



November 19, 2008

# Serious Games Uncover Serious Requirements

by TJ Keitt and Tom Grant

for Technology Product Management & Marketing Professionals

November 19, 2008

# Serious Games Uncover Serious Requirements

by **TJ Keitt and Tom Grant**

with Ellen Daley and Chétina Muteba

## EXECUTIVE SUMMARY

Serious gaming provides an alternate way to collect and analyze product requirements. An increasing number of companies are using serious games to inform product decisions. At the same time, a small number of serious gaming vendors have emerged, providing both training and tools. Serious games deserve serious attention. They can circumvent many of the traditional problems with product requirements, including collecting sufficient information across customers, partners, and internal stakeholders to make product decisions. Not only are the games relatively lightweight exercises, but they also use a lighter touch to resolve many debates over product decisions.

## TABLE OF CONTENTS

### 2 **Gathering And Incorporating Customer Requirements Is Difficult**

Product Teams Often Stumble At The Beginning Of The Development Process

Games Provide Ways To Overcome Space, Organizational Structure, And Engagement Issues

### 4 **Progressive Firms Are Seeing Benefits With Games In Product Development**

Applied Marketing Science's IDEALYST Erases Time And Space Considerations

Enthiosys' Buy A Feature Provides Context For Stated Needs

The Current Offerings Are Just Scratching The Surface

## RECOMMENDATIONS

### 10 **Choose Games That Align With Your Goals And Culture**

### 11 **Supplemental Material**

## NOTES & RESOURCES

Forrester interviewed Applied Marketing Science, Colgate-Palmolive, Enthiosys, and VeriSign.

### **Related Research Documents**

["It's Time To Take Games Seriously"](#)

August 19, 2008

## GATHERING AND INCORPORATING CUSTOMER REQUIREMENTS IS DIFFICULT

Bringing a product from conception to rollout is a long process fraught with peril. Product development teams often stumble because they can't adequately gather customer requirements or struggle to incorporate these needs into their product designs. The reasons for this are myriad such as problems bringing together the appropriate customers and internal stakeholders, issues with time and scheduling, difficulties with internal politics, and problems with keeping individuals engaged.

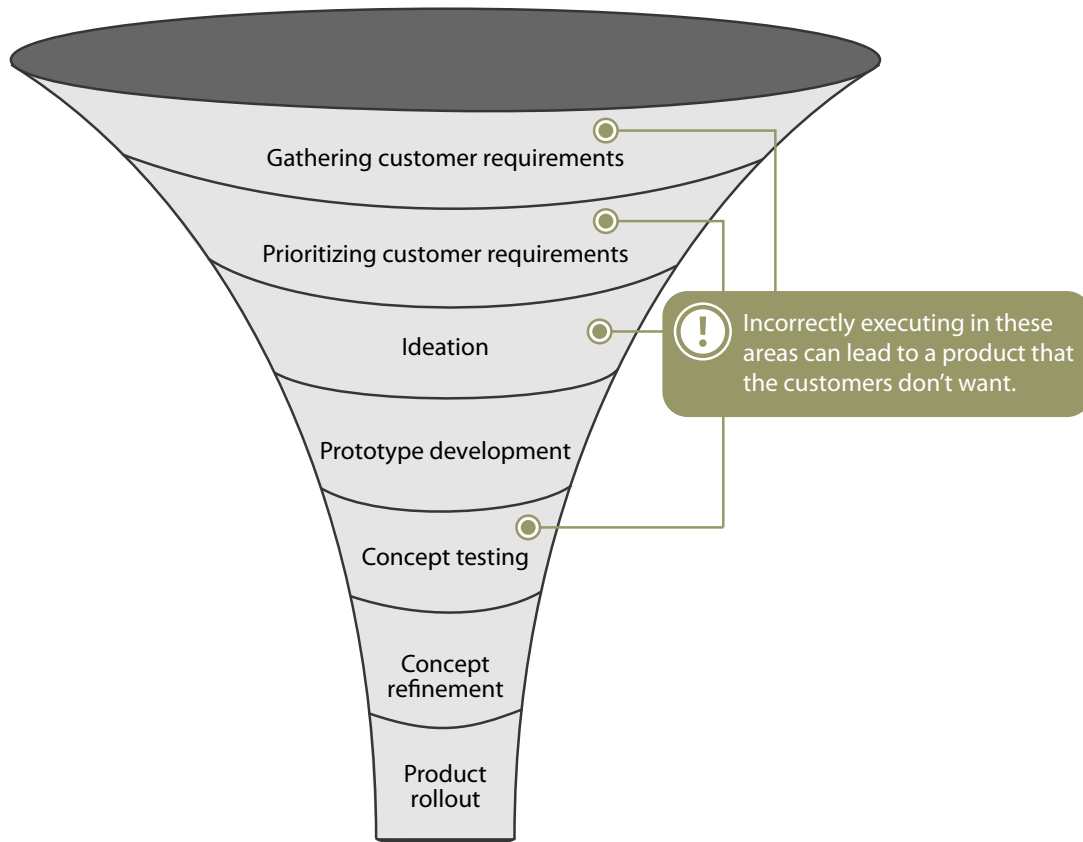
Hurdling these challenges requires creative thinking as well as tools that reduce the distance between groups, allow disparate stakeholders to work at their convenience, and provide stimulus to continue participating in the requirements gathering and ideation processes. Today, a small but growing number of technology companies are using serious games to avoid some of these challenges.

### Product Teams Often Stumble At The Beginning Of The Development Process

Product development teams view the product development process as a funnel in which customer requirements are poured in and a useful product comes out of the spout (see Figure 1). However, this funnel is often fouled at the very beginning — in the steps that gather customer requirements, prioritize them, brainstorm on how to incorporate them, and then test the resultant concept — which adversely affects the rest of the process. Why? Product development is a long, taxing process, and development teams often have difficulty with:

- **Distance.** The people with the best ideas for product innovations — customers, partners, and employees who are not part of the development team — may be spread across the map. This makes it difficult to coordinate meetings across different time zones and incurs high expenses from flying product managers to customer sites or in-person meetings with the development teams.
- **Internal politics.** Strong personalities, power struggles, and deference to those in charge squelch participation from people who may have creative, valuable contributions to make. For example, a respected product manager may stifle innovative thinking concerning use of social media by relying on prior knowledge and not taking into account the ideas of junior staffers.
- **Time.** Most participants — either client or internal — need more than an hour or two to give sufficient thought to any list of innovations or enhancements. Unfortunately, most customer discussions or brainstorming sessions don't give sufficient time for customers or internal stakeholders to rethink or amend these lists.
- **Engagement.** Not everyone is excited about the prospect of sitting in a conference room for one or more hours. This venue for gathering requirements may not grab the interest of customers or internal stakeholders who should be contributing to the discussion.
- **Context.** A simple list of features says a bit about what customers want, but not why. Even the description of the enhancement request might not make sense without additional context.

**Figure 1** Problems In Product Development Start At The Top Of The Funnel



47128

Source: Forrester Research, Inc.

### Games Provide Ways To Overcome Space, Organizational Structure, And Engagement Issues

Over the past eight years, businesses have warmed to the idea of using video games not for entertainment, but to teach, influence opinion, inspire action, and affect change in clients and employees.<sup>1</sup> Although initially becoming in vogue for marketing and training purposes, these games are gradually developing into tools that do actual work. For the product developer, a few companies have emerged to produce simple games that — through Web delivery and reliance on notions of competition — cut through the issues of time, space, position, and politics associated with the product development process. How? By:

- **Eliminating collocation and time issues through Internet delivery.** From early networked games like 1993's *Doom* to today's Microsoft Xbox Live, the entertainment gaming industry has a long history of allowing gamers — dispersed around the globe — to compete against one another via the Internet. These same principles apply for games designed to bring together dispersed customers to discuss their needs or evaluate a concept and games meant to facilitate

distributed teams' ideation and prioritization of those needs. The Internet allows these groups not only to work together over great distances, but it also allows them to participate when their schedule permits. Accomplishing this is as simple as opening the game up for a set amount of time and allowing players to participate at any point during that time period.

- **Disguising hierarchy problems and squashing “the loudest voice.”** Aside from making distance a moot point, Internet delivery of games provides another advantage: anonymity. Competitive environments that substitute names and positions for innocuous icons or aliases take the focus off whether or not the boss submitted this idea and places it where it belongs — the quality of the idea. Additionally, games that reward good ideas and strong arguments tamp down the ability of one person to dominate the discussion as all participants have incentive to contribute and only the best ideas rise to the top.
- **Staging a fun activity that draws in participants.** The traditional methods of gathering requirements and ideating typically involved stale whiteboard sessions or focus groups that did not inspire attendance or full-throated participation. Even the newer innovation management tools coming into the market drew complaints from users about their inability to keep employees engaged.<sup>2</sup> Serious games provide that necessary hook by creating a friendly competitive environment where clear rewards are set out for those who perform well in the game. And even though this is a discipline that springs from the video game industry, it does not require 3D avatars or complex physical environments to be successful. Demonstrated with the success of casual gaming sites like MSN Games, the realism of the game isn't as important as the fun of doing the task.

## PROGRESSIVE FIRMS ARE SEEING BENEFITS WITH GAMES IN PRODUCT DEVELOPMENT

In theory, the use of games to overcome the problems associated with moving through the product development funnel sounds great. But do they really work? As with the rest of the serious games industry, we are in the early stages of its development, but there are examples of early successes. Two trailblazers not of the traditional video game world — product development firms Applied Marketing Science and Enthiosys — have created well-received games. And there are tools currently being rolled out as part of marketing efforts that point the way to where these games can ultimately go.

### Applied Marketing Science's IDEALYST Erases Time And Space Considerations

IDEALYST is an online ideation game that was developed by Columbia Business School Professor Olivier Toubia and refined in conjunction with Applied Marketing Science. The mechanics of the game are simple: Participants receive points for contributing ideas to a topic, and they receive additional points if someone builds upon their idea (see Figure 2). At the end of the game, the person with the most points wins some type of prize. Manufacturers, educational institutions, and financial institutions have used this tool since its debut in 2004. One client, Colgate-Palmolive, has run more than 10 IDEALYST games. In doing so, it found that the serious game:

- **Allowed it to conduct a more inclusive ideation session.** With the Internet delivery of the game, Colgate-Palmolive brought in employees who, under typical circumstances, could not be feasibly included. The example that Maria Moore, Colgate-Palmolive manager of Global Supply Chain Organization Effectiveness, gave was having an operator from a factory line at a remote facility participate in the game — someone you would not typically pay to fly over for an in-person ideation session. This inclusive participation naturally expands the points of view and allows for richer discussions and fresh ideas that come from people who sit outside of management or a centralized location.
- **Accommodated the players' schedule.** An IDEALYST session is designed to be opened up within a particular time frame — e.g., games are typically open for two weeks. Anytime during this period, players are allowed to contribute their ideas. This was important, according to Moore, as it did not require people to spend their whole day in an ideation session — they could choose the times to participate.
- **Spurred high levels of participation.** With IDEALYST, Colgate-Palmolive was able to run sessions that varied in size from 35 players to 600 players.<sup>3</sup> Participation rates varied between 60% and 90%, according to Moore. Initially, the company offered nominal gifts for participation but is moving toward either formally recognizing a game's winner at key business meetings or presenting the winner with a trophy. As Moore points out, there is the fun element in the game, but it is necessary to temper the rewards associated with the game to prevent people from just inserting ideas simply to gain points.
- **Broke down cultural boundaries.** Because Colgate-Palmolive is a global organization, there are different regional and cultural standards that affect working environments. Because the players in the game were anonymous, players in countries where deference to the boss was the norm were able to speak more freely in the ideation session, according to Moore.

**Figure 2** Applied Marketing Science's IDEALYST Awards Points For Good Ideas

The screenshot shows the IDEALYST web application interface. At the top, it says "Welcome User1, your score: 10 points". The navigation bar includes "NEW IDEA", "CHANGE PASSWORD", "PREFERENCES", "RULES OF THE GAME", "HELP", and "LOGOUT". The main heading is "Project statement: How can airports improve the travel experience?". Below this is a "SUBMIT NEW IDEA" button. A list of ideas is displayed in a hierarchical format:

- 1.0 Include Internet ports/jacks in the gate waiting areas, preferably next to each seat.
  - 1.1 Instead, set up WiFi capabilities for wireless Internet services.
    - 1.1.1 Moreover, make the high-speed access free for passengers.
    - 1.2 Additionally, place electrical sockets near the seats. Most people who are utilizing the Internet could also benefit from a power source near their waiting-area seat.
      - 1.2.1 Moreover, have seating arranged in such a way that there is some degree of privacy for working on confidential materials or talking on cell phones.
    - 1.3 Moreover, include the actual connection cable for each jack so we don't have to cart around cables for everything.
    - 1.4 Another way to look at this is to have wifi and eliminate the need for jacks
  - 2.0 When a passenger receives a boarding pass or checks in at the gate for a connecting flight, issue a "pager" similar to those being used in restaurants so that the passenger can be "paged" when it is time to board. Since many airports now have shopping and food areas, this will make it easier for passengers to take advantage of these areas and still get to the gate on time.
    - 2.1 The pager would have to be turned in with your boarding pass as you board the plane to help prevent theft/loss. Give a 15-minute pre-page so we truly have time to get to the gate when it's ready to board.
  - 3.0 Create a play area for little children.

Callout boxes provide additional information:

  - The scoring system awards points for contributing an idea and additional points for people building upon it.
  - Ideas are organized in a hierarchical format to allow users to easily see relationships between ideas.
  - Icons allow players to maintain their anonymity throughout the game.

Source: Applied Marketing Science

47128

Source: Forrester Research, Inc.

### Enthiosys' Buy A Feature Provides Context For Stated Needs

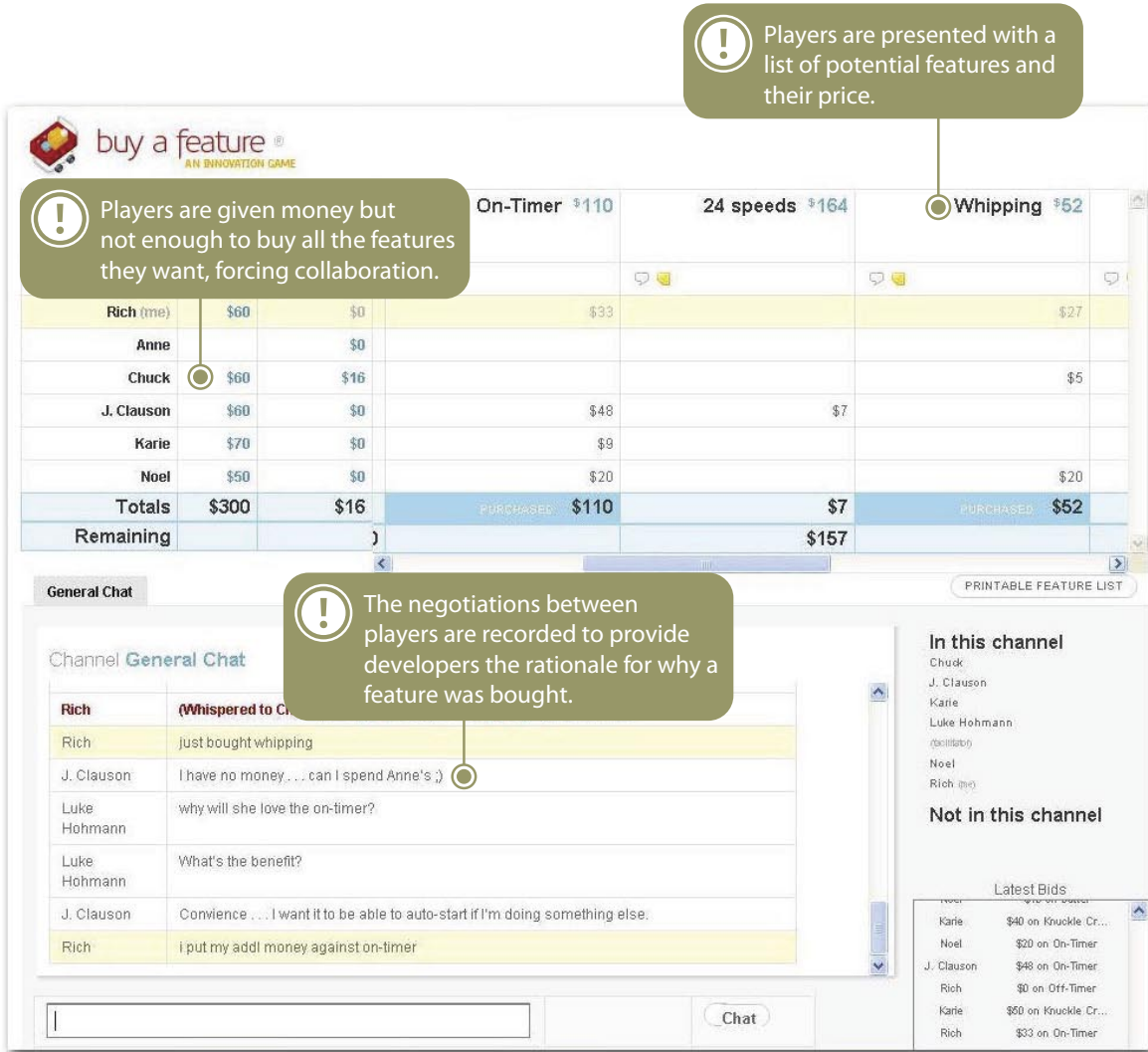
In 2007, Luke Hohman — Enthiosys founder and CEO — published *Innovation Games: Creating Breakthrough Products Through Collaborative Play*, a book outlining a series of games that product planners or managers could leverage to understand customer needs, requirements, product use, and what they want going forward. One of those games — *Buy A Feature* — was released as an online application in 2008 (see Figure 3). Designed to understand customer needs and requirements, the game is simple enough: Customers or internal teams receive some money and a list of potential features for a product, and they must negotiate among themselves to collectively purchase the features they deem important.

VeriSign recently used this online game to determine what should go into professional services packages and how to improve customer service support operations. They found that:

- **Transcripts from the negotiations provided context.** The online game records the conversations of participants as they work together to purchase features. In sifting through these conversations, Charlene Mike-Billstrom — VeriSign vice president of business operations — stated that the organization could understand why some features were more important to the employees who worked with VeriSign customers. This discovery was enlightening, altering the way VeriSign looked at the issues surrounding new products and services.
- **Internet delivery allowed for fresh perspectives and new ideas.** Because the game was played internally with a global distributed group, it opened the doors for new people to speak up. VeriSign made some surprising discoveries about the prioritization of requirements when it examined how the customer support representatives were going about this. It provided VeriSign's development teams with new insight into how the support organization was thinking about issues and how the clients used VeriSign's products.
- **The game provided a team-building exercise for the entire support organization.** Because the game occurred at a global level, it allowed international groups to feel like they had a seat at the table. This naturally opened the door for stronger bonds between groups as the various communities within VeriSign were able to work together as one.



**Figure 3** Enthiosys' *Buy A Feature* Provides Context For Customer Requirements



Source: Enthiosys

47128

Source: Forrester Research, Inc.

## The Current Offerings Are Just Scratching The Surface

While tools from companies like Applied Marketing Science and Enthiosys are a start, they most certainly are not the end state of serious games' use in product development. Aside from helping overcome challenges at the top of the product development funnel, games can play a role in the latter phases of prototype development and concept refinement. According to Ethan Mollick, one of the authors of the book *Changing The Game: How Video Games Are Transforming the Future of Business*, the gaming industry has already shown how effective it can be when utilizing players as actual product developers.

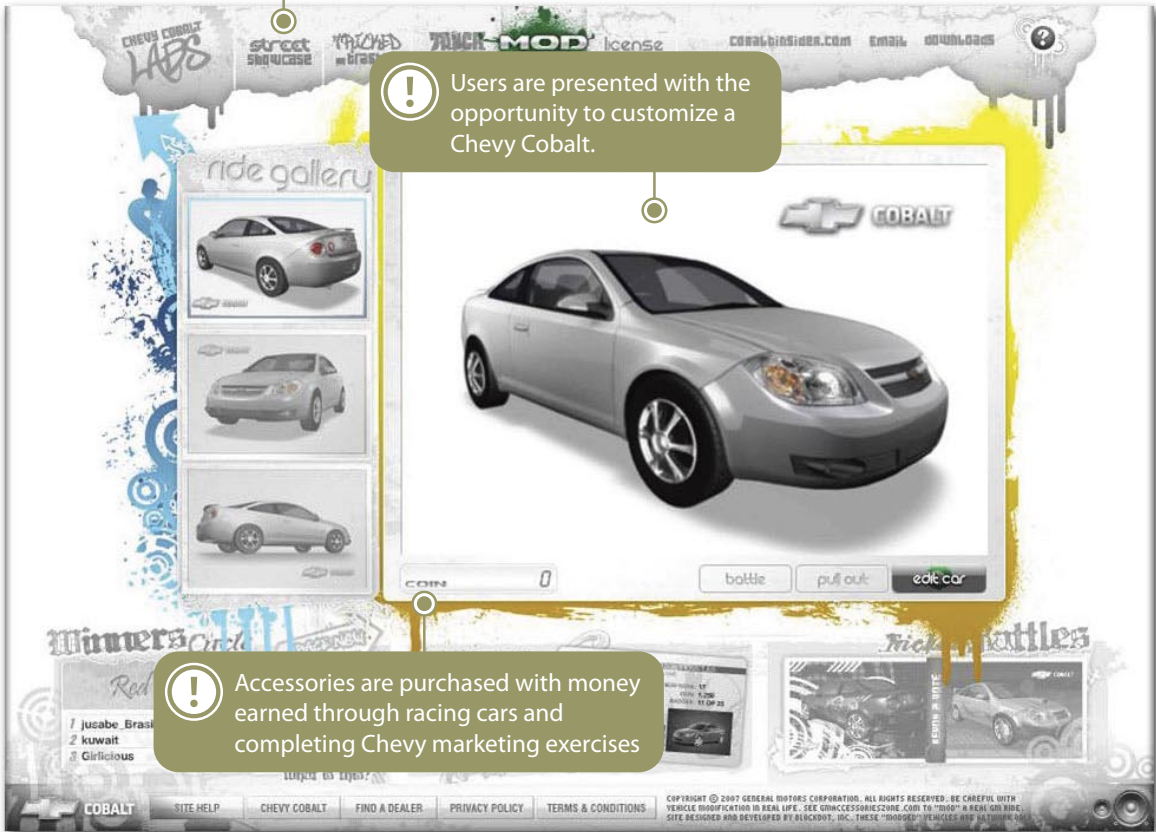
- **Gamers helping to develop useful tools are part and parcel of gaming.** Before the fall release of its highly anticipated game *Spore*, Electronic Arts released the “Creature Creator” application over the summer of 2008. By September, users had created more than 3 million animals, which Electronic Arts, in turn, used to populate the planets that players would encounter in the game.<sup>4</sup> This is not something that is unique to this game, but something that is seen in massively multiplayer online role-playing games (MMORPGs) like *EVE Online*. Letting users create tools that they find useful not only increases engagement, but it also makes the game more useful to the player.
- **Chevy Cobalt Labs hints at the future of collaborative development.** The Chevy Cobalt Labs Web site — which is essentially a marketing tool to get users interested in General Motors (GM) products — is designed as a community in which car aficionados can race, modify, and vote on the modifications of Chevy Cobalts (see Figure 4).<sup>5</sup> Chevy is clear that these are just concepts and the site is not designed as a product development tool; but, as Mollick notes, it does allow the company to understand what designs are appealing to the general public.<sup>6</sup> What it also does is demonstrate a way in which a company doing either business-to-consumer (B2C) or business-to-business (B2B) sales can observe how its customers actually anticipate using the product they create through a gaming simulation.
- **Both customers and companies bring value to the gaming table.** Tapping into the innovative communities that have long built tools for virtual worlds like *World of Warcraft* and *Second Life* gives companies an ear to the ground, letting them know what their users actually find to be useful. While it is customary for companies to gather requirements and synthesize them, the revolution in collaborative communication brought about by Web 2.0 technology demands that customers be more engaged in all phases of product development. Letting them have a hand in the actual creation of something ensures that what is being produced is actually something that is useful to them.

**Figure 4** Chevy Cobalt Labs Point The Way To More Customer Collaboration

! The quality of the customized cars are voted by the community, presenting Chevy with the opportunity to see what customers prefer.

! Users are presented with the opportunity to customize a Chevy Cobalt.

! Accessories are purchased with money earned through racing cars and completing Chevy marketing exercises



Source: Chevy Cobalt Labs (www.chevycoaltlabs.com)

47128

Source: Forrester Research, Inc.

## RECOMMENDATIONS

### CHOOSE GAMES THAT ALIGN WITH YOUR GOALS AND CULTURE

One of the persistent problems dogging the serious games industry is the notion that games are antithetical to work. When choosing a game to help with product development, it is important to select one that is tailored to remove the specific blockage in your product development funnel. Doing otherwise will guarantee failure. It is also important to understand what your corporate culture will tolerate in terms of games in the workplace. Thus, when considering a game, you should:

- **Understand what motivates groups in your organization to participate.** Games like Applied Marketing Science's IDEALYST were designed to, among other things, motivate those who hesitate to participate when superiors are involved and keep them engaged by recognizing the quality of their work. Understanding whether this type of game fits your organization requires talking to those who often participate in the product development process. In doing so, it is important to delve into the dynamics of group sessions, the productivity of such sessions, and how often people actively participate.
- **Realize that the game is only part of the process.** While games provide a means to hurdling a particular engagement or logistical challenge, they do not magically give you the answer. You still need to do the hard work of distilling the raw data collected in the games into things that will inform the rest of the product development process. This means it's necessary to implement processes and create teams to collect, manipulate, and summarize the outputs of the game.
- **Pick the game that fits the challenge.** Different types of games address different sorts of requirements challenges, often during different stages of development. For example, Enthiosys' *Product Box* — a game that is a part of the *Innovation Games* suite — asks customers to design their solution, which provides the researcher with perspective on what clients believe will meet their needs.
- **Identify a referee.** Referees or moderators do more than troubleshoot or answer the occasional question during the game. They also monitor the game to ensure its success, making tactical adjustments during the game or perhaps in the next session. By ensuring the game's success in its own terms — for example, everyone can participate, identities are kept secret, etc. — referees also make it more likely that decision-makers will give heed to the game's results.

## SUPPLEMENTAL MATERIAL

### Companies Interviewed For This Document

Applied Marketing Science

Enthiosys

Colgate-Palmolive

VeriSign

## ENDNOTES

- <sup>1</sup> This growing subsegment of the video game industry currently has its strongest use cases in training scenarios. The US military and the healthcare industry have long histories using this technology to train soldiers and medical professionals on skills that are difficult to simulate in real life. However, the use of this technology is gradually growing beyond simple training as companies see applications elsewhere. See the August 19, 2008, "[It's Time To Take Games Seriously](#)" report.

- <sup>2</sup> The complaint Forrester often hears in regards to engagement is that participation starts out high but tapers off. We attribute that to a lack of customer education and the need to set realistic expectations about what the tools can accomplish. See the September 8, 2008, "[The Top Five User Complaints About Innovation Management Tools](#)" report.
- <sup>3</sup> According to Applied Marketing Science, typical IDEALYST sessions are run with approximately 30 players. Even in the largest sessions run by Colgate-Palmolive (600 players), the game was limited in the number of unique IDs as business groups shared, pooling their collective contributions to the game.
- <sup>4</sup> *Spore*, a game designed to let players evolve their own organism, enthralled the scientific community because of its potential to educate players about evolution. Source: Carl Zimmer, "Gaming Evolves," *The New York Times*, September 1, 2008 (<http://www.nytimes.com/2008/09/02/science/02spore.html?scp=2&sq=Spore&st=cse>).
- <sup>5</sup> Users can make vehicle modifications using a feature called Mod Street, which allows the player to express themselves with custom paint jobs and accessories they purchase with money earned by racing and filling out marketing material. Source: Chevy (<http://www.chevycobaltlabs.com/main.aspx>).
- <sup>6</sup> Currently, consumers are typically not included in the innovation process. Firms don't listen to the feedback provided by consumers, they don't use tools that allow them to work collaboratively with consumers, and they don't trust consumers to assist them in the early design phases. The first step to becoming an organization that practices consumer-driven innovation begins with an evaluation of the company's attitude toward consumer input, the level of dialogue between the company and its customers, and the role the marketer has in acting as a conduit for input from the consumer to follow into the company. See the August 27, 2008, "[Consumer-Driven Innovation: Self-Test](#)" report.

# FORRESTER®

Making Leaders Successful Every Day

## Headquarters

Forrester Research, Inc.  
400 Technology Square  
Cambridge, MA 02139 USA  
Tel: +1 617.613.6000  
Fax: +1 617.613.5000  
Email: [forrester@forrester.com](mailto:forrester@forrester.com)  
Nasdaq symbol: FORR  
[www.forrester.com](http://www.forrester.com)

## Research and Sales Offices

Australia	Israel
Brazil	Japan
Canada	Korea
Denmark	The Netherlands
France	Switzerland
Germany	United Kingdom
Hong Kong	United States
India	

*For a complete list of worldwide locations, visit [www.forrester.com/about](http://www.forrester.com/about).*

For information on hard-copy or electronic reprints, please contact Client Support at +1 866.367.7378, +1 617.613.5730, or [clientsupport@forrester.com](mailto:clientsupport@forrester.com).

We offer quantity discounts and special pricing for academic and nonprofit institutions.

Forrester Research, Inc. (Nasdaq: FORR) is an independent research company that provides pragmatic and forward-thinking advice to global leaders in business and technology. Forrester works with professionals in 19 key roles at major companies providing proprietary research, consumer insight, consulting, events, and peer-to-peer executive programs. For more than 25 years, Forrester has been making IT, marketing, and technology industry leaders successful every day. For more information, visit [www.forrester.com](http://www.forrester.com).