

[WP-002]

Whitepaper: Profiling Wargamers

A Theoretical Concept in a Method for Profiling War Game Participants

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Introduction

NOTE: This document is by no means a finalized written theory, but rather a theoretical conceptualization that is a work in progress. This theoretical work must be formalized further, and will require active participation in the project. The participants must first be defined, gathered and selected for the gaming simulations. Data is then collected, analyzed and collated into meaningful interpretations in determining psychological behavioral patterns.

This document is a theorized conceptualization based upon current circumstances surmounting within the United States. Since September 11, 2001, the United States has initiated a series of steps to minimize acts of terrorism within and throughout the United States. As part of the federal government's abilities in stepping up security efforts, one of the most controversial methods in preventative action is through the methodology by which individuals are screened, matched against a set of criteria, and if the targeted individual has exceeded the criteria match threshold(s), the individual is then pulled aside for further questioning. This controversial procedure is called "profiling". Many federal government agencies have used profiling techniques for years, both during and out of combative scenarios, as well as in criminal, investigative and forensics management.



Profiling is a form of data surveillance; it is something by which a predefined set of criteria or circumstances classifies individuals through various levels of compartmentalization. This mechanism is not a proven methodology as it is considered a “soft science” often attributed to a mixture of methods used which includes portions taken from statistics, psychology and behavioral management. The idea behind its concept is to provide a preventative measure through effective, predictable statistics and measures in determining and classifying individuals.

Thus further observation may be necessary if and when an individual is flagged, which is based upon several generally known criteria (which may/may not be utilized):

- ❖ clothes worn
- ❖ cologne
- ❖ walk or swagger
- ❖ hair style
- ❖ glasses or sunglasses worn
- ❖ jewelry
- ❖ shoes
- ❖ types of communications (pager, cellular telephone, PDA, etc.)
- ❖ method of communications (how the individual communicates)
- ❖ personal items carried or exposed externally

Federal government agencies involved in investigative measures may use these items (or perhaps others not necessarily listed above) in determining how, when, where, and who questions for their investigative work.

Several profiling techniques have been used for many years. One of them has been through the simulation of environmental conditions (and their variations), which allows confirmation of any decisions made from the method used. Simulations in combat scenarios, and their arenas, have been utilized since modern warfare techniques were first introduced. These simulations are representative of real, combative situations, though they do not necessarily utilize real ammunition or deadly uses of force; their uses are to simulate measured, more efficient methods of offensive (and defensive) measures or countermeasures. Many militaries have used simulated warfare for better kill ratios or simply in the determination of significant weaknesses in enemy defensive barriers. The use of these simulations has been invaluable to military organizations throughout the world.

Combat simulations are used in real-time, but on a much smaller scale, and may or may not use people or weaponry. Sometimes, warfare gaming simulations do not involve simulations over landscapes, but within imaginary environments of a conceptual nature. It is because of this that the term “wargame” comes into play.



Definition: Wargames

The term “wargame” goes as far back as ancient China and India several thousand years. It is thought that the modern game of “chess” is based upon the Indian simulation known as “charunanga”. The game of “chess” is simple yet eloquent in its design, yet it can pose fairly complex scenarios and solutions to those involved. It involves some level of strategy and tactics to (basically) conquer your opponent on a simulated battlefield of equal and opposing forces (or armies). Essentially, both sides start with the same number of game pieces (representing soldiers) on a finite number of squares (representing the battlefield) arranged in a defined pattern with specific rules of the playing board (representing the methods of play, often referred to as the “Rules of Engagement”). In professional exhibitionism of this game, there are time limitations; however, in a relaxed setting, there is usually no time limit either between moves, or to the game’s completion.

Shall We Play a Game?

With the introduction of computers, military applications of warfare gaming simulations were of a grand nature, and cost the military thousands of dollars to operate for each simulation. When computers became more compact and affordable, so did the simulations. As technology progressed, graphics and computing abilities increased, as did the elaboration of the simulations, how they were implemented and used. Today, there are several simulation centers for just about every aspect of any given military insurgence, either defensive or offensive, and includes all aspects of warfare: ground, air, water, space, or combination of any or even all of those listed. At the time of this writing, the federal government (and military) has established cyber-terrorism units to countermeasure any cybernetic attack from the Internet.

Although there has been some discussion regarding the importance of warfare gaming simulations and profiling techniques, warfare gaming simulations are (in of themselves) a form of profiling (through the recording of data received from playing specific tactics from all players within a given scenario), the use of non-specific games played by adolescent children does not appear to be prevalent. How does all of this fit into this discussion?

Simple. By utilizing modified off-the-shelf video games, it may be possible to effectively and accurately monitor, record and measure statistics pertaining to gaming information that would allow consistent and (fairly) accurate profiled information about particular behavioral patterns observed throughout the game simulation. The simulation is a controlled environment that is closely monitored by “gamemasters”; that is, several individuals are responsible for ensuring that the game simulations are controlled in a fashion that will determine specific behavioral patterns have been observed, and if so, are measured properly.

For this discussion (because I enjoy playing this game), we will discuss utilizing the popular video game, Quake, written by id Software, Inc. The game “Quake” was a replacement for its predecessor “Doom” (also written by id Software), and has been popular with adolescent children and adults since 1995. Quake is an interactive “shoot ‘em up” game, which can be played either in single player or multiple player modes. The multiple player modes also have several modes, too, which include: Capture The Flag (CTF), Deathmatch (teamed play), and



Free For All (non-teamed individual play). Several revisions of the game, along with its capabilities and functions, have continued its popularity today. What makes the game different from any other video game is its ability to integrate with non-specific environments and is available for multiple architectures (what may have saved Quake is the fact that id Software embraced “open source” architecture and its development in environments that promote Open Systems Architecture, such as the popular Linux operating system, a popular relative to its commercial cousin, UNIX). Quake is capable of integrating external modules and mappings allowing for any customization of landscape, playing fields, weaponry, and player capabilities. These games may also be limited in their capabilities such as limited players killed (referred to as “frags”) or timing limitations.

The version of Quake that will be discussed (and used throughout the simulation once it is available/capable) is Quake II with the Weapons of Destruction (“WoD”) modification. This version of Quake is (by far) the most versatile of any of the versions released, and will work with slightly outdated computer hardware as both server and client, while it operates efficiently with both memory and network without any significant degradation of systems performance or capabilities. Quake I has issues with its networking stack, and has a memory leak in its design (even with the latest patches), requiring several reboots during an extended gaming period. Quake III has issues with its systems requirements in that it requires larger portions of memory and disk capacity, and doesn’t appear to have nearly as many modifications as the Quake II version. WoD does not appear to exist for either Quake I or III versions, only for the Quake II version; henceforth, why the choosing of Quake II with WoD was selected for the simulations.

The Playing Field Unfolds

The setting for the warfare gaming simulation is a finite configuration, with similar or like capabilities for all parties. As mentioned earlier, the multiple player modes have several configurations, all of which will be utilized throughout the wargame. A monitoring unit is used to store the gaming data that is recorded for later review and deciphering.

The configuration consists of both team and individual playing modes. All simulations are weighed based upon a matrix; determining the matrix is the most difficult part in how the games are played, and how the results are determined. The matrix is still being determined.

The playing field consists of 2 tables with 5 computers each, totaling 10 computers. The gaming simulation is observed through a monitoring computer along with the server that everyone is accessing. The total number is 10 client workstations, 1 monitoring server, and 1 gaming server. The observers of the gaming simulation are the gamemasters (up to 2 people; one for the gaming simulation monitoring, one for player observation to ensure that the simulations are not deviated), who control how the simulations are executed.



The players can be anyone; they can be adults who enjoy playing games, whether they are video games or board games (such as chess, checkers, et. al), or they can be adolescent adults. The players are not explained that they are being observed, except that there are merely other players who enjoy watching the players playing the video games. If any excuses must exist, then the gamemasters may explain one of several excuses (which may/may not be the best excuses, but are simply offered reasons in case one of the players asks):

- ❖ feeling sick, but wanted to watch the games
- ❖ problems with their wrists (again, being sick and unable to play)
- ❖ simply wanting to watch and enjoy other players in the games

There are time limitations for each simulation played. By default, Quake has a default time limit of 20 minutes, which will be slightly modified for each simulation. Though time has no significant importance with the execution of the various simulations, it does play an important part in limiting the games from possible deviation.

The time limitation will be 18 minutes for each multiple player scenario, with 1-minute “rest periods” between each gaming simulation, with 3 simulations for each multiple player mode.

For the multiple player modes, there are 3 different modes of play: Capture The Flag (CTF), Deathmatch, and Free For All (FFA). All 3 modes of play will be used for the simulations to record team play mechanics. CTF will vary from the Deathmatch and FFA modes in that there will be a DEFENSIVE ARENA and an OFFENSIVE ARENA, totaling 6 games.

Capture The Field (CTF) Mode

Capture The Field (CTF) mode has 2 objectives: (1) capture the opposing teams flag (for points), and (2) frag (or “kill”) as many of the opposing team members as possible. CTF works primarily in a team role-playing mode, but can work individually as well. For this project and for the gaming simulations, the effort of a team role-playing encourages team collaboration among team members, and demonstrates group dynamics.

The CTF mode is a team playing effort, consisting of TEAM RED and TEAM BLUE, with each team consisting of 5 players each. The players can formulate their own strategies however they see fit, but a suggested method is to use one of the following tactical strategies. Please note that these are some possible suggestive strategies in implementation, but are not necessarily limited to any one specific configuration; the CTF mode is by far, the most complex set of strategies versus the Deathmatch (DM) or Free For All (FFA) modes.



DEFENSIVE ARENA:

- ❖ 2 players are defensive play, 2 players are offensive play, 1 player is the flagkeeper
- ❖ 2 players are defensive play, 1 players are offensive play, 2 players are the flagkeepers
- ❖ 3 players are defensive play, 1 player is defensive play, 1 player is the flagkeeper
- ❖ 3 players are defensive play, 0 players are offensive play, 2 players are the flagkeepers
- ❖ 4 players are defensive play, 0 players are offensive play, 1 player is the flagkeeper
- ❖ 5 players are defensive play, 0 players are offensive play, 0 players are the flagkeeper

OFFENSIVE ARENA:

- ❖ 1 player is defensive play, 3 players are offensive play, 1 player is the flagkeeper
- ❖ 1 player is defensive play, 4 players are offensive play, 0 players are the flagkeepers
- ❖ 0 players are defensive play, 3 players are offensive play, 2 players are the flagkeepers
- ❖ 0 players are defensive play, 4 players are offensive play, 1 player is the flagkeeper
- ❖ 0 players are defensive play, 5 players are offensive play, 0 players are the flagkeeper

The games are played with the 2 teams of 5 players each. The team members alternate between gaming simulation engagements. At the end of the Game 1, the players engage in the games with the rules of engagement specified by the gamemasters, resting for 1 minute. Before the rest period timeframe has expired, the players are rotated between the 2 teams. Since the number of players consists of 5 players for each team, the number is an odd lot, with 1 of the team members acting in a neutral capacity since only 2 team members may switch with the other team. In some regards, the fifth player is the “control” of the experiment in the team member analysis. Basically, this is to determine if the player gaming data alters between those that are switched between teams versus those not switched.

Players will be identified by their Player Number identifier, where Player 1 through Player 5 are the team members for TEAM RED, and Player 6 through Player 10 are the team members for TEAM BLUE. When team members switch between simulations, they still retain their Player Number identifier. This is used to follow the mechanics behind each player’s behavioral patterns in the rules of engagement during each gaming simulation.



With the teams, the rotation strategy would be as what is shown below. The first set of gaming simulation matches pertain to the DEFENSIVE ARENA first.

DEFENSIVE ARENA - TEAM MATCH: Team RED

- ❖ Initial Team Red players (before Game 1)
- ❖ Team Red: Players 1 and 2 switch with Team Blue: Players 3 and 4 (after Game 1)
- ❖ Team Red: Players 3 and 4 switch with Team Blue: Players 1 and 2 (after Game 2)
- ❖ Team Red: Player 5 remains neutral throughout the gaming simulation

DEFENSIVE ARENA - TEAM MATCH: Team BLUE

- ❖ Initial Team Blue players (before Game 1)
- ❖ Team Blue: Players 3 and 4 switch with Team Red: Players 1 and 2 (after Game 1)
- ❖ Team Blue: Players 1 and 2 switch with Team Red: Players 3 and 4 (after Game 2)
- ❖ Team Blue: Player 5 remains neutral throughout the gaming simulation

The second set of gaming simulation matches pertain to the OFFENSIVE ARENA next.

OFFENSIVE ARENA - TEAM MATCH: Team RED

- ❖ Initial Team Red players (before Game 1)
- ❖ Team Red: Players 1 and 3 switch with Team Blue: Players 2 and 4 (after Game 1)
- ❖ Team Red: Players 2 and 4 switch with Team Blue: Players 1 and 3 (after Game 2)
- ❖ Team Red: Player 5 (still) remains neutral throughout gaming simulation

OFFENSIVE ARENA - TEAM MATCH: Team BLUE

- ❖ Initial Team Blue players (before Game 1)
- ❖ Team Blue: Players 2 and 4 switch with Team Red: Players 1 and 3 (after Game 1)
- ❖ Team Blue: Players 1 and 3 switch with Team Red: Players 2 and 4 (after Game 2)
- ❖ Team Blue: Player 5 (still) remains neutral throughout gaming simulation

Thus, there are several comparative circumstances by alternating team members between colored teams, there is no definitive team that is either defensive nor offensive (although this would pose certain conditions to effectively measure where one team is in defensive mode, the other team is in offensive mode, then visa versa). However, if the games are too staged insofar that team members are not only told where to play, but how they should play, then the results may be skewed. The effect may produce unexpected results, which might not provide the evidence required in determining specific behavioral patterns.

Perhaps initially during the prerequisite phase of the project might the playing field be staged insofar as to determine the specific areas, functions and movements of team members between teams, and what would be found from this positioning. This would be sort of like electronic testing equipment that produces all "F" or all "0" (zero) characters at the beginning of the testing phase of the testing equipment as part of its diagnostics. This confirms that the data returned is valid and accurate.

With this scenario, this would confirm expected or anticipated results returned from team members during live gaming simulations. In this case, the testing phase would be performed at another time, with other players. When the gaming simulation is ready, employ the use of the team members who have been selected for the gaming simulation, but without mentioning all of the specific details pertaining to the gaming simulations. Team players



should (at least) know that the gaming simulations are part of an ongoing experiment, but are not revealed any additional information regarding the truth to the each gaming simulation scenario. Revealing all of the specific details of the entire project would be detrimental and would possibly corrupt the results from each gaming simulation.

Since there have been so many configurations listed, probably the best method of demonstrating how the CTF configuration would be operated is listed as shown below. Switched team members are highlighted with **bold** and *italic* lettering.

DEFENSIVE ARENA

TEAM RED

Game 1: Players: 1, 2, 3, 4, 5

Game 2: Players: 8, **9**, 3, 4, 5

Game 3: Players: 8, 9, **6**, *7*, 5

TEAM BLUE

Game 1: Players: 6, 7, 8, 9, 10

Game 2: Players: 6, 7, *1*, 2, 10

Game 3: Players: 3, **4**, 1, 2, 10

Game 1: ALL team members retain team membership status as defined.

Game 2: TEAM RED team members 1 and 2 switch with TEAM BLUE team members 3 and 4.

Game 3: TEAM RED team members 3 and 4 switch with TEAM BLUE team members 1 and 2.

OFFENSIVE ARENA

TEAM RED

Game 1: Players: 1, 2, 3, 4, 5

Game 2: Players: 7, 2, **9**, 4, 5

Game 3: Players: 7, **6**, 9, 8, 5

TEAM BLUE

Game 1: Players: 6, 7, 8, 9, 10

Game 2: Players: 6, *1*, 8, 3, 10

Game 3: Players: 2, 1, **4**, 3, 10

Game 1: ALL team members retain team membership status as defined.

Game 2: TEAM RED team members 1 and 3 switch with TEAM BLUE team members 2 and 4.

Game 3: TEAM RED team members 2 and 4 switch with TEAM BLUE team members 1 and 3.

Of course, an alternative configuration might switch the neutral team members, Player 5 from TEAM RED and Player 10 from TEAM BLUE with each other, then repeating the 6 gaming simulations again.

DEFENSIVE ARENA (alternative)

TEAM RED

Game 1: Players: 1, 2, 3, 4, 10

Game 2: Players: 8, 9, 3, 4, 10

Game 3: Players: 8, 9, 6, 7, 10

TEAM BLUE

Game 1: Players: 6, 7, 8, 9, 5

Game 2: Players: 6, 7, 1, 2, 5

Game 3: Players: 3, 4, 1, 2, 5

OFFENSIVE ARENA (alternative)

TEAM RED

Game 1: Players: 1, 2, 3, 4, 10

Game 2: Players: 7, 2, 9, 4, 10

Game 3: Players: 7, 6, 9, 8, 10

TEAM BLUE

Game 1: Players: 6, 7, 8, 9, 5

Game 2: Players: 6, 1, 8, 3, 5

Game 3: Players: 2, 1, 4, 3, 5



Deathmatch (DM) Mode

Please note that the Free For All (FFA) and Deathmatch (DM) gaming simulations are BOTH the Deathmatch games, except that the Deathmatch is team role-playing and FFA is individual role-playing. Both are group settings, such that Deathmatch will have a TEAM RED and a TEAM BLUE, much like the CTF mode, except that there is no objective of capturing a flag. In the Deathmatch scenario, the objective is quite simple: operate as a team and frag (remember that the term “frag” is a term used to represent the word “kill”) as many of the opposing team members as possible.

However, unlike the CTF mode, there are no defined defensive or offensive gambits. Instead, the DM mode consists of 2 teams (TEAM RED and TEAM BLUE) with 5 players each, with 6 games for the entire gaming simulation.

DEATHMATCH ARENA

TEAM RED

Game 1: Player: 1, 2, 3, 4, 5
Game 2: Player: 6, 2, 8, 4, 5
Game 3: Player: 6, 7, 8, 9, 5
Game 4: Player: 6, 1, 8, 2, 10
Game 5: Player: 3, 1, 4, 2, 10
Game 6: Player: 7, 2, 8, 4, 10

TEAM BLUE

Game 1: Players: 6, 7, 8, 9, 10
Game 2: Players: 1, 7, 3, 9, 10
Game 3: Players: 1, 2, 3, 4, 10
Game 4: Players: 7, 3, 9, 4, 5
Game 5: Players: 7, 6, 9, 8, 5
Game 6: Players: 1, 6, 9, 3, 5

There are several combinations of player integration, but this represents about 2 hours (remember that each gaming simulation has a time limitation of 18 minutes each) worth of gaming observation.

Free For All (FFA) Mode

Unlike the DM mode, this is still a Deathmatch role-playing gaming simulation, except that all players are now operating independently of each other. Essentially, there will be no teams, and all 10 players will play 3 games, totaling roughly 1 hour worth of gaming observation.

