





**MEAP Edition
Manning Early Access Program**

Copyright 2009 Manning Publications

For more information on this and other Manning titles go to
www.manning.com

©Manning Publications Co. Please post comments or corrections to the Author Online forum:
<http://www.manning-sandbox.com/forum.jspa?forumID=523>

- 1 Funware, games, and business objectives**
- 2 Your website + games: the basic recipe**
- 3 Lessons from standalone game sites**
- 4 Funware: integrated game design for business**
- 5 How to make forums more fun**
- 6 Funware and the social, mobile world**

Appendices

- a. Game service providers**
- b. Major game-related APIs**
- c. Game design and development resources**
- d. Social networking APIs and resources**

1

Funware, Games and Business Objectives

Consider the power of games.

Imagine what would happen if Bank of America ATMs began dispensing random \$100 bills with every withdrawal?

Clearly, we'd each respond differently to this new opportunity. Some would decide to choose BofA ATMs whenever they nonetheless had to pay a withdrawal fee, exhibiting a slight preference for BofA over other banks. Others might play these new ATMs like slot machines – making withdrawal after withdrawal in an attempt to win the extra \$100. How would it affect your behavior, personally?

Table 1.1: Comparing Slot Machine and ATM Revenues

Estimated, US	Number of Machines	Revenue	Revenue per Machine
ATMs	360,000 ¹	\$2 Billion ²	\$5,555
Slot Machines	770,000 ³	\$40 Billion⁴	\$52,000

¹ 2007: http://www.boston.com/business/personalfinance/articles/2008/02/19/withdrawing_from_the_atm_habit/

² 2000: <http://www.masspirg.org/static/report01.pdf>

³ 2004: <http://www.pokiemagic.com/blog/2006/03/29/gaming-expansion-in-usa/>

⁴ 2007: Calculated by multiplying average slot "win" as a percentage of casino wins by commercial and Native American casinos: http://www.americangaming.org/Industry/factsheets/statistics_detail.cfv?id=7 and <http://www.msnbc.msn.com/id/27650241/>

©Manning Publications Co. Please post comments or corrections to the Author Online forum:

<http://www.manning-sandbox.com/forum.jspa?forumID=523>

Regardless of where you fall on the continuum, the effect itself is inescapable: **everyone's behavior would change** – to varying degrees. A quick glance at the chart at the right shows how much stickier and more engaging slot machines are than ATMs – despite the obvious utility (and price gouging) of the latter. Although slot machines don't need any "help" from ATMs, there's no question that banks could use some casino techniques to improve their yield.

But what if we could harness the power of games – and not just casino-style ones – to advance our business objectives? And more specifically, how do we bring the power of games to our web applications and user experiences?

The answer lies in **Funware**: integrating games and game design with software and services to increase stickiness, user engagement and revenues. Around the world, in industries as diverse as finance, travel and dating, Funware is being used to improve results and connect with consumers in powerful new ways.

WebPlay is the definitive and practically focused guide for web/application producers and developers that are seeking to leverage the power of Funware and games to maximize consumer satisfaction and overall performance.

1.1 Understanding Games

This chapter will outline the basic techniques and frameworks that are required to successfully build games into websites and applications, with a particular emphasis on Funware theory, basic Funware designs and helpful frameworks. We will also take a closer look at games and their meaning, value and construction for the purpose of defining scope and business objectives.

1.1.1 The True Power of Games

People love games.

They purchased nearly \$19Bn worth of them in the US alone in 2007⁵, outstripping first run film, DVDs and music sales – and catapulting games to the primary form of purchased entertainment in the US (and many countries around the world). When measured in terms of time spent, games are the either #1 or #2 activity in the world – competing with television in key demographics.

The underlying meaning of these statistics has less to do with the dominance of the games industry or the powerful demographic forces driving it, but rather the overall user attraction to games (and their long term satisfaction). Whether you're playing a puzzle game or shooter, games appeal to the same challenge and pleasure centers of the brain.

At the same time as the overall games industry continues its growth and social enmeshment, its effect on user psychology is broad and far-reaching. Many of the breakthrough features of the iPhone for example find their roots in gaming. The 3D gyro/spatial controls, bouncing objects and "glossy black" aesthetic are elements that have

⁵ http://www.npd.com/press/releases/press_080131b.html

been core to games for some time – although they've clearly transcended “interface” to become a philosophy of design.

The effect of games extends further still, directing consumer desire for experiences that are increasingly game-like and satisfying, both aesthetically and functionally. These forces are behind the marked increase in attention paid to game design in society at large and the interest in bridging games with non-game experiences, such as with Funware.

And in Funware we find the most powerful aspect of game design expressed: its ability to manipulate user behavior.

After all, only games have the power to make someone do something irrational, predictably, without the use of force.

1.1.2 What Is a Game, Anyway?

There are many definitions of games in use today, and most academics struggle to agree on a simple way of describing them. One of the most enduring, from Zimmerman and Salen's *Rules of Play*:

*“A game is a **system** in which players engage in artificial **conflict**, defined by **rules** that results in a quantifiable **outcome**.”*

Put even more simply, games occur anywhere people agree – consciously or unconsciously – to play one together. Building on Zimmerman and Salen's definition, Funware theory suggests that there are a series of signals that alert players to the presence of a game:

1. Rules
2. Points
3. Rankings/Leaderboards
4. Win Conditions

And while we're not always aware that we're playing a game (e.g. in eBay), and our definition of success varies, the net result is the same: **we play to win**. Although this competitive instinct is mostly universal, our motivations – and therefore our definition of winning – are quite different from person to person.

Is eBay a Game?

At first glance, most people answer a definitive “no” to that question. But the world's most popular auction site is much more like a game than meets the eye; so much so, that

they've even hired game designers to help them optimize the site's user experience. eBay's two games are:

The Auction Game: in eBay's core behavior, you **play** against other people to attempt to **win** a product at the lowest possible price. There are clear rules and a win condition.

The Feedback/Ratings Game: in what arguably became eBay's greatest asset, users take great care to maximize their feedback score. The **points** available in the ratings application are awarded by others and contribute to user **status**, expressed in gold stars and **levels**.

And while people rarely use the words "play" or "game" to describe what they do on eBay, their reactions are generally quite similar: from elevated heart rates as auctions close to frustration when others beat them for a precious item.

Even eBay's advertising campaigns are increasingly recognizing this game connection, best expressed in their successful Shop Victoriously series - <http://www.shopvictoriously.ebay.com>

And while we'd struggle to call eBay a game in daily conversations, Funware certainly fits as a description. After all – whether you're winning or losing, eBay is a lot of fun.

1.1.3 Player Motivations

In his oft-cited and seminal work, Richard Bartle describes four broad kinds of player motivations from his online game experience: Achievement, Exploration, Socializing and Imposition⁶. From these, four basic player types were extrapolated (since divided into eight) which have long been used as our basic taxonomy. Though some consider the divisions broad, and there are many academic discussions about empirical support and exclusivity among types, this generalization can be very helpful when considering Funware and web design. Here are the Bartle types updated for a broader, Funware context:

The Achiever cares primarily about *points, status and ranking* – most other game-like activities are secondary. Although winning can be an internal condition, it's much more fun if others know that they've won, so scores are more valuable when they're *public/socially networked*. Everything in the achievers world can be *tied to points*, and while they vary in their level of competitiveness, achievers respond to competitive stimuli similarly: with *the desire to win* – even when activities are not generally thought of as winnable (e.g. the number of Facebook friends someone has, or the number of articles they've voted up or down).

The Explorer likes to understand *how things work*, and they get excited once they understand how applications are played and/or won. They can often go on exploratory jags, spending time to *figure out seemingly irrelevant minutiae*, feeling elated when they are successful – for example decoding the popularity ranking on the iTunes store. Often,

⁶ <http://www.brandeis.edu/pubs/jove/HTML/v1/bartle.html>

explorers rediscover things that others have already figured out, though if they participate in communities of like-minded folks, there is a status value to being the first to achieve a milestone – such as to unbox a new mobile phone.

The Socializer derives their primary satisfaction from *interacting with others*, while the game or site itself is in the background. Most socializers measure their satisfaction in terms of the *quality and quantity of interactions* they have. Generally, socializer behaviors are associated with women and girls, and some notable sites (game site Pogo.com among them) have revealed that socializing is the *most powerful activity in their community*. The majority of “players” on Facebook, for example, seem to primarily engage in socializing behavior.

The Imposer (or Killer) is at their most excited when they get to “*pull one over*” on others. They derive satisfaction from the act of *beating someone else*, though applications need to expose comparable rankings in order to make this possible. This activity is generally thought of as being *somewhat anti-social* and restricted to *competitive games*, but plenty of opportunities exist to win at others’ expense in real-life and on the web without contrivance. The corollary behavior - a type of *extreme online schadenfreude* – also appears to be a powerful meme online, filling discussion boards and websites that deal in “catty” deconstruction.

Of course, player types are fluid and not exclusive (many of us probably know strong achiever-socializers) but each one expresses itself most strongly at a given moment and for a given user/player. What’s most interesting about the player motivations is not using them as a strict constructive device (“let’s incorporate a social element here”) but rather that the more well rounded the offering, the more likely it is to appeal to all types of players.

Therefore, a good design should take into consideration all the different motivations of users and endeavors to maximize their takeaway from the application – creating a space for expression of all the various player types. This may not always be possible (or even prudent, such as with the killer instinct and an application focused on collaborative play among children), but it should be an aspiration of design.

1.1.4 Playing, even when we’re not

Bartle’s player motivations are almost always used in context of traditional game designs, leveraged to help architect a play experience that would resemble a typical game. But what if player motivations informed how people behaved everywhere, not just when they think they’re playing a game. What if we could bring the power of games and people’s intrinsic desire (or need) to play to work for us, even when we’re not – strictly speaking – making a game?

The results would probably enhance our non-game websites and product experiences, bringing more excitement and engagement to ordinary tasks. This “mashup” of games and other user behaviors is called Funware, one of the most compelling design theories for leveraging the power of games.

1.2 Funware: The Basics

Funware is the methodology and product category at the intersection of game design and non-game contexts. In general, Funware leverages game design to make websites and software applications stickier, more engaging and more fun. Although Funware applications are usually designed on purpose, some incidentally fun applications can be better understood through a Funware lens. Some examples include eBay (see sidebar, this chapter), Frequent Flyer programs (such as United Mileage Plus) and Facebook (a very compelling social game in itself).

One of the more interesting defining characteristics of Funware – as evidenced by the examples above – is that players often don't realize they're engaged in a game. This is one of Funware's greatest strengths and its primary weakness, a topic we'll discuss at length in subsequent chapters.

1.2.1 How is Funware Different from Game Design

Funware is differentiated from games primarily in its objective. While games' primary purpose is fun, Funware applications serve two masters: business objectives and enjoyment. Funware is also differentiated from *Serious Games* in that Funware applications need to be enjoyable for users, whereas serious games – such as military simulations – care much less about how participants' feel about the game's amusement level.

1.2.2 The Philosophy of Funware

The design philosophy of Funware can basically be summarized as “every application and user interaction can be made more fun.” Through the systematic application of game design principles, fun can be embedded even within the most utilitarian applications.

1.2.3 Where is Funware Not Appropriate?

Although many believe that gamelike behavior is not appropriate for serious or practical applications, there is no evidence that suggests that game design cannot appropriately reward serious behaviors. For example, volunteers on a suicide hotline would not – at first glance – seem to be appropriate targets for a game that maximizes “lives saved”. However, in similar situations (agents working commercial call centers, for examples) there is a long-established history of competitive games (“highest sales this month wins a trip to Hawaii”) that have proven ROI. While that reward seems immediately inappropriate for the context, the underlying game – or a more sophisticated Funware design – is not intrinsically disadvantaged.

1.3 Business Objectives & Implementations

Based on the authors' experience, most conflict between games and business objectives stems from the lack of goal clarity, rather than with some fundamental ethical incompatibility. Once a business purpose has been clearly articulated, there are few cases where games and Funware cannot be adapted and leveraged to improve outcomes.

©Manning Publications Co. Please post comments or corrections to the Author Online forum:

<http://www.manning-sandbox.com/forum.jspa?forumID=523>

Therefore, in order to have success combining games and non-game contexts, or to merely bring games into a more traditional website environment, we need to start with the business' objectives.

1.3.1 What Are You Trying To Do?

There are many ways to approach the task of designing a website – whether from scratch or as part of a broader relaunch. Although *WebPlay* doesn't address (re)design methodology, it is important to take a step back before considering the game-web connection and ask the big/tough question: what are you trying to do?

The basic objectives that Funware and game design can help with include:

- Improving user satisfaction
- Increasing stickiness and repeat visits
- Increasing overall usage
- Growing revenues from sales and advertising

The level of investment and appropriateness determines the net effect of Funware and game design on your site. However there are universal implications of Funware that broadly impact all consumer behavior.

IMPROVING USER SATISFACTION

Many activities can improve user satisfaction, and rewards are a sure-fire way to make large swaths of users happy. But rewards that pay out in cash are expensive, cumbersome and often mired in legal restrictions. Games, with their free-to-create points, rankings and badges offer satisfaction to millions of players every day – such as players of World of Warcraft and Gaia Online. By connecting a game's rewards system with a basic behavior, user satisfaction is likely to improve. It's already well established in the eBay ecosystem that if you review my transaction, I'm likely to review yours – contributing to a robust review/rating system that benefits eBay (by reducing risk). eBay doesn't reward buyers and sellers in cash for their reviews (as some other sites have done), but the funware design of the feedback system intrinsically encourages those reviews to occur.

INCREASING STICKINESS, REPEAT VISITS

Game and social network sites typically top the non-portal rankings of most visited websites on the Internet. Increasingly, social gaming sites have risen to dominance in overall web stickiness by combining the best of social networking with the rewards of gaming. The usage statistics for social/game sites are astonishing. As an example, NeoPets, a youth Massively Multiplayer Game by MTV was the stickiest youth entertainment site in early 2008, logging a mind-blowing 2.5 hours of use per user per month and 2.5 Billion game plays in a

similar 30 day period with 53 million users⁷. Electronic Arts' Club Pogo had even more staggering numbers, clocking 4 hours and 23 minutes of average use per person per month⁸, and recent research suggests this number is still increasing.

The intrinsic characteristics of social games – from rankings to point systems – reward users for increased engagement, and this benefits sites that leverage those techniques across the board.

INCREASING OVERALL USAGE

A basic conceit of user behavior is that – given the choice – users will opt for the most enjoyable activity possible for their discretionary leisure time. This concept appears to be well supported by Internet usage statistics.

In 2007, web ratings agency ComScore estimated that 217 million (of 700 million total internet) users played online games⁹ – a number that did not include any game consoles, handheld, mobile, Funware or other forms of interactive entertainment. With continued growth forecast to top 25% per year, this number should reach 500 million relatively quickly. As usage grows, top gaming sites begin to clearly demonstrate how they are able to attract users – en masse – from more “purposeful” activities. By leveraging this momentum and redirecting it towards a practical purpose, you can use Funware strategies on your site to grow direct usage numbers.

GROWING SALES AND ADVERTISING REVENUE

Advertising revenue depends on the quantity and quality of a site's underlying audience, and the preceding three objectives address that opportunity directly. The use of Funware design also contributes to increased virality, and when taken together with improved user satisfaction, can raise the overall level of engagement and evangelism among your user base. This inevitably leads to greater sales for sites with e-commerce, and supports an overall campaign of increased visibility and loyalty. For example, Frequent Flyer programs – a basic kind of Funware design – have engendered tremendous loyalty among their users.

In Grahame R. Dowling's research entitled “Do Customer Loyalty Programs Really Work?”¹⁰, the author summarizes their findings on effective loyalty programs by saying that the following objectives can be successfully achieved:

1. Directly enhance the product/service value proposition
2. Broaden the availability of the product/service
3. Neutralize a competitor's program

⁷ <http://www.viacom.com/news/Pages/newstext.aspx?RID=1236843>

⁸ <http://blogs.zdnet.com/ITFacts/?p=12188>

⁹ <http://www.comscore.com/press/release.asp?press=1521>

¹⁰ http://www.ccc.agsm.edu.au/papers/researchBriefings/A03_Paper_RB002GDowling_CustLoyalty.pdf

Once we see loyalty programs as a type of Funware design, it becomes obvious that a disciplined application of Funware and game design theory makes possible to raise revenues and customer satisfaction, thwart competitors and radically improve outcomes. While those seem to be unremarkable claims when you describe a “frequent flyer program”, the concept of using a “game” to achieve these business objectives seems both novel and – possibly – unorthodox. Of course we’ve all known someone addicted to a particular online game – say World of Warcraft (WOW), but what if we could engender the same repetitive loyalty to a banking website as we do to WOW? From the perspective of game design and human factors, the challenges are the same, regardless of the client: achieve maximum fun, stickiness and virality. In short: make a great game, and people will play it until they fall asleep at the controls.

But making a great game (or game-like experience) is a non-trivial exercise. Successfully designing an original game experience that captures the imagination of millions (and doing all the “balancing” and refinement work to keep it truly vibrant) is the province of only a few dozen designers in the history of the games industry. But you need not design an original game – or even an original game experience – to obtain the benefits of game design for a non-gaming website.

In your case, the most valuable creative asset you bring to the table is an understanding of your site’s unique business objectives, brand requirements and consumer demographics/behaviors. When you combine this with the basic recipes we outline in the book and a general understanding of game design, you can create a unique, game-flavored experience that will dramatically move your site forward. For that reason, we’ve included a quick primer on game design, intended to help you frame your effort in the context of existing game disciplines.

1.4 A Game Design Primer

Game Design is a relatively new discipline, though it’s been practiced since the beginning of society. While people often confuse game designers with a visual designer or game theorist, their focus is much broader. Game designers deal primarily with the construction of games in their entirety, creating rules, stories, economies and ‘win conditions’ to satisfy a wide range of players. They are – in essence – the writer and “manager” of a game system, charged with creating the whole experience that will bring and keep players engaged.

While generally preoccupied with designing games for pure entertainment or educational purposes, increasingly game designers are turning their attention to a simpler set of objectives: making experiences more fun. In this way, game designers play a critical User Experience role in the design of Funware and game-integrated websites.

Although WebPlay is not intended as a book on game design, it will deliver some fundamentals and access to further resources that can assist with designing and deploying Funware applications.

1.4.1 The Social Network Effect

One of the primary effects of social networks like Facebook and MySpace on user behavior has been to instill the expectation that all (most) activities should have a social comparison/ranking component. Not only should we be able to express what music we like, for example, but we should be able to quickly and easily compare ourselves against our friends to see how we are similar and different.

In the Funware context, such comparison can be seen as a form of **leaderboard**, which both galvanizes and unifies players around a ranking system. Once the leaderboard is displayed, users tend to want to compare themselves, and the net effect is to connect each type of player and motivation to an overarching status and ranking system.

Consider the number of friends you and your friends have on Facebook. Are you aware of those numbers? Perhaps you are most aware of a friend with a large number of friends – say, over 1,000? Or do you merely know those friends who have a disproportionately large circle. The method by which we keep track of that – the friend count – is a conspicuous feature of the Facebook profile.

In the very decision to include friend counts so prominently on the profile is a truism about how and why people play. The designers of Facebook (and Myspace) thought that information would be important – both as a source of social status and a form of credibility meter. It gives the user the opportunity to declare their social power, and the observer the opportunity to gauge that social power before, say, accepting a party invitation from them. And therein lies the rub: even when we don't have much power, we still want to know where we stand against others.

1.4.2 What Funware/Game Design Cannot Do

Funware/Game design provide tools and techniques that can be used to create powerful user experiences that are richer and more engaging than web applications on their own. However, there are significant limitations to the effect of Funware on user behavior. Most importantly, it's difficult to use game design to make people do something they don't intrinsically want to do.

For example, it's almost impossible to make a Democrat join a pro-Republican web community, even with an extremely compelling Funware angle – without some element of deception.

Similarly, it's difficult to design a game that will get people to go into a casino in the first place, providing they know it's a casino. Once they're there, game design becomes a critical part of the user experience.

1.4.3 Virtual Economies

Virtual Economies (VE) are essential to most sophisticated, multi-user Funware implementations – and increasing in importance across sectors. The basic premise is to create a virtual economic system that allows you to convert real cash (or time) inputs from users into virtual “sinks” that continue to fuel both interactivity and revenues (see sidebar). While the design of complete virtual economies can be tremendously complex, its basic components can be deployed to achieve business objectives with positive results.



Figure 1.1 The Virtual Economy Cycle

VIRTUAL ECONOMY BASICS

Investment: Cash inputs that are used to acquire currency in the virtual world

Grinding: A basic, often repetitive activity that can be performed to earn currency

Sinks: Redemptions of currency, usually in the form of virtual items

Virtual Items: The subject of sinks – usually gifts, customizations and boosts

Balancing: The act of refining the VE to optimize user behavior – usually involving managing the value of sinks and currencies

The primary benefit of a VE is engagement. Once users have invested substantially in your virtual economic system – whether in cash, time or personalization – they are unlikely to withdraw from them. Moreover, VE systems, while initially complex, provide a wide range of options for steering user behavior. While not appropriate (or even warranted) for every Funware implementation, Virtual Economies – even simple ones – can become another powerful tool for channeling user behavior.

The other reason many game and Funware designs deploy virtual economies is that it's often cheaper to reward users with virtual items rather than actual cash. By creating an entirely self-contained system for earning and redemption – like frequent flyer programs – the game creator gets the benefit of both channeling behavior constructively, and controlling the value of rewards at the drop of a hat. Remember: macro-economic forces well outside your scope, including inflation and geography, control the cash value of five real dollars. But the value of five virtual dollars in your Funware implementation is entirely within your control.

INPUTS: CASH AND GRINDING

Users are expected to contribute either their time or money to generate currency in the VE. In a typical Funware implementation, where generating accretive user behavior is the objective, users will primarily be funding their online currency with their time and effort.

By attaching a virtual currency reward to specific activities, it's possible to steer user behavior and its intensity. Consider Table 1.2, with activities (related to editing documents) and their corresponding "payouts" in virtual currency.

Table 1.2: Sample Earnings Chart for Virtual Economy Activities

Activity	\$ Earned
Read Document	\$2
Check for Spelling Errors	\$2
Each Error Found	\$1
Each Unique Error Found	\$5
Proofing 3 Documents	\$24
User that finds most errors in a month	\$50

Some of the activities are nested, requiring you to complete one before the other: reading documents must precede checking for errors. Some offer unlimited earning potential – such as rewarding users for each error found, without limit. And others are like bonuses, offering outsized rewards for particular activities that are desired, such as completing three documents, where we offer a 100% bonus over the normal currency earned for that activity.

By considering the relationship between various activities and their relative values, we can steer user behavior simply by changing the earning potential of a specific activity. For example, if we increased the bonus for proofing three documents to \$100, we'd likely see an increase in user completion of that task. Just as in the real world, the more we incentivize, the more people – on average – will respond.

OUTPUTS: SINKS

Just as important to our virtual economy is the notion of redemption. In Virtual Economies, these are generally called sinks, and represent the ways that currency is removed from the virtual economy. In most cases, these sinks come in the form of Virtual Items, discussed below, but they serve two basic purposes: to control inflation (currency removal), and to manage revenue for the game creator.

Just as in the real world, the relative costs of sinks affect the perceived value of earnings, as shown in Table 1.3.

Table 1.3: Redemption Table for Virtual Economy Activities

Redeem For	\$ Earned
Cute new virtual hat	\$2
Priority Tech Support	\$10
“Revealer” shows you top 5 errors in any document	\$20
Extra Error: send your competitors an extra error	\$25
50% bonus for one month	\$80

The relative cost of redemptions profoundly affects the perception of the value of various activities. Here, achieving a 50% point bonus for one month costs the same as proofing 20 documents – likely to be a fairly involved task for all but the most dedicated players. Thus, balancing the economy becomes critical to keeping the experience fun and engaging.

VIRTUAL ITEMS

Consensus industry estimates suggest that the market for virtual goods will grow from \$1.5Bn in 2006 to well over \$10Bn by 2012¹¹. Virtual goods are those items purchased and consumed entirely in the virtual world – typically used to gift something to a friend, customize the online environment or enhance gameplay. Examples include virtual gifts in Facebook, furniture in Gaia Online and boosts on Café.com.

Virtual Gifts: Facebook: Recent estimates suggest that users buy each other approximately \$40 Million worth of virtual gifts each year on Facebook¹². Virtual gifts are typically



Figure 1.2 Virtual item purchases in Facebook.

¹¹ <http://citypixel.com/wp/2008/02/18/virtual-goods-market-size/>

¹² <http://tinyurl.com/6z2jzv>

those that are given by one user to another for purely expressive reasons. They are often considered the best kind of virtual item, as they redeem currency easily without requiring extensive customization, large-scale innovation or personalization. Also, they can have the effect of reaching outside the “walls” of the application – for example, if you can send a virtual gift to a non-user via email (“Steve just sent you this gift. Visit FunwareBlog.com to retrieve it.”) This virality is a powerful incentive for Virtual Gifts.

Customizations: Gaia: Gaia Online is the most popular virtual world for kids and teens in the US. In the game, players have their own personal homes that can be decorated with furniture and other items. These spaces represent players’ personalities, and with thousands of items available, massive individuality is possible.

These items are the easiest to include in a virtual economy, as they generally don’t affect “play” – and so they are tempting when considering a funware design. However, making expressive virtual items significant enough to players to ignite an economy requires that there be both a private “space” within the application, and a method for displaying that space to others. Moreover, there must be a continuous stream of new items available for purchase, as users quickly become bored of limited choices.

Generally, customization items are most interesting for applications with powerful social aspects.

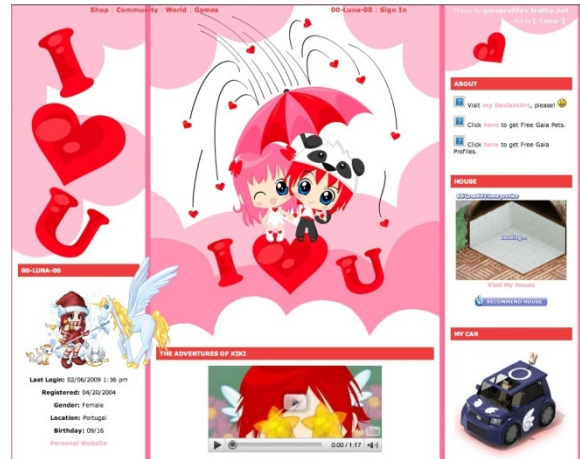


Figure 1.3 Gaia Virtual World customizations.

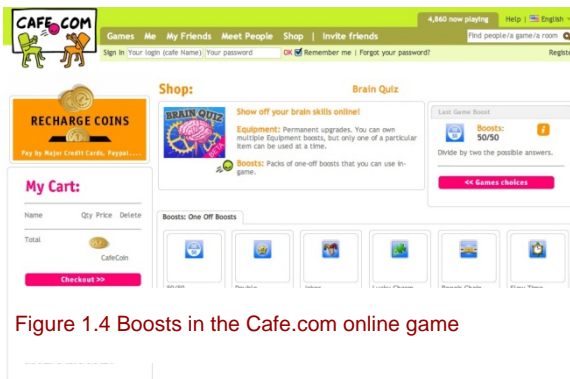


Figure 1.4 Boosts in the Cafe.com online game

Boosts: Café.com: When play is collaborative or competitive, and users are engaged in activities in (near) real time, boosts and inhibitors become extremely interesting virtual items. For example, redeeming currency for a “freeze” boost, causes your opponent to momentarily lose control of their play. Similarly, you can purchase

corrections to the Author Online forum:

<http://www.manning-sandbox.com/forum.jspa?forumID=523>

boosts for yourself that enhance your gameplay experience. Boosts are among the most complicated virtual items because of their game design penalty (you must actually affect the experience with the boost), but for experiences with competitive aspects, boosts provide extreme utility.

Balancing the Economy: The intrinsic conflict between the reward for inputs and the cost of sinks is the basic role of the designer in balancing the economy. Much like the Fed Chief (but with way more power), the designer must continuously monitor the state of the virtual economy to ensure that behaviors are trending in the right direction, and that the relationship between inputs and sinks is maintained at a healthy balance.

For most funware implementations, where cash inputs are less important, balancing takes on more importance as a mechanism for ensuring user engagement. If the hottest redemption item takes 60 days to acquire (through normal activity), it's probably mis-priced. Similarly, if you can earn a king's ransom by completing a simple task in your first few hours, the experience is going to be similarly banal. Finding this balance can take months of time in complex economies, and most experts agree that you should begin simply (few inputs and sinks), and increase complexity over time.

An interview with Rajat Paharia, CEO of Bunchball – a pioneer in the corporate Funware space.

Describe Bunchball in a single paragraph.

Bunchball is a web based marketing company that enables you to measure, drive and reward user behavior with our "Nitro" platform. Nitro gives you the transparency to view what users are doing on your site, and how consumers are interacting with your brand, while recognizing, incenting and rewarding the behaviors that bring you value.

How motivated are people by badges, achievements and rewards?

People have fundamental needs and desires - for reward, status, achievement, self-expression, competition, and altruism among others. These needs are universal, and cross generations, demographics, cultures and genders. The big secret is that game mechanics address these needs, and in the process incent, motivate and engage your users. Points, badges, levels, challenges, leaderboards, virtual goods and gifting, while all virtual and abstract, satisfy basic human needs in a meaningful way, and can therefore be incredible motivators.

What kind of rewards seem to have the best effect on consumers?

It all depends on the context of the site and the individual users. Some sites might want to downplay competition and status, and focus on individual achievement and self-expression. On an individual basis, not everyone is motivated by competition for example, so leaderboards might hold no appeal to those particular users. Others might not care about status, so leveling might not mean much. But everyone is motivated by at least

one of the human needs listed above, so by using all the game mechanics in concert, you get complete coverage of your user community.

Have there been any interesting things that have emerged from your Funware experience that have surprised you?

1. Just how powerful virtual incentives can be. The obvious thinking is that monetary incentives are more powerful, but that's not always the case.
2. How game mechanics seem to work, at one level or another, on everyone. People often ask if it's only a kid or teen thing, and the evidence shows that it's most definitely not.
3. The broad range of applicability of these concepts - from websites, to games, to motivating employees inside companies.

1.4.4 When is a Virtual Economy Not Useful?

Because virtual economies are complex tools with high development costs, they are generally less useful for rapidly prototyped or "lightweight" experiences. Additionally, virtual economies require a great deal of ongoing management: you cannot stop making new virtual items, or that economy will collapse. Moreover, users – especially achievers – quickly ascend to the top ranks of the VE ranking system, causing you to continuously add to the experience. And, if they're not ascending quickly, your VE is probably out of balance – and the experience is too challenging.

However, a VE implementation need not be overly complicated to achieve its objective. By providing a simple infrastructure for inputs and redemptions, and judicious ongoing management, users can become highly engaged in even the most mundane activities.

1.4.5 Badges, Achievements & Challenges

In order to fully engage with the design of a Funware application, users need a system of rewards – both extroverted and introverted – that help shape their behavior. Badges and achievements are used to achieve just such objectives, and often form an intrinsic part of a game's design.

BADGES

Badges are items that a user can earn which demonstrate their aptitude or success in the game world. They are not dissimilar to Boy Scout badges, allowing the "wearer" to show off their accomplishments quickly and easily to others. As badges accumulate for the player, they also tell a story of engagement that can help reinforce your application's perceived social value. That is, if a popular user has dozens of badges for accomplishing a wide range of goals, the app's perceived value rises in accord. The critical design consideration with

badges is to allow them to be interoperable (they shouldn't cancel each other out), available in a wide range of 'flavors' (satisfying all the basic player needs) and endlessly extensible.

It also helps if the badges are themed to the application. For example, if you're making a Funware application that is intended to encourage users to rally around a specific car brand, the badges should relate to the automotive theme. A "best baker" badge is unlikely to work, while a "Top Mechanic" or "Speed Racer" badge might be more apropos.

ACHIEVEMENTS

Achievements are mini goals that can be used to motivate users as they move through a game or Funware application, and they are typically thought of as 'unlocking' little rewards or secrets/powers at the completion of a particular level or challenge. While not completely different from badges, achievements have been growing in popularity across game genres and can now be found in most designs¹³. In addition to serving the 'achiever' player type, well-structured achievements can help ensure that players continue to move along a usage path and that they feel amply rewarded at each turn. The critical piece here is to create a continuously available series of little things that users can accomplish. They need not be linearly achievable (e.g. "Collect 5 Cars", "Collect 10 Cars"), but creatively tuned to the application in question.

CHALLENGES

Challenges are what they seem – opportunities for users to select an activity with a defined objective and restrictions. Often formed in the context of mini-games (or quests), challenges are especially integral to games with extensive stories or episodic content. Much of the success of World of Warcraft – for example – has been tied to the strength of the multiplayer challenge mode in the game. Similarly, a Funware application that includes well-designed challenges or quests is likely to engender greater engagement and stickiness overall. The critical requirement here is that challenges be difficult, but achievable. If they are too simplistic, users may leave the experience entirely. Conversely, if they are too complex, you may never get engagement in the first place. The process of drafting appropriate challenges that meet the requirements takes time, but is intrinsically rewarding.

1.4.6 More on Game Design

Although *WebPlay* is not intended to provide a comprehensive primer on game design, there are a number of great resources that can be used if your interests include a deeper look at designing games. Although these will exclusively focus on designing games for fun (rather than those with a business objective), they can be useful for advanced design projects. In particular, some books that set a good groundwork for game design basics include:

¹³ <http://www.gamecyte.com/unlocking-the-psychology-of-achievements>

©Manning Publications Co. Please post comments or corrections to the Author Online forum:

<http://www.manning-sandbox.com/forum.jspa?forumID=523>

Game Design Workshop, Tracy Fullerton
Rules of Play, Salen and Zimmerman
The Art of Game Design: a Book of Lenses, Jesse Schell
A Theory of Fun for Game Design, Raph Koster

Additionally, there are a number of websites, blogs, forums and classes offered on game design around the world. Check in with the International Game Developers Association at <http://www.igda.org/> or visit Gamasutra at <http://www.gamasutra.com/> to locate additional resources.

1.4.7 Leveraging Game Design in Implementation

Although the basics of game design are universally understood to apply to all kinds of games, it's novel to suggest that we could use those techniques to better a non-game experience. However, the lesson of Funware is precisely that: game design is everywhere, and can be used to accomplish specific objectives if it's combined with a set of clearly articulated business objectives. In the next section, we'll take a closer look at how to implement specific approaches to game + web design.

1.5 Game/Web Implementations

Just as with Bartle's player motivations from earlier in the chapter, a seemingly infinite range of game dynamics can often be boiled down to a relatively simple set of discrete "buckets" that can help us make sense of the complexity. Similarly, the ways we might implement games on the web – despite the limitless range of different website objectives and architectures – is actually quite concrete. By taking the practical knowledge of game design, Funware theory and our clearly articulated business objectives, we can extract three basic recipes for game + web implementations:

- Websites plus games (standard and custom)
- Websites featuring games
- Funware websites with "intrinsic" games

Let's take a closer look at basic frameworks for these three recipes, followed by an in-depth chapter covering implementation for each.

1.5.1 Websites PLUS Standard Games

A quick search of websites with games will reveal this truism: most game features on the web are incidental to the function of the websites where you'll find them. So, while you might not be surprised to find a crossword or Sudoku puzzle on USA Today.com, you might be shocked at the sheer depth and breadth of the rest of their game offering: hundreds of titles, spanning a wide range of genres and categories, available for web play, download,

purchase and subscription. The vast majority of the selection, in fact, has nothing to do with the newspaper or its editorial content.

So, why do USA Today, Comcast, Lifetime TV and countless other sites program huge game catalogues without any direct connection to their stated mission? Stickiness and revenues are the simple answers, and games have an unmatched ability to deliver both. It's not unusual for online casual game players to spend 45 minutes per session playing particularly engaging games, and the average download sells for a little less than \$20, making this model fairly attractive.

STICKINESS

A concept used primarily in the web world to describe how often users return to a given website plus how much time they spend there. Although no official measurements exist for stickiness, it is widely acknowledged to be a critical success factor for websites and applications.

Moreover, Game Service Providers (see chapter 4) have made it unerringly simple to program large catalogues of games, giving site owners the ability to snap in a complete game offering in a matter of days. They also take care of all the dirty details (payments, customer support, etc), generally without any up-front fees. For the past seven years, websites of all kinds have been leveraging this model to offer games to their users, though the offerings are not free of controversy.

Namely, these "white-labeled" game channels or tabs will feel decidedly familiar, even to the casual observer. The reason is that they are mostly the same from site to site. If you operate a fashion portal in the US targeted primarily at women 30-45, you can be assured that your third-party game offering will – while visually unique – be more or less the same as everyone else's in your category. And while that may not be a problem if your objective is to simply grab the additional time and revenue that games can offer, if you want to stand out, offering the same games won't help your cause.

And while "canned" web games offer simplicity and revenues without significant effort, they also – generally – don't take away from the user experience. That is, even if the games channel at CNN.com doesn't reinforce the core content, it also doesn't harm users' impressions. In fact, across the widest range of third-party game implementations that the authors have personally seen, we have never encountered a site that subsequently turned off its game offering because of user conflict.

There have, however, been hundreds of sites that began with a white label game offering and graduated to more customized approaches. Those strategies include deploying customized games, blending games with the web experience (Funware) or developing game-centric sites entirely.

1.5.2 Websites PLUS Custom Games

Flash has become a standard platform on modern web browsers, and the preferred choice for the vast majority of web game developers. Simultaneously, it's become easier than ever to reach game creators at work in low cost countries around the world. These two factors have led to a massive reduction in the cost of game development, bringing the average budget for a web game below \$10,000 – and some to below \$1,000 each in volume.

The low cost of web game development has spurred many companies like Lifetime Television (see Figure 1.5) to enter the game “publishing” market directly, bringing titles to market that find their natural outlet on their sites. What these games typically lack in design originality, they make up for in thematic relevance and revenue “closure,” aka there's no revenue sharing needed.

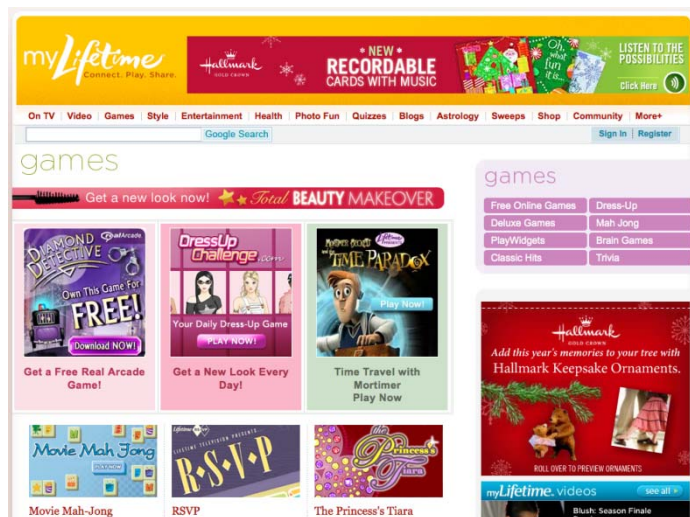


Figure 1.3: LifetimeTV.com games channel showing custom games

Let's say, for example, you run a popular technology industry blog with a large user base of men, aged 30-55. You might consider contracting for the development of a Breakout-style (destroy bricks with a bouncing ball) game where the various levels were themed based on famous Silicon Valley companies (e.g. Google, Intel, Oracle, etc).

Though that game design doesn't sound very exciting, for the right price, it's a simple and sticky way of keeping users on your site and reinforcing your brand. And, while it's a lot more effort than a canned game offering, it's also pretty cheap.

Additionally, this approach has distribution and marketing benefits that may not be obvious at first. For example, there are large sites (e.g. Miniclip and AddictingGames) that specialize in aggregating flash games that will both host your title and introduce its message to a broader audience.

©Manning Publications Co. Please post comments or corrections to the Author Online forum: <http://www.manning-sandbox.com/forum.jspa?forumID=523>

While this approach has been successful for a number of large brands (especially entertainment companies), it nonetheless separates games from the core website experience. Whether it's news, commerce or travel, the games are over here and the core website is *over there*.

In some cases, it may make more sense to build an entire free standing website devoted to games themselves. While the motivation may be branding or demography, the strategies behind a carved-out game site are often similar.

1.5.3 Game-Centric Websites

If your interest is primarily in profiting from the massive growth of the games industry and the skyrocketing popularity of games themselves, the simplest approach is to build a games-focused website. Whether editorial or distribution focused, the game website category has plenty of room for new entrants.

And, while game-centric sites are not the core focus of this book, they are important to understand as competition for Funware, segregated approaches and user time/attention.

Historically, game-centric sites were divided between those engaged in editorial and those in e-commerce. That distinction has now been mostly obviated, with almost every major game editorial site offering to sell the games it reviews, and most specialist game retailers absorbed into larger commerce conglomerates.

Today, the market can best be seen as divided between those focused on the core gamer (typically, a male between 18-35) and the casual player (typically a woman between 40 and 55) – though those numbers are not absolute. Top casual game sites tend to be dominated by distribution portals (BigFishGames, RealNetworks) and MMOGS (RebelMonkey). Major editorial sites (IGN, Gamespot) and truly MMOGs like World of Warcraft tend to dominate the rankings for core games on the web.

Additionally, some mega-distribution channels have recently come to the forefront, primarily driven by social networks (Facebook, MySpace) and mobile vendors (iPhone, Android). These platforms have gained traction by offering developers a cheap and easy way of building compelling consumer apps, and by aggregating large numbers of users who will readily consume those apps.

If the target is to profit directly from games themselves, there's no clearer way to do that than to create a destination where games are the main course.

However, if the objective is to use game design and game mechanics to achieve business objectives, then a Funware design is probably ideal for your context.

1.5.4 Funware Approaches

Almost any web app lends itself to a game-like experience without detracting from its utility.

WebPlay delves deeply into Funware designs and recipes for implementation in Chapter 5. However, it's interesting to take a quick tour of some of the more high profile and forward-thinking implementations in the recent past.

StyleHop¹⁴ (profiled at right) is among the Funware applications that have received the most media attention in recent times. The site combines lightweight games and an overarching status game with fashion to create an experience that is dramatically more fun than just browsing for clothes. Users can create their own boutiques, play to guess the price of items (among a number of other games) and participate in a community that directly rewards their contributions in ratings, points and level-ups.

StyleHop – Funware meets Fashion: An interview with CEO and Co-Founder David Reinke

Describe StyleHop in one paragraph.

StyleHop has come up with a creative solution to the problem of user-generated fashion ratings: online games. StyleHop is creating fun, addictive, lightweight social games and quizzes that allow women to participate socially in something they already love: fashion and shopping. Most importantly, our games all revolve around current fashion available for sale online and they all prompt women to provide a five-star ranking for each style presented. Playing StyleHop games will create the star ranking data that feeds StyleHop's shopping review site and helps consumers shop styles based on the product rankings of people just like them.

When you were architecting Stylehop, was Funware always part of your design plan, or did you add it later?

Funware and game design was always central to StyleHop, as we are trying to become the destination for consumer reviews in fashion. The product lifecycle in fashion is so short that no company has figured out how to systematically get thousands of consumer reviews on a regular basis. We are also the first company to mashup games and affiliate ecommerce so directly. Interestingly, the idea came out of our brainstorm of how to get lots and lots of 5-star rankings of styles. One of our teammates said, "Let's turn it into a game." And thus the idea was born to make games that encourage people to rank styles.

What are you hoping to achieve by integrating Funware so tightly into the site experience?

We think StyleHopping (our games) will do for fashion what Fantasy Football did for the NFL. Before FF, men could either go to the game or sit on their couches. Either way, spectatorship is a passive activity. Once FF hit the scene, football lovers could suddenly

¹⁴ <http://www.stylehop.com/>

engage in a much deeper way with the sport they loved than ever before. StyleHop's users now have the same opportunity with fashion!

Read the Full Interview at <http://www.funwareblog.com/>

*MSNBC Newsblaster*¹⁵ is a game available on the MSNBC website that combines an RSS reader with a Match-Three style game. As you match like-colored bricks and clear levels, you “win” headlines grabbed from real, current news that’s published on the site at the moment. During each round break, you can review the headlines you’ve captured and read the actual articles, if you like.

Although Newsblaster would seem to interfere with the (straightforward) process of reading the news, its design considers that MSNBC would like visitors to:

- Consume more news than they currently are
- Spend more time on the site to increase ad revenues and rankings
- Be exposed to feature categories they might otherwise not read

Another interesting example can be found in stock market games, the most famous of which is called – simply – *The Stock Market Game* (www.smgwww.org). Although TSMG is designed for students, and is a game that mirrors a real-life, it’s garnered much praise and attention over the past 30 years for helping teach thousands of young people about investing and money management. Other than the obvious risk-reduction benefit of being able to invest hypothetical money, the game’s primary contribution to stock market investing - which is already a pretty fun game – is the addition of a clearly articulated **leaderboard** and **goals**, neither of which is provided for public stock market investors.

The mere presence of a set of goals and ranking system causes players to self-organize around those schemas. Although you could play TSMG to maximize the breadth of your portfolio, for example, everyone plays to have the highest-value stock holdings at the game’s end. The clarity and power of a simple goal is staggering.

Another excellent example of Funware can be seen in Games with a Purpose (<http://GWAP.com>). Developed at Carnegie Mellon University, there are a number of GWAP titles that endeavor to get users to play games that will perform a utility function. For example, the photo tagging games *The ESP Game* and *Matchin*.

¹⁵ <http://www.newsblastergame.com/>



Figure 1.4: Games with a Purpose designed to use game mechanics to solve real-world problems

In *The ESP Game*, you are asked to look at an image scraped from the web and to tag it. Simultaneously, another web user is being asked the same question. Any words that both of you commonly choose result in a high point score, giving you an incentive to choose tags that would readily be chosen by others – a design not dissimilar to the US game show *Family Feud*. Except, in this case, every turn you play gives search engines some information about the vast archive of photographic data available.

Funware applications can run the gamut from complex, academically-driven initiatives that have far-reaching implications, to simple mash-ups of basic game concepts (frequent flyer programs, casino designs and leaderboards) with core business applications. Either way, Funware offers a clear methodology for maximizing returns through game design – and if your resources permit, it's the most effective way to accomplish your business goals.

To see a very small bit of Funware in action, let's run through a simple code example.

1.6 Leveraging the power of Funware

At the beginning of the chapter, we discussed the comparison of ATMs to slot machines, arguing that the slot machine experience was substantially more fun. One of the powerful devices used by slot machine designers is the force of operant conditioning – unpredictable rewards produce powerful “addictive” behaviors in humans and animals. That is, slot

machines dispense prizes (and bells, whistles and beeps) at unexpected intervals, causing players to continuously return to play the one-armed bandits.

While running a casino is outside the scope of this book, web developers looking to leverage the power of Funware to enliven their site can take advantage of simple techniques to casino-ize various activities, thus producing engaged user behavior.

Let's take a situation where you'd like to engage site visitors around the act of clicking on partner links (say, at a comparison shopping site or on a meta-feed aggregation site). In its simplest form, what you want to do is

1. Decide in advance on the payout schedule for a reward (X). In this simple example, you can do this by taking your desired win rate (let's say 1%) and the number of average clicks per sessions (~5) and then dividing 5 by .01 to arrive at 1-500 as the range of possible numbers to choose from.
2. Generate a random number (Y) for each user session
3. Generate a random number (Z) on each user click of a partner URL
4. If the numbers match, display an alert that says you've won

So, let's begin by declaring a JavaScript variable that will choose a random "check number" for each session that we can compare to see if we have a winner:

```
samplesize=Math.floor(Math.random()*501);
```

Note that you need to add 1 to your desired range size (in this case, 500+1) as the scope for the math.random function. You will also want this variable to be global so that you can compare it during any activity. Be sure to declare this variable once per user session, page visit or per-click, depending on your desired odds.

Then, let's declare a local variable to hold the random number generated for each partner click:

```
var clickrand=Math.floor(Math.random()*501);
```

Note that we used the same size as the samplesize to ensure that the odds were matched.

Next, we'll need to define a function that tests to see if you won with each click and that uses the local function clickrand we discussed above.

```
function DidYouWin()  
{  
  
var clickrand=Math.floor(Math.random()*501);  
  
if (clickrand=samplesize)  
{
```

```
alert(You Won!);  
}  
  
}
```

And lastly, you can invoke this function each time a user clicks:

```
<A HREF="http://yourpartnerlinks.com" onClick="DidYouwin()">Click here  
to visit our partner</A>
```

Figure 1.7 shows what comes up if the user's lucky number comes up.

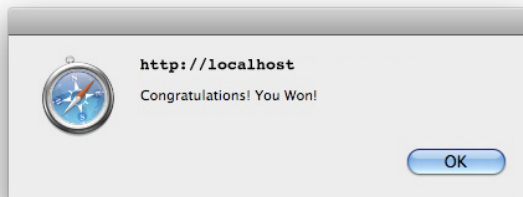


Figure 1.7 If the user's lucky number comes up, we display this popup to alert them to a win

While this is a simple example of a random drawing and success display, you can use this basic framework and code snippet to embellish: send the user to a specific page on success, increment a point counter, or even integrate this experience into every on-site action to generate more excitement.

1.8 Putting It Together

Game design is a powerful force. Once we can see the "games" that exist all around us, our creative ability to mash up basic game designs (casino, frequent flyer, leaderboard) with existing websites and applications leads us to an understanding of Funware. By making any application more fun, we can improve its stickiness, satisfaction and revenue, and the world is full of examples of ways we can combine games with the applications and the web.

This chapter has covered some of the foundations required to begin developing a game strategy, from business objectives to game design frameworks and the basic implementations. In the next three chapters, we'll take a much closer look at the specific implementations of a games + web strategy, designed to maximize user satisfaction, stickiness and revenues.