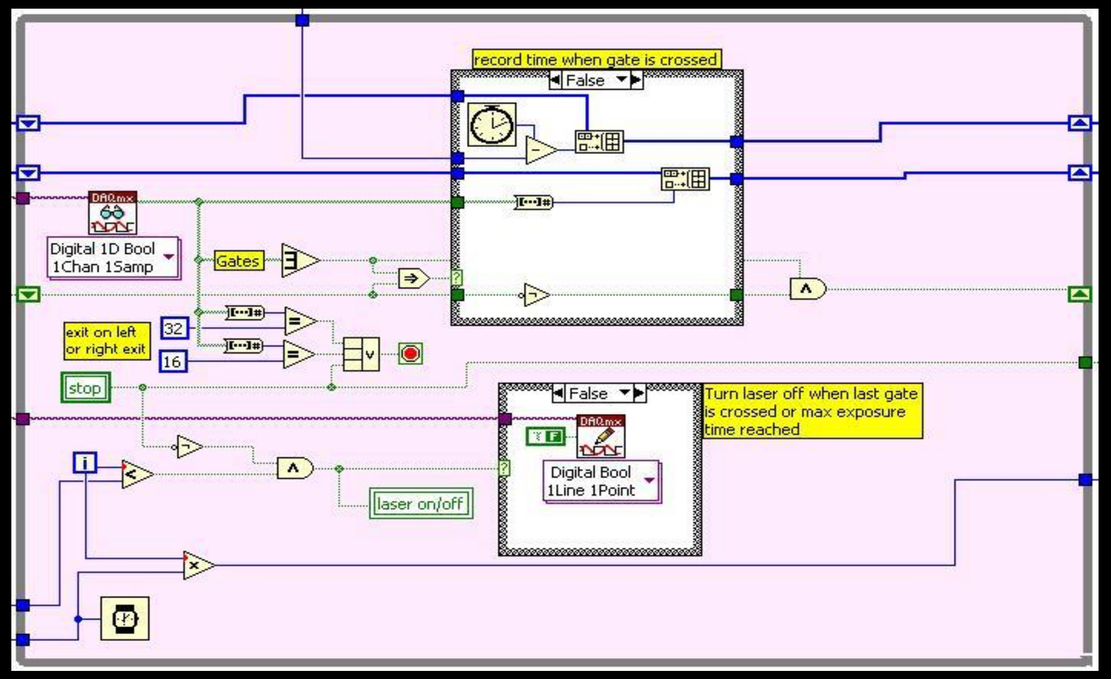


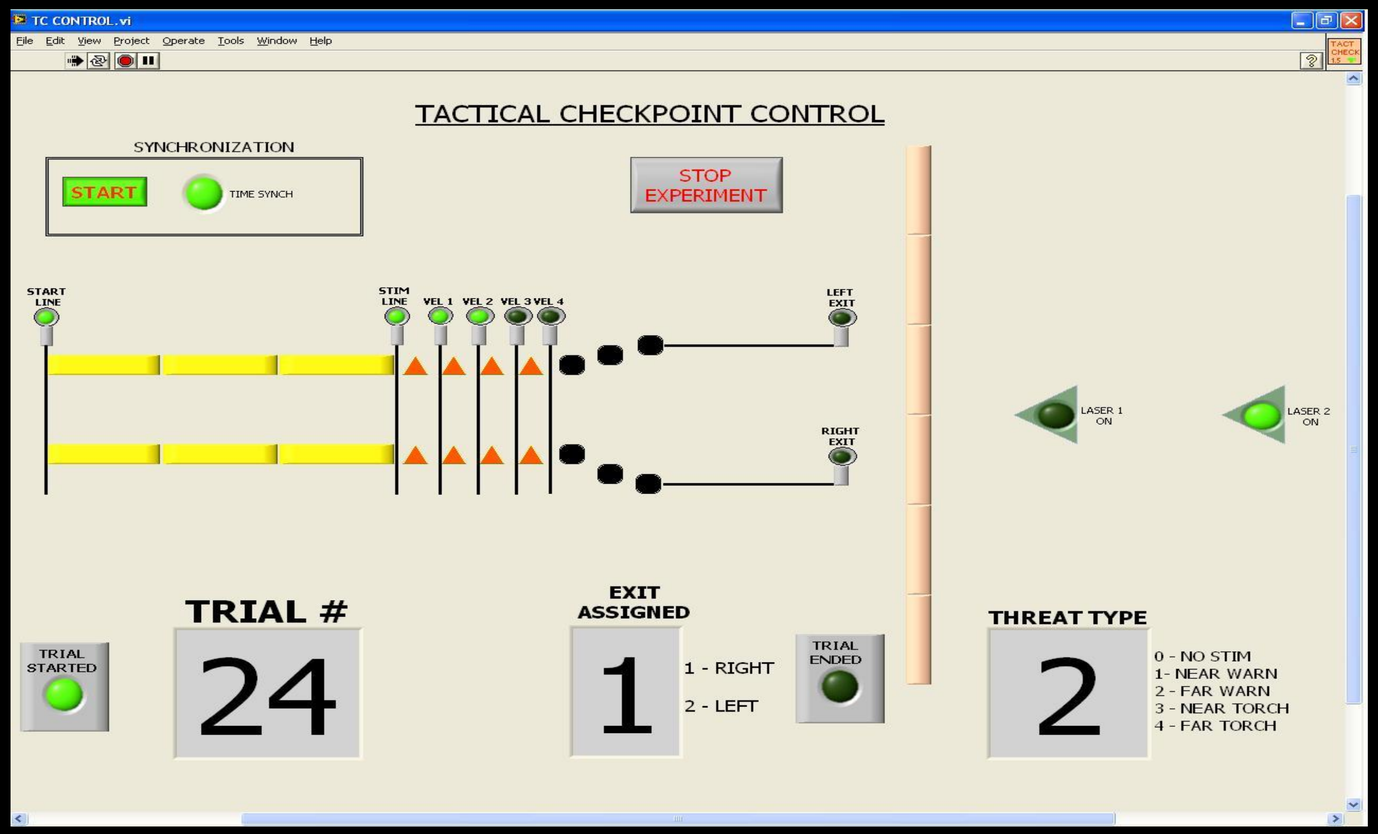


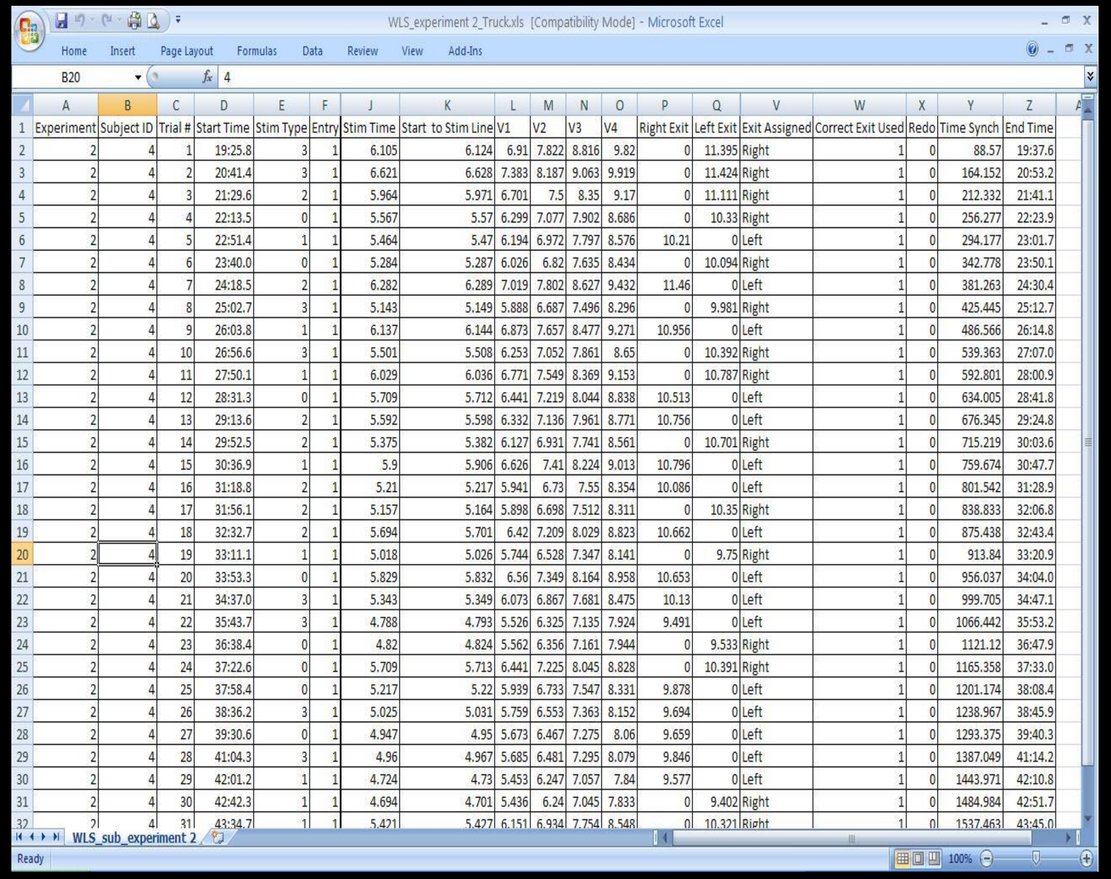
Automation of Experimental Design-
Tactical Checkpoint

UNCLASSIFIED

- Labview Software is used to develop customized algorithm and interfaces to control experiments and data collection at the TBRL.
- Record speed, position, response to stimuli, and timing of a participant in a Tactical Checkpoint scenario
- Real time data stream to spreadsheet files as participant navigates course.
- Customized electronics to facilitate automation of experiments







WLS_experiment 2_Truck.xls [Compatibility Mode] - Microsoft Excel

Home Insert Page Layout Formulas Data Review View Add-Ins

B20: 4

	A	B	C	D	E	F	J	K	L	M	N	O	P	Q	V	W	X	Y	Z
1	Experiment	Subject ID	Trial #	Start Time	Stim Type	Entry	Stim Time	Start to Stim Line	V1	V2	V3	V4	Right Exit	Left Exit	Exit Assigned	Correct Exit Used	Redo	Time Synch	End Time
2	2	4	1	19:25.8	3	1	6.105	6.124	6.91	7.822	8.816	9.82	0	11.395	Right	1	0	88.57	19:37.6
3	2	4	2	20:41.4	3	1	6.621	6.628	7.383	8.187	9.063	9.919	0	11.424	Right	1	0	164.152	20:53.2
4	2	4	3	21:29.6	2	1	5.964	5.971	6.701	7.5	8.35	9.17	0	11.111	Right	1	0	212.332	21:41.1
5	2	4	4	22:13.5	0	1	5.567	5.57	6.299	7.077	7.902	8.686	0	10.33	Right	1	0	256.277	22:23.9
6	2	4	5	22:51.4	1	1	5.464	5.47	6.194	6.972	7.797	8.576	10.21	0	Left	1	0	294.177	23:01.7
7	2	4	6	23:40.0	0	1	5.284	5.287	6.026	6.82	7.635	8.434	0	10.094	Right	1	0	342.778	23:50.1
8	2	4	7	24:18.5	2	1	6.282	6.289	7.019	7.802	8.627	9.432	11.46	0	Left	1	0	381.263	24:30.4
9	2	4	8	25:02.7	3	1	5.143	5.149	5.888	6.687	7.496	8.296	0	9.981	Right	1	0	425.445	25:12.7
10	2	4	9	26:03.8	1	1	6.137	6.144	6.873	7.657	8.477	9.271	10.956	0	Left	1	0	486.566	26:14.8
11	2	4	10	26:56.6	3	1	5.501	5.508	6.253	7.052	7.861	8.65	0	10.392	Right	1	0	539.363	27:07.0
12	2	4	11	27:50.1	1	1	6.029	6.036	6.771	7.549	8.369	9.153	0	10.787	Right	1	0	592.801	28:00.9
13	2	4	12	28:31.3	0	1	5.709	5.712	6.441	7.219	8.044	8.838	10.513	0	Left	1	0	634.005	28:41.8
14	2	4	13	29:13.6	2	1	5.592	5.598	6.332	7.136	7.961	8.771	10.756	0	Left	1	0	676.345	29:24.8
15	2	4	14	29:52.5	2	1	5.375	5.382	6.127	6.931	7.741	8.561	0	10.701	Right	1	0	715.219	30:03.6
16	2	4	15	30:36.9	1	1	5.9	5.906	6.626	7.41	8.224	9.013	10.796	0	Left	1	0	759.674	30:47.7
17	2	4	16	31:18.8	2	1	5.21	5.217	5.941	6.73	7.55	8.354	10.086	0	Left	1	0	801.542	31:28.9
18	2	4	17	31:56.1	2	1	5.157	5.164	5.898	6.698	7.512	8.311	0	10.35	Right	1	0	838.833	32:06.8
19	2	4	18	32:32.7	2	1	5.694	5.701	6.42	7.209	8.029	8.823	10.662	0	Left	1	0	875.438	32:43.4
20	2	4	19	33:11.1	1	1	5.018	5.026	5.744	6.528	7.347	8.141	0	9.75	Right	1	0	913.84	33:20.9
21	2	4	20	33:53.3	0	1	5.829	5.832	6.56	7.349	8.164	8.958	10.653	0	Left	1	0	956.037	34:04.0
22	2	4	21	34:37.0	3	1	5.343	5.349	6.073	6.867	7.681	8.475	10.13	0	Left	1	0	999.705	34:47.1
23	2	4	22	35:43.7	3	1	4.788	4.793	5.526	6.325	7.135	7.924	9.491	0	Left	1	0	1066.442	35:53.2
24	2	4	23	36:38.4	0	1	4.82	4.824	5.562	6.356	7.161	7.944	0	9.533	Right	1	0	1121.12	36:47.9
25	2	4	24	37:22.6	0	1	5.709	5.713	6.441	7.225	8.045	8.828	0	10.391	Right	1	0	1165.358	37:33.0
26	2	4	25	37:58.4	0	1	5.217	5.22	5.939	6.733	7.547	8.331	9.878	0	Left	1	0	1201.174	38:08.4
27	2	4	26	38:36.2	3	1	5.025	5.031	5.759	6.553	7.363	8.152	9.694	0	Left	1	0	1238.967	38:45.9
28	2	4	27	39:30.6	0	1	4.947	4.95	5.673	6.467	7.275	8.06	9.659	0	Left	1	0	1293.375	39:40.3
29	2	4	28	41:04.3	3	1	4.96	4.967	5.685	6.481	7.295	8.079	9.846	0	Left	1	0	1387.049	41:14.2
30	2	4	29	42:01.2	1	1	4.724	4.73	5.453	6.247	7.057	7.84	9.577	0	Left	1	0	1443.971	42:10.8
31	2	4	30	42:42.3	1	1	4.694	4.701	5.436	6.24	7.045	7.833	0	9.402	Right	1	0	1484.984	42:51.7
32	2	4	31	43:34.7	1	1	5.421	5.427	6.151	6.934	7.754	8.548	0	10.321	Right	1	0	1537.463	43:45.0

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Ready

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Blunt Impact: Minimal Intrinsic Motivation

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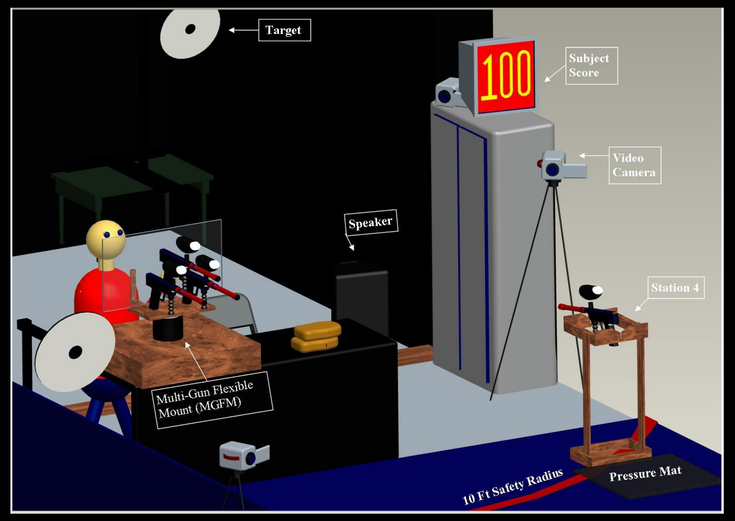
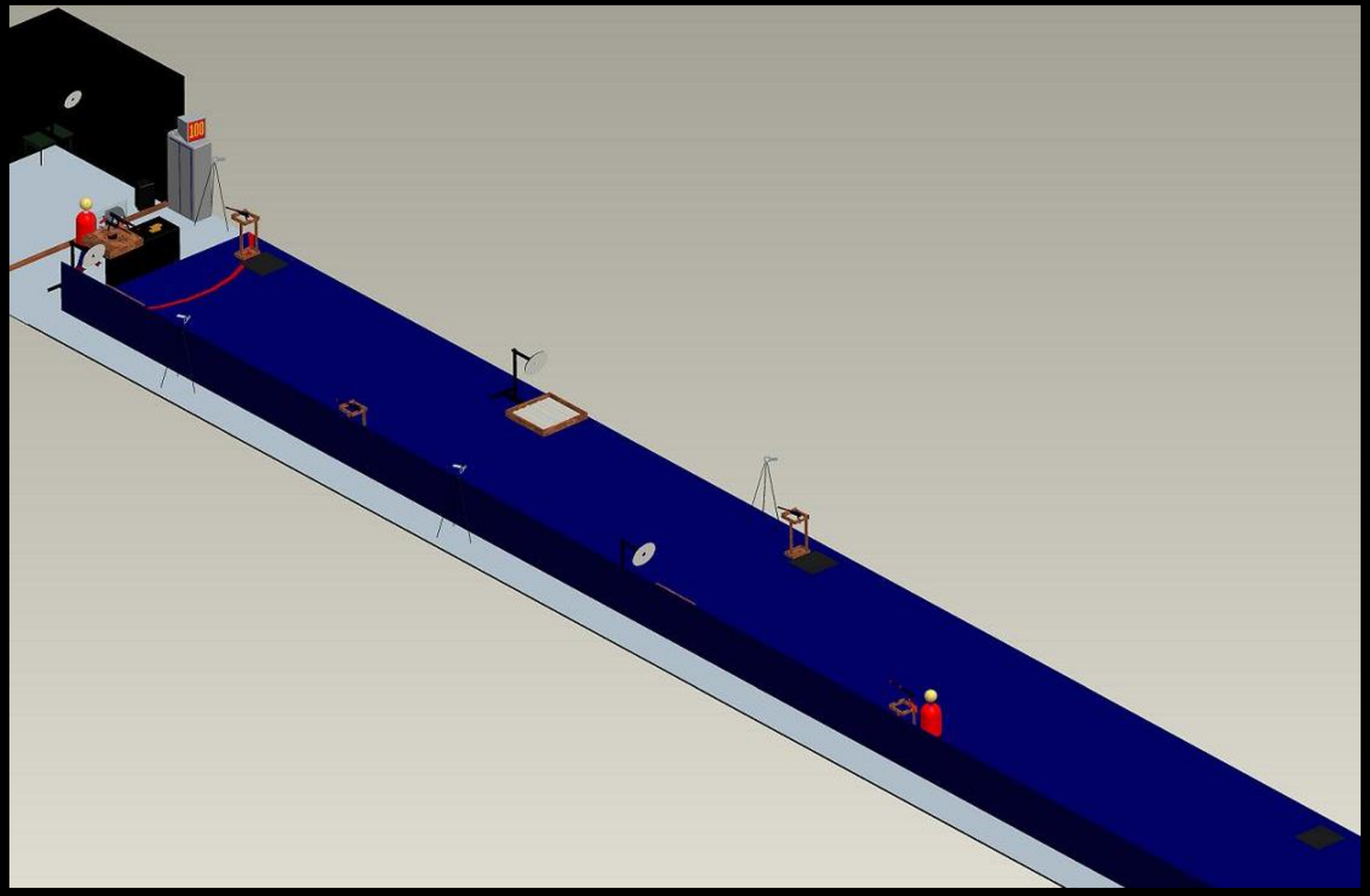


- Determine baseline for suppressing approach by use of blunt impact under low intrinsic motivation conditions.



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Personnel Area Denial: Pyrotechnics

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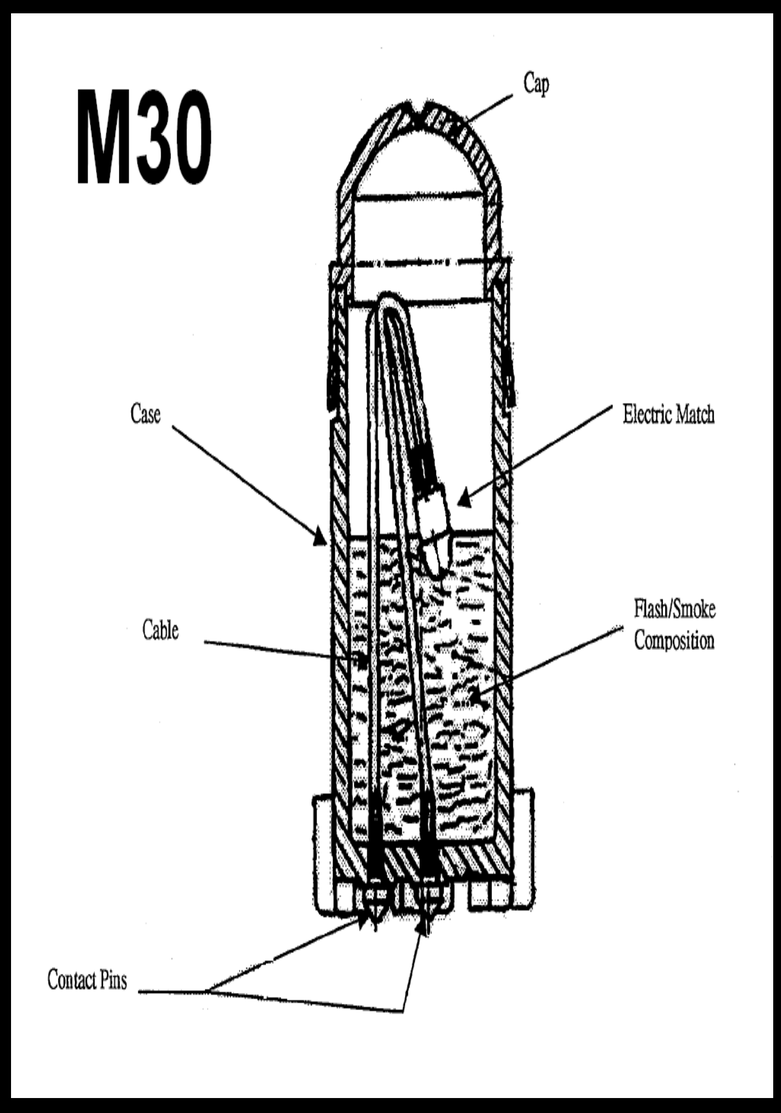
- Joint project with Intelligent Munitions Systems (IMS) to study effectiveness of pyrotechnic devices in deterring unsuspecting individuals.



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