

From Team Play to Squad Play: The Militarisation of Interactions in Multiplayer FPS Video Games.

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Abstract

Since the inception of E-sports we have seen casual video game players develop into professionals who push the boundary of game mastery to new heights via coordinated team play. This short paper explores how a group of video game players adopt military-style communication methods and strategies to coordinate their actions in the popular tactical First Person Shooter (FPS) video game *DayZ* (Bohemia Interactive, 2014). Utilising the key components of team interaction in the context of distributed and ad-hoc military teams (Pascual *et al.*, 1997), it is shown how a group of players evolved their interactions from *team play* to *squad play*. It is argued that squad play is an advancement of the strategic and tactical thinking embodied in team play through the adoption of real-world military interaction and communication strategies.

Keywords

multiplayer; FPS; interactions; militarisation

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Introduction

Characterised by the players' point of view, First Person Shooter (FPS) games are one of the most popular video game genres. Tracing their origins as far back as *Wolfenstein 3D* (id Software, 1992) and *Doom* (id Software, 1993); FPS games occupy realistic three-dimensional environments merging a first person perspective with direct combat in a single or multiplayer format. Although solo play is possible, the majority of FPS games are multiplayer, designed to encourage coordinated team play through interactions and objective-based play. The genre has seen the birth of numerous triple-A franchises such as *Battlefield* (EA, 2002-2015) and *Call of Duty* (Activision, 2003-2015) but the generalities of game play remain the same. An identifiable template emerges from a brief glimpse across the range of multiplayer FPS titles that exist: a range of weapons, faction or team-orientated play, objectives, and frenetic movement across a digital battlefield.

Although it is possible to play these games solo, the coordination of successful team play in a multiplayer environment is predicated on player interactions. Multiple methods of mediated communication are available to the gamer. The employment of communication tools to facilitate interaction has evolved over the last ten years from purely text-based to Voice over Internet Protocols (VoIP), or shared voice channels. VoIP has become the principal point for contact, coordination and interaction among players in FPS games (Manninen, 2001).

In this paper I explore the interaction strategies teams of players utilised to coordinate their actions during gameplay. Through an analysis of edited gameplay videos published on YouTube, I demonstrate an evolution in player interactions. The adoption of military-style language and interaction strategies enhances team success against competing players in virtual game environments. I argue that such militarisation of interactions in multiplayer FPS games demonstrates advancement from *team play* to *squad play*.

Background

The evolution of digital communications technology alongside the development of FPS games has led to multiple methods of mediated communication being available to the gamer. Historically, computer games relied on text-based communications among players to facilitate interaction. Textual chatting is restricted during periods of in-game action and is rarely used to communicate strategy and tactics. Non-contextual data, such as taunts, dominate text chat channels (Manninen, 2001).

In team-based video games the importance of verbal communication strategies between players has been well documented (Manninen, 2001; Halloran *et al.*, 2003; Gibbs *et al.*, 2004; Tang *et al.*, 2012). Verbal communication strategies are utilised by players to coordinate their

actions due to the lack of face-to-face contact. As the team is comprised of geographically distanced individuals, the game environment necessitates team-based communication for the accomplishment of shared goals (e.g. capture the flag). By being able to communicate with one another via Voice over Internet Protocol (VoIP) software players are able to build and maintain a shared knowledge of the game environment. As players navigate the game they can share the locations/intentions of fellow teammates, opposing players, and the state of the game (Tang *et al.*, 2012). Research has shown that the provision of VoIP, such as Xbox Live, does not always produce an improvement in team play and strategic coordination. 'Joshing, crowing and self-/side-talk' (Halloran *et al.*, 2003) were the most common interactions that occurred during online gaming when a single player was observed. Such out-of-game communication is often the result of the social aspect of games. Mirroring traditional games, players get excited and express frustration or joy (Manninen, 2001).

Third party software such as *Roger Wilco*, *Skype* and *Teamspeak* has been used by organised expert teams to enable verbal communication to occur during FPS gaming sessions. In the context of FPS games, expert players and teams will coordinate their play via VoIP software. Coordinating team action and movement becomes the foundation for success in accomplishing game play objectives. During group play, where three friends participated together during an online game session Halloran *et al.* (2003) observed communication via *Roger Wilco* based upon implicit knowledge of each other and the game. Moving beyond non-contextual interactions, the verbal communication was utilised to coordinate attacks, and understand their situational awareness relative to each other as well as enemy players. Halloran (2011) identifies two principle forms of verbal coordination that teams employ in FPS games:

1. Moving as a team;
2. Team attack on an objective.

Tang *et al.* (2012) develop this taxonomy further in their detailed analysis of verbal communication in *Halo 3* (Bungie, 2007), *Team Fortress 2* (Valve, 2007) and *Counter-Strike* (Valve, 1999). The coordination of team tactics through verbal communication enables not only collective team movement, but more specialised movement such as scouting, pairing, pushing/falling back (Tang *et al.* 2012), and diversions (Manninen, 2001). As games are orientated towards team tactics and objectives the control and coordination of movement among participating players becomes increasingly important in order to succeed.

To some extent, all players engage in tactical and strategic thinking during gameplay. Mastery of the game is an innate property of play and results from hours of practice. Since the onset of E-sports we have seen

the development from casual players to professional players who push the boundary of game mastery to new heights via coordinated team play. In the genre of multiplayer FPS games, professional gamers form clans or teams and compete competitively online, or at organised events. The emphasis of play changes from individual to *team* (Taylor, 2012) as new levels of communication and strategic thinking skills become necessary to compete. To facilitate development, the *team* practices, playing against other teams and discussing strategies within the team (Rambusch *et al.*, 2007). Considered a form of research by the gaming community (Taylor, 2012), practice enables teams to develop new tactics and counterstrategies. Such tactical communication has been shown to be a characteristic of expert players (Rambusch *et al.*, 2007). Individuals learn their role, how to work together and how to listen to tactical directions or give them. As the team develops they are better able to synchronise and coordinate tactics, the lay-of-the-land becomes familiar resulting in players responding to utterances related to action much more (Halloran, 2011).

From Team Play to Squad Play: A Framework for Analysis

The combination of geographically separated players coming together to play objective-based FPS games draws parallels with the operation of soldiers during modern military conflict. In Joint Force operations physically dispersed ad-hoc teams are brought together for the achievement of short term goals (Pascual *et al.*, 1997). Applying the behavioural perspective adopted by McIntyre and Salas (1995) in their research into managing team performance, Pascual *et al.* (1997) identify five key components of successful team interaction in the context of military teams that comprise of distributed or ad-hoc members: communication; shared-situation awareness; leadership; core teamwork behaviours and training. In this short article I will consider only two of these components as they apply to multiplayer FPS games through the lens of US Army instructional field manuals: communication and shared-situation awareness.

Communication

Communication is a critical component of team work. The conveyance of both meaning and understanding through verbal interactions by geographically distributed teams experience substantially more communication problems (Pascual *et al.*, 1997). The primary method for overcoming such problems within distributed and ad-hoc military teams is Infantry Doctrine.

The Infantry Doctrine contains the fundamental principles by which the military forces guide their actions. Based upon the history of engagement and war, the Doctrine provides soldiers with the tactics, techniques and procedures (TTP) to overcome the chaos of modern warfare resulting in the deliberate control of military formation,

movement and fire (US Army, 2007, pp. 1-7). Order is imposed where there is disorder to defeat enemy units. In the military there are two aspects of communication: the technical means used to communicate; and the procedures used to disseminate information. Infantry Doctrine facilitates communication among infantry soldiers. The establishment of words and symbols of common military meaning enhances effective communication among soldiers (US Army, 2007, p. 8). Terminology such as defilade, enfilade, overwatch, and loop-hole sniping are part of military language, have commonly understood definitions, and are not used by civilians in everyday life. Such is the extent of military terminology, and the need for standardisation of definitions, the US Army (2004) published a field manual called *Operational Terms and Graphics* to facilitate shared understanding.

When interacting without face-to-face contact a common problem to overcome is that of miscommunication. Pascual *et al.* (2007) report of the uncertainty involved by distributed military teams in knowing whether or not team members had properly understood information passed to them (particularly orders). Infantry Doctrine introduces standard operating procedures (SOP) to soldiers, providing core principles for voice communication during combat. Brevity and clarity of voice, using defined tactical language and SOP ensures communication is understood by all participants. During a patrol in Kajaki, Afghanistan on 24th May 2011 US Marines come under fire from Taliban Militia. The following abridged transcript illustrates formalised military interactions among a squad (Army Frontline, 2013):

Soldier 1	Contact. North East. (in response to enemy fire at the patrol)
Soldier 2	Keep that sector under fire.
Soldier 1	I'm engaging.
Soldier 2	Where?
Soldier 3	Reloading. That building, right there. (makes signed gesture towards North East).
Soldier 4	About 200 metres.

The communication of accurate and timely information among a team enables the achievement of shared-situation awareness (US Army, 2007, p. 9). Soldiers must be able to concisely and accurately report their experience, perception, and judgment, maximising the dissemination of combat intelligence among the squad. During the abridged transcript above, contact is clearly identified and in a short space of time the squad is made aware of the exact location of and distance to the enemy. Any orders that are issued will be confirmed and

read back by the recipient, ensuring the squad leader is aware they were understood.

Shared-Situation Awareness

The importance of shared situation awareness to the military is evident in the Defence Advanced Research Projects Agency's (DARPA) continued research into the area. Seeking to move beyond the simplistic 'Where am I? Where are my friends? Where is the enemy?' definition that is commonly applied (Nofi, 2000, p. 6), DARPA query the place of policy, strategy, operations, technology, logistics, tactics, plans, command structure, personalities, posture, and environment in a working understanding of shared-situation awareness.

An individual's awareness during combat is never complete (US Army, 2007, p. 6). Distanced from the enemy and with potential environmental issues concerning line of sight, there is no perfect understanding of a situation. If every soldier is a sensor (US Army, 2007, p. 11) the exercise of shared knowledge enables individuals to accurately explain their environment to other team members: terrain characteristics, enemy and friendly obstacles to movement, and the disposition of enemy forces. The facilitation of such understanding is a task associated with the intelligence function of combat. Interactions provide soldiers and their commanders with the relevant information to assess potential threat and environmental factors which 'promotes timely, relevant, and accurate assessment of friendly, enemy, and other operations within the battle space in order to facilitate decision making' (US Army, 2004, p. 171). A shared mental model of the environment is constructed as tactical interactions through signs and language emphasise the differing spatial perspectives of geographically distributed soldiers.

The conveyance of target locations and range among team members prior to engaging with the enemy confers a tactical advantage. Likewise, through an increase in shared-situational awareness due to the visual reconnaissance of an area, the team may be subject to strategic manoeuvring by the squad leader to a position of advantage in an ensuing fire-fight or able to take advantage of the lay-of-the-land to create an ambush. Shared-situational awareness enables a team to adapt successfully to stressful situations and develop core teamwork behaviours (Pasqual *et al.*, 1997, p. 172).

The Study

The aim of the study was to explore how a group of players adopted military-style communication methods and strategies to enhance their team play. Utilising the key components of team interaction in the context of military teams (Pasqual *et al.*, 1997) as a framework for analysis, I show how a group of players advanced their interactions from team play to squad play. Since the onset of E-sports we have seen the development from casual players to professional players (Taylor, 2012)

who push the boundary of game mastery to new heights via coordinated team play. Squad play is an evolution of the strategic and tactical thinking embodied in team play through the adoption of real-world military interaction and communication strategies.

A video ethnography of interactions

Social science researchers have encountered methodological challenges as Game Studies has emerged as a discrete academic discipline. The need to study communities in which digital technologies are used for communication has given rise to new directions in qualitative research and ethnographic methods. The use of existing videos as data is increasingly common for research to be undertaken with videos that are already available rather than video generated by researchers for research. YouTube provides an extensive and rapidly growing collection of video materials that can be re-purposed for research (Adami, 2010). YouTube provides a window into social practices (Laurier, Forthcoming) providing an insight into the talk, gestures, and movement of its subjects through video analysis.

The professionalisation of video game play has seen a rapid growth in digital media for players and the wider community to consume. The study sample is theoretical, chosen not for statistical representation of the population but instead to extend emergent theory, fill theoretical categories and provide examples of polar types (Eisenhardt, 1989). The YouTube videos have been chosen purposefully for information richness and "in terms of the adequacy of the theoretical inferences that can be generated" (Bryman, 1989, p. 173).

The findings are based on transcripts of the video and audio collected from five published YouTube videos by English gamers nicknamed *Sacriel42* and *GibsAndPieces* participating in coordinated team play of the game *DayZ*.

What is *DayZ*?

DayZ (Bohemia Interactive, 2013) is a persistent, multiplayer, open world, zombie-themed survival game developed by interactive games studio Bohemia Interactive. Published digitally via *Steam* in November 2013, *DayZ* was the successor to the award winning game modification (or 'mod') designed by Dean Hall for the tactical shooter *Arma II: Combined Operations* (Bohemia Interactive, 2010). *DayZ* utilizes the *Take on Helicopter* (Bohemia Interactive, 2011) game engine, which is a branch of the *Arma II Operation Arrowhead* engine *Real Virtuality* (Rocketkiwi, 2012). In contrast to most FPS video games, *DayZ* lacks any objective. Dean Hall has previously stated that his intent with *DayZ* was to design authentic experiences (Hall cited in Plunkett, 2012) through a 'no rules' and 'no objectives' style of gameplay. The game is focussed upon player interaction – interaction with one another as well as the environment. This would create a unique immersive simulation that favours player freedom versus scripted experiences. Taking its cue

from post-apocalyptic films, TV, and novels players must scavenge to survive across a vast virtual environment. Users begin the game with very few items in their inventory. The equipment necessary to survive must be scavenged from the environment: weapons, food, drink and medication can be looted from the abandoned buildings spread across *Chernarus* (Figure 1), a 225 km² game world.



Figure 1. Chernarus. Source: <http://dayz.gamepedia.com>

Most multiplayer FPS games use a faction system to visualise friend from foe. Maintaining the tactical simulation elements of the *Arma* series, *DayZ* purposely lacks this functionality preferring a factionless system of play; cooperative groups can only be maintained through verbal communication using in-game VoIP or external software. *DayZ* avatars lack identifying symbols or markers. Apart from their clothing and gear, there is nothing to identify a player as a member of a squad. Character death is permanent, or 'consequential'. In the persistent world of *DayZ* there are no 'save points' (except when you exit the game). Mirroring real-world simulation as opposed to the fast arcade respawn associated with most multiplayer FPS games, death results in both a significant geographic distancing from your corpse and the resulting loss of all equipment and weapons. Death is a punishment, rather than a mild inconvenience.

Findings

Following a qualitative analysis of five YouTube videos featuring team play on *DayZ* (mod and standalone editions), it could be seen that the participants exhibited varying degrees of coordinated team play. Despite each video featuring expert gamers utilising VoIP there is a clear distinction between the interactions displayed. The first section of findings focuses on Team Play. The second section illustrates examples of Squad Play, defined by the author as the advancement of strategic and tactical thinking embodied in team play through the adoption of real-world military interaction and communication strategies.

Team Play

The following transcript excerpts are from *DayZ Bus Squad vs ATV Squad* (GibsAndPieces, 2012, August 12). The sixteen minute video portrays a single encounter by a team of three players during game play of *DayZ (mod)* situated around a small town in the North East of Chernarus. Where possible in excerpts from the transcript nicknames have been used, otherwise Player A-C has been the designation.

The team of players arrive via vehicle at a small town in the North East of Chernarus. Having taken hull and wheel damage from a previous contact, the team elect to stop, repair the vehicle and collect supplies from the buildings.

Player A	I can hear a vehicle.
Gibs	Yes, I can hear it.
Player A	Right. Hide, hide, hide, hide.
Gibs	I can see it. Can you see it.
Player A	No.
Gibs	Where are you?
Player C	I am up in the middle of nowhere.

Alerted by the noise, the team identifies an ATV that has recently been abandoned. As the engine is still running they conclude a hostile player must have quickly disembarked as in the nearby vicinity. Having scanned the area, no one had sight of any other players so they leave the building they had hunkered down in to group up.

Player C	Hopefully they will see us, and move up, and you can get them from behind.
Gibs	Right, I'm running across to a barn.
Player C	That's the current plan I have just made up as I'm running.

Lacking support from another team member, *Gibs* runs across open fields towards a large barn approximately 200 metres from their original location by the supermarket in the town. With little in the way of cover, he is exposed to any hostile players who might engage. On arrival at the barn, *Gibs* runs straight in and is fired upon by an automatic rifle. Sighting a hostile player he returns fire with his handgun before attempting to flee.

Gibs	Whoa! Shit.
Player C	I hear it. I hear it. Are you okay?
Gibs	Nope. I'm bleeding out. Ah shit, I'm in the barn. I'm down. Bollocks.
Player C	Where is the barn at?
Gibs	North. North. From the supermarket. I'm unconscious, broken leg...dead.

Despite being aware of an unknown number of hostile players in the vicinity, *Gibs* chose to run across open ground, away from the protection and the support of his team who were situated in the town. Narrating the YouTube video he acknowledges his error, 'Fair play, it was my own stupid fault; I should not have run off on my own' (GibsAndPieces, 2012, August 12). The encounter continues:

Player A	I see him. I see him.
Player C	No, that might be me. I'm in the supermarket.
Player A	No, no. This is miles away. I can't believe I saw him and didn't take the shot. I see him, fuck. With his quad bike.
Player C	Shoot him.
Player A	I don't know what the range is.
Player C	Guess.
Player A	Boom. I hit him.
Player C	Hit him again.
Player A	I hit him again. Hit him twice.
Gibs	Really? He is not dead?
Player A	I hit him three times, three times. I got him. I got the murder. Right, I'm off for his quad bike.

Not learning from the death of his team mate, *Player 1* opts to repeat *Gibs* earlier mistake and run across open ground towards the corpse of the hostile player he killed. Despite his repeated shots alerting any remaining hostile players to his location, he opts to move to the quad bike alone and unsupported by his team. He is then shot and killed.

The following transcript excerpts are taken from the videos *Private Hive - Squad vs. Squad Airfield Part 1* and *2* (Sacriel42, 2012, October 1; Sacriel42, 2012, October 6). The action takes place on the North West Airfield, Chernarus. Geographically distanced from the remainder of the team, *Sacriel42* is positioned on the opposite side of the airfield with his fire team partner *Oshi7*, providing protection for a team member who had taken direct fire from an unidentified source:

Sacriel42	Players, Players. They are at the Fire Station itself. I saw someone run along the Fire Station.
Player 1	I'm at the Fire Station.
Oshi7	Running round the front, yeah?
Player 2	That's one of us.
Sacriel42	Okay.
Player 1	SVD Camo
Sacriel42	SVD Camo. Yes.
Oshi7	Round the front of the Fire Station.
Player 1	Yes.
Oshi7	Cool.
Player 2	We will be coming from the North.

The team are geographically dispersed across the airfield: one scout has been killed in the fire station, a helicopter is flying over the airfield providing reconnaissance, two team members have been dropped at the North end of the airfield, *Sacriel42* and *Oshi7* are situated on the West. The surviving team players are separated by a distance of over 600 metres. Communicating via VoiP a player asks for a sit-rep, or situation reports, as two vehicles enter the airfield both containing opposing players, a threat to the team.

Player 1	Can we do a check up on where everyone is? Sacriel and Oshi you are at the East side?
Sacriel42	No. West. West side.
Oshi7	We are West side. West wall.

Player 1 West wall alright. Where are the others?

Player 2 We died by the East wall

Player 1 East wall, by the Fire Station?

As *DayZ* is factionless, it is of critical importance to team play that situation-awareness is maintained. Knowledge of the whereabouts of compatriot players is essential to avoid friendly fire scenarios. The arrival of the enemy players onto the airfield sees the team descend into chaos. There is confusion over who is alive/dead and who is located where across the airfield. Although the friendly player with the SVD camo is dead, both *Sacriel42* and *Oshi7* believed him to be alive in the fire station prior to the sit-rep call-out as he had only moments earlier been seen entering the building.

Squad Play

The following transcript excerpts are from *Airfield Chaos Part 1* and *2* (*Sacriel42*, 2014, August 19; *Sacriel42*, 2014, August 20). The two videos again portray a single encounter by the squad. The squad consists of five players: *Sacriel42*, *Hoggie*, *Ngotie*, *Break* and *Smithy*. Where possible in excerpts from the transcript nicknames have been used, otherwise Player 1-4 has been the designation.

The video opens with *Sacriel42* awaiting the arrival of his team mates via helicopter, narrating the scene for the purposes of uploading later to YouTube.

Sacriel42 I'm at Stary Sorbor, overwatching Sniper Hill, or part of it while I wait for my taxi to arrive.

Employing a M24 sniper rifle equipped with optical enhancement, *Sacriel42* scans the terrain and the notorious *Sniper Hill* to provide protection for the incoming military asset (helicopter) as it lands to collect and transport the squad northwards.

Player 1 Where you at?

Sacriel42 I'm running over now. I'm North of you.

Player 1 I see you.

Due to avatars lacking identifying symbols or markers effective communication, utilising directional call-outs, are necessary to ensure proper identification of team members. As such a compass is a key part of a player's equipment. The squad have developed and use a wide range of callouts for geographic locations at the Airfield. Utilising such a method enables the squad to quickly identify the exact locations of team mates and enemy as called out over VoIP. Although geographically dispersed across the airfield, the squad constantly call-out locational markers to maintain shared-situation awareness at all times:

Player 1 We need to get off west mound

Sacriel42 I'm in glass.

Player 1 South hill. Sorry.

Having surveyed the airfield from the top of the air traffic control (ATC) building, *Sacriel42* exits the building. After a quick glance across the road he crosses towards the hangers, announcing his intention to the squad by comms before moving.

Sacriel42 Moving down 1 to 6 (hangers). Please keep me alive. Shots on me. Fucking Jesus. M4 or AK. Oh my god that's loud. I'm taking shots from 1 to 6.

Player 1 Location?

Sacriel42 No idea. I'm hit, I'm hit, I'm hit. Fucking hell he has enfilade down the...fuck. He has enfilade down from the front of the fire station. I think he is rushing me I can hear steps.

Player 2 He is not rushing you. I can see the ATC. He is out of the front of the fire station. Firing rounds at him.

Player 3 Running to ATC.

Recognising the need to provide fire-support for their injured colleague, the team begin to converge on Air Traffic Control. As *Sacriel42* takes refuge back inside the ATC from his unseen enemy, his communication call-outs ensure the squad know as much information as he ascertained from the contact: possible location of enemy player, weapon used, and number of targets.

Player 2 There is a second one. A second one. Down the way.

Player 4 Down the way?

Player 2 Industrials.

Sacriel42 Please suppress the shit out of the ATC.

Player 2 He is at the ATC.

Player 1 There is a second guy on the airfield, by the industrials. Heading down to camo now, across the wall.

Sacriel42 Shots are ringing in. Put suppression around the walls, make him think fuck.

Covering the doorway with his own weapon, *Sacriel42* requests suppressive fire from the squad onto his location.

- Player 2 Okay there is one guy at the ATC, there is a second guy running down the wall.
- Sacriel 42 He is south side of it now.
- Player 1 Got from south east and west side covered but the trees are in the way. If he comes in the front door I will tell you, if you comes onto the roof I will tell you.
- Player 4 No eyes on anybody at the ATC from my position.
- Ngotie One is in the trees and bushes, north side of the ATC.
- Player 2 I am behind 4, coming up.
- Player 3 Shots.
- Player 2 My shot.
- Sacriel42 Someone needs to get between Fire and North fire fake.
- Player 1 We are behind 1.
- Sacriel42 Okay, if you get between Fake north of it, you should have enfilade on him.
- Player 2 Beware that second dude as well.
- Player 1 Eyes. Eyes.
- Player 2 Where?
- Sacriel42 North Face.
- Player 1 Directly in front of us. He is down, he's down.

The squad continue to relay their individual positions across comms as they converge on the ATC. Having manoeuvred into an enfilade position to provide direct line of fire on the enemy contact outside ATC, *Player 1* opens fire and kills the contact. Enfilade or flanking fire is fire delivered on a target that generally aligns with the long axis of the target (US Army, 2004).

- Player 2 Where was he?
- Player 1 In the compound.

- Player 2 That's the second guy. The guy I saw running down from industrials.
- Player 1 Where is ATC guy?
- Player 2 ATC guy has not moved from ATC.

The players communicate the kill and confirm identity and location of the contact. This reveals a miscommunication in the intended target. A threat is still active to the team situated somewhere by the ATC.

Discussion

The technical limitation of interaction among players is overcome through the use of VoIP. In *DayZ* similar avatar appearance and the lack of in-game faction identifiers exacerbate the need for effective call-outs and the maintenance of shared-situation awareness among collaborating players. The extent to which these occur differs significantly across the sampled videos.

Call-Outs

Although players actively listen for call-outs in FPS games (Tang *et al.*, 2012) the consistency and quality of information contained varies based upon the players involved. The death of *Player SVD Camo* during *Airfield Chaos Part 1* and *2* is not announced to the team across VoIP prior to a sit-rep request. The player does not interact with his team via comms to indicate he took fire or engaged in a contact. The result is that some or all of his team believe him to still be active, creating problems for the team when enemy players enter the airfield.

In Team Play, *GibsAndPieces* and his colleagues use call-outs throughout the observed encounter. With limited success they communicate readily to one another, struggling to provide effective call-outs that would maintain shared-situation awareness (Table 1). Confusion reigns as players are unable to ID friend from foe. Despite occupying the same approximate geographic space, a small village, the players lack the required coordination that produces shared-situation awareness among each player.

Call-Out	Analysis
Gibs Where are you?	Lack of coordination
P3 I am up in the middle of nowhere.	Unable to share location with colleague
P1 I see him.	IDs potential contact, but no indication of orientation
P3 That might be me.	Confusion over ID due to lack of information
P3 Shoot him.	No range call-out to assist with

	targeting. No description.
P1 I don't know what the range is.	Lack of geographic awareness.

Table 1. Anatomy of a Contact: *DayZ Bus Squad vs ATV Squad* (GibsAndPieces, 2012, August 12).

This contrasts sharply with the actions taken by *Sacriel42* when under fire (Sacriel42, 2014, August 20). Repeated call-outs are made to alert the squad that the video narrator is taking contact (Table 2); he also attempts to provide an indication of the suspected direction of fire to assist his squad in zeroing in on the enemy assailant to provide protection.

Call-Out		Analysis
S1	Moving from 1 to 6.	Informs team of his movement, maintaining shared-situation awareness.
S1	Shots on me. M4 or AK, shots from 1-6.	Alerts team of contact, probable weapon and location (orientation).
S2	Location?	Requests contact location.
S1	No idea. I'm hit. He has enfilade...I think he is rushing me.	Advises squad he is wounded. Provides more info regarding probable contact position (describes).
S2	He is not rushing. He is...fire station. Firing rounds at him.	IDs contact location following visual sighting, advises team of the location. Suppresses.
S3	Running to ATC.	Squad moves to the contact location to provide support and assistance.

Table 2. Anatomy of a Contact: *Airfield Chaos Part 1 and 2* (Sacriel42, 2014, August 19; Sacriel42, 2014, August 20)

Such behaviour mirrors that of US Marines engaged in real combat in Afghanistan as transcribed earlier (Army Frontline, 2013, June 12). The four components of a contact report (alert, orient, describe, expound) are exhibited through an analysis of the transcript (Table 2). Direction, distance and exact location details are necessary for soldiers to engage effectively with enemy contact and provide support for their colleagues. Following this model of real world, military call-outs, Squad Play demonstrates the brevity and clarity of communication ensuring important information is disseminated as rapidly as possible to fellow players.

From another perspective, this could be seen as a military analogue to Garrod & Pickering's (2004) theory of interactive alignment, whereby utterances become shorter, more elliptical, less grammatical, and (both meaning and structure, e.g. "sniper hill, "SVD Camo") implicitly agreed upon by the communicators.

Infantry Doctrine & Shared-Situation Awareness

The transcriptions show a clear delineation in the use and application of military style language that facilitates coordination. In Squad Play *Sacriel42* and his colleagues have developed a shared language and call-out strategy (Table 1). The naming of key geographical locations around the airfield provides a clear indication to each player where their compatriots are situated at any given time. By contrast, Team Play uses vague identifiers: e.g. "I'm running across to a barn"; "I am up in the middle of nowhere". In some cases they simply refer to compass points as a location: "We will be coming from the North". The result is that Squad Play overcome coordination problems by maintaining tactical verbal communications that produce a shared-situation awareness among each player. Each knows where the other is situated, as any movement by one is immediately followed by a call-out to indicate a change in position: e.g. "Moving down 1 to 6". Sightings of enemy players are similarly reported, creating a collaborative vision of the battlefield that extends beyond a single players point-of-view. Extending the notion of every soldier is a sensor (US Army, 2007, p. 11), every gamer is a sensor.

Overwatch has long been a specific military term. Defined by the US Army (2004) "a tactical movement technique in which one element is positioned to support the movement of another element with immediate fire" it is in common practice throughout operations across the globe. *Sacriel42* uses this term to describe his actions to support the incoming military asset onto his position. Suppressive fire is another infantry technique allowing a squad to close with and destroy an enemy target (US Army, 2007). Defined tactical language terms such as these and others populate the call-outs in Squad Play as they move around the virtual environment, mirroring the enactment of real-world military communication strategies.

Conclusion

The findings illustrate a clear distinction in the advancement of the strategic and tactical thinking embodied in team play through the adoption of real-world military interaction and communication strategies. Although utilising a small sample size which is a limitation of the theory proposed, the findings do provide examples of polar types of game play. In *team play*, gamers adopt verbal communication strategies as identified by Tang *et al.* (2012) and Halloran (2001). Call-outs are used to convey a shared understanding of the surrounding environment

providing game state information (Tang *et al.*, 2012). How this information is utilised varies significantly.

Squad Play advances the strategic and tactical thinking embodied in team play through the adoption of real-world military interaction and communication strategies. In the videos *Airfield Chaos Part 1* and *2* (Sacriel42, 2014, August 19; Sacriel42, 2014, August 20) the squad consistently demonstrate use of a virtual infantry doctrine. Squad specific Standard Operating Procedures using defined tactical language have emerged through the naming protocols of in-game geographic locations used to enable shared-situation awareness through quick call-outs. Players maintain constant communications with one another to construct a persistent shared knowledge of the virtual environment, overcoming the issues of an individual field of view, inability to see others, and understand their point of view.

The research findings extend the importance of verbal communication strategies between FPS game players by providing a theory with which to understand their observed advancement. The research is relevant to scholars seeking to understand the development of successful team interactions among FPS video game players through the adoption of real-world military interaction and communication strategies.

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