Lithium

The Gamification Spectrum
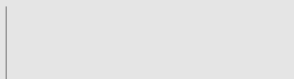
Contents

Lithium builds trusted relationships between the world's best brands and their customers, helping people get answers and share their experiences.

We provide one platform to manage your Total Community:

Understand your most valuable
and

Introduction to Gamification

Gamification is applying the science and psychology of gaming in a non-game context to motivate and reward your customers to perform certain desired behaviors. For example, if you want them to contribute more content on your online community, you may offer badges for those who contribute a certain number of posts; or they may work to level up to the next reward that provides recognition among other players for their expertise, skill, etc. There are many types of gamification techniques.

Gamification is one of the most proven ways to engage community members and keep them coming back for more. However, there are important scientific principles behind the strategy of gamification that impact whether or not gamification proves to be successful for your community and brand.

In this paper, we take a deeper dive into what our Chief Scientist, Dr. Michael Wu, has patented as the "Gamification Spectrum"—a continuum of gamification techniques that can help you choose the right gamification plan for your customers, depending on the behaviors you want to drive.

We have curated the following content from Dr. Wu's blog, The Science of Social, to synthesize all the insights from the entire Gamification Spectrum series into one paper.
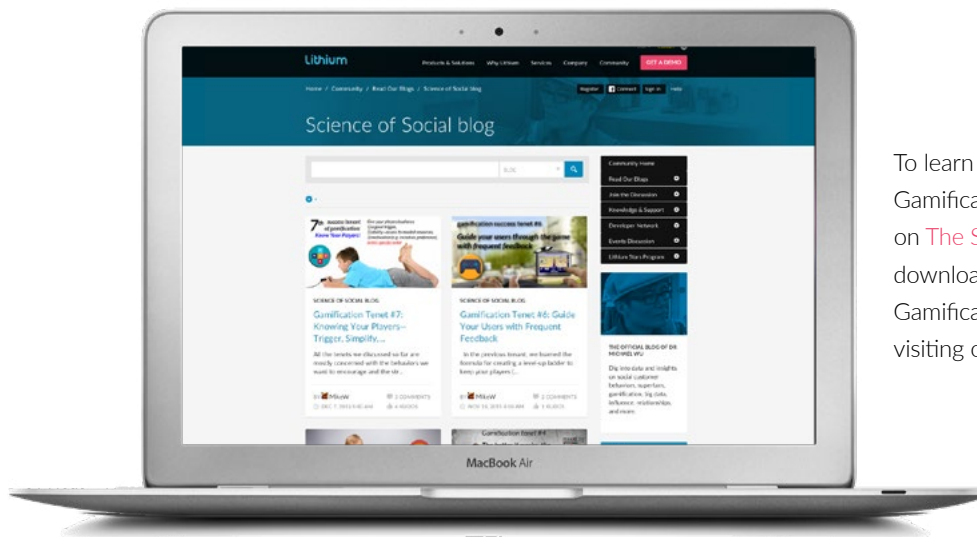
To learn more about Gamification, follow Dr. Wu on The Science of Social or download additional Lithium Gamification whitepapers by visiting our Resources page.

What is the Gamification Spectrum?

The Gamification Spectrum is a framework I developed and have patented for organizing existing gamification tools. Common gamification tools are points, badges, leaderboards, etc., but there are many more (e.g., ranks, goals, missions, level unlock, team reputation, etc.). No doubt there are hundreds and thousands of gamification tools out in the market. Moreover, there are many variants of gamification tools. For example, there are different kinds of leaderboards with different scopes. Some only compare you against your friends, whereas others compare you against strangers who are similar to you in some ways.
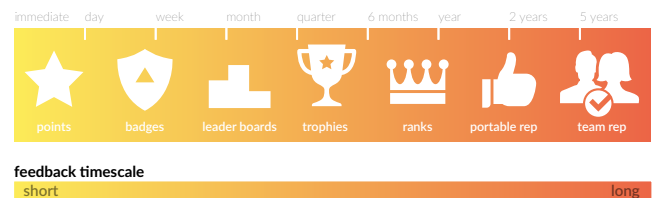
By organizing gamification tools into a spectrum, you can choose the right tools to meet your goals. But how do we systematically organize and understand these tools? We must look for a common ground, or the universal properties of gamification tools.

Feedback and the Feedback Timescale

The first thing we find in common is feedback. All gamification tools provide some kind of feedback to the players. It may be very subtle (e.g., incrementing some metrics in the background) or very obvious (e.g., rewarding the user with a badge). The precise mechanism of how a particular tool gives feedback to the users is different for every tool. It could be tactile (e.g., a vibration on your mobile device), auditory (e.g., a transient sound or music), visual (e.g., a pop-up notification, etc.), or other sensory modality. Regardless of the mechanism, the feedback is there to tell the user something about his past actions or behaviors (i.e., his progress, his performance).

This leads us to look at the feedback timescale which is roughly how fast the tool feeds progress information to the user. This is critically important because every tool has a characteristic feedback timescale and allows us to organize tools on a spectrum from a really short to very long feedback timescale. (Note that the feedback timescale is NOT the same as the feedback time of the gamification tool.) A feedback timescale is player dependent, and depends on their access, skills and resources. Players participate at different rates and so receive feedback at different rates. A superfan may get on the leaderboard in two weeks whereas an ordinary contributor may take a year to do so, and a lurker who never contributes may never get on the leaderboard (which has infinite feedback time). In this example, the feedback timescale (not time) for this leaderboard is roughly a month.

immediate	day	week	month	quarter	6 months	year	2 years	5 years
points	badges	leader boards	trophies		ranks		portable rep	team rep

feedback timescale
short · long

The feedback timescale for any gamification tool is also behavior dependent. The easier the behavior you are driving, the shorter the feedback timescale, and the harder the

behavior, the longer the timescale will be. So, if we organize all existing tools using their feedback timescale, we get a spectrum of tools ranging from those with short feedback timescales to those with very long feedback timescales. No matter what tools you use to encourage the behavior you want, the spectrum will be player and behavior dependent. The entire spectrum may compress or lengthen in different contexts, but the relative positions of the tools on the spectrum remain stable under similar context.

By organizing gamification tools with their feedback timescale on a continuum, we have a spectrum of gamification tools—the gamification spectrum. Through this spectrum, we can start to see some interesting patterns and trends in the operational properties of gamification tools. The gamification spectrum is a very useful organizing framework. However, its power and utility goes far beyond mere organization. It allows us to clearly see the relationship between different gamification tools. Moreover, the spectrum allows us to identify patterns and trends that give us a deeper understanding of some working properties of each gamification tool with respect to the others.
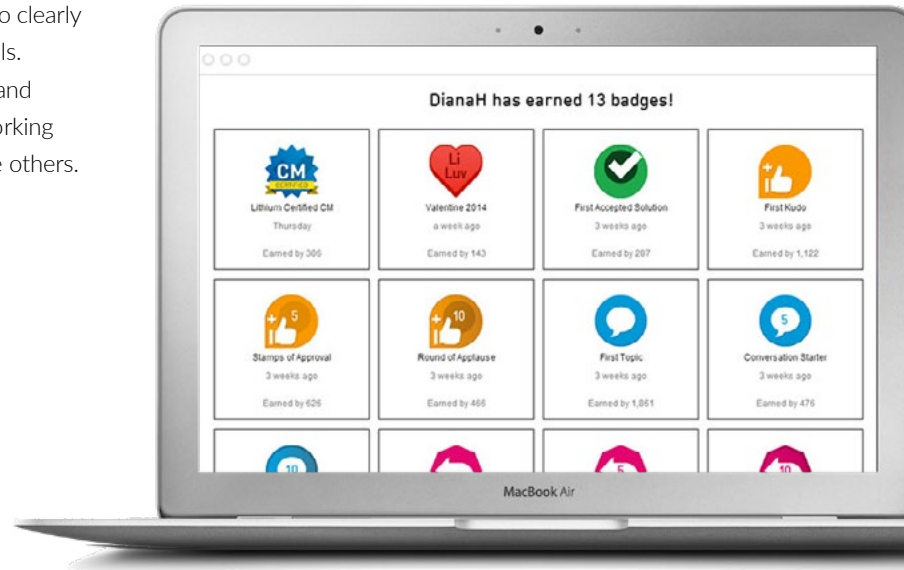
The Nine Patterns

Let's look deeper into this spectrum of tools to discover nine interesting patterns and trends hidden within these seemingly unrelated tools. If we examine the representative tools above the gamification spectrum, we can start to see some patterns as we move from the left (tools with short feedback timescale) to the right (tools with long feedback timescale) of the spectrum.

Pattern 1: Gamified Behavior

On the left side of the spectrum, the behavior we are trying to gamify is typically one simple action from a single player. For example, points are awarded immediately to players for simple actions, such as a tweet, a share, a kudo, a download, etc. As we move to the right, the behavior typically becomes more involved. Rather than one single action, the player must repeat the same action a number of times before he gets a badge. Thus, the feedback timescale of badges will be longer than that of points—precisely how much longer is going to depend on the behavior and the player.

If we move further to the right, the gamified behavior will require even more effort from the player. Not only does he

have to repeat one action, he has to outperform his peers in order to get on the leaderboard. Naturally, the feedback timescale for leaderboards will be even longer.

As we get to the middle of the spectrum, the behavior we want to drive is usually something that requires more than one type of action. The behavior may consist of two actions (e.g., watch a video **and** share it with a friend), three actions (e.g., download a trial software, use it, and write a review for it), or even more. Although the user needs to accomplish more than one action, the actions are still from a single player.

Finally, on the right side of the spectrum, the behavior we want to encourage is even more complex and involves actions from multiple players. These are typically reciprocal actions from other players or collaborative actions with other players.

Pattern 2: Underlying Metrics

Gamification relies heavily on the tracking of player actions/behaviors through metrics and behavior data. As the behavior becomes more complex when we move from left to right along the spectrum, the metrics and data that reflect these behaviors also become more sophisticated.

Towards the left, the metrics that underlie the short feedback timescale tools are usually simple counters that accumulate over time as the player carries out the desired action. Moving to the right, we reach tools like leaderboards that use time-bounded frequency metrics. Since medals and trophies start

immediate	day	week	month	quarter	6 months	year	2 years	5 years
points	badges	leader boards	trophies	ranks	portable rep	team rep

feedback timescale

| short | long |

gamified behavior

| single user action | single user, multiple actions | multiple users + actions |

to reward players for multiple actions, these tools must use multiple metrics and conjunction.

immediate	day	week	month	quarter	6 months	year	2 years	5 years
points	badges	leader boards	trophies		ranks	portable rep		team rep

feedback timescale

short		long

gamified behavior

single user action	single user, multiple actions	multiple users + actions

underlying metrics

single accumulative metric	frequency + conjunctives	reciprocity + team metric
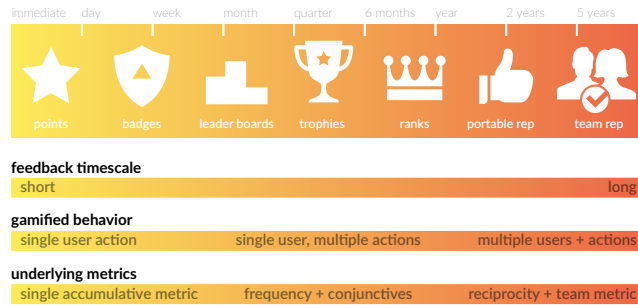
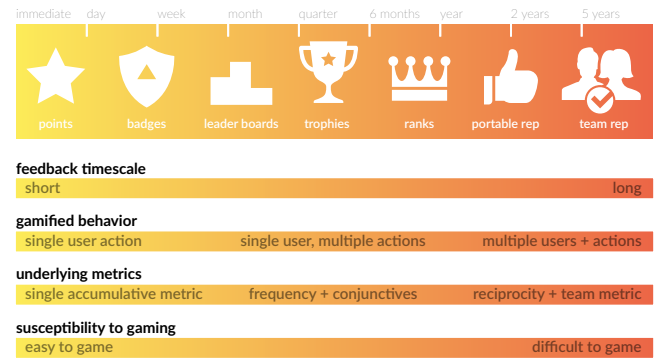In fact, tools on the right half of the spectrum can use conjunctions of metrics from any tools with shorter feedback timescales. For example, you can get a community trailblazer trophy when you are on the community contribution leaderboard for five weeks in a row. In this case, the trophy is using a conjunction of metrics from the leaderboard (a tool with shorter feedback timescale). Finally, tools on the far right of the spectrum leverage reciprocity metrics and team metrics that are even more complex, because reciprocity and collaborative behavior can only be measured with behavior data from many players.

Pattern 3: Susceptibility to Cheating (Gaming the System)

Tools on the far left of the Gamification spectrum are highly susceptible to gaming (i.e., cheating), because the behavior we are trying to drive is so simple—a single action from the player. This means the player has full control over the gamified action. So he can easily repeat that action to his heart's content and get all the points and badges he wants, thus gaming the gamification system. On the contrary, tools on the far right are

much more immune to gaming (though I believe no system is truly un-gameable), because those tools encourages behaviors that depend on many actions of many players. This makes it much more challenging to game the system as it would require a coordinated effort to do so.
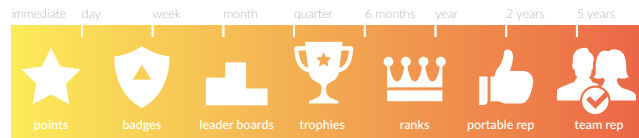
immediate	day	week	month	quarter	6 months	year	2 years	5 years
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feedback timescale

short		long

gamified behavior

single user action	single user, multiple actions	multiple users + actions

underlying metrics

single accumulative metric	frequency + conjunctives	reciprocity + team metric

susceptibility to gaming

easy to game		difficult to game

Pattern 4: Ideal Visibility and Scope of Feedback

Although gamified apps (e.g., FourSquare) often show off badges collected by their players, the tools with short feedback timescales (i.e., points and badges) are not ideal for public display. Why? Since tools on the far left of the spectrum use metrics that are cumulative, they tend to be biased in favor of those who have been playing for a longer time. So tools like points and badges are not really a fair comparison among the players. Making these tools publicly visible may even demotivate the new players. Instead, tools with short feedback timescale are actually more suitable as feedback to the player himself. So it should only be visible privately to the player himself.

However, as we move to the right of the spectrum, the metrics become less biased and less susceptible to gaming. For example the use of time-bound metrics in leaderboards

eliminates the bias that favors early players. Consequently, feedback and rewards from tools in this part of the spectrum are a more fair and accurate reflection of the player's true performance. As such, they are more appropriate for public display within the community of players. On the far right of the spectrum, the achievements awarded from those tools are even suitable for display beyond the community of players, because they would accurately represent the player's skill and reputation.

immediate	day	week	month	quarter	6 months	year	2 years	5 years

points badges leader boards trophies ranks portable rep team rep

feedback timescale

short		long

gamified behavior

single user action	single user, multiple actions	multiple users + actions

underlying metrics

single accumulative metric	frequency + conjunctives	reciprocity + team metric

susceptibility to gaming

easy to game		difficult to game

visibility & scope

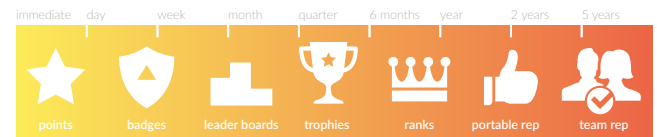| private: only to the user	public: with in community	public: beyond community

Insight: Points and badges are biased in favor of long-time players, so they are not really a fair comparison of people's skills (or abilities). Points and badges are primarily a feedback to the players themselves (not blatantly visible to the public). Showing off people's points and badges publically may actually demotivate majority of the population.

Pattern 5: Value of Rewards

If we examine the rewards (i.e., feedback) of gamification tools, we can also see a pattern as we move across the spectrum. Because tools on the left of the spectrum only provide feedback to the players on their own performance data, the rewards from these tools are purely extrinsic. Moreover, because the gamified behavior is so simple—one action from the player, there is little uncertainty or mystery in the reward because they are either completely transparent or can be easily figured out.

As we move to the right, the rewards become less predictable, because the feedback is triggered only when all the gamified actions are above a certain threshold. No reward is given even if only one—any one—of the gamified actions did not meet the criterion while all others are well above their respective thresholds. This makes the precise reward criteria harder to predict, and adds more mystery and uncertainty to the "game." Such mystery not only creates entertainment value, it also serves as an anticipatory motivator for the players.

Tools on the far right of the spectrum reward their players based on the actions of other players—reciprocity or collaborative actions. This social element makes rewards from tools on the far right of the spectrum more meaningful and valuable to the players. Hence, rewards from these tools are more intrinsically motivating.

immediate	day	week	month	quarter	6 months	year	2 years	5 years

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feedback timescale

short		long

gamified behavior

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underlying metrics

single accumulative metric	frequency + conjunctives	reciprocity + team metric

susceptibility to gaming

easy to game		difficult to game

visibility & scope

private: only to the user	public: with in community	public: beyond community

value of rewards

extrinsic		intrinsic

Insight: The rewards offered by points and badges are purely extrinsic. It simply tells the players what they've done transparently. Trying to add mysteries in these simple gamification tools may actually confuses new players early on. Mystery should be used later with tools on the middle and right side of the spectrum, where the rewards are more intrinsic.

Pattern 6: Sustainability

Naturally, tools on the left of the Gamification Spectrum are not sustainable, because the rewards they provide are purely extrinsic and have little long-term value to the players. Eventually the players will realize this fact and get bored quickly. On the contrary, tools on the right of the spectrum are sustainable, because the rewards they offer are intrinsic, more meaningful, and have greater value to the players.

immediate	day	week	month	quarter	6 months	year	2 years	5 years
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feedback timescale

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underlying metrics

single accumulative metric	frequency + conjunctives	reciprocity + team metric

susceptibility to gaming

easy to game		difficult to game

visibility & scope

private: only to the user	public: with in community	public: beyond community

value of rewards

extrinsic		intrinsic

sustainability

not sustainable		long-term sustainable

Insight: Points, badges and leaderboards are great starter tools for implementing gamification. They work well in the short-term, and drive results quickly, but it's not sustainable long term. If you want to gamify a behavior for long-term (years) you need to use gamification tools on the right of the spectrum.

Pattern 7: Implementation

At last, from an implementation and deployment perspective, tools on the left side of the spectrum tend to be much easier to build, implement, and deploy. That is precisely why so many tools on the market are basically variants of points, badges, and

leaderboards. On the other end of the spectrum, the tools are harder to implement because not only do they need to track more complex behaviors, they also need to capture different types of behaviors and perform sophisticated analytics to understand these behaviors. As a result, many tools on the right end of the spectrums are custom built. They also require a substantial amount of time and effort to tune and configure, so they are generally not turn-key solutions out-of-the-box.

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value of rewards

extrinsic		intrinsic

sustainability

not sustainable		long-term sustainable

implementation

easy to implement		difficult to implement

Insight: Points, badges and leaderboards are easy to build. Companies having engineering resources can easily build their own system for tracking points, awarding badges, and showing off people on the leaderboard. These simple tools are also readily available from vendors. However, more sophisticated gamification tools on the right of the spectrum must be designed specifically for your use case and audience in order to be effective. As such they are rarely available out-of-the-box.

Pattern 8: Extinction Period

It is important to understand the extinction period (i.e., how long it takes for a gamification tool to become ineffective at driving the desired behavior) for any gamification tool. Although it has been long observed that no gamification tool works forever, there is little information on how long each tool works. Although the Gamification Spectrum won't give you the precise extinction period because that is context dependent, it does give you an order of the tools in terms of their extinction period. So we know which tool will work longer or shorter compared to other tools.

We can understand the pattern of extinction period from two different angles: sustainability and players' psychology of flow.

We've already learned that tools toward the left of the spectrum are not sustainable, whereas tools toward the right of the spectrums are more sustainable. It's easy to see that the sustainability of a gamification tool is directly related to its extinction period. Tools that are not sustainable (on the left side of the spectrum) have a short extinction period because they lose their efficacy to drive the desired behavior quickly. That is why they are not sustainable in the first place. Tools that are sustainable in the long-term (on the right side of the spectrum) have a much longer extinction period.

The second perspective looks at the players' psychology of flow. The state of flow is an optimal state of intrinsic motivation that can be reached only when the challenges facing the players match their skills. Since tools on the left of the spectrum are used to drive a very simple behavior, they are essentially "easy games." As such, the players will learn and master those games quickly. We know from the psychology of flow that once the player mastered the game, their skills

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underlying metrics		
single accumulative metric	frequency + conjunctives	reciprocity + team metric

susceptibility to gaming		
easy to game		difficult to game

visibility & scope		
private: only to the user	public: with in community	public: beyond community

value of rewards		
extrinsic		intrinsic

sustainability		
not sustainable		long-term sustainable

implementation		
easy to implement		difficult to implement

extinction period		
short: fast extinction		long: slow extinction

will surpass the challenges from these easy games. As a result, they will also quickly move into the state of boredom, which isn't motivating and unable to drive the desired behavior. Consequently, the extinction period of these easy games will be very short.

As we move to the right of the spectrum, the tools are used to drive more complex behaviors, so they can be viewed as very "challenging games." When a game is challenging, two things can happen. First, most people wouldn't be up to the challenge; they'll feel frustrated because the challenge is too great for their skills. So they'll stop playing all together, but those that quit the game aren't the players. The second scenario is that there will be a few players who will rise to the challenge. They will choose to continue to play and want to

beat the game. However, because the game is challenging, it will take them a long time to master the game. For these players who want to win, the game will continue to drive the behavior. So the extinction period of these challenging games will be much longer.

Pattern 9: Engaged Population

As we have seen in Pattern #8, tools on the right side of the spectrum are like "challenging games," and there will only be a small population of players who will engage. Only a small fraction of the population will be sufficiently motivated or have the ability to play such a challenging game.

Conversely, the tools on the left side of the spectrum are "easy games." So there will be a much larger population who will engage in this easy game play. We know from Fogg's behavior model that simplicity drives behavior. When the behavior is simple enough, even players who aren't motivated will engage to carry out that behavior, because it doesn't require much ability (i.e., resources from the players).

immediate	day	week	month	quarter	6 months	year	2 years	5 years
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feedback timescale

short		long

gamified behavior

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underlying metrics

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susceptibility to gaming

easy to game		difficult to game

visibility & scope

private: only to the user	public: with in community	public: beyond community

value of rewards

extrinsic		intrinsic

sustainability

not sustainable		long-term sustainable

implementation

easy to implement		difficult to implement

extinction period

short: fast extinction		long: slow extinction

engage population

large engaged population		small engaged population

9

Scale & Sustainability

Extinction and engaged population pose an interesting conundrum for businesses. Tools on the left side of the spectrum—the easy games—can engage a huge population, but their effects extinct quickly due to the short extinction period. So even though they can drive behaviors and engage many players, these players don't stay engaged very long. Alternatively, tools on the other end of the spectrum—the challenging games—can engage the players for a much longer time, but only a few people will engage and play those games.

As you can see, there is no "perfect" gamification. There isn't one magic gamification tool that can engage a huge population for a long period of time. So which gamification tool should you use? As with almost any tool, you need to choose the right tools for the problem. If you have to choose a gamification tool to drive behavior, you will have to decide whether it's more important to drive the behavior for a lot of people, or is it more important to change the behavior for a long time? Choosing the wrong tool for the problem is not only a waste of resources, it could even have counterproductive effects.

Unfortunately, science tells us that scalability and sustainability have an inverse relationship with each other; the larger the scale, the less sustainable, and vice versa. That is, the larger the engaged population, the faster it will become ineffective; and the longer the tools are effective, the smaller the engaged population. As a result, practitioners of gamification must choose the right tool depending on what they are trying to achieve. There isn't a single gamification tool that can achieve both scale and sustainability.

immediate	day	week	month	quarter	6 months	year	2 years	5 years
points	badges	leader boards	trophies		ranks	portable rep	team rep
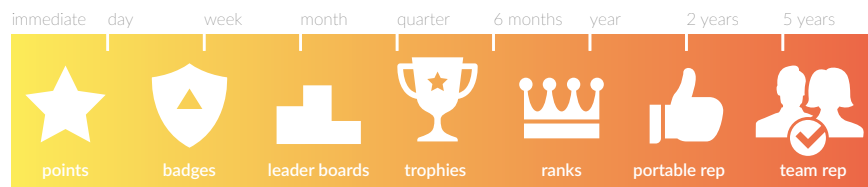
feedback timescale

short — long

easy games

quick effect,
engaging to many

quick to master,
quick to get bored

scalable, but not
sustainable
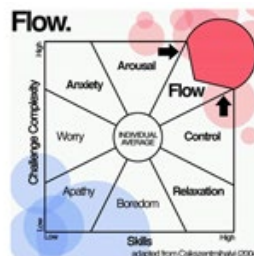
challenging games

slow effect,
engaging to few

slow to master,
slow to get bored

sustainable, but not
scalable

However, some of the most challenging business problems involve both scale and sustainability (i.e., changing behaviors for a huge population over a longer period of time). How can we achieve that? This is not an easy problem to solve, but the good news is, there is a possible solution.

The Effective Timescale

Before we discuss the solution to these big business problems, we need to understand one more concept. That is, the effective timescale of a behavior change—how long the gamified behavior will last or is intended to last realistically.

When a business wants to drive behaviors, they probably want the behavior to last forever. But in reality, nothing lasts forever, and no single gamification can drive any behavior forever. If you want to drive a behavior in your customer base for the rest of their lifetime, then you need to figure out the average life expectancy for your customer base. Depending on the average age of your customer base, this may be five years, 10 years, or 50 years. Even though that's a long time, it's not forever. In practice, the effective timescale of any behavior is rarely more than 10 years.

Depending on the precise behavior you want to drive, the effective timescales vary significantly from a few days to many years. For example, if you want to drive social media participation (e.g., tweeting, sharing photos, etc.) at a conference, then the effective timescale is in the order of a few days, because most conferences only last a few days. Ideally, you probably want them to continue their social media participation after the conference, but that is a different behavior with a longer effective timescale. On the other hand,

if you are trying to drive engagement during a marketing campaign, then the effective time scale is roughly a few months, because that is how long most marketing campaigns last. If you want the audience to continue their engagement after the marketing campaign, again, that is a different behavior (one with a much longer effective time scale).

So, you need to know what your effective timescale is for the behaviors you want to drive.

The Solution—Build a Level-Up Strategy

Since there isn't a single gamification tool that can achieve both scale and sustainability, we can stop looking for that silver bullet. However, tackling any big problem in life rarely involves only one tool. Although no single gamification tool can achieve both scale and sustainability, a combination of tools can!

The strategy is to build a ladder for people to climb up. Start with tools on the far left of the gamification spectrum (e.g., points)—the easiest games—to engage the widest possible audience. As, people master these easy games, level them up and introduce them to the next tool on the spectrum (e.g., badges). Since this tool is just slightly harder, most of the audience will still be engaged and continue to play. However, badges are harder to collect than points. It will take them longer to collect enough badges before they master this game and get bored. And when that happens, you level them up again and introduce the next tools on the spectrum (e.g., a leaderboard), and so on.

The precise criteria for getting a certain badge or getting on the leaderboard will still need to be designed so the next level up

will appear easy to achieve. This is critically important, because otherwise, a substantial portion of the engaged audience will drop off and stop playing the game because the next level is either too challenging (frustrating) or too easy (boring). How we design the precise level up criteria requires a deeper understanding of how baby-steps work in behavior design.

Now, the last question we need to address is how far do we continue to level up? In other words, how far up do we

need to build this level-up ladder? This is where the concept of effective timescale comes in. You must figure out what's the effective timescale for the behavior you want to drive. Once you know the effective timescale, the answer is simple. You simply end with a gamification tool that has a feedback timescale approximately equal to the effective timescale of the behavior you want to drive.

Three Steps to a Level Up Strategy

1

Identify the effective timescale of your desired behavior

2

Find a gamification tool with a feedback timescale ≈ your effective timescale

3

Build a level-up ladder by filling in the gaps with tools that have successively longer feedback timescale along the gamification spectrum.

- Always start with immediate feedback (e.g., points) to achieve scale
- Fill all gaps (so the ladder is easy to climb) in order to maintain the scale as your players level up to the final rung of the ladder (i.e., the tool with feedback

If you build your level-up strategy according to this recipe, then as your players level-up to the final rung of the ladder, they will have stayed engaged for a period that is approximately as long as the effective timescale of your desired behavior.

Learning from the Gaming World

If you were asked to name the most successful video game, what comes to your mind? Would it be Angry Birds, Candy Crush, or Clash of Clans? What do these games have in common? Why do you think they are successful?

These games have certainly achieved scale since so many people play them. Angry Birds alone has over two billion downloads. However, many games have achieved scale, but they aren't successful because people didn't play them very long (e.g., think of a classic game like Tic-Tac-Toe or Sudoku). Pretty much everyone has played these games at some point during their lifetime. Some of them, like Sudoku for example, can be quite addictive. So they have definitely achieved scale. However, they are not very sustainable because people either master them quickly (because they are too easy) or get frustrated with them (because they are too hard). The result is the same either way, people stop playing them.

What made games like Angry Birds, Candy Crush, and Clash of Clans successful is the fact that they have achieved both scale and sustainability. The question is why and how? The secret lies within the level design of these games.

Like gamifications, successful games achieve scale and sustainability by having many levels that get progressively more difficult. These could be explicit levels you unlock as you play (e.g., Angry Birds and Candy Crush), or they may be implicit in the gameplay (e.g., Clash of Clans). Yet, they all start with a very easy level (almost too easy) to engage the widest possible audience. One of the reasons people continue to play these games for a long time is because these games have so many levels. The longer you want to engage the players, the more levels you need to have. But just having many levels is not enough. The precise criteria for leveling up must be designed carefully to keep the players engaged—in a state of flow. Although the levels are getting more difficult, precisely how much more difficult each level gets is going to determine whether the players continue to play or quit. If the levels get progressively more difficult too quickly, some players will not be able to keep up and they will feel frustrated. Yet, if the levels get progressively harder, but too slowly, some players will be bored.

High

Anxiety

Difficulty / Challenge

Flow

Boredom

Low   Skill / Ability   High
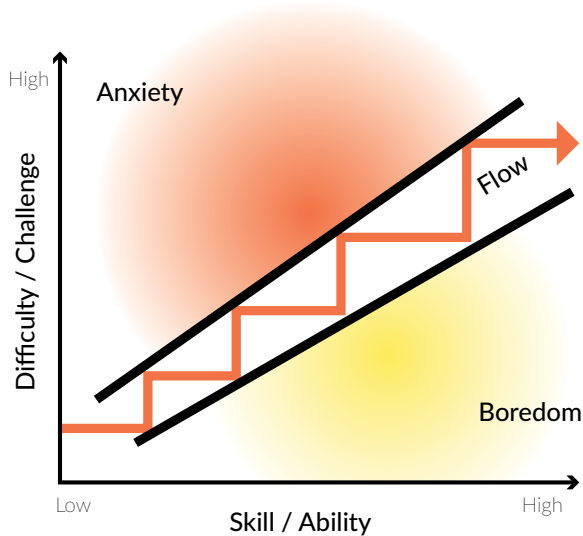
Use Baby-Step Level Up to Maximize Flow

Flow is a fine line between certainty and uncertainty. People like to be in control, but if they have too much control they feel bored. People like to have some challenge, but if something is too challenging they feel frustrated. As Prof. Csikszentmihalyi stated, people enter the state of flow only when the challenge they face matches their skills. Successful games are addictive (or engaging for a very long time) because their levels are designed to maximize flow.

One way to maximize flow is to zigzag along this flow zone as illustrated in the figure to the right. As you play the game and get better, you increase your skills and move to the right. But just before you move too far to the right (into the state of boredom), you level up to the next level that is just hard enough to feel challenging (but not too hard that you move

into the state of frustration). This is the principle behind the level design that makes a game addictive, and therefore achieves sustainability in addition to scale.

If you examine this level design criterion more carefully, you will see that it's really the baby-step design principle. You are basically creating many baby steps (levels) to guide the player to the endgame. However, I must emphasize that baby step does *not* mean that every step (level) is easy. If it is, such a game will get pretty boring after a few levels, because the players will feel like they are playing the same game over and over again. Although the next level does get harder, they can still solve it with pretty much the same strategy.

The key to maximizing flow is to use the baby-step design principle—design the levels such that the next step the players take is always a baby step, but only relative to the ability they already acquired.

High

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Low   High

Already aquired ability   The next step
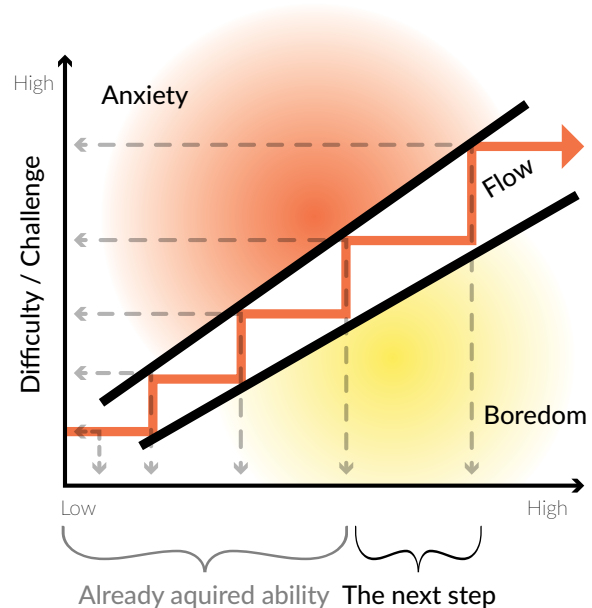
The "relativity to the player's ability" is crucial, because the next steps could be very challenging. And it should be in order to avoid boredom. As you can see in the figure to the right, the gaps between some of the higher levels can be very wide and require much skills/abilities. However, relative to the skills the players already acquired, these apparently very difficult levels will look like a baby step—very easy. Sound confusing? How can something be very challenging and very easy at the same time?

Without doubt this is a complex design problem, and I think a good example could shed some light on this.

Let's examine a very challenging level of Angry Birds—level 100. If you've never played Angry Birds, level 100 will seem impossible to solve. And it should. However, after you've play level 1 to level 99, level 100 will suddenly look very easy, because you have acquired the necessary skills to play the game (during the previous 99 levels). Despite the fact that level 100 is indeed a very challenging level, relative to the skills you've acquired from playing level 1 to level 99, level 100 will look like a baby step. This mastery of skills (or learning) is what has to happen from one level to the next so that the cumulative skills you've acquired will always make the next level look easy.

Now we can return to the gamification world and apply this baby-step design to build our level-up ladder. It's important to remember that a baby-step is not about making every step a baby step. Rather, it is about making every step as challenging as possible, but still seem like a baby step relative the skills you've acquired from taking the previous steps. If you build your level-up ladder this way, starting with a tool that has immediate feedback, your gamification will be able to drive behaviors at scale and be sustainable.

Although gamification is not a game per se, the behavior design aspects of both are actually quite similar. There is much that the gamification community can learn from the game design industry. The game design industry is simply an older and more matured industry than gamification. As such, they've have already figured out many behavior design principles that gamification practitioners are just starting to grasp.

For example, game designers knew that in order to keep a large population engaged in game play over a long period, they must start with an easy game and employ a baby-step level up strategy. In other words, games we see today (at least the successful ones) are really made up of many little games (i.e., levels) of increasing difficulty that are strung together through level ups. Thus, from a behavior design perspective, games are really nothing more than a carefully crafted sequence of baby-steps (levels) designed to keep the players engaged and continue to play.

15

Conclusion

As we can see, the Gamification Spectrum can be used to help you choose the right tools to achieve the behaviors you want your customers to take, for the desired amount of time you need them to exhibit those behaviors.

To learn more about Gamification, follow me on The Science of Social blog and @mich8elwu.

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