

This Is Not A Game: Using Alternate Reality Games in Corporate Training

TABLE OF CONTENTS

Table of Contents.....	1
Abstract	2
What is an Alternate Reality Game?	2
The Training Potential of Alternate Reality Games.....	3
How to Make a Successful Alternate Reality Game.....	8

ABSTRACT

When training must teach complex subject matter and motivate behavioral change, it comes with extra challenges. For example, an organization's information security policy requires its employees to understand the full implications of a host of actions—knowledge that is difficult to convey through standard e-learning or classroom training. Recent headlines reflect the fact that, in general, training in this area is far from sufficient.

Alternate reality games (ARGs), a type of real-world game experience that has gained prominence in the marketing world, can answer this dilemma. This whitepaper will examine the efficacy of alternate-reality training games while reviewing one specific data security ARG created for an audience of technology professionals.

WHAT IS AN ALTERNATE REALITY GAME?

In traditional games, play often occurs in a confined space. A session of *World of Warcraft*, a currently popular video game, begins when the player opens the program and ends when he or she closes it. Monopoly takes place on a single board. An alternate reality game breaks these boundaries and creeps into pre-planned aspects of the player's world and life, re-contextualizing everyday activities.

Imagine a much more benign version of *The Game*, the Michael Douglas movie about a wealthy businessman who plays a game in which he must follow a trail of clues to escape a murder plot. While the murder plot is, or at least seems to be, fictional, he solves it in the real world, speaking with actual people (in character), sifting through physical documents, and traveling to real locations. In most games, these actions would be imagined or pictured on a screen. In an ARG, they are carried out in the real world.

An ARG might start when a player receives a text message from an in-game character on his or her cell phone. This text message could instruct the player to arrive at a particular street corner at a certain time. There, she might find a payphone. When the payphone rings, she picks up—and hears an actual voice that gives her the next set of instructions. Gameplay in *I Love Bees*, a marketing ARG created to promote the video game *Halo 2*, mirrored this scenario.

Common elements in ARGs include:

- ▶ Puzzle-solving or scavenger hunt types of gameplay
- ▶ A narrative explored through a variety of widely used technologies. Typically this means information is transmitted and found within email, webpages, source code, phone communication, and voice mail, though certain ARGs have used television, published novels, physical mail, trading cards, and live meetings of participants to further game play.
- ▶ In-game characters are directly controlled by the game architects, as opposed to programmed adversaries in a video game
- ▶ Players have the power to alter the direction of the game

- ▶ Blurring the lines between reality and the gamespace; maintaining the fantasy that the experience is not really a game is a guiding principle of ARG architects:
 - There is no artificially defined gamespace; the whole world is the gamespace. Play can occur anywhere—on a cell phone, through email, and in real-world locations.
 - There are no stated or apparent artificially imposed rules for the game; any available means (within normal legal, societal, and moral boundaries) of progressing the game is fair.
 - There are no artificially constructed time divisions in the gameplay, such as quarters or innings; events unfold in real time.
 - Game elements function outside of the game context; if a phone number or URL is used in the game, it works in the real world.

ARGs may use any or all of these elements, so it is difficult to create one formal definition for the experience. For the purposes of this whitepaper, the following definition will suffice: ARGs are an emerging genre of interactive experiences that make use of modern technologies and modes of communication to frame game events.

THE TRAINING POTENTIAL OF ALTERNATE REALITY GAMES

Historically, ARGs have been used as marketing initiatives—notably, *The Beast* in support of Stephen Spielberg's film *A.I.*,¹ *I Love Bees* in support of the video game *Halo 2*,² and *Year Zero* in support of the Nine Inch Nails album of the same name.³ For-profit ARGs have seen limited success. *Majestic*, a pay-for-play ARG developed by Electronic Arts,⁴ was discontinued in 2002. *Perplex City*, a 2005 puzzle-card game with a strong alternate-reality element, was deemed relatively successful—but the second season remains on indefinite hold.⁵ Until now, little work had been done to investigate the educational possibilities of alternate-reality experiences.

Despite this, the International Game Developer's Association has stated that the Educational/Training category of ARGs "illustrates the growing flexibility of the ARG medium to be used for training and team building."⁶ Some ARGs—and games with ARG-like elements—have already been used for serious purposes.

¹ [http://en.wikipedia.org/wiki/The_Beast_\(game\)](http://en.wikipedia.org/wiki/The_Beast_(game))

² http://en.wikipedia.org/wiki/I_Love_Bees

³ http://en.wikipedia.org/wiki/Year_Zero_%28alternate_reality_game%29

⁴ [http://en.wikipedia.org/wiki/Majestic_\(video_game\)](http://en.wikipedia.org/wiki/Majestic_(video_game))

⁵ Carless, Simon. "Perplex City Team Department; Arg on Hold." 6 Jun 2007 12 Nov 2007
<http://www.gamesetwatch.com/2007/06/perplex_city_team_depart_arg_o.php>.

⁶ IGDA ARG SIG. "2006 Alternate Reality Games Whitepaper." 19 November 2007
<<http://igda.org/arg/whitepaper.html>>.

Although not strictly an ARG, Google's 2004 *New Hire Campaign* used cryptic math puzzles placed on billboards and inside newspapers to attract clever job applicants.⁷ More recently, *World Without Oil* challenged players to collaborate to survive a global oil crisis.⁸

Though neither of these games was used specifically for instruction, several common ARG elements lend themselves to certain training situations. For example, a corporation that wanted to train new managers to work with teams could use an ARG with puzzles that focused on collaboration. Even if the soft skills necessary for management were not the obvious focus of the game, a carefully crafted experience would require the manager-players to hone them in order to succeed.

Whether used for marketing or for education, one major benefit of alternate-reality experiences is the excitement these games generate among those who play them. Alternate reality games could be used in almost any situation where enthusiasm among players would enhance the training, including onboarding, consumer education, and sales training.

Case Study: Using ARGs to Address a Common Business Problem

Data security is a persistent concern for businesses and institutions of all types. An online survey from the Information Security Forum, which includes fifty percent of Fortune 100 companies, found that respondents identified 881 incidents of information leakage during 2007.⁹ Numerous incidents highlight the fact that breaches in security have cascading ramifications beyond the obvious financial losses associated with repairing broken infrastructure and investigating incidents.

A poorly protected wireless network led to the theft of 48 million credit card numbers from TJX, the organization that owns TJ Max and Marshall's stores.¹⁰ More recently, the December 2007 discovery that a British governmental department lost data discs containing personal information for 25 million UK citizens illustrated the negative effects a breach may have on an organization's public relations.¹¹

Weak security is a significant problem for smaller businesses as well. A 2005 survey by the Small Business Technology Institute reported that more than fifty percent of the small businesses in the United States experienced a security breach in that year.¹² The survey also found that, despite these incidents, two-thirds of small businesses do not have an information security plan.

⁷ Tegarden, Benjamin and Kristina Chu. "Google Entices Job-Searchers with Math Puzzle." *Morning Edition* 14 September 2004. 3 December 2007 <<http://www.npr.org/templates/story/story.php?storyId=3916173>>.

⁸ Glenn, Joshua. "World Without Oil game." [Weblog entry]. *Brainiac: What's Happening In The World of Ideas*. *Boston Globe* 7 May 2007. 3 December 2007 <http://www.boston.com/news/globe/ideas/brainiac/2007/05/world_without_o_1.html>.

⁹ Information Security Forum. "Information leakage." ISF Briefing No. 4 October 2007. 3 December 2007 <https://www.securityforum.org/assests/pdf/Information_leakage.pdf>.

¹⁰ Goodin, Dan. "Lax security led to TJX breach." *The Register* 4 May 2007. 3 December 2007 <http://www.theregister.co.uk/2007/05/04/tjx_nonfeasance/>.

¹¹ Press Association. "Data discs 'missing for a year'." Press Association Ltd. 2 December 2007.

¹² Peiro, Andrea, Patrick Cook and Hassan Beydoun. "Small Business Information Security Readiness." *Small Business Technology Institute* pg. 7. July 2005. 3 December 2007 <<http://www.sbtechnologyinstitute.org/mi/research/readReport.php?codeId=1196702163&targetFile=security.pdf>>.

On June 7, 2007, employees at Enspire Learning, an Austin, Texas based e-learning company, discovered screenshots from a program they had created on another company's website. This incident sparked several questions among company employees, including:

"Where did this company find the screenshots?"

"How did the screenshots get on the web page without our permission?"

"What should we do now?"

Although the first two questions were eventually resolved (the entire situation came down to a simple misunderstanding), the last one was considerably more worrying. Employees had no clear path to follow. Enspire needed to be prepared should a similar incident happen. This whitepaper will examine how a team of e-learning developers created an alternate reality game, *Tom is a Thief*, to address the readiness gap and motivate employees to contribute to the company's data security plan. The team implemented *Tom is a Thief* the summer of 2007, running from June through late August.

The ARG development team identified several points as key takeaways. Employees would need to know the proper actions to take in the event a similar incident occurred. Additionally, there were several other key data security objectives that were identified as valuable. The ARG team narrowed down its goals during a discussion with the company's IT management:

- ▶ Identify and take appropriate action with SPAM emails
- ▶ Create secure passwords
- ▶ Lock computers
- ▶ Follow appropriate VPN procedures
- ▶ Recognize the human element in security

The company needed a solution that would prepare its employees to defend against security intrusions and recognize steps they could take to ensure the stability of the network.

The developers faced a considerable challenge in teaching data security to a group of learners who were not only experienced in taking high-level e-learning, but also producing it. This company's tech-savvy employees represent an extreme case of difficult learners: unless the training was delivered in a novel, engaging manner, many of the employees would dismiss it out of hand.

Training for these employees usually consists of a few days of intensive preparation within each new hire's department. Most policy and process training is done on the job. Each new employee gets a "Company Handbook" that details health benefits as well as computer use policy. Employees have no formal data security training.

The Solution

The company's employees include a mix of veterans and new hires. Many employees choose to work from home when possible. These employees have a widely varying degree of computer knowledge, so the

training would need to bring some employees up to speed with the basics without alienating those who already had some experience with data security.

The ARG design team decided to create an alternate reality game that would reinforce the data security learning objectives by launching the employee-players into an exciting story of intrigue. An ARG format was chosen in part because the use of real technologies—the same technologies that could contribute to a breach—was a vital component of any training solution. Additionally, the designers believed that because an ARG is less separated from real-life events than normal computer and board games, it would allow the learners to more easily apply the training.

The development team decided to leverage the interest generated by the June incident into a safe, controlled gameplaying environment. They created a scenario in which everyone's worst fears about the incident were realized. Only by working together to determine and adopt security best practices would players succeed.

The development team began by inventing a person from scratch. Tom Lainear joined the company as an executive assistant to the CEO. Tom is not real—literally. “Tom Lainear” is an anagram for “I am not real.” Despite not being a real person, Tom was equipped with:

- ▶ Company email address
- ▶ Instant messenger screen name
- ▶ Hotmail account
- ▶ Gmail account
- ▶ MySpace page
- ▶ Phone number and answering machine

Tom was introduced to the company in the same manner as all new employees: a welcome message was posted to the company's internal blog, a box of fresh cookies was placed on his desk, and his name was added to Enspire's organizational chart.

The ARG team also invented CogniTeach, a competing e-learning company in Austin, and its fictional CEO: a friend of Tom's named Frankie Eastwheel (anagram for "fake is the new real") who was intent on hiring Tom away from Enspire and stealing a significant portion of Enspire's intellectual property.

The team worked with Enspire's system administrator to deliver a set of security “Tech Tips” to the company blog as the game got underway. These posts reinforced the learning objectives. Some clever employee-players noticed the correlation, and used information provided in the Tech Tips to play the game.

Play began slowly as the architects took steps to establish the identities of the game characters. Electronic communications between Tom and other employees, as well as between Frankie and members of our sales and marketing staff, provided a history with which to prop up the characters. A bare-bones version of the CogniTeach website established the company as a competitor unworthy of our attention.

Employee-players were finally, unbeknownst to them, propelled into the game on August 3, 2007, with the reveal of a new and polished CogniTeach website exhibiting screenshots of stolen Enspire intellectual property. The initial reaction of the players was one of curiosity and excitement, along with suspicion that this event was orchestrated as part of an ARG. However, players were not yet willing to dismiss the possibility of a real theft.

Players identified other game elements with startling speed. A rough sequence of events:

- ▶ Players discover package sent to Tom from Frankie
- ▶ Players call Tom's phone number, receive cryptic message
- ▶ Players explore Tom's MySpace page
- ▶ Players open package to find locked box (by key or code)
- ▶ Game architects replace CogniTeach website with hidden message and countdown
- ▶ Players find key to box at supposed CogniTeach offices
- ▶ Players discover police report about Tom
- ▶ Players explore a blog titled "Conned in Carolina" detailing Tom's past crimes

As the game progressed, some players were uncertain whether Tom and Franklin were real, while others did not realize that the new breach and the connected events were part of a game at all. The network security breach was a serious event and real worry clouded some players' ability to enjoy the experience. Other players remained excited about the game but became frustrated by the relatively slow pacing of game events.

These factors led the game architects to pull back the curtain on the ARG prematurely and offer an end game only to players who opted-in for the experience. Each of these players received a different clue via email. Some players received clues that led to individual puzzles: an image of Tom containing a document hidden with steganography, a Microsoft® Word document with hidden markup text Tom forgot to remove, and some of Tom's bookmarks. Other players received clues that could be used to help solve the individual puzzles.

The players worked together to solve the smaller puzzles, eventually uncovering the pieces of a final, larger enigma—one that, if solved, promised to put a stop to Tom's activities once and for all. The end game was specifically designed to require cooperation between the remaining players to catch up with Tom and bring him to justice.

Results

After the conclusion of the game, players were asked to fill out an informal survey regarding their experiences. The survey found that the ARG had been successful in improving the security readiness amongst employees:

- ▶ 95% of respondents correctly identified four out of five characteristics of spam email
- ▶ 41% of those who did not have a secure password changed their password

- ▶ 53% of those who did not lock their desktop did so after the ARG

Additionally, the survey found that respondents had a generally favorable opinion of alternate reality games as a training mechanism:

- ▶ 82% said an ARG would be preferable to a textbook
- ▶ 77% said an ARG would be preferable to ILT
- ▶ 59% said an ARG would be preferable to standard e-learning
- ▶ 100% said they would opt-in to an ARG in the future

HOW TO MAKE A SUCCESSFUL ALTERNATE REALITY GAME

The demands of creating an alternate reality game are as unique as the games themselves. In ARGs, players have more control than usual while game designers have less. Business or training managers commissioning an ARG may worry about not being able to foresee the obstacles created by the organic nature of ARGs. These potential problems are actually quite manageable, if commissioners and game designers learn to use common sense, go with the flow, and respond to surprises creatively. In the process of creating Enspire Learning's ARG, the game developers discovered some best practices for doing just this.

1. Allow Players to Opt In

The core team discovered that if employee-players knew ahead of time that Tom and the events surrounding the new breach were part of a game, they would have enjoyed opting-in to the experience, as opposed to feeling they were launched into an experience against their will. The "this is not a game" concept works well in the early stages of an ARG, and Tom certainly captured the company's attention. By week three, however, this approach proved far less effective.

In a corporate or institutional environment, where liability is a significant concern, it is important that players be given an opportunity to choose whether or not to participate.

2. Collaboration is Key

Even though the ARG's primary learning objectives centered on network security, the developers of *Tom is a Thief* noticed that players' favorite parts of the game were those where they had an opportunity to collaborate with their peers. Because ARGs are not confined to a single game-space, it is relatively easy to make them multiplayer experiences.

Though not the focus of this particular ARG, future games could make collaboration a centerpiece of the experience. For example, a company that wanted to encourage its employees to use an internal forum or blog could do this simply by constructing a game that was played primarily in these spaces.

3. Prepare for the Unexpected

Unlike traditional computer games, ARG developers must be facilitators as well. Their work does not end after they have finished creating game content. To ensure a successful experience, the architects must be ready to craft new game materials and alter the narrative in response to player actions. While this may require additional work, it also gives developers an opportunity to refine gameplay to better support the learning objectives.

Alternate reality games created for larger audiences can be difficult to manage, so developers should consider using easily replicable, easily distributable online elements. Web pages, emails, and blogs can be modified on the fly and disseminated quickly.

4. Tell the Boss

The development team preceded each game event with a detailed briefing to the company's Executive Team (ET). Because players have the ability to take ARGs in new and unexpected directions, involving key stakeholders with the planning process helps ensure that surprises do not jeopardize the game or the learning objectives.

ARG developers need to make some difficult decisions in the early stages of development. For *Tom is a Thief*, most members of the ET, as well as the company's network administrator, were involved. Some management-level employees were not informed about the existence of the game beforehand because they were expected to be highly motivated players.

Additionally, disclosing game information to players can be a way to avoid problems associated with frustration over certain game events. Not every game component will be successful, and holding debriefs with certain players at key points during the experience can allow the rest of the players to continue.

About Enspire Learning

Tom is a Thief was developed by Enspire Learning. Enspire Learning was founded in 2001 with the mission to create effective online learning. Headquartered in Austin, Texas, Enspire Learning develops e-learning courses, games, and blended learning programs that motivate learners with interactive multimedia and engaging scenarios.

Visit the website www.enspire.com to view interactive course demonstrations or contact sales@enspire.com for more information.

This Is Not A Game: Using Alternate Reality Games in Corporate Training

Written by



Enspire Learning • 1708 Guadalupe St. • Austin, TX 78701 • Tel (512) 472-8400 • www.enspire.com