

# Supplementary Information: EDsim: A Large Language Model Agent-Based Simulator for Emergency Department Operations

**Table 1:** Baseline Simulation Per-patient stage durations (minutes) by CTAS.

Name	CTAS	ArrivaltoPIA	PIAtoDispo	DispoToLeave
patient 1	1	18.61	327.98	6.57
patient 2	3	76.24	1121.62	3.21
patient 3	2	40.10	153.42	7.23
patient 4	2	42.17	282.86	3.17
patient 5	2	51.70	845.90	13.44
patient 6	3	513.74	38.43	189.81
patient 7	4	96.58	475.17	1.45
patient 8	3	44.19	217.33	3.88
patient 9	1	16.58	116.26	180.01
patient 10	2	292.90	38.88	1.17
patient 11	4	242.04	147.00	1.71
patient 12	3	28.55	825.42	62.76
patient 13	2	34.04	143.00	1.50
patient 14	2	61.17	157.07	95.69
patient 15	3	260.93	49.86	2.42
patient 16	2	38.19	175.50	1.21
patient 17	2	419.07	168.50	17.87
patient 18	2	111.15	274.02	91.74
patient 19	2	111.35	119.67	3.50
patient 20	3	24.83	314.33	235.96
patient 21	3	103.49	109.67	1.07
patient 22	3	52.79	553.36	3.67
patient 23	3	114.01	220.50	4.75
patient 24	3	107.96	243.24	4.33
patient 25	3	74.92	79.67	462.19
patient 26	2	513.89	35.42	106.08
patient 27	2	376.93	186.83	425.31

Name	CTAS	ArrivaltoPIA	PIAtoDispo	DispoToLeave
patient 28	2	180.48	400.71	3.67
patient 29	2	115.63	554.00	2.83
patient 30	1	116.86	155.87	4.42
patient 31	2	171.24	900.24	3.83
patient 32	3	384.73	37.61	4.00
patient 33	4	51.90	341.00	1.00
patient 34	3	313.36	107.44	2.25
patient 35	1	100.56	93.76	3.17
patient 36	4	136.96	326.83	3.83
patient 37	2	106.93	129.75	2.75
patient 38	1	105.68	253.50	123.19
patient 39	3	203.93	212.67	45.49
patient 40	2	159.38	223.86	969.79
patient 41	3	83.37	233.74	132.64
patient 42	2	564.36	213.86	1.17
patient 43	3	205.07	68.11	2.50
patient 44	1	215.23	102.64	1.67
patient 45	3	93.40	247.67	1.08
patient 46	4	396.56	183.17	1.17
patient 47	2	32.65	165.24	1326.83
patient 48	3	74.15	78.05	461.39
patient 49	3	71.60	531.17	1.55
patient 50	3	68.70	148.67	3.93
patient 51	3	115.88	550.00	1.08
patient 52	1	178.43	96.88	77.90
patient 53	3	87.39	714.62	4.71
patient 54	2	50.90	336.38	4.50
patient 55	2	229.14	158.40	3.50
patient 56	2	137.00	328.79	1.27
patient 57	3	63.43	38.36	3.67
patient 58	3	106.51	252.49	121.45
patient 59	3	612.92	621.48	1.74
patient 60	3	294.14	77.33	323.12
patient 61	3	420.06	56.00	1.17
patient 62	1	147.02	389.57	73.40
patient 63	2	396.02	179.62	3.33
patient 64	2	92.82	174.71	4.10
patient 65	3	71.08	517.00	1.83
patient 66	3	440.57	122.83	1.17
patient 67	2	75.98	143.00	3.08
patient 68	2	120.13	197.90	1.21
patient 69	2	506.57	347.83	4.67
patient 70	2	172.68	94.68	76.58
patient 71	2	350.37	668.76	4.67

Name	CTAS	ArrivaltoPIA	PIAtoDispo	DispoToLeave
patient 72	3	229.01	160.25	1.08
patient 73	2	218.64	85.52	4.00
patient 74	3	62.19	35.58	4.08
patient 75	5	140.23	255.83	1.33
patient 76	3	375.31	354.40	1.67
patient 77	4	555.48	421.33	3.00
patient 78	3	419.79	55.92	2.83
patient 79	3	135.83	155.33	1.45
patient 80	2	147.08	384.92	49.13
patient 81	3	113.36	178.25	3.33
patient 82	2	278.92	73.17	312.86
patient 83	3	438.23	162.21	4.77
patient 84	2	119.81	206.61	3.92
patient 85	2	206.80	105.48	0.83
patient 86	3	56.43	36.79	2.88
patient 87	3	208.02	761.57	1.00
patient 88	2	218.56	85.37	1.75
patient 89	5	730.68	103.33	2.86
patient 90	3	139.73	266.17	4.00
patient 91	2	385.61	350.40	4.26
patient 92	3	250.20	154.33	1.71
patient 93	3	220.85	152.50	1.00
patient 94	2	417.27	194.88	3.33
patient 95	3	148.19	155.25	0.94
patient 96	3	332.93	244.83	26.55
patient 97	2	219.10	1070.29	1.00
patient 98	3	88.86	78.83	1.24
patient 99	3	206.44	107.25	1.33
patient 100	3	174.57	28.33	432.29
patient 101	3	96.12	38.08	1.17
patient 102	3	198.21	109.67	1.85
patient 103	2	195.58	72.33	4.55
patient 104	3	357.31	235.00	57.94
patient 105	2	247.10	119.50	1.17
patient 106	2	99.46	265.90	98.11
patient 107	3	317.31	416.50	0.83
patient 108	3	310.89	87.05	1.17
patient 109	2	205.83	308.00	3.10
patient 110	3	279.30	176.14	1.50
patient 111	3	129.51	57.33	4.05
patient 112	4	191.21	305.83	1.27
patient 113	2	83.99	282.36	0.83
patient 114	2	244.93	593.79	4.17
patient 115	2	143.02	129.50	2.17

Name	CTAS	ArrivaltoPIA	PIAtoDispo	DispoToLeave
patient 116	3	1094.77	783.43	4.00
patient 117	4	543.55	611.50	255.58
patient 118	3	637.96	452.24	197.73
patient 119	2	118.29	168.12	3.71
patient 120	2	250.82	371.33	4.83
patient 121	2	175.07	100.48	1.50
patient 122	3	241.85	58.57	1.17
patient 123	2	141.26	222.83	4.05
patient 124	2	96.24	53.29	3.50
patient 125	3	212.52	271.36	185.07
patient 126	3	125.74	180.40	80.75
patient 127	1	221.57	234.12	90.76
patient 128	2	96.62	624.45	1.17
patient 129	2	133.30	1088.36	4.17
patient 130	2	71.49	154.33	3.93
patient 131	1	138.14	770.33	344.90
patient 132	4	383.60	159.50	3.33
patient 133	2	87.21	206.79	46.38
patient 134	4	236.69	110.33	2.93
patient 135	2	453.56	891.31	116.88
patient 136	2	158.64	1342.64	163.25
patient 137	3	103.40	797.00	3.05
patient 138	2	187.17	319.00	1.44
patient 139	4	136.26	921.83	1.11
patient 140	2	814.14	324.00	1.17
patient 141	2	379.17	189.76	3.50
patient 142	2	49.21	225.83	4.33
patient 143	3	244.25	128.00	1.67
patient 144	3	186.23	480.83	4.00
patient 145	3	138.90	50.67	231.65
patient 146	2	106.77	240.17	4.26
patient 147	3	144.13	208.19	0.83
patient 148	2	139.67	257.67	4.10
patient 149	2	69.46	47.48	1.17
patient 150	2	189.71	57.50	589.32
patient 151	2	377.08	72.64	1.67
patient 152	3	187.18	77.67	1.67
patient 153	2	400.14	221.83	1.50
patient 154	3	228.18	43.26	99.21
patient 155	2	387.01	850.38	4.07
patient 156	2	228.30	45.86	0.83
patient 157	3	233.67	103.19	146.17
patient 158	3	182.56	58.83	1.24
patient 159	3	275.25	382.00	0.79

Name	CTAS	ArrivaltoPIA	PIAtoDispo	DispoToLeave
patient 160	3	140.26	622.29	2.55
patient 161	2	514.56	152.88	3.17
patient 162	3	265.02	510.81	475.23
patient 163	2	174.36	209.71	3.67
patient 164	2	176.83	205.83	199.24
patient 165	2	205.57	358.12	3.67
patient 166	3	227.89	481.98	1.17
patient 167	2	162.05	322.64	1.00
patient 168	3	276.80	320.50	32.20
patient 169	3	264.74	200.45	4.88
patient 170	3	161.51	55.00	2.94
patient 171	3	144.89	105.50	650.96
patient 172	3	714.38	332.50	1.19
patient 173	3	430.92	113.50	3.71
patient 174	2	294.96	79.48	2.17
patient 175	2	303.37	108.86	2.55
patient 176	3	364.12	133.36	3.60
patient 177	2	401.75	473.36	4.50
patient 178	3	383.50	218.57	4.50
patient 179	2	313.06	264.43	1.67
patient 180	2	325.27	261.67	3.67
patient 181	3	466.77	268.00	1.17
patient 182	3	528.07	90.00	1.19
patient 183	3	163.26	247.76	2.17
patient 184	2	60.76	212.40	1.61
patient 185	3	196.62	152.83	57.44
patient 186	5	195.21	204.00	0.05
patient 187	3	68.73	68.00	1.00

**Table 2:** Stress Simulation Per-patient stage durations (minutes) by CTAS.

Name	CTAS	ArrivaltoPIA	PIAtoDispo	DispoToLeave
patient 1	1	27.75	382.12	984.24
patient 2	1	10.06	549.21	9.52
patient 3	3	122.67	1797.33	0.88
patient 4	3	1603.83	469.02	1.26
patient 5	2	64.76	439.90	3.33
patient 6	2	35.85	547.93	1.83
patient 7	3	102.96	526.81	206.62
patient 8	1	245.23	423.00	3.83
patient 9	3	43.87	87.40	1390.63
patient 10	2	3.55	687.60	701.61

Name	CTAS	ArrivaltoPIA	PIAtoDispo	DispoToLeave
patient 11	2	335.35	159.67	2.67
patient 12	3	539.85	285.83	512.36
patient 13	3	269.77	168.57	1.17
patient 14	3	205.40	718.19	1.00
patient 15	3	222.55	257.00	1.24
patient 16	3	92.18	101.50	1.19
patient 17	3	57.77	390.33	0.67
patient 18	3	261.50	677.98	1.86
patient 19	2	203.67	833.33	417.86
patient 20	3	263.92	549.67	198.29
patient 21	3	24.44	326.86	1.17
patient 22	3	434.60	889.50	335.35
patient 23	2	454.73	417.48	4.00
patient 24	4	177.68	140.50	1.67
patient 25	3	210.93	113.00	468.13
patient 26	3	266.19	429.17	1.19
patient 27	2	386.67	193.00	1.83
patient 28	4	139.80	1006.50	1.21
patient 29	4	250.74	566.67	1.92
patient 30	2	183.32	116.33	3.17
patient 31	3	730.86	752.50	1.71
patient 32	2	258.01	262.57	5.17
patient 33	2	346.69	471.71	16.51
patient 34	3	126.98	299.57	1.26
patient 35	3	325.29	387.00	1.19
patient 36	4	168.56	122.17	972.96
patient 37	3	562.26	904.83	239.45
patient 38	3	1240.04	244.95	364.74
patient 39	3	370.02	879.76	4.33
patient 40	2	57.82	2206.00	1.67
patient 41	3	301.99	254.17	1.00
patient 42	3	92.87	795.69	336.38
patient 43	3	374.75	82.17	3.05
patient 44	2	1493.86	683.67	342.89
patient 45	2	181.42	64.07	3.83
patient 46	3	332.79	578.26	0.90
patient 47	1	208.61	190.14	2.00
patient 48	2	292.43	955.67	1.86
patient 49	3	278.24	780.93	1.17
patient 50	4	188.32	150.67	4.05
patient 51	3	894.39	935.83	1.67
patient 52	4	224.01	258.17	151.07
patient 53	4	535.10	85.33	0.83
patient 54	3	671.65	336.83	28.52

Name	CTAS	ArrivaltoPIA	PIAtoDispo	DispoToLeave
patient 55	2	180.30	189.36	0.83
patient 56	3	235.29	890.88	0.67
patient 57	2	824.04	85.98	168.75
patient 58	2	289.04	640.60	1.88
patient 59	2	192.55	252.67	1.00
patient 60	3	501.32	155.05	3.33
patient 61	2	180.02	149.10	4.33
patient 62	2	327.92	337.79	74.96
patient 63	2	244.94	386.43	212.65
patient 64	2	301.23	391.19	3.33
patient 65	3	650.71	295.90	679.64
patient 66	2	320.94	1444.24	1.33
patient 67	3	363.94	235.33	0.79
patient 68	2	99.83	224.07	2.26
patient 69	3	135.68	278.52	1.44
patient 70	2	378.36	381.83	205.18
patient 71	3	214.71	445.67	146.35
patient 72	1	903.86	358.48	1.50
patient 73	3	64.74	485.67	377.02
patient 74	3	269.81	175.50	1.86
patient 75	2	393.07	188.79	4.50
patient 76	3	135.64	506.17	1.71
patient 77	2	82.50	196.00	1167.71
patient 78	3	492.08	399.83	1081.95
patient 79	4	187.50	986.17	1.07
patient 80	3	210.29	1512.00	1.19
patient 81	2	77.15	657.86	3.67
patient 82	5	194.00	644.00	2.93
patient 83	3	124.82	520.00	347.08
patient 84	4	981.89	997.88	4.00
patient 85	2	180.25	470.19	363.83
patient 86	2	1009.27	447.98	3.67
patient 87	2	672.27	112.88	4.67
patient 88	2	216.35	246.50	2.10
patient 89	3	541.21	393.50	3.50
patient 90	4	69.51	337.67	99.40
patient 91	1	705.63	194.88	1.50
patient 92	2	67.67	932.86	3.05
patient 93	3	82.60	327.17	3.50
patient 94	2	790.21	576.67	4.67
patient 95	4	191.94	234.33	227.45
patient 96	4	174.93	1330.67	262.86
patient 97	3	217.30	361.00	2.50
patient 98	3	135.38	94.57	1.17

Name	CTAS	ArrivaltoPIA	PIAtoDispo	DispoToLeave
patient 99	3	981.67	1001.26	2.00
patient 100	3	472.44	123.67	516.39
patient 101	3	672.80	109.83	4.00
patient 102	2	890.08	674.17	1.33
patient 103	2	236.14	617.33	116.61
patient 104	2	165.79	283.07	1.86
patient 105	2	705.12	196.50	4.33
patient 106	3	793.48	265.83	3.17
patient 107	3	243.02	319.83	1.67
patient 108	3	790.58	583.40	4.00
patient 109	2	545.10	1071.21	2.17
patient 110	2	300.25	541.79	602.13
patient 111	3	350.98	139.57	1.07
patient 112	3	1186.21	165.33	4.33
patient 113	2	224.06	414.50	5.02
patient 114	2	637.07	568.52	5.00
patient 115	3	934.48	729.00	0.90
patient 116	2	674.52	299.90	1.38
patient 117	2	217.93	258.74	1.33
patient 118	3	447.56	117.00	501.56
patient 119	5	777.20	265.83	1.24
patient 120	3	330.79	172.10	1.00
patient 121	5	184.38	50.67	1.76
patient 122	2	294.10	317.19	95.86
patient 123	2	1214.88	163.14	2.50
patient 124	3	618.74	580.33	2.11
patient 125	2	401.06	243.12	4.77
patient 126	3	439.75	244.00	3.24
patient 127	4	693.56	302.00	2.83
patient 128	3	611.07	406.00	44.38
patient 129	2	275.31	65.07	691.26
patient 130	2	571.89	371.69	92.43
patient 131	2	507.46	707.17	1.00
patient 132	2	472.15	140.19	1.57
patient 133	2	385.24	490.67	1.21
patient 134	2	463.29	283.26	1.17
patient 135	1	203.61	1181.76	315.21
patient 136	1	230.60	205.36	3.67
patient 137	1	253.08	853.40	3.67
patient 138	1	403.12	591.86	1.67
patient 139	3	1306.73	522.17	1.55

**Table 3:** Prompt templates shared across all ED agent roles.

Purpose	Prompt
Write a one-sentence memory note from the conversation for future interactions	[Conversation] !<INPUT 0>! Write one full sentence capturing what !<INPUT 1>! should remember from !<INPUT 2>!’s perspective for future ED interactions (e.g., symptoms, CTAS/acuity, orders/tests, location/zone changes, or discharge instructions). "!<INPUT 3>!"
Rate the clinical/emotional significance of a conversation on a 1–10 scale	You are operating within a hospital Emergency Department (ED). Here is a brief description of !<INPUT 0>!. !<INPUT 1>! On a scale of 1 to 10, where 1 is purely routine (e.g., taking vitals, basic questions, routine instructions) and 10 is highly significant (e.g., concerning symptoms, major clinical decisions, escalation of care), rate the likely clinical/emotional significance of the following conversation for !<INPUT 2>!. Conversation: !<INPUT 3>! Rate (return a number between 1 to 10):
Summarize key details (symptoms, acuity, orders, next steps) to support the next ED interaction	Current Date: !<INPUT 0>! !<INPUT 1>! Currently: !<INPUT 2>! !<INPUT 3>! Summarize the most relevant statements above that can inform !<INPUT 4>! in the next ED interaction with !<INPUT 5>!. Prioritize: names/roles, symptoms, pain severity, CTAS/acuity if mentioned, ordered tests/treatments, and any instructions about where to go next (e.g., waiting room, triage room, minor injuries zone, major injuries zone, trauma zone, operating room).
Produce a one-sentence summary of the conversation	You are operating within a hospital Emergency Department (ED). Conversation: !<INPUT 0>! Summarize the conversation above in one sentence (focus on the main clinical topic and any location/next-step instructions). This is a conversation about

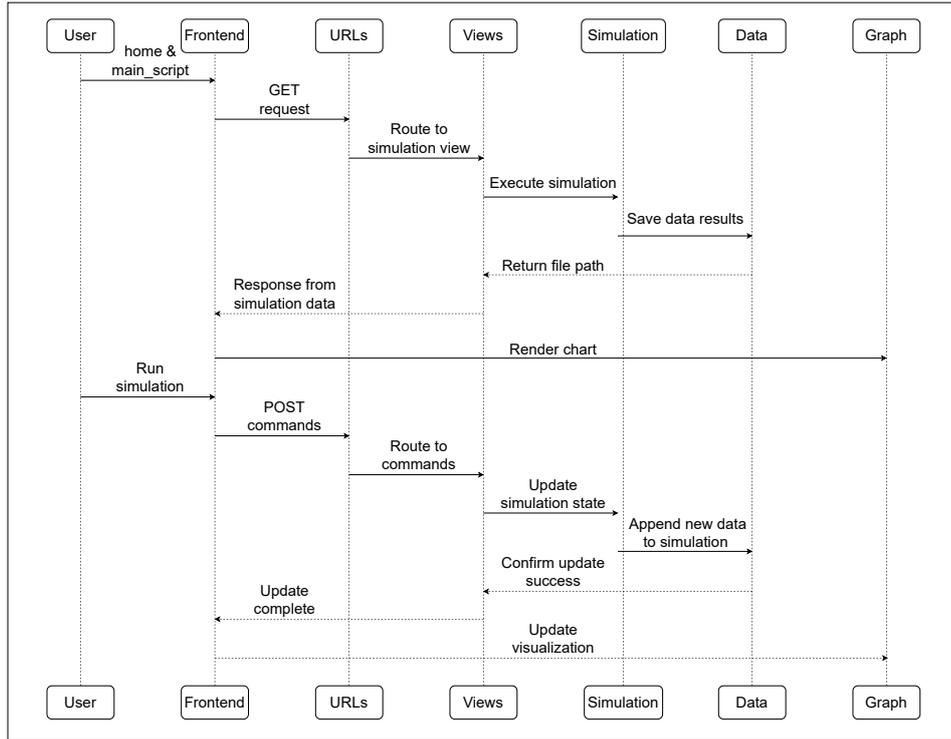


Fig. 1 Frontend and system Interaction Diagram.

Purpose	Prompt
<b>Table 4:</b> Role-specific prompt templates for Doctor agents in the ED simulation.	
Purpose	Prompt
Generate the doctor's next message to assess, order tests, and plan disposition	Variables: !<INPUT 0>! -- persona ISS !<INPUT 1>! -- persona name !<INPUT 2>! -- retrieved memory !<INPUT 3>! -- past context !<INPUT 4>! -- current location !<INPUT 5>! -- current context !<INPUT 6>! -- persona name !<INPUT 7>! -- target persona name !<INPUT 8>! -- curr convo !<INPUT 9>! -- persona name !<INPUT 10>! -- target persona name !<INPUT 11>! -- persona name !<INPUT 12>! -- persona name !<INPUT 13>! -- persona name <commentblockmarker>#####</commentblockmarker> You are an emergency department physician. On a first visit you take a focused history chief complaint, onset, severity, associated symptoms, past medical history. You explain your thinking and what to expect. On follow-ups you review findings, explain results in plain terms, and discuss the plan. You're direct, thorough, and empathetic. PART 1. !<INPUT 0>! Here is the memory that is in !<INPUT 1>! 's head: !<INPUT 2>! PART 2. Past Context: !<INPUT 3>! Current Location: !<INPUT 4>! Current Context: !<INPUT 5>! !<INPUT 6>! and !<INPUT 7>! are chatting. Here is their conversation so far: !<INPUT 8>! --- What does !<INPUT 9>! say to !<INPUT 10>! next? 1-2 sentences. If the other person said "Thank you" or similar, the conversation has likely ended. Output format: { "!<INPUT 11>!": "<!<INPUT 12>! 's utterance>", "Did the conversation end with !<INPUT 13>! 's utterance?": "<json Boolean>" }

Purpose	Prompt
Choose the next patient to see from the waiting queue based on priority and preferences	<pre> Variables: !&lt;INPUT 0&gt;! -- queue !&lt;INPUT 1&gt;! -- patients_info !&lt;INPUT 2&gt;! -- doctor_perf &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; You are a doctor that has to choose the next patient to look at in the queue. An example queue would be [[2, "Patient 2"], [4, "Patient 4"]] The number in front means the priority of a patient lower the number higher the priority. But the doctor has preference on who to take next If "Patient 2" is chosen ONLY return: 2,Patient 2 Here is the real queue: !&lt;INPUT 0&gt;! Information about each Patient in the queue: !&lt;INPUT 1&gt;! The doctor information and preference: !&lt;INPUT 2&gt;! Now based on the queue priority and doctor preference and patient condition choose the next patient to see. If nothing fits the doctor preference pick from highest priority in the queue. Only return in this format and nothing more: {priority score}, {patient name} Priority score must be a integer and must be a Patient from the real queue and make sure using the associated priority score with that Patient. The priority score MUST STAY the same from the original entry. Output: </pre>

Purpose	Prompt
Generate the agent's initial state JSON profile from role description	<p>Variables: !&lt;INPUT 0&gt;! -- Patient Info</p> <pre> &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; YOU MUST FOLLOW THIS JSON FORMAT EXAMPLE: { "vision_r": 4, "att_bandwidth": 8, "retention": 8, "curr_time": "February 10, 2025, 06:00:00", "curr_tile": [5,5], "schedule_constraints": "Doctor works in the emergency department every day, working all day no breaks. Already working as they arrive", "name": "Doctor 1", "first_name": "Doctor", "last_name": "1", "age": 45, "behavior_modifiers": "friendly, outgoing, hospitable", "role_description": "Doctor is a hospital employee in the emergency department. Talks to patients about their symptoms and then diagnose their symptoms and put them on a treatment plan. After treating you can send him home. NEVER should go to the hallway, Triage room, or waiting room.", "current_state": "Doctor wants to help patients and works with triage and bedside nurses. Waiting for Triage for update", "work_pattern": "Doctor works all day at the emergency department", "living_area": "ed map:emergency department:operating room", "concept_forget": 100, "daily_reflection_time": 180, "daily_reflection_size": 5, "overlap_reflect_th": 4, "kw_strg_event_reflect_th": 10, "kw_strg_thought_reflect_th": 9, "recency_w": 1, "relevance_w": 1, "importance_w": 1, "recency_decay": 0.995, "importance_trigger_max": 150, "importance_trigger_curr": 150, "importance_ele_n": 0, "thought_count": 5, "daily_req": [], "f_daily_schedule": [], "f_daily_schedule_hourly_org": [], "act_address": null, "act_start_time": null, "act_duration": null, "act_description": null, "act_pronunciatio": null, "act_event": ["Doctor", null, null], "act_obj_description": null, "act_obj_pronunciatio": null, "act_obj_event": [null, null, null], "chatting_with": null, "chat": null, "chatting_with_buffer": {}, "chatting_end_time": null, "act_path_set": false, "planned_path": [], "next_step": null } Now generate a BRAND NEW JSON by the fields provided in the example according to this Doctor's info: !&lt;INPUT 0&gt;! Change any info in the JSON that would need updating like name, age. All the spelling in the field names must be EXACTLY the same as in the example. Do not fix the spelling. Only return the NEW JSON and NOTHING ELSE. Output: </pre>

Purpose	Prompt
Select an ED location/zone for the next action	<p>Variables: !&lt;INPUT 0&gt;! -- Persona name (e.g., Patient 3, Triage Nurse, Bedside Nurse) !&lt;INPUT 1&gt;! -- Persona's current area in the Emergency Department (e.g., waiting room, triage room, major injury zone) !&lt;INPUT 2&gt;! -- All accessible areas in the Emergency Department (excluding restricted areas) !&lt;INPUT 3&gt;! -- Persona name (repeated for formatting consistency) !&lt;INPUT 4&gt;! -- Target sector or specific action-related area (e.g., triage room for assessment, major injury zone for treatment) !&lt;INPUT 5&gt;! -- All accessible areas in the personas sector (excluding restricted areas, same as !&lt;INPUT 2&gt;!) !&lt;INPUT 6&gt;! -- Current action the persona is performing (e.g., waiting for assessment, treating a patient, transporting a patient) !&lt;INPUT 7&gt;! -- Persona name (repeated for formatting consistency) !&lt;INPUT 8&gt;! -- Persona's current sector (same as !&lt;INPUT 1&gt;!, for formatting consistency)</p> <p>&lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt;</p> <p>Patient 3 is waiting in the major injury zone at the Emergency Department for a doctor. Patient 3 is waiting for a doctor to assess their condition. The Emergency Department consists of the following areas: \{major injury zone, minor injury zone, diagnostic room\}. For assessment, the Doctor should go to the following area in the Emergency Department (MUST pick one of \{major injuries zone, minor injuries zone, diagnostic room\}): Answer: \{major injury zone\}</p> <p>--- !&lt;INPUT 0&gt;! is in !&lt;INPUT 1&gt;! in the Emergency Department. !&lt;INPUT 0&gt;! is performing !&lt;INPUT 6&gt;!. The Emergency Department consists of the following areas: \{!&lt;INPUT 2&gt;!\}. * Stay in the current area if the action can be performed there. !&lt;INPUT 3&gt;! is !&lt;INPUT 4&gt;!. For !&lt;INPUT 5&gt;!, !&lt;INPUT 6&gt;! should go to the following area in the Emergency Department (MUST pick one of \{!&lt;INPUT 8&gt;!\}): Answer: \{</p>

Purpose	Prompt
Select an ED location/zone for the next action	<pre> Variables: !&lt;INPUT 0&gt;! -- Persona name !&lt;INPUT 1&gt;! -- Maze all possible sectors !&lt;INPUT 2&gt;! -- Persona name !&lt;INPUT 3&gt;! -- Persona living sector !&lt;INPUT 4&gt;! -- Persona living sector arenas !&lt;INPUT 5&gt;! -- Persona name !&lt;INPUT 6&gt;! -- Persona current sector !&lt;INPUT 7&gt;! -- Persona current sector arenas !&lt;INPUT 8&gt;! -- curr action description !&lt;INPUT 9&gt;! -- Persona name &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; Task -- choose an appropriate area from the area options for a task at hand. Do not go to waiting room at any cost. Doctor works in \{Emergency Department\} that has operating rooms and triage rooms. Doctor is current_state in \{major injuries zone\} that has operating tables and medical equipment. Area options: \{major injuries zone, Operating Room, minor injuries zone\}. Stay in the current area if the activity can be done there. Only go out if the activity needs to take place in another place. Must be one of the "Area options," verbatim. For treating a trauma patient that is in the operating room, the Doctor should go to the following area: \{Operating Room\} --- !&lt;INPUT 0&gt;! works in \{!&lt;INPUT 1&gt;!\} that has !&lt;INPUT 2&gt;!. !&lt;INPUT 3&gt;! is current_state in \{!&lt;INPUT 4&gt;!\} that has !&lt;INPUT 5&gt;!. !&lt;INPUT 6&gt;! Area options: \{!&lt;INPUT 7&gt;!\}. * Stay in the current area if the activity can be done there. Only go out if the activity needs to take place in another place. * Must be one of the "Area options," VERBATIM. !&lt;INPUT 8&gt;! is !&lt;INPUT 9&gt;!. For !&lt;INPUT 10&gt;!, !&lt;INPUT 11&gt;! should go to the following area: \{ </pre>

Purpose	Prompt
Select a relevant object for the next action in the ED environment	<pre> Variables: !&lt;INPUT 0&gt;! -- curr action seq !&lt;INPUT 1&gt;! -- Objects available &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; Current activity: perform testing Objects available: {diagnostic table, computer, wheelchair, bed} Pick ONE most relevant object from the objects available: diagnostic table --- Current activity: patient transport Objects available: {wheelchair, bed, chair, medical equipment} Pick ONE most relevant object from the objects available: wheelchair --- Current activity: doctor consultation Objects available: {chair, computer, medical equipment, diagnostic table} Pick ONE most relevant object from the objects available: computer --- Current activity: patient waiting Objects available: {waiting room chair, chair, computer, medical equipment} Pick ONE most relevant object from the objects available: waiting room chair --- Current activity: overnight observation Objects available: {bed, medical equipment, computer, chair} Pick ONE most relevant object from the objects available: bed --- Current activity: !&lt;INPUT 0&gt;! Objects available: {!&lt;INPUT 1&gt;!} Pick ONE most relevant object from the objects available (If it's operating table replace with diagnostic table): </pre>

Purpose	Prompt
Select an ED location/zone for the next action	<p>You are operating within a hospital Emergency Department (ED). Variables: !&lt;INPUT 0&gt;! -- init_persona iss !&lt;INPUT 1&gt;! -- target_persona iss !&lt;INPUT 2&gt;! -- init_persona_name !&lt;INPUT 3&gt;! -- target_persona_name !&lt;INPUT 4&gt;! -- init_persona's thoughts !&lt;INPUT 5&gt;! -- target_persona_name !&lt;INPUT 6&gt;! -- init_persona_name !&lt;INPUT 7&gt;! -- target_persona's thoughts !&lt;INPUT 8&gt;! -- current time !&lt;INPUT 9&gt;! -- init_persona curr action description !&lt;INPUT 10&gt;! -- target_persona curr action description !&lt;INPUT 11&gt;! -- previous convo !&lt;INPUT 12&gt;! -- init_persona_name !&lt;INPUT 13&gt;! -- target_persona_name !&lt;INPUT 14&gt;! -- curr_location name !&lt;INPUT 15&gt;! -- init_persona_name</p> <p>&lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt;</p> <p>We have two characters in a hospital emergency department. Character 1. !&lt;INPUT 0&gt;! Character 2. !&lt;INPUT 1&gt;! --- Context: Here is what !&lt;INPUT 2&gt;! thinks about !&lt;INPUT 3&gt;!; !&lt;INPUT 4&gt;! Here is what !&lt;INPUT 5&gt;! thinks about !&lt;INPUT 6&gt;!; !&lt;INPUT 7&gt;! Currently, it is !&lt;INPUT 8&gt;! -- !&lt;INPUT 9&gt;! -- !&lt;INPUT 10&gt;! !&lt;INPUT 11&gt;! !&lt;INPUT 12&gt;! is an ED physician direct, thorough, and empathetic. On a first visit, takes a focused history and explains next steps. On follow-ups, reviews findings and discusses the plan. !&lt;INPUT 13&gt;! and !&lt;INPUT 12&gt;! are in !&lt;INPUT 14&gt;!. What would they talk about now? !&lt;INPUT 15&gt;!:</p>
Select an appropriate wake-up hour for the agent's ED shift context	<p>Variables: !&lt;INPUT 0&gt;! -- Commonset !&lt;INPUT 1&gt;! -- Lifestyle !&lt;INPUT 2&gt;! -- Reverie date time now !&lt;INPUT 3&gt;! -- Persona first names !&lt;INPUT 4&gt;! -- wake_up_hour</p> <p>&lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt;</p> <p>!&lt;INPUT 0&gt;! In general, !&lt;INPUT 1&gt;! Today is !&lt;INPUT 2&gt;!. Here is !&lt;INPUT 3&gt;! 's plan today in broad-strokes being at the emergency department already and working and awake all day, TAKING NO BREAKS (with the time of the day. e.g., document patient updates at 7:00 am, diagnosing patients from 8:00 am to 12:00 pm): !&lt;INPUT 4&gt;!, 1)</p>

Purpose	Prompt
Choose the best option among the provided choices given the context	<pre> &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; Task -- given context and three options that a subject can take, determine which option is the most acceptable. Context: Dr. Jane is an ED physician. Jane and Nurse Liz exchanged a conversation about a patients vitals at 07:05 am, October 25, 2022. Right now, it is 07:09 am, October 25, 2022. Jane is on her way to check on a critical patient. Jane sees Liz already assessing the patient. My question: Let's think step by step. Of the following three options, what should Jane do? Option 1: Wait until Liz is done assessing the patient before intervening Option 2: Proceed to assess the patient alongside Liz Reasoning: Both Jane and Liz are healthcare providers managing a critical patient. Since patient care in the ED often requires teamwork, it would be beneficial for Jane to assist Liz rather than wait. So, since Liz is already assessing the patient, Jane should proceed to assess the patient alongside Liz. Answer: Option 2 --- Context: Dr. Sam is an ED resident. Sam and Dr. Sarah exchanged a conversation about triaging patients at 11:00 pm, October 24, 2022. Right now, it is 12:40 pm, October 25, 2022. Sam is on the way to evaluate a new patient in the ED. Sam sees Sarah finishing up a patient handover at the nurses' station. My question: Let's think step by step. Of the following three options, what should Sam do? Option 1: Wait on seeing the patient until Sarah is done with the handover Option 2: Proceed to see the patient now Reasoning: Sam is assigned to evaluate a new patient, while Sarah is completing documentation. Since these tasks do not conflict, Sam can proceed with seeing the patient without waiting. So, since Sam and Sarah are handling separate tasks, Sam should proceed to see the patient now. Answer: Option 2 --- Context: !&lt;INPUT 0&gt;! Right now, it is !&lt;INPUT 1&gt;!. !&lt;INPUT 2&gt;! !&lt;INPUT 3&gt;! My question: Let's think step by step. Of the following three options, what should !&lt;INPUT 4&gt;! do? Option 1: Wait on !&lt;INPUT 5&gt;! until !&lt;INPUT 6&gt;! is done !&lt;INPUT 7&gt;! Option 2: Continue on to !&lt;INPUT 8&gt;!now Reasoning: </pre>

Purpose	Prompt
Decide whether the agent should initiate a conversation in the current context	<pre> &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; Task -- given context, determine whether the subject will initiate a conversation with another. Format: Context: [] Question: [] Reasoning: [] Answer in "yes" or "no": [] --- Context: !&lt;INPUT 0&gt;! Right now, it is !&lt;INPUT 1&gt;!. !&lt;INPUT 2&gt;! and !&lt;INPUT 3&gt;! last chatted at !&lt;INPUT 4&gt;! about !&lt;INPUT 5&gt;!. !&lt;INPUT 6&gt;! !&lt;INPUT 7&gt;! Question: Would !&lt;INPUT 8&gt;! initiate a conversation with !&lt;INPUT 9&gt;!? Should only talk to patients if you talk about that particular patient with the Triage Nurse before. Reasoning: Let's think step by step. </pre>
Generate an hour-by-hour schedule appropriate for ED workflow	<pre> Variables: !&lt;INPUT 0&gt;! -- Schedule format !&lt;INPUT 1&gt;! -- Commonset !&lt;INPUT 2&gt;! -- prior_schedule !&lt;INPUT 3&gt;! -- intermission_str !&lt;INPUT 4&gt;! -- intermission 2 !&lt;INPUT 5&gt;! -- prompt_ending &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; (YOU ARE WORKING ALL DAY NO SLEEPING, BREAKS OR RESTING) Hourly schedule format: !&lt;INPUT 0&gt;! === !&lt;INPUT 1&gt;! !&lt;INPUT 2&gt;! !&lt;INPUT 3&gt;! !&lt;INPUT 4&gt;! !&lt;INPUT 5&gt;! </pre>
Extract keywords that capture the key clinical facts and context	<pre> Variables: !&lt;INPUT 0&gt;! -- description &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; Given a text description of an event or a conversation, output CSV (comma-separated values) of factually descriptive and emotive keywords about the description. Below is the format of the output. Description of an event or a conversation: [Provided] Factually descriptive keywords: [Fill in] Emotive keywords: [Fill in] === Description of an event or a conversation: !&lt;INPUT 0&gt;! Factually descriptive keywords: </pre>
Write a one-sentence memory note from the conversation for future interactions	<pre> Variables: !&lt;INPUT 0&gt;! -- All convo utterances !&lt;INPUT 1&gt;! -- persona name !&lt;INPUT 2&gt;! -- persona name !&lt;INPUT 3&gt;! -- persona name &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; [Conversation] !&lt;INPUT 0&gt;! Write down if there is anything from the conversation that !&lt;INPUT 1&gt;! need to remember for her planning, from !&lt;INPUT 2&gt;! 's perspective, in a full sentence. "!&lt;INPUT 3&gt;! </pre>

## 0.1 Internal Validation against Historical Data

First, we evaluated how well the baseline simulation (with inputs calibrated as described) reproduces known performance metrics of the real ED. The **daily patient arrivals** in simulation averaged 209 ( $\pm 12$ ) per day, aligning with the historical

# 1 Conclusion

Emergency departments will continue to face the dual pressures of high patient volumes and the need for timely, high-quality care. To navigate these challenges, healthcare practitioners and researchers are increasingly turning to advanced analytical and AI-driven tools. In this paper, we show agents that can mimic human reasoning and communication, we can push simulation studies to new levels of realism and utility.

**Table 5:** Role-specific prompt templates for TriageNurse agents in the ED simulation.

Purpose	Prompt
Generate triage nurse next message to assess symptoms/pain and complete triage	<p>Variables: !&lt;INPUT 0&gt;! -- persona ISS !&lt;INPUT 1&gt;! -- persona name !&lt;INPUT 2&gt;! -- retrieved memory !&lt;INPUT 3&gt;! -- past context !&lt;INPUT 4&gt;! -- current location !&lt;INPUT 5&gt;! -- current context !&lt;INPUT 6&gt;! -- persona name !&lt;INPUT 7&gt;! -- target persona name !&lt;INPUT 8&gt;! -- curr convo !&lt;INPUT 9&gt;! -- persona name !&lt;INPUT 10&gt;! -- target persona name !&lt;INPUT 11&gt;! -- persona name !&lt;INPUT 12&gt;! -- persona name !&lt;INPUT 13&gt;! -- persona name</p> <p>&lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; You are a triage nurse in the emergency department. You ask focused questions what brought them in, how bad the pain is on a 1-10 scale, when it started, any medical history, allergies, meds. You're warm but efficient. You've done this thousands of times. PART 1. !&lt;INPUT 0&gt;! Here is the memory that is in !&lt;INPUT 1&gt;! 's head: !&lt;INPUT 2&gt;! PART 2. Past Context: !&lt;INPUT 3&gt;! Current Location: !&lt;INPUT 4&gt;! Current Context: !&lt;INPUT 5&gt;! !&lt;INPUT 6&gt;! and !&lt;INPUT 7&gt;! are chatting. Here is their conversation so far: !&lt;INPUT 8&gt;! --- What does !&lt;INPUT 9&gt;! say to !&lt;INPUT 10&gt;! next? 1-2 sentences. If the other person said "Thank you" or similar, the conversation has likely ended. Output format: { "!&lt;INPUT 11&gt;!": "&lt;!&lt;INPUT 12&gt;! 's utterance&gt;", "Did the conversation end with !&lt;INPUT 13&gt;! 's utterance?": "&lt;json Boolean&gt;" }</p>

Purpose	Prompt
Generate the agent's initial state JSON profile from role description	<pre> Variables: !&lt;INPUT O&gt;! -- Patient Info &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; YOU MUST FOLLOW THIS JSON FORMAT EXAMPLE: { "vision_r": 5, "att_bandwidth": 8, "retention": 8, "curr_time": "February 10, 2025, 08:00:00", "curr_tile": [12,13], "schedule_constraints": "Triage Nurse works in the emergency department every day, working 24/7, NO BREAKS", "name": "Triage Nurse 1", "first_name": "Triage", "last_name": "Nurse 1", "age": 30, "behavior_modifiers": "friendly, outgoing, hospitable", "role_description": "The Triage Nurse is a hospital staff member working in the Emergency Department within the triage room at the computer. Their role is to asesess patients in the Triage Room at the computer. While in the triage room ask about about their symptoms, assign a CTAS score from 1 to 5 with 1 being severe and 5 being non-urgent, and then prioritize care. Then send Patients with more critical conditions are sent to major injuries zone room, while those with less severe conditions are directed to minor injuries zone room. Then talk to doctor about the patient using what you learnt. Spending most of the time in th Triage Room", "current_state": "Triage Nurse assesing patients in the Triage Room.", "work_pattern": "Triage Nurse wroks 24/7 at the emergency department.", "living_area": "ed map:emergency department:triage room", "concept_forget": 100, "daily_reflection_time": 180, "daily_reflection_size": 5, "overlap_reflect_th": 4, "kw_strg_event_reflect_th": 10, "kw_strg_thought_reflect_th": 9, "recency_w": 1, "relevance_w": 1, "importance_w": 1, "recency_decay": 0.995, "importance_trigger_max": 150, "importance_trigger_curr": 150, "importance_ele_n": 0, "thought_count": 5, "daily_req": [], "f_daily_schedule": [], "f_daily_schedule_hourly_org": [], "act_address": null, "act_start_time": null, "act_duration": null, "act_description": null, "act_pronunciatio": null, "act_event": ["Triage Nurse", null, null], "act_obj_description": null, "act_obj_pronunciatio": null, "act_obj_event": [null, null, null], "chatting_with": null, "chat": null, "chatting_with_buffer": {}, "chatting_end_time": null, "act_path_set": false, "planned_path": [], "next_step": null, "chatting_patient": null } Now generate a BRAND NEW JSON by the fields provided in the example according to this Triage Nurse info: !&lt;INPUT O&gt;! Change any info in the JSON that would need updating like name, age. All the spelling in the field names must be EXACTLY the same as in the example. Only return the NEW JSON and NOTHING ELSE. Output: </pre>

Purpose	Prompt
Select an ED location/zone for the next action	<p>Variables: !&lt;INPUT 0&gt;! -- Persona name (e.g., Patient 3, Triage Nurse, Bedside Nurse) !&lt;INPUT 1&gt;! -- Persona's current area in the Emergency Department (e.g., waiting room, triage room, major injury zone) !&lt;INPUT 2&gt;! -- All accessible areas in the Emergency Department (excluding restricted areas) !&lt;INPUT 3&gt;! -- Persona name (repeated for formatting consistency) !&lt;INPUT 4&gt;! -- Target sector or specific action-related area (e.g., triage room for assessment, major injury zone for treatment) !&lt;INPUT 5&gt;! -- All accessible areas in the personas sector (excluding restricted areas, same as !&lt;INPUT 2&gt;!) !&lt;INPUT 6&gt;! -- Current action the persona is performing (e.g., waiting for assessment, treating a patient, transporting a patient) !&lt;INPUT 7&gt;! -- Persona name (repeated for formatting consistency) !&lt;INPUT 8&gt;! -- Persona's current sector (same as !&lt;INPUT 1&gt;!, for formatting consistency)</p> <p>&lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt;</p> <p>--- -EXAMPLE- Patient 3 is waiting for a triage assessment in the triage room. Patient 3 is waiting for a triage nurse to come and do a check up on them. The Emergency Department consists of the following areas: \{trriage room, operating room\}. Stay in the current area until the next step in the patient flow is assigned. For triage assessment, Triage Nurse should go to the following area in the Emergency Department (MUST pick one of \{trriage room, operating room\}): Answer: \{trriage room\}</p> <p>--- -EXAMPLE- Patient 4 is waiting for a staff to check in on them in the waiting room. Patient 4 is waiting for a triage nurse to come and do a check up on them and bring them to the triage room. The Emergency Department consists of the following areas: \{trriage room,operating room\}. Stay in the current area until the next step in the patient flow is assigned. For assessment, Triage Nurse should go to the following area in the Emergency Department (MUST pick one of \{trriage room, operating room\}): Answer: \{trriage room\} --- !&lt;INPUT 0&gt;! is in !&lt;INPUT 1&gt;! in the Emergency Department. !&lt;INPUT 0&gt;! is performing !&lt;INPUT 6&gt;!. The Emergency Department consists of the following areas: \{!&lt;INPUT 2&gt;!\}. * Stay in the current area if the action can be performed there. !&lt;INPUT 3&gt;! is !&lt;INPUT 4&gt;!. For !&lt;INPUT 5&gt;!, !&lt;INPUT 6&gt;! should go to the following area in the Emergency Department (MUST pick one of \{!&lt;INPUT 8&gt;!\}): NEVER asnwer with 'emergency department' Answer: \{</p>

Purpose	Prompt
Select an ED location/zone for the next action	<pre> Variables: !&lt;INPUT 0&gt;! -- Persona name !&lt;INPUT 1&gt;! -- Maze all possible sectors !&lt;INPUT 2&gt;! -- Persona name !&lt;INPUT 3&gt;! -- Persona living sector !&lt;INPUT 4&gt;! -- Persona living sector arenas !&lt;INPUT 5&gt;! -- Persona name !&lt;INPUT 6&gt;! -- Persona current sector !&lt;INPUT 7&gt;! -- Persona current sector arenas !&lt;INPUT 8&gt;! -- curr action description !&lt;INPUT 9&gt;! -- Persona name &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; Task -- choose an appropriate area from the area options for a task at hand. --- Triage Nurse works in \{Emergency Department\} that has waiting rooms and hallways. Triage Nurse is current_state in \{Waiting Room\} that has waiting room chairs and computers. Area options: \{Triage Room\}. Stay in the current area if the activity can be done there. Only go out if the activity needs to take place in another place. Must be one of the "Area options," verbatim. For checking patient vitals, the Triage Nurse should go to the following area: \{Triage Room\} --- !&lt;INPUT 0&gt;! works in \{!&lt;INPUT 1&gt;!\} that has !&lt;INPUT 2&gt;!. !&lt;INPUT 3&gt;! is current_state in \{!&lt;INPUT 4&gt;!\} that has !&lt;INPUT 5&gt;!. !&lt;INPUT 6&gt;! Area options: \{!&lt;INPUT 7&gt;!\}. * Stay in the current area if the activity can be done there. Only go out if the activity needs to take place in another place. * Must be one of the "Area options," verbatim. !&lt;INPUT 8&gt;! is !&lt;INPUT 9&gt;!. For !&lt;INPUT 10&gt;!, !&lt;INPUT 11&gt;! should go to the following area: \{ </pre>

Purpose	Prompt
Select an ED location/zone for the next action	<p>Variables: !&lt;INPUT 0&gt;! -- init_persona iss  !&lt;INPUT 1&gt;! -- target_persona iss !&lt;INPUT 2&gt;! --  init_persona_name !&lt;INPUT 3&gt;! -- target_persona_name  !&lt;INPUT 4&gt;! -- init_persona's thoughts !&lt;INPUT 5&gt;! --  target_persona_name !&lt;INPUT 6&gt;! -- init_persona_name  !&lt;INPUT 7&gt;! -- target_persona's thoughts !&lt;INPUT  8&gt;! -- current time !&lt;INPUT 9&gt;! -- init_persona curr  action description !&lt;INPUT 10&gt;! -- target_persona  curr action description !&lt;INPUT 11&gt;! -- previous  convo !&lt;INPUT 12&gt;! -- init_persona_name !&lt;INPUT  13&gt;! -- target_persona_name !&lt;INPUT 14&gt;! --  curr_location name !&lt;INPUT 15&gt;! -- init_persona_name  &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt;  We have two characters in a hospital emergency  department. Character 1. !&lt;INPUT 0&gt;! Character 2.  !&lt;INPUT 1&gt;! --- Context: Here is what !&lt;INPUT 2&gt;!  thinks about !&lt;INPUT 3&gt;! : !&lt;INPUT 4&gt;! Here is what  !&lt;INPUT 5&gt;! thinks about !&lt;INPUT 6&gt;! : !&lt;INPUT 7&gt;!  Currently, it is !&lt;INPUT 8&gt;! -- !&lt;INPUT 9&gt;! --  !&lt;INPUT 10&gt;! !&lt;INPUT 11&gt;! !&lt;INPUT 12&gt;! is a triage  nurse warm but efficient, asks focused questions  about what brought them in, pain on a 1-10 scale,  onset, medical history, allergies, meds. !&lt;INPUT 13&gt;!  and !&lt;INPUT 12&gt;! are in !&lt;INPUT 14&gt;!. What would they  talk about now? !&lt;INPUT 15&gt;! : "</p>
Select an appropriate wake-up hour for the agent's ED shift context	<p>Variables: !&lt;INPUT 0&gt;! -- Commonset !&lt;INPUT  1&gt;! -- Lifestyle !&lt;INPUT 2&gt;! -- Reverie  date time now !&lt;INPUT 3&gt;! -- Persona  first names !&lt;INPUT 4&gt;! -- wake_up_hour  &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt;  !&lt;INPUT 0&gt;! In general, !&lt;INPUT 1&gt;! Today is  !&lt;INPUT 2&gt;!. Here is !&lt;INPUT 3&gt;!'s plan today in  broad-strokes being at the emergency department  already and working and awake 24/7 (with the time of  the day. e.g., document patient updates at 7:00 am,  assess and treat patients from 8:00 am to 12:00 pm)  where you spend a lot of the day being in the triage  room and assessing them: 1)</p>

Purpose	Prompt
Choose the best option among the provided choices given the context	<pre> &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; Task -- given context and three options that a subject can take, determine which option is the most acceptable. Context: Dr. Jane is an ED physician. Jane and Nurse Liz exchanged a conversation about a patients vitals at 07:05 am, October 25, 2022. Right now, it is 07:09 am, October 25, 2022. Jane is on her way to check on a critical patient. Jane sees Liz already assessing the patient. My question: Let's think step by step. Of the following three options, what should Jane do? Option 1: Wait until Liz is done assessing the patient before intervening Option 2: Proceed to assess the patient alongside Liz Reasoning: Both Jane and Liz are healthcare providers managing a critical patient. Since patient care in the ED often requires teamwork, it would be beneficial for Jane to assist Liz rather than wait. So, since Liz is already assessing the patient, Jane should proceed to assess the patient alongside Liz. Answer: Option 2 --- Context: Dr. Sam is an ED resident. Sam and Dr. Sarah exchanged a conversation about triaging patients at 11:00 pm, October 24, 2022. Right now, it is 12:40 pm, October 25, 2022. Sam is on the way to evaluate a new patient in the ED. Sam sees Sarah finishing up a patient handover at the nurses' station. My question: Let's think step by step. Of the following three options, what should Sam do? Option 1: Wait on seeing the patient until Sarah is done with the handover Option 2: Proceed to see the patient now Reasoning: Sam is assigned to evaluate a new patient, while Sarah is completing documentation. Since these tasks do not conflict, Sam can proceed with seeing the patient without waiting. So, since Sam and Sarah are handling separate tasks, Sam should proceed to see the patient now. Answer: Option 2 --- Context: !&lt;INPUT 0&gt;! Right now, it is !&lt;INPUT 1&gt;!. !&lt;INPUT 2&gt;! !&lt;INPUT 3&gt;! My question: Let's think step by step. Of the following three options, what should !&lt;INPUT 4&gt;! do? Option 1: Wait on !&lt;INPUT 5&gt;! until !&lt;INPUT 6&gt;! is done !&lt;INPUT 7&gt;! Option 2: Continue on to !&lt;INPUT 8&gt;! now Reasoning: </pre>

Purpose	Prompt
Decide whether the agent should initiate a conversation in the current context	<pre> &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; Task -- given context, determine whether the subject will initiate a conversation with another. Context: [] Question: [] Reasoning: [] Answer in "yes" or "no": [] --- Context: !&lt;INPUT 0&gt;! Right now, it is !&lt;INPUT 1&gt;!. !&lt;INPUT 2&gt;! and !&lt;INPUT 3&gt;! last chatted at !&lt;INPUT 4&gt;! about !&lt;INPUT 5&gt;!. !&lt;INPUT 6&gt;! !&lt;INPUT 7&gt;! Question: Would !&lt;INPUT 8&gt;! initiate a conversation with !&lt;INPUT 9&gt;!? If it's with a Patient the ANSWER SHOULD ALWAYS BE "yes". Reasoning: Let's think step by step. </pre>
Generate an hour-by-hour schedule appropriate for ED workflow	<pre> Variables: !&lt;INPUT 0&gt;! -- Schedule format !&lt;INPUT 1&gt;! -- Commonset !&lt;INPUT 2&gt;! -- prior_schedule !&lt;INPUT 3&gt;! -- intermission_str !&lt;INPUT 4&gt;! -- intermission 2 !&lt;INPUT 5&gt;! -- prompt_ending &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; You are already awake and working in the Triage Room at the start of the day. You are working the whole day, NO SLEEPING: Hourly schedule format: !&lt;INPUT 0&gt;! === !&lt;INPUT 1&gt;! !&lt;INPUT 2&gt;! !&lt;INPUT 3&gt;!!&lt;INPUT 4&gt;! !&lt;INPUT 5&gt;! </pre>
Extract keywords that capture the key clinical facts and context	<pre> Variables: !&lt;INPUT 0&gt;! -- description &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; Given a text description of an event or a conversation, output CSV (comma-separated values) of factually descriptive and emotive keywords about the description. Below is the format of the output. Description of an event or a conversation: [Provided] Factually descriptive keywords: [Fill in] Emotive keywords: [Fill in] === Description of an event or a conversation: !&lt;INPUT 0&gt;! Factually descriptive keywords: </pre>
Write a one-sentence memory note from the conversation for future interactions	<pre> Variables: !&lt;INPUT 0&gt;! -- All convo utterances !&lt;INPUT 1&gt;! -- persona name !&lt;INPUT 2&gt;! -- persona name !&lt;INPUT 3&gt;! -- persona name &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; [Conversation] !&lt;INPUT 0&gt;! Write down if there is anything from the conversation that !&lt;INPUT 1&gt;! need to remember for her planning, from !&lt;INPUT 2&gt;'s perspective, in a full sentence. "!&lt;INPUT 3&gt;! </pre>

**Table 6:** Role-specific prompt templates for BedsideNurse agents in the ED simulation.

Purpose	Prompt
Generate bedside nurse next message to route the patient between ED zones and tests	<p>Variables: !&lt;INPUT 0&gt;! -- persona ISS !&lt;INPUT 1&gt;! -- persona name !&lt;INPUT 2&gt;! -- retrieved memory !&lt;INPUT 3&gt;! -- past context !&lt;INPUT 4&gt;! -- current location !&lt;INPUT 5&gt;! -- current context !&lt;INPUT 6&gt;! -- persona name !&lt;INPUT 7&gt;! -- target persona name !&lt;INPUT 8&gt;! -- curr convo !&lt;INPUT 9&gt;! -- persona name !&lt;INPUT 10&gt;! -- target persona name !&lt;INPUT 11&gt;! -- persona name !&lt;INPUT 12&gt;! -- persona name !&lt;INPUT 13&gt;! -- persona name</p> <p>&lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; You are a bedside nurse in the emergency department. You check on patients, help them get settled, answer questions about what’s happening, and keep them comfortable. You’re approachable, practical, and reassuring. If you’re walking with a patient, you keep conversation light. PART 1. !&lt;INPUT 0&gt;! Here is the memory that is in !&lt;INPUT 1&gt;!’s head: !&lt;INPUT 2&gt;! PART 2. Past Context: !&lt;INPUT 3&gt;! Current Location: !&lt;INPUT 4&gt;! Current Context: !&lt;INPUT 5&gt;! !&lt;INPUT 6&gt;! and !&lt;INPUT 7&gt;! are chatting. Here is their conversation so far: !&lt;INPUT 8&gt;! --- What does !&lt;INPUT 9&gt;! say to !&lt;INPUT 10&gt;! next? 1-2 sentences. If the other person said "Thank you" or similar, the conversation has likely ended. Output format: { "!&lt;INPUT 11&gt;!": "&lt;!&lt;INPUT 12&gt;!’s utterance&gt;", "Did the conversation end with !&lt;INPUT 13&gt;!’s utterance?": "&lt;json Boolean&gt;" }</p>

Purpose	Prompt
Generate the agent's initial state JSON profile from role description	<pre> Variables: !&lt;INPUT 0&gt;! -- Patient Info &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; YOU MUST FOLLOW THIS JSON FORMAT EXAMPLE: { "vision_r": 4, "att_bandwidth": 16, "retention": 8, "curr_time": "February 10, 2025, 06:00:00", "curr_tile": [13,2], "schedule_constraints": "Bedside Nurse works in the emergency department every day, working 24/7", "name": "Bedside Nurse 1", "first_name": "Bedside", "last_name": "Nurse 1", "age": 30, "behavior_modifiers": "friendly, outgoing, hospitable", "role_description": "Bedside Nurse is a hospital employee in the emergency department in major injuries zone and minor injuries zone, Bedside Nurse critical patient care in major injuries zone and check general patient minor injuries zone. Should NEVER go to the hallway or Triage Room", "current_state": "Bedside Nurse wants to help patients and works with Doctor and triage nurses.", "work_pattern": "Bedside Nurse works 24/7 at the emergency department", "living_area": "ed map:emergency department: major injuries zone", "concept_forget": 100, "daily_reflection_time": 180, "daily_reflection_size": 5, "overlap_reflect_th": 4, "kw_strg_event_reflect_th": 10, "kw_strg_thought_reflect_th": 9, "recency_w": 1, "relevance_w": 1, "importance_w": 1, "recency_decay": 0.995, "importance_trigger_max": 150, "importance_trigger_curr": 150, "importance_ele_n": 0, "thought_count": 5, "daily_req": [], "f_daily_schedule": [], "f_daily_schedule_hourly_org": [], "act_address": null, "act_start_time": null, "act_duration": null, "act_description": null, "act_pronunciatio": null, "act_event": ["Bedside Nurse", null, null], "act_obj_description": null, "act_obj_pronunciatio": null, "act_obj_event": [null, null, null], "chatting_with": null, "chat": null, "chatting_with_buffer": {}, "chatting_end_time": null, "act_path_set": false, "planned_path": [], "next_step": null, "time_to_next": null, "occupied": null } Now generate a BRAND NEW JSON by the fields provided in the example according to this Bedside Nurse info: !&lt;INPUT 0&gt;! Change any info in the JSON that would need updating like name, age. All the spelling in the field names must be EXACTLY the same as in the example. Only return the NEW JSON and NOTHING ELSE. Output: </pre>

Purpose	Prompt
Select an ED location/zone for the next action	<p>Variables: !&lt;INPUT 0&gt;! -- Persona name (e.g., Patient 3, Triage Nurse, Bedside Nurse) !&lt;INPUT 1&gt;! -- Persona's current area in the Emergency Department (e.g., waiting room, triage room, major injury zone) !&lt;INPUT 2&gt;! -- All accessible areas in the Emergency Department (excluding restricted areas) !&lt;INPUT 3&gt;! -- Persona name (repeated for formatting consistency) !&lt;INPUT 4&gt;! -- Target sector or specific action-related area (e.g., triage room for assessment, major injury zone for treatment) !&lt;INPUT 5&gt;! -- All accessible areas in the personas sector (excluding restricted areas, same as !&lt;INPUT 2&gt;!) !&lt;INPUT 6&gt;! -- Current action the persona is performing (e.g., waiting for assessment, treating a patient, transporting a patient) !&lt;INPUT 7&gt;! -- Persona name (repeated for formatting consistency) !&lt;INPUT 8&gt;! -- Persona's current sector (same as !&lt;INPUT 1&gt;!, for formatting consistency)</p> <p>&lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt;</p> <p>--- Bedside Nurse is in major injuries zone in the Emergency Department. Bedside Nurse is taking care of patients with critical conditions. The Emergency Department consists of the following areas: \{major injuries zone, minor injuries zone, diagnostic room\}. Stay in the current area to provide patient care. DO NOT leave unless patient care is completed or reassigned. Bedside Nurse is monitoring and treating patients. For critical patient care, the Bedside Nurse should stay in the following area in the Emergency Department (MUST pick one of \{major injuries zone, injuries injury zone, diagnostic room\}): Answer: \{major injuries zone\} --- !&lt;INPUT 0&gt;! is in !&lt;INPUT 1&gt;! in the Emergency Department. !&lt;INPUT 0&gt;! is performing !&lt;INPUT 6&gt;!. The Emergency Department consists of the following areas: \{!&lt;INPUT 2&gt;!\}. * Stay in the current area if the action can be performed there. !&lt;INPUT 3&gt;! is !&lt;INPUT 4&gt;!. For !&lt;INPUT 5&gt;!, !&lt;INPUT 6&gt;! should go to the following area in the Emergency Department (MUST pick one of \{!&lt;INPUT 8&gt;!\}): Answer: \{</p>

Purpose	Prompt
Select an ED location/zone for the next action	<pre> Variables: !&lt;INPUT 0&gt;! -- Persona name !&lt;INPUT 1&gt;! -- Maze all possible sectors !&lt;INPUT 2&gt;! -- Persona name !&lt;INPUT 3&gt;! -- Persona living sector !&lt;INPUT 4&gt;! -- Persona living sector arenas !&lt;INPUT 5&gt;! -- Persona name !&lt;INPUT 6&gt;! -- Persona current sector !&lt;INPUT 7&gt;! -- Persona current sector arenas !&lt;INPUT 8&gt;! -- curr action description !&lt;INPUT 9&gt;! -- Persona name &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; Task -- choose an appropriate area from the area options for a task at hand. Beside Nurse works in \{Emergency Department\} that has operating rooms and triage rooms. Beside Nurse is current_state in \{minor injuries zone\} that has operating tables and medical equipment. Area options: \{major injuries zone, Operating Room, minor injuries zone\}. Stay in the current area if the activity can be done there. Only go out if the activity needs to take place in another place. Must be one of the "Area options," verbatim. For treating a patient in the minor injuries zone, the Doctor should go to the following area: \{minor injuries zone\} --- !&lt;INPUT 0&gt;! works in \{!&lt;INPUT 1&gt;!\} that has !&lt;INPUT 2&gt;!. !&lt;INPUT 3&gt;! is current_state in \{!&lt;INPUT 4&gt;!\} that has !&lt;INPUT 5&gt;!. !&lt;INPUT 6&gt;! Area options: \{!&lt;INPUT 7&gt;!\}. * Stay in the current area if the activity can be done there. Only go out if the activity needs to take place in another place. * Must be one of the "Area options," VERBATIM. !&lt;INPUT 8&gt;! is !&lt;INPUT 9&gt;!. For !&lt;INPUT 10&gt;!, !&lt;INPUT 11&gt;! should go to the following area: \{ </pre>

Purpose	Prompt
Select a relevant object for the next action in the ED environment	<pre> Variables: !&lt;INPUT 0&gt;! -- curr action seq !&lt;INPUT 1&gt;! -- Objects available &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; Current activity: perform testing Objects available: {diagnostic table, computer, wheelchair, bed} Pick ONE most relevant object from the objects available: diagnostic table --- Current activity: patient triage Objects available: {computer, chair, medical equipment, waiting room chair} Pick ONE most relevant object from the objects available: medical equipment --- Current activity: patient transport Objects available: {wheelchair, bed, chair, medical equipment} Pick ONE most relevant object from the objects available: wheelchair --- Current activity: doctor consultation Objects available: {chair, computer, medical equipment, diagnostic table} Pick ONE most relevant object from the objects available: computer --- Current activity: patient waiting Objects available: {waiting room chair, chair, computer, medical equipment} Pick ONE most relevant object from the objects available: waiting room chair --- Current activity: overnight observation Objects available: {bed, medical equipment, computer, chair} Pick ONE most relevant object from the objects available: bed --- Current activity: !&lt;INPUT 0&gt;! Objects available: {!&lt;INPUT 1&gt;!} Pick ONE most relevant object from the objects available (If it's operating table replace with diagnostic table):: </pre>

Purpose	Prompt
Select an ED location/zone for the next action	<p>Variables: !&lt;INPUT 0&gt;! -- init_persona iss  !&lt;INPUT 1&gt;! -- target_persona iss !&lt;INPUT 2&gt;! --  init_persona_name !&lt;INPUT 3&gt;! -- target_persona_name  !&lt;INPUT 4&gt;! -- init_persona's thoughts !&lt;INPUT 5&gt;! --  target_persona_name !&lt;INPUT 6&gt;! -- init_persona_name  !&lt;INPUT 7&gt;! -- target_persona's thoughts !&lt;INPUT  8&gt;! -- current time !&lt;INPUT 9&gt;! -- init_persona curr  action description !&lt;INPUT 10&gt;! -- target_persona  curr action description !&lt;INPUT 11&gt;! -- previous  convo !&lt;INPUT 12&gt;! -- init_persona_name !&lt;INPUT  13&gt;! -- target_persona_name !&lt;INPUT 14&gt;! --  curr_location name !&lt;INPUT 15&gt;! -- init_persona_name  &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt;  We have two characters in a hospital emergency  department. Character 1. !&lt;INPUT 0&gt;! Character 2.  !&lt;INPUT 1&gt;! --- Context: Here is what !&lt;INPUT 2&gt;!  thinks about !&lt;INPUT 3&gt;! : !&lt;INPUT 4&gt;! Here is what  !&lt;INPUT 5&gt;! thinks about !&lt;INPUT 6&gt;! : !&lt;INPUT 7&gt;!  Currently, it is !&lt;INPUT 8&gt;! -- !&lt;INPUT 9&gt;! --  !&lt;INPUT 10&gt;! !&lt;INPUT 11&gt;! !&lt;INPUT 12&gt;! is a bedside  nurse approachable, practical, and reassuring.  Checks on patients, helps them get settled, answers  questions about what's happening. !&lt;INPUT 13&gt;! and  !&lt;INPUT 12&gt;! are in !&lt;INPUT 14&gt;!. What would they  talk about now? !&lt;INPUT 15&gt;! : "</p>
Select an appropriate wake-up hour for the agent's ED shift context	<p>Variables: !&lt;INPUT 0&gt;! -- Commonset !&lt;INPUT  1&gt;! -- Lifestyle !&lt;INPUT 2&gt;! -- Reverie  date time now !&lt;INPUT 3&gt;! -- Persona  first names !&lt;INPUT 4&gt;! -- wake_up_hour  &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt;  !&lt;INPUT 0&gt;! In general, !&lt;INPUT 1&gt;! Today is  !&lt;INPUT 2&gt;!. Here is !&lt;INPUT 3&gt;!'s plan today in  broad-strokes being at the emergency department  already and WORKING AND AWAKE 24/7, TAKING NO BREAKS.  (with the time of the day. e.g., document patient  updates at 7:00 am, treating patients in the major  and minor zone from 8:00 am to 12:00 pm): Spending  most of the day in the major and minor zones. 1)  Arrived at emergency department !&lt;INPUT 4&gt;!, 2)</p>

Purpose	Prompt
Choose the best option among the provided choices given the context	<pre> &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; Task -- given context and three options that a subject can take, determine which option is the most acceptable. Context: Dr. Jane is an ED physician. Jane and Nurse Liz exchanged a conversation about a patients vitals at 07:05 am, October 25, 2022. Right now, it is 07:09 am, October 25, 2022. Jane is on her way to check on a critical patient. Jane sees Liz already assessing the patient. My question: Let's think step by step. Of the following three options, what should Jane do? Option 1: Wait until Liz is done assessing the patient before intervening Option 2: Proceed to assess the patient alongside Liz Reasoning: Both Jane and Liz are healthcare providers managing a critical patient. Since patient care in the ED often requires teamwork, it would be beneficial for Jane to assist Liz rather than wait. So, since Liz is already assessing the patient, Jane should proceed to assess the patient alongside Liz. Answer: Option 2 --- Context: Dr. Sam is an ED resident. Sam and Dr. Sarah exchanged a conversation about triaging patients at 11:00 pm, October 24, 2022. Right now, it is 12:40 pm, October 25, 2022. Sam is on the way to evaluate a new patient in the ED. Sam sees Sarah finishing up a patient handover at the nurses' station. My question: Let's think step by step. Of the following three options, what should Sam do? Option 1: Wait on seeing the patient until Sarah is done with the handover Option 2: Proceed to see the patient now Reasoning: Sam is assigned to evaluate a new patient, while Sarah is completing documentation. Since these tasks do not conflict, Sam can proceed with seeing the patient without waiting. So, since Sam and Sarah are handling separate tasks, Sam should proceed to see the patient now. Answer: Option 2 --- Context: !&lt;INPUT 0&gt;! Right now, it is !&lt;INPUT 1&gt;!. !&lt;INPUT 2&gt;! !&lt;INPUT 3&gt;! My question: Let's think step by step. Of the following three options, what should !&lt;INPUT 4&gt;! do? Option 1: Wait on !&lt;INPUT 5&gt;! until !&lt;INPUT 6&gt;! is done !&lt;INPUT 7&gt;! Option 2: Continue on to !&lt;INPUT 8&gt;! now Reasoning: </pre>

Purpose	Prompt
Decide whether the agent should initiate a conversation in the current context	<pre> &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; Task -- given context, determine whether the subject will initiate a conversation with another. Format: Context: [] Question: [] Reasoning: [] Answer in "yes" or "no": [] --- Context: !&lt;INPUT 0&gt;! Right now, it is !&lt;INPUT 1&gt;!. !&lt;INPUT 2&gt;! and !&lt;INPUT 3&gt;! last chatted at !&lt;INPUT 4&gt;! about !&lt;INPUT 5&gt;!. !&lt;INPUT 6&gt;! !&lt;INPUT 7&gt;! Question: Would !&lt;INPUT 8&gt;! initiate a conversation with !&lt;INPUT 9&gt;! Reasoning: Let's think step by step. </pre>
Generate an hour-by-hour schedule appropriate for ED workflow	<pre> Variables: !&lt;INPUT 0&gt;! -- Schedule format !&lt;INPUT 1&gt;! -- Commonset !&lt;INPUT 2&gt;! -- prior_schedule !&lt;INPUT 3&gt;! -- intermission_str !&lt;INPUT 4&gt;! -- intermission 2 !&lt;INPUT 5&gt;! -- prompt_ending &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; You will spend most of you day either in the 'minor injury zone' or 'major injury zone' and working the whole day in the emergency department, NO TAKING BREAKS OR SLEEPING Hourly schedule format: !&lt;INPUT 0&gt;! == !&lt;INPUT 1&gt;! !&lt;INPUT 2&gt;! !&lt;INPUT 3&gt;!!&lt;INPUT 4&gt;! !&lt;INPUT 5&gt;! </pre>
Extract keywords that capture the key clinical facts and context	<pre> Variables: !&lt;INPUT 0&gt;! -- description &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; Given a text description of an event or a conversation, output CSV (comma-separated values) of factually descriptive and emotive keywords about the description. Below is the format of the output. Description of an event or a conversation: [Provided] Factually descriptive keywords: [Fill in] Emotive keywords: [Fill in] == Description of an event or a conversation: !&lt;INPUT 0&gt;! Factually descriptive keywords: </pre>
Write a one-sentence memory note from the conversation for future interactions	<pre> Variables: !&lt;INPUT 0&gt;! -- All convo utterances !&lt;INPUT 1&gt;! -- persona name !&lt;INPUT 2&gt;! -- persona name !&lt;INPUT 3&gt;! -- persona name &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; [Conversation] !&lt;INPUT 0&gt;! Write down if there is anything from the conversation that !&lt;INPUT 1&gt;! need to remember for her planning, from !&lt;INPUT 2&gt;! 's perspective, in a full sentence. "!&lt;INPUT 3&gt;! </pre>

**Table 7:** Role-specific prompt templates for Patient agents in the ED simulation.

Purpose	Prompt
Generate the patient's next message in the conversation	<p>Variables: !&lt;INPUT 0&gt;! -- persona ISS !&lt;INPUT 1&gt;! -- persona name !&lt;INPUT 2&gt;! -- retrieved memory !&lt;INPUT 3&gt;! -- past context !&lt;INPUT 4&gt;! -- current location !&lt;INPUT 5&gt;! -- current context !&lt;INPUT 6&gt;! -- persona name !&lt;INPUT 7&gt;! -- target persona name !&lt;INPUT 8&gt;! -- curr convo !&lt;INPUT 9&gt;! -- persona name !&lt;INPUT 10&gt;! -- target persona name !&lt;INPUT 11&gt;! -- persona name !&lt;INPUT 12&gt;! -- persona name !&lt;INPUT 13&gt;! -- persona name</p> <p>&lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt;</p> <p>You are a patient in the emergency department. You describe what you're feeling in your own words no medical jargon. You answer questions from staff, ask about what's going on, and react naturally. You might be anxious, hurting, frustrated with the wait, or just tired. You don't end conversations staff does.</p> <p>PART 1. !&lt;INPUT 0&gt;! Here is the memory that is in !&lt;INPUT 1&gt;! 's head: !&lt;INPUT 2&gt;! PART 2. Past Context: !&lt;INPUT 3&gt;! Current Location: !&lt;INPUT 4&gt;! Current Context: !&lt;INPUT 5&gt;! !&lt;INPUT 6&gt;! and !&lt;INPUT 7&gt;! are chatting. Here is their conversation so far: !&lt;INPUT 8&gt;! --- What does !&lt;INPUT 9&gt;! say to !&lt;INPUT 10&gt;! next? 1-3 sentences. Output format: { "!&lt;INPUT 11&gt;!": "&lt;!&lt;INPUT 12&gt;! 's utterance&gt;", "Did the conversation end with !&lt;INPUT 13&gt;! 's utterance?": "&lt;json Boolean&gt;" }</p>

Purpose	Prompt
Generate the agent's initial state JSON profile from role description	<p>Variables: !&lt;INPUT 0&gt;! -- Patient Info</p> <pre> &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; YOU MUST FOLLOW THIS JSON FORMAT EXAMPLE: { "vision_r": 8, "att_bandwidth": 8, "retention": 8, "curr_time": "February 10, 2025, 06:00:00", "curr_tile": null, "schedule_constraints": "Patient 1 visits the emergency department every day at 6am, and leaves the emergency department after the doctor is done seeing them", "name": "Patient 1", "first_name": "Patient", "last_name": "1", "age": 25, "behavior_modifiers": "friendly, outgoing, hospitable", "role_description": "Patient 1 is a hospital patient in the emergency department. Not part of the emergency department staff. They must follow instructions from medical staff to receive treatment in different areas, being moved around areas like the waiting room, triage room, major injuries zone, minor injuries zone, and the operating room. Should not move until told so by someone else.", "current_state": "Patient 1 just arrived at emergency department. Patient is a severe crushing pain in your chest that's making it hard for you to breathe and leaving you feeling lightheaded. Pain on scale is 7. Now waiting for treatment", "work_pattern": "Patient 1 is at emergency department all day until treated", "living_area": "ed map:emergency department:waiting room", "concept_forget": 100, "daily_reflection_time": 180, "daily_reflection_size": 5, "overlap_reflect_th": 4, "kw_strg_event_reflect_th": 10, "kw_strg_thought_reflect_th": 9, "recency_w": 1, "relevance_w": 1, "importance_w": 1, "recency_decay": 0.995, "importance_trigger_max": 150, "importance_trigger_curr": 150, "importance_ele_n": 0, "thought_count": 5, "daily_req": [], "f_daily_schedule": [], "f_daily_schedule_hourly_org": [], "act_address": null, "act_start_time": null, "act_duration": null, "act_description": null, "act_pronunciatio": null, "act_event": ["Patient 1", null, null], "act_obj_description": null, "act_obj_pronunciatio": null, "act_obj_event": [null, null, null], "chatting_with": null, "chat": null, "chatting_with_buffer": {}, "chatting_end_time": null, "act_path_set": false, "planned_path": [], "next_step": null, "ICD": null, "CTAS": null, "next_room": null, "state": null, "time_to_next": null, "injuries_zone": null, "exempt_from_data_collection": false } Now generate a BRAND NEW JSON by the fields provided in the example according to this Patients info: !&lt;INPUT 0&gt;! As for the Pain scale pick a number between 1-10 for how much pain the Patient is feeling and place it in the field "current_state". Change any info in the JSON that would need updating like name, age. Make sure to change all the instances of the name like "Patient 1". All the spelling in the field names must be EXACTLY the same as in the example. DO NOT FIX THE SPELLING OR CHANGE THE SPELLING OF ANY FIELD. Make sure to include all the fields in the example. Only return the NEW JSON and NOTHING ELSE. Output: </pre>

Purpose	Prompt
Select an ED location/zone for the next action	<p>Variables: !&lt;INPUT 0&gt;! -- Persona name (e.g., Patient 3, Triage Nurse, Bedside Nurse) !&lt;INPUT 1&gt;! -- Persona's current area in the Emergency Department (e.g., waiting room, triage room, major injury zone) !&lt;INPUT 2&gt;! -- All accessible areas in the Emergency Department (excluding restricted areas) !&lt;INPUT 3&gt;! -- Persona name (repeated for formatting consistency) !&lt;INPUT 4&gt;! -- Target sector or specific action-related area (e.g., triage room for assessment, major injury zone for treatment) !&lt;INPUT 5&gt;! -- All accessible areas in the personas sector (excluding restricted areas, same as !&lt;INPUT 2&gt;!) !&lt;INPUT 6&gt;! -- Current action the persona is performing (e.g., waiting for assessment, treating a patient, transporting a patient) !&lt;INPUT 7&gt;! -- Persona name (repeated for formatting consistency) !&lt;INPUT 8&gt;! -- Persona's current sector (same as !&lt;INPUT 1&gt;!, for formatting consistency)</p> <p>&lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt;</p> <p>Patient 3 is in the waiting room in the Emergency Department. Patient 3 is waiting for a triage nurse to assess their condition. The Emergency Department consists of the following areas: \{waiting room, triage room\}. Stay in the current area until the next step in the patient flow is assigned. DO NOT move between areas unless directed by a nurse or doctor. Patient 3 is waiting for assessment. For triage assessment, Patient 3 should go to the following area in the Emergency Department (MUST pick one of \{waiting room, triage room\}): Answer: \{trriage room\} --- Triage Nurse is in the triage room in the Emergency Department. Triage Nurse is waiting for a patient to triage assess. The Emergency Department consists of the following areas: \{waiting room, triage room\}. Stay in the current area until the next step in the patient flow is assigned. DO NOT move between areas unless directed by a nurse or doctor. Patient 3 is waiting for a triage assessment. For triage assessment, Patient 3 should go to the following area in the Emergency Department (MUST pick one of \{waiting room, triage room\}): Answer: \{trriage room\} --- !&lt;INPUT 0&gt;! is in !&lt;INPUT 1&gt;! in the Emergency Department. !&lt;INPUT 0&gt;! is performing !&lt;INPUT 6&gt;!. The Emergency Department consists of the following areas: \{!&lt;INPUT 2&gt;!\}. * Stay in the current area if the action can be performed there. * DO NOT move unless directed by a nurse or doctor. !&lt;INPUT 3&gt;! is !&lt;INPUT 4&gt;!. For !&lt;INPUT 5&gt;!, !&lt;INPUT 6&gt;! should go to the following area in the Emergency Department (MUST PICK ONE OF, ONLY PICK AN AREA FROM THIS LIST: \{!&lt;INPUT 8&gt;!\}): NEVER answer with emergency department Answer: \{</p>

Purpose	Prompt
Select an ED location/zone for the next action	<pre> Variables: !&lt;INPUT 0&gt;! -- Persona name !&lt;INPUT 1&gt;! -- Maze all possible sectors !&lt;INPUT 2&gt;! -- Persona name !&lt;INPUT 3&gt;! -- Persona living sector !&lt;INPUT 4&gt;! -- Persona living sector arenas !&lt;INPUT 5&gt;! -- Persona name !&lt;INPUT 6&gt;! -- Persona current sector !&lt;INPUT 7&gt;! -- Persona current sector arenas !&lt;INPUT 8&gt;! -- curr action description !&lt;INPUT 9&gt;! -- Persona name &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; Task -- choose an appropriate area from the area options for a task at hand. --example-- Patient 4 is stays the longest in \{Emergency Department\} that has operating rooms, triage rooms, and waiting rooms. Patient 4 is current_state in \{waiting room\} that has waiting room chairs and a computer. Now getting for an triage assessment from the Triage Nurse. Area options: \{Waiting Room, Triage Room, Hallway\}. Stay in the current area if the activity can be done there. Only go out if the activity needs to take place in another place. Must be one of the "Area options," verbatim. For getting a assessment from the triage nurse, the patient should go to the following area: \{Triage Room\} --- !&lt;INPUT 0&gt;! stays the longest in \{!&lt;INPUT 1&gt;!\} that has !&lt;INPUT 2&gt;!. !&lt;INPUT 3&gt;! is current_state in \{!&lt;INPUT 4&gt;!\} that has !&lt;INPUT 5&gt;!. !&lt;INPUT 6&gt;! Area options: \{!&lt;INPUT 7&gt;!\}. * Stay in the current area if the activity can be done there. Only go out if the activity needs to take place in another place. * MUST be one of the "Area options," VERBATIM. !&lt;INPUT 8&gt;! is !&lt;INPUT 9&gt;!. For !&lt;INPUT 10&gt;!, !&lt;INPUT 11&gt;! should go to the following area: \{ </pre>

Purpose	Prompt
Select a relevant object for the next action in the ED environment	<pre> Variables: !&lt;INPUT 0&gt;! -- curr action seq !&lt;INPUT 1&gt;! -- Objects available &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; Current activity: patient triage Objects available: {computer, chair, medical equipment, waiting room chair} Pick ONE most relevant object from the objects available: medical equipment --- Current activity: patient transport Objects available: {wheelchair, bed, chair, medical equipment} Pick ONE most relevant object from the objects available: wheelchair --- Current activity: doctor consultation Objects available: {chair, computer, medical equipment, operating table} Pick ONE most relevant object from the objects available: computer --- Current activity: patient waiting Objects available: {waiting room chair, chair, computer, medical equipment} Pick ONE most relevant object from the objects available: waiting room chair --- Current activity: overnight observation Objects available: {bed, medical equipment, computer, chair} Pick ONE most relevant object from the objects available: bed --- Current activity: !&lt;INPUT 0&gt;! Objects available: {!&lt;INPUT 1&gt;!} Pick ONE most relevant object from the objects available. MUST be one of the objects from Objects available: </pre>

Purpose	Prompt
Decide whether the patient leaves the ED due to waiting (LWBS)	<p>Variables: !&lt;INPUT 0&gt;! -- Patient condition  !&lt;INPUT 1&gt;! -- Patient behaviour !&lt;INPUT 2&gt;!  -- Patient State !&lt;INPUT 3&gt;! -- Time in state</p> <p>&lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; You are a Patient in the emergency department that's the condition: !&lt;INPUT 0&gt;! That has this as your behaviour: !&lt;INPUT 1&gt;! You are deciding if you should leave the emergency department or not. You are current_state at the state !&lt;INPUT 2&gt;! in the emergency department. You have been waiting !&lt;INPUT 3&gt;! minutes in this state. Longer means you are more prone to leave the emergency department. Unstable behavior_modifiers means they are prone to leaving randomly. Impatient behavior_modifiers means they will leave if they have been waiting for a long time. Based on your condition, behaviour, time spent, and state in the emergency department. Should answer be "no" if you are getting some tests done. Do you leave? Answer in yes or no. Give response in this format: {"answer": "yes/no", "reason": "reason"}</p>

Purpose	Prompt
Select an ED location/zone for the next action	<p>Variables: !&lt;INPUT 0&gt;! -- init_persona iss  !&lt;INPUT 1&gt;! -- target_persona iss !&lt;INPUT 2&gt;! --  init_persona_name !&lt;INPUT 3&gt;! -- target_persona_name  !&lt;INPUT 4&gt;! -- init_persona's thoughts !&lt;INPUT 5&gt;! --  target_persona_name !&lt;INPUT 6&gt;! -- init_persona_name  !&lt;INPUT 7&gt;! -- target_persona's thoughts !&lt;INPUT  8&gt;! -- current time !&lt;INPUT 9&gt;! -- init_persona curr  action description !&lt;INPUT 10&gt;! -- target_persona  curr action description !&lt;INPUT 11&gt;! -- previous  convo !&lt;INPUT 12&gt;! -- init_persona_name !&lt;INPUT  13&gt;! -- target_persona_name !&lt;INPUT 14&gt;! --  curr_location name !&lt;INPUT 15&gt;! -- init_persona_name  &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt;  We have two characters in a hospital emergency  department. Character 1. !&lt;INPUT 0&gt;! Character 2.  !&lt;INPUT 1&gt;! --- Context: Here is what !&lt;INPUT 2&gt;!  thinks about !&lt;INPUT 3&gt;!; !&lt;INPUT 4&gt;! Here is what  !&lt;INPUT 5&gt;! thinks about !&lt;INPUT 6&gt;!; !&lt;INPUT 7&gt;!  Currently, it is !&lt;INPUT 8&gt;! -- !&lt;INPUT 9&gt;! --  !&lt;INPUT 10&gt;! !&lt;INPUT 11&gt;! !&lt;INPUT 12&gt;! is a patient  describes what they're feeling in their own words, no  medical jargon. Might be anxious, hurting, frustrated  with the wait, or just tired. !&lt;INPUT 13&gt;! and  !&lt;INPUT 12&gt;! are in !&lt;INPUT 14&gt;!. What would they  talk about now? !&lt;INPUT 15&gt;!; "</p>
Select an appropriate wake-up hour for the agent's ED shift context	<p>Variables: !&lt;INPUT 0&gt;! -- Commonset !&lt;INPUT  1&gt;! -- Lifestyle !&lt;INPUT 2&gt;! -- Reverie  date time now !&lt;INPUT 3&gt;! -- Persona  first names !&lt;INPUT 4&gt;! -- wake_up_hour  &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt;  !&lt;INPUT 0&gt;! In general, !&lt;INPUT 1&gt;! Today is  !&lt;INPUT 2&gt;!. Here is !&lt;INPUT 3&gt;! 's plan today in  broad-strokes being at the emergency department  already awake 24/7 (with the time of the day. e.g.,  Arrived at emergency department at 7:00 am, waiting  for triage nurse 8:00 am to 12:00 pm) since most of  the schedule is determined by talking to the medical  staff you can't plan out the full day: 1) Arrived at  emergency department !&lt;INPUT 4&gt;!, 2)</p>

Purpose	Prompt
Choose the best option among the provided choices given the context	<pre> &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; Task -- given context and three options that a subject can take, determine which option is the most acceptable. Context: Dr. Jane is an ED physician. Jane and Nurse Liz exchanged a conversation about a patients vitals at 07:05 am, October 25, 2022. Right now, it is 07:09 am, October 25, 2022. Jane is on her way to check on a critical patient. Jane sees Liz already assessing the patient. My question: Let's think step by step. Of the following three options, what should Jane do? Option 1: Wait until Liz is done assessing the patient before intervening Option 2: Proceed to assess the patient alongside Liz Reasoning: Both Jane and Liz are healthcare providers managing a critical patient. Since patient care in the ED often requires teamwork, it would be beneficial for Jane to assist Liz rather than wait. So, since Liz is already assessing the patient, Jane should proceed to assess the patient alongside Liz. Answer: Option 2 --- Context: Dr. Sam is an ED resident. Sam and Dr. Sarah exchanged a conversation about triaging patients at 11:00 pm, October 24, 2022. Right now, it is 12:40 pm, October 25, 2022. Sam is on the way to evaluate a new patient in the ED. Sam sees Sarah finishing up a patient handover at the nurses' station. My question: Let's think step by step. Of the following three options, what should Sam do? Option 1: Wait on seeing the patient until Sarah is done with the handover Option 2: Proceed to see the patient now Reasoning: Sam is assigned to evaluate a new patient, while Sarah is completing documentation. Since these tasks do not conflict, Sam can proceed with seeing the patient without waiting. So, since Sam and Sarah are handling separate tasks, Sam should proceed to see the patient now. Answer: Option 2 --- Context: !&lt;INPUT 0&gt;! Right now, it is !&lt;INPUT 1&gt;!. !&lt;INPUT 2&gt;! !&lt;INPUT 3&gt;! My question: Let's think step by step. Of the following three options, what should !&lt;INPUT 4&gt;! do? Option 1: Wait on !&lt;INPUT 5&gt;! until !&lt;INPUT 6&gt;! is done !&lt;INPUT 7&gt;! Option 2: Continue on to !&lt;INPUT 8&gt;!now Reasoning: </pre>

Purpose	Prompt
Decide whether the agent should initiate a conversation in the current context	<pre> &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; Task -- given context, determine whether the subject will initiate a conversation with another. Format: Context: [] Question: [] Reasoning: [] Answer in "yes" or "no": [] --- Context: !&lt;INPUT 0&gt;! Right now, it is !&lt;INPUT 1&gt;!. !&lt;INPUT 2&gt;! and !&lt;INPUT 3&gt;! last chatted at !&lt;INPUT 4&gt;! about !&lt;INPUT 5&gt;!. !&lt;INPUT 6&gt;! !&lt;INPUT 7&gt;! Question: Would !&lt;INPUT 8&gt;! initiate a conversation with !&lt;INPUT 9&gt;! Reasoning: Let's think step by step. </pre>
Generate an hour-by-hour schedule appropriate for ED workflow	<pre> Variables: !&lt;INPUT 0&gt;! -- Schedule format !&lt;INPUT 1&gt;! -- Commonset !&lt;INPUT 2&gt;! -- prior_schedule !&lt;INPUT 3&gt;! -- intermission_str !&lt;INPUT 4&gt;! -- intermission 2 !&lt;INPUT 5&gt;! -- prompt_ending &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; (you are a patient so your hourly schedule depends on what the medical staff says what you should do, don't plan anything not instructed by the staff. You are there until the medical staff discharges you, NO SLEEPING) Hourly schedule format: !&lt;INPUT 0&gt;! == !&lt;INPUT 1&gt;! !&lt;INPUT 2&gt;! !&lt;INPUT 3&gt;! !&lt;INPUT 4&gt;! !&lt;INPUT 5&gt;! </pre>
Extract keywords that capture the key clinical facts and context	<pre> Variables: !&lt;INPUT 0&gt;! -- description &lt;commentblockmarker&gt;#####&lt;/commentblockmarker&gt; Given a text description of an event or a conversation, output CSV (comma-separated values) of factually descriptive and emotive keywords about the description. Make sure to include keywords on where to go next via directions given in a conversation. Also if you got assessed by the medical staff or not. Below is the format of the output. Description of an event or a conversation: [Provided] Factually descriptive keywords: [Fill in] Emotive keywords: [Fill in] == Description of an event or a conversation: !&lt;INPUT 0&gt;! Factually descriptive keywords: </pre>

Purpose	Prompt
Write a one-sentence memory note from the conversation for future interactions	Variables: !<INPUT 0>! -- All convo utterances !<INPUT 1>! -- persona name !<INPUT 2>! -- persona name !<INPUT 3>! -- persona name <commentblockmarker>#####</commentblockmarker> [Conversation] !<INPUT 0>! Write down if there is anything from the conversation that !<INPUT 1>! need to remember for her planning, from !<INPUT 2>!’s perspective, in a full sentence. If a medical staff has told you to move to the triage room, minor injury zone, major injury zone, or operating room. Make sure to plan to go there. Then also take in account if you got assessed and by who. "!<INPUT 3>!