



7. Using Game-Based Approaches to Engage Citizens and Deliver Public Services

By Nicole Lazzaro

Introduction

The Obama administration has challenged federal agencies to meaningfully engage the public to provide ideas, insights, and comments on new policies and existing services to make them more citizen-centric. The administration's Open Government Directive asserts: "Public engagement enhances the Government's effectiveness and improves the quality of its decisions."

Many agencies, however, are finding that few citizens are participating in their initiatives. Even the White House's "We the People" petition initiative has found that most of the petitions submitted have been frivolous, supporting building Death Stars and nationalizing the troubled Hostess company, maker of Twinkies.¹ The White House Open Government Initiative is also seeking to engage citizens in other ways, stating: "Collaboration actively engages Americans in the work of their government." As part of these initiatives the isolated successes, such as agency-sponsored contests and prizes for innovations developed to solve public challenges,² include the development of games.

In its second term, could the Obama administration do more to incentivize greater participation and collaboration by citizens in ways that ultimately increase citizen support for government activities and thus reduce the time it takes to explain and defend programs throughout their life? The answer is yes. One new approach could be the increased use of game-inspired thinking in the design of public services. If crafted appropriately, applying the lessons from the thinking used in designing games could have the potential to transform how government communicates, provides information, and delivers public services. It may seem odd that fanciful petitions such as building a Death Star gained so many signatures on social media, but when viewed as a game, it is clear that positive, amusing emotions are generated by signing these playful petitions. This raises the question of whether positive emotions and a playful approach can increase participation in government programs and perhaps provide some of the services themselves. While some government objectives can be reached with full-on games, using game thinking as a pattern when designing interaction has the potential to increase engagement in actions and public discussion. Games have been called the new medium of the 21st century. For example, a 2011 *Wall Street Journal* article reports that participants have spent more than 50 billion hours playing one popular game, World of Warcraft.³

1. David Nakamura, "The Right to Petition the White House Prompts Grievances, Gags Online," *Washington Post*, December 10, 2012. http://www.washingtonpost.com/politics/the-right-to-petition-the-white-house-prompts-grievances-gags-online/2012/12/09/c9adf3fc-3f10-11e2-ae43-cf491b837f7b_story.html

2. Cristin Dorgelo, "Challenge.gov: Two Years and 200 Prizes Later," White House blog accessed at: <http://www.whitehouse.gov/blog/2012/09/05/challengegov-two-years-and-200-prizes-later>

3. Jane McGonigal, "Be a Gamer, Save the World," *Wall Street Journal*, January 22, 2011 accessed at: http://online.wsj.com/article/SB10001424052748704590704576092460302990884.html?mod=WSJ_newsreel_lifeStyle

Although games can be seen as a distraction and waste of time, inspiration from game design thinking provides an opportunity to improve the way public services are designed, approved, offered, and used. “Gamification” of systems using point systems and rewards, such as badges, can increase participation. Game thinking applied at each citizen touch point is an opportunity to increase engagement and adds motivation to participate. Game approaches can involve citizens in new ways, building understanding of and support for programs and thus reducing time and resources needed for implementation at later stages.

There is an opportunity to use game thinking to playsource human engagement. Games already teach the political process, such as the iCivics’ game [Win the White House](#). A generation that grew up playing digital games is now coming of age, ready to engage in the political process. Raised in an ocean of interactive media, games, and advertisements, this generation expects more than downloadable PDF brochures and passive websites. They expect more participation and influence in information delivered via technology. Game-inspired information technology can be a powerful organizer of human action and engagement in the face of enormous national challenges, such as AIDS, obesity, education, and climate change. For additional subject areas that game designers are already addressing, visit the [Games for Change](#) website. Government can now deliver game-inspired public services on mobile devices like smartphones, and on desktop and laptop computers.

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How Could Gaming Design Thinking Be Used to Solve Public Challenges?

Games are self-motivating systems and for the past 30 years game designers have evolved interactive techniques to generate emotion, support performance, encourage problem-solving, develop systems thinking, change behavior, and increase engagement. The power of games to engage users and hold their attention comes from specific designs created by game makers that allow players to make choices while playing. As veteran game designer Sid Meier says, “Games are a series of interesting choices.” Therefore, the focus of applying game thinking should be to borrow game design techniques in order to make citizen choices more interesting and engaging. Game designers craft emotions, situations, choices, and feedback that create the opportunity to change the way that players think, feel, and behave. Interactive design inspired by game thinking can tap into human emotions to more effectively create policy, systems, and institutions that drive behavior. With the increase of public information and services delivered electronically, the engagement language of games can be applied to the design of interactive services, allowing public services to be provided in new ways.

Twenty years of research by one game design firm, XEODesign, found that games create their legendary engagement in four ways. People play for:

- Hard fun (challenge)
- Easy fun (novelty)
- People fun (friendship)
- Serious fun (meaning)

We call these the Four Keys to Fun and they are the secret behind how a player's favorite moments in games create engagement. Best-selling games have at least three out of the four keys to fun and players move between three of the four in a single play session.⁴ Offering a variety of interactive styles lets players experience a wider variety of emotions and stay engaged longer. Gaming uses many engagement techniques to make multiple types of activities fun. Therefore game-inspired services delivered on various platforms offer the opportunity to increase public engagement and to redesign public services.

Using Gaming Technologies to Increase Public Engagement

Game-inspired services delivered on social mobile platforms have already transformed how people participate and shape the political process. The number of people who follow or like a post becomes a point system in the "games" of Facebook or Twitter. Joining political discourse through social media has lowered the barrier to entry (simply open a web browser to protest or comment), while at the same time increasing feedback for how influential an individual contributor can be. To gauge public opinion, as well as to participate in public discussion, federal agencies now actively participate in social media. Adding game mechanics to social media will increase their viral effects.

Mobile technology that is increasingly socially inspired by game mechanics provides the opportunity to rethink the way government engages with citizenry and design new, more participatory systems of government. Interactive social games provide governments with new channels to hear from and be influenced by the people they represent.

Using Gaming Technologies to Redesign Public Services

Game-inspired thinking has the potential to redesign the delivery of public services. In the way that [Craigslist](#) replaced newspaper want ads or [Wikipedia](#) replaced the *Encyclopedia Britannica*, it's possible that a social game played by millions could deliver one or more government services. For example, [Zooniverse](#) harnesses the power of "citizen science" to systematically collect data and analysis by a network of hundreds of thousands of volunteers. It employs quests, puzzles, and research activities to create a resource for inquiry-based education tools. In the future, engaging social or simulation games could deliver a variety of public services, ranging from providing health information and emotional support to planting trees in urban areas. Games have the potential to deliver selected public services at a higher quality and at a lower price. In some cases, games can provide services that government has historically provided by traditional delivery approaches. Game thinking can offer interactions and feedback to participants, increasing engagement and making the process more rewarding. In the future, information services, such as career training and job placement, could be gamified in a social way, as in job interview preparation games: http://www.ehow.com/list_6020349_interactive-job-interview-games.html

4. Lazzaro, Nicole, "Why We Play Games: the Four Keys to Fun," White papers on emotion and the fun of games: <http://4K2F.com>

Games in Action: Inspiring Healthy Lifestyles

One policy area in which games could have a major impact is inspiring healthy lifestyles. The federal government's crowdsourcing innovation website, [Challenge.gov](http://challenge.gov), has already supported the development of games that have now been launched. Examples of results from Challenge.gov competitions are presented below.

Information on nutrition can improve health. Game-like interaction with health information has the potential to inspire changes in diet and exercise that could combat the rise of obesity in children and diabetes in adults, now at epidemic levels. Government can provide important information and motivation in the context of a game. Information delivery is just the first step in improving health. A second step is behavior change. Nutrition games can help people take that information and reward players for turning the information into action. Weight Watchers 360° is a point-based behavior modification game stemming from the research of B.J. Fogg (<http://www.weightwatchers.com/plan/apr/index.aspx> and <http://bjfogg.com>).

In the best of these types of games, players must master the content and change their behavior to succeed at playing the game. Games can inspire curiosity to learn more and experiment with new, healthier choices without sounding preachy. In addition to raising awareness on how to eat better, games can make it fun to take action and change behavior.

Games can provide information on nutrition. Games can enhance each stage of the nutrition cycle, from planning menus to shopping for food and putting it on the table. For example, future interactive information services, such as the [Choose My Plate](#) eating guides to better nutrition, can tap into the contents of one's refrigerator or grocery bill. Game-like design can inspire and challenge a player to make new choices and track their progress, find social support, and make their accomplishments through game play more meaningful, last longer, and

Challenge.gov: Apps for Healthy Kids Challenge

(Sponsored by the Department of Agriculture)

Description of Competition: The Apps for Healthy Kids competition is a part of First Lady Michelle Obama's Let's Move! campaign to end childhood obesity within a generation. Apps for Healthy Kids challenges software developers, game designers, students, and other innovators to develop fun and engaging software tools and games that drive children, especially "tweens" (ages 9–12)—directly or through their parents—to eat better and be more physically active.

Winners:

- **Pick Chow!**, a website that allows children to create meals by dragging and dropping foods onto their virtual plate with a meter showing the nutritional values as well as a meal rating in a fun and easy way.
- **Trainer**, a game that gives the player the responsibility of caring for creatures that all have dietary and fitness needs.
- **Work It Off**, a mobile application for Android phones, teaches children the correlation between the calories they eat and the calories they burn.
- **Tony's Plate Calculator**, an online tool that can help you calculate the nutritional values for a single item, an entire recipe, or a full day's worth of food.
- **Food Buster**, a game that asks you to carefully stack food items that don't break our scale. For each round you'll try to find foods with the fewest calories, least added sugar, and least amount of saturated fat. The fewer the calories, the more points you'll get.

connect with real-world change. At the point of purchase, players can make moves in the game where they see the nutrition content of their bags of groceries printed on their receipt. There could be customized pie charts tuned to meet the person's individual health or nutrition goals and compared to the national recommendations. In the future, a heads-up smartphone display or a code entered on the game's website could display progress. Augmented-reality mobile games played in the grocery aisle or checkout stand can dynamically show the combined effect of nutritional content of food from scanning the UPC with a smartphone. This could be done before or after purchase. The game could analyze the groceries on the counter for their nutrition content or from a photo taken of a meal.

Games can spark curiosity about nutrition choices. In addition to challenging players to achieve specific health goals, games can also inspire curiosity by encouraging exploration with opportunities to combine foods to reduce fat and calories and increase nutritional value. Players can enter their favorite recipes and get real-time feedback on the nutrition profile of their choices. Games can challenge players to find the secret ingredient or add an extra nutritional boost to a meal. With additional analysis, games could suggest ways to complement a protein or reduce fats and sugars. The environmental impact or the sustainability index of food offer other ways for players to win the nutrition game. For citizens participating in the Supplemental Nutrition Assistance Program and the Women, Infants, and Children (WIC) nutrition program, feedback could be targeted toward the nutritional goals behind the program. In addition, more information about both price and nutrition could make benefits stretch further.

Interactive simulation games can now show the effect of nutrition and other health choices over time. Games can track changes in exercise or eating habits and offer relaxation techniques. To increase engagement, the quality-of-life impacts of health care and preventative care decisions can be visualized with humor and style. These games illustrate the effect of simple shifts in diet, such as adding steamed veggies to a meal to reduce fats. For example, kids can do virtual food shopping and meal planning in Nourish Interactive's [Ride the Food Label](#) game and [Build a Meal game](#). Fun 3D fly-throughs and role playing can also increase comprehension and compliance with medication such as with the cancer-fighting educational game called Remission by Hope Labs. This game is a first-person shooter where players learn about their cancer medications by flying through a body on cancer-fighting missions. To increase activity along the lines of First Lady Michelle Obama's Get Up and Move, games such as [Zamee](#), also by Hope Labs, have been shown to increase kids' physical activity by 59 percent.

Social games can connect communities of people with similar health goals. Social games played on social networks, such as Facebook or Twitter, can also connect like-minded individuals to commit to change their behavior or lifestyles by stopping smoking or losing weight, for example. The development of interactive preventative services provided electronically can increase the effectiveness of brochures or websites of best practices in promoting healthy lifestyles. Social games can connect people online and help them find a support network in the local community. Social games can be designed to be self-organizing, where people help each other and connect on a volunteer basis, further reducing the need for government resources. Taking this one step further are games that create and deliver services through self-organizing (a combination of meetups and support groups), providing social support and feedback at a very low cost once the platform is built. The combination of real world meetups and just-in-time support access on a mobile platform has the potential to provide affordable treatment options. As an added benefit, social emotions between players require and build trust. Building a trust network around a public institution can have a spillover effect and increase trust in that institution as well.

Games can provide real-time feedback on healthy behaviors. Games have been proven to provide long-term outcomes. Games can encourage healthy behaviors with real-time feedback,

competition, and cooperative mechanics to make exercise more fun. They can show long-term outcomes and make normally invisible processes easy to see. In fact, games that target exercise already exist. To increase interest in exercise, a watch with progress meters and graphs such as Nike+ FuelBand helps players reach their goals. In addition to being reminded of an individual's commitment to exercise every time a player checks the time, the watch makes it easy to record stats and graph progress toward fitness goals. A social game can bring in friends' times and individuals can compete side by side with their times, even when running on their own. Fun themes can be seen in games such as those featuring individuals being chased by zombies, training as an Olympic athlete, or getting coached by a real Olympic athlete. [Zombies, Run!](#) humorously maps the desired behavior (speed of running) with the fiction of being chased by zombies to provide lighthearted motivation. With the promise to get fit, escape zombies, and become a hero, players must run fast enough to outpace the zombie horde through interval training, including training for a 5K race. Fun fantasies, points, and progress feedback help people get up and move.

The context established by a game, whether a zombie chase or caring for and feeding veggies to a virtual pet dragon, increases excitement; the real-time progress offers players a hope of achieving accessible stages of success. The surrounding fantasy and enhanced encouragement for these nutrition and health games change the emotion profile of the activity, making it more engaging, more memorable, and encouraging. Games can change behavior by changing the emotion profile of what the player wants to achieve. This success spills over into real life. Inspiring more long-lasting behavior change is best done in short sessions every day, which is the perfect format for a mobile game. Because a person's smartphone is always with them, mobile games provide just-in-time experiences and training when played 15 minutes a day.

Conclusion

Applying the thinking used to design games in more serious ways can transform how government communicates, provides information, and delivers public services. Game design can inspire new types of interactions to provide information, inspire action, increase motivation and feedback on long-term progress, and reduce the time needed to implement those processes. Play-sourcing games can inform, change behavior, and even create real-world change. Games do this in three ways:

- **By informing players** with interactive demonstrations of concepts and themes rather than just requiring listening or reading
- **By encouraging practice and exploration of outcomes** unfeasible in the real world
- **By informing, motivating, challenging, and rewarding new behaviors**

At their best, games break down complex relationships and processes into easy-to-achieve steps. They can make practice fun. Games can organize human behavior and shape patterns to transform communities. And finally, games raise awareness more than a website or brochure does, and because they are about choice, games can inspire and motivate the actions that we need our nation's citizens to take.

Nicole Lazzaro is a world-renowned game researcher, designer, and speaker who makes games more fun. The president of XEODesign, she developed the Four Keys to Fun, a model used by game developers worldwide. She has advised the White House and the U.S. State Department on the use of games.