FINAL PROJECT PHASE 1 / ASSIGNMENT 4

Autonomous Police Character Behavior Sketch

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Autonomous Police Character: A Behavioral Context

We've come up with a simple "police" character that fits within the context of the simulated riot system as proposed by Sky Frostensen during class discussion on October 28th 2003.

For the simplification of the Police/Riot system, it is proposed that the Police are limited to attempting to act in the capacity of a crowd dispersal system. Even this simplified system may be difficult to model since most crowds often have a physical "target", are situated in complex urban environments with variable escape routes, and involve numerous props including barricades, tear gas, water cannons, etc. Please see Appendix A for a visual survey of different crowd dispersals and police: riots are a complicated system from a social, architectural, behavioral and visceral perspective.

In attempting to model a "realistic" police officer, we researched actual strategies and methodologies of police departments. Please refer to Appendix B which includes the document "Phase One Law Enforcement Training, Crowd Control Measures, Lesson Guide #121" published by the Base Police Department Naval Postgraduate School in Monterey, California. (Also available online at http://www.nps.navy.mil/police/phase_training/lesson%20121.doc)

This document gives a quick and easy-to-read introduction summary of crowd dispersal tactics in a format provided to police officers during training, and would provide an interesting resource for modeling a more complex character behavior system.

Autonomous Police Character: Character Behavior Description

The behaviors outlined below are a simplified subset of a complete police behavior system.

disperse
    condition:
    excitement level > 8; police/crowd ration > x

    action:
    move through most dense area

    description/function:
    when ever there is much excitement and sufficient police, the police will march through the crowd

run_away
    condition:
    excitement level > 8; police/crowd ration < y

    action:
    run distance z away

    description/function:
    when there is much excitement and insufficient police, the police will run away from the crowd

patrol

   condition:
   not in disperse or run_away state
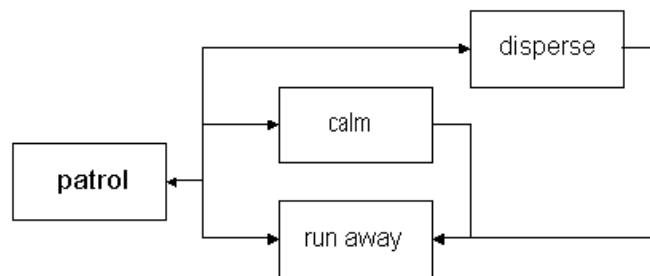
   action:
   move semi randomly between areas with high crowd density or excitement
   when in area with high excitement move towards high police density

   description/function:
   default state where the police will move around semi randomly. they will group when in high
      excitement areas

State transition diagram
Below is a simple state transition diagram with the optional "calm" state added (see below).

Note that the "run away" state only leads to patrol, which is possible after a given time.

Comments
It's not entirely clear how this will work, maybe some more elegant functions are needed to get a decent grouping behavior, but at least it's a simple start, and it's hard to estimate without knowing more about the behavior of other characters. We could add a "calm" or "warn" function that allows the police to directly interact with individual characters e.g. by reducing their excitement level/or increasing it as it may be.

Animation and Sounds
At the moment it seems like we would need animation and corresponding sounds for each of the states: a walking motion/sound, a calming motion/sound, a run away motion/sound and a disperse motion/sound.
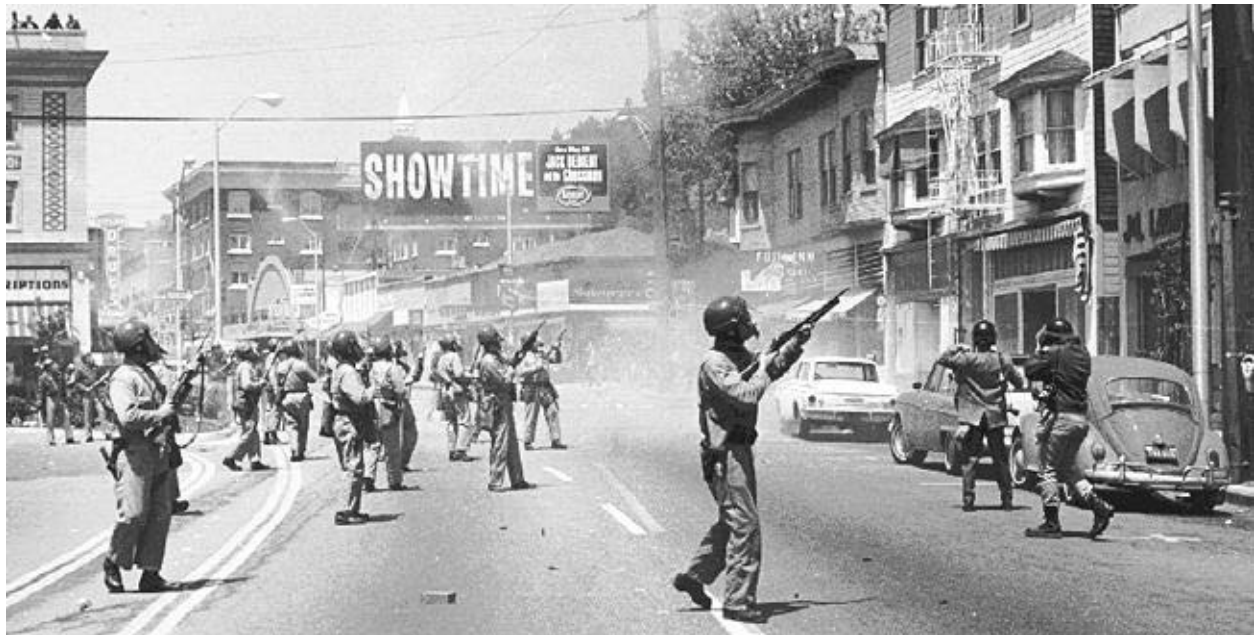
Visual Survey: Riot / Police / Crowd Dispersal Imagery

APPENDIX B

Phase One Law Enforcement Training: Crowd Control Measures

Base Police Department Naval Postgraduate School, Monterey, California

Crowd Control Measures

LESSON GUIDE #121

INTRODUCTION

Commanding Officers of DoD installations have authority to restrain or remove from the installation those persons who disrupt operations. Base police may be called on to control and contain civil disturbances that threaten the installation. A basic understanding of the behavior of crowds and techniques for handling large groups of dissidents may allows the base police to accomplish this mission. Although civil disobedience is not as prolific as it once was, it still exists and base police need to be ready to counter the measures used by those who hope to gain notoriety for their cause through civil disobedience.

PRESENTATION

Civil Disturbances

Civil disturbances most often occur when participants in mass acts of civil disobedience become antagonistic toward authority. In the extreme case, this form of protest may include criminal acts. But in any form, civil disturbance is prejudicial to public and order.

Civil disturbances may arise for any number of causes to include:

- Political grievances

- Urban economic conflicts

- Community unrest

- Terrorist acts

- Foreign influences

Civil disturbances usually, but not always, occur at places symbolic of a particular grievance, near the cause of the grievance, or close at hand to an aggravated crowd. In picking where to demonstrate, activists traditionally consider:

- A place where activists know, or think they know, where nuclear weapons are developed, built, transported, or stored.

- A government facility to which a protesting group attaches a symbolic value to, or a connection with, a protested activity.

- Installations in urban areas where they are likely to find sympathy due to unrelated conflicts, labor disputes, or political struggles.

- Any DoD installation in a foreign country.

- Anything that is a symbol of the United States government.

The Crowd

The basic component necessary for a civil disobedience is a crowd.

- A casual crowd generally has no common bonds other than the event that brought them together.

- Cohesive crowds have a common bond of interest and purpose. They are planned.

- Expressive crowds come together to deliver a message.

- Aggressive crowds are likely to erupt in unlawful acts.

If the crowd's law abiding collective behavior breaks down, and they have a common cause, civil disobedience is likely to erupt. Civil disobedience is likely if:

- When a crowd gathers to air grievances, it transfers its anger from the issue to those people associated with the issue.

- When the crowd swells uncontrollably from bystanders.

- When agitators incite the crowd to acts of violence.

- When the crowd's behavior becomes irrational, and it becomes a mob.

- When a crowd consists of two or more opposing groups.

The emotional stimulation and sense of protection while being a crowd and unleash impulsive behavior usually restrained by individuals such as rage and aggression. The emotional excitement of being in a crowd is a key element in the formation of civil disobedience behavior. At the same time the crowd provides people with a sense of unity, excitement, and justification for criminal behavior.

An extremely dangerous situation occurs if the crowd begins to panic. This panic can be caused when the crowd feels threatened and believes their only avenue to safety is to flee. When engaging in crowd dispersal operations, police must be aware of this and give no cause for the crowd to believe that escape routes are limited or blocked in any way. When this fear is coupled with the police using crowd dispersal chemical agents, those not moving fast enough to suit all may be trampled to death.

Crowd Tactics

Crowds may employ a wide variety of non-violent tactics.

- Verbal abuse, and name-calling.

- Conversation with police to distract them or gain sympathy.

- Forming human barricades to impede traffic by sitting down in roads or at the entrance to buildings.

- Trespassing on government property in an attempt to force mass arrests and gain notoriety through the media.

- Chaining or handcuffing themselves to objects or to each other.

Crowds may also employ violent tactics, which can be extremely destructive. Physical attacks may center on people and property.

- Arson

- Bombings

- Throwing missiles such as rocks, bricks, pipes, bottles filled with gasoline or balloons filled with paint, urine, of feces.

- Throwing firecrackers that have been dipped in glue and coated with BBs or small nails.

- Firing weapons at police.

Police Operations

The initial task in controlling a disturbance is to isolate those creating the disturbance from those not yet actively involved. This can be accomplished by:

- Identifying those needing to be isolated.

- Sealing off the area they occupy.

- Use barricades, ropes, truck, buses, barbed wire and other field expedient devices to impede pedestrian traffic.

- Establish foot patrols around the area to seal it off. These should be set up so that two lines of forces are utilized. One line faces the demonstrators to contain them, and the other line faces away from the demonstrators to keep others out and protect the inner line of personnel.

The objective in taking such action is to:

- Prevent disorder from spreading.

- Move uninvolved personnel from the area.

- Prevent unauthorized or innocent personnel from entering the area.

- Prevent the escape of personnel who are attempting to escalate the disturbance.

Four Available Options to Control Demonstrators

Monitoring involves observation of a crowd and collecting data on crowd size, location, mood and the development of the situation. While monitoring, police should establish communication with crowd leaders to convey interest. Monitoring is appropriate when harsher action is not feasible or when the situation has not escalated to a violent situation.

Containing limits a crowd to the area they are occupying and prevents the disorder from spreading. Containment serves to limit outsiders from joining the demonstration and is necessary if it appears that demonstrators will need to be apprehended. Containment can be accomplished by using barricades, crowd control formations, or other types of physical barriers.

Blocking a crowd physically denies its ability to advance. Blocking may be necessary to protect a building or facility that is a potential or actual target of the demonstrators. Crowd control formations are used to block.

Dispersal may be used to break up a demonstration. Routes of dispersal must be controlled to prevent the spread of lawlessness. Initially, apprehensions should not be made unless absolutely necessary. After most of the crowd is dispersed operations may need to be followed by apprehensions of small groups still active in the area. The use of proclamations shows of force, crowd control formations and/or riot control agent are effective in crowd dispersal.

Whatever method is employed, certain things are common to all of the above techniques.

- The crowd must be provided with an avenue of escape.

- Care must be taken to ensure that crowd control forces are not over extended.

- No attempts to trick or deceive the crowd should be made.

- Strict discipline must be maintained within the ranks of the crowd control forces.

Crowd Control Formations

Line Formation.

Line formations are used to push a crowd back, or defensively to protect access to a threatened area. Prior to giving any signals for the formation, the forces must count off. If using arm signals because of crowd noise, the commander should raise both arms until they are horizontal and extended with the palms down. If using verbal commands, the commander gives the command, "Line Formation, Move."

Upon the command being given:

- The baseman moves to a point indicated by the commander.

- Even numbered officer's form a straight line to the right and even with the baseman.

- Odd numbered officers form a straight line to the left and even with the baseman.

- This should result in officers forming a straight line and facing the crowd.

Execution is then as follows.

- Officers draw their batons and assume port arms.

- Using steps with their weak side foot only, officers take a single step toward the crowd while giving the command, "Move," in unison.

- Officers drag their strong side foot until it is even with the weak side foot.

- Officers continue this process until the crowd disperses.

Echelon Formation

The echelon formation is used to move a crowd either to the right or left. To give an arm signal, the commander raises one hand to 45 degrees above horizontal and the other hand to 45 degrees below horizontal. As the commander is facing the crowd, the lower hand indicates the direction in which the crowd is to be moved. If using verbal commands, the commander will give either the command, "Echelon Right, Move," or "Echelon Left, Move," depending on whether the crowd is to be moved to the right or left.

Upon the command being given:

- The baseman moves to a point indicated by the commander.

- Even numbered officers form a line on the base man with each officer standing either one step in front of the officer to his/her left, or one step behind the officer to his left.

- Odd numbered officers move to the left of the baseman and do just the opposite of the officers on the right.

- This should result in a slanted line of officers, slanted to either the right or left depending on the predetermined direction in which the crowd is to be dispersed.

Execution is the same as in the line formation.

Wedge Formation

The wedge formation is used for penetration and splitting the crowd apart. If the wedge formation is used, there must be at least two unobstructed escape routes available to the crowd, one to the right and one to the left. If using arm signals, the commander extends both arms downward at 45 degrees from horizontal. If using verbal commands, the commander gives the command, "Wedge Formation, Move."

Upon the command being given:

- The baseman moves to a position indicated by the commander.

- Odd numbered officers align themselves to the base man's right, each officer being one step to the rear of the officers on his/her left.

- Even numbered officers align themselves to the base man's left, each officer being one step to the rear of the officer on his/her right.

- This should result in officers forming a wedge or V with the baseman being the point man.

- Execution is the same as other crowd control formations.

Final Thoughts

In any crowd control formation operations, it is absolutely imperative that each officer knows their assignment and rigidly performs their mission. Officers are never to get out of line. Once the line is broken, it becomes easy for the crowd to penetrate the line.

If apprehensions are anticipated, a special arrest team should closely follow the crowd control formation. Officers on the line encounter someone needing to be apprehended, they should merely move that individual behind the line and the arrest team should immediately take that person into custody. If anticipated numbers of persons to be apprehended warrants, a booking bus should drive slowly behind the formation. As the arrest team takes the person into custody, the person is then placed on the bus and formation can resume their advance.