Module 7: Gamification design framework

7.1: The design process
Design isn’t just art/illustration/creative expression - but a general approach to attacking problems.

* People like Roger Martin of the University of Toronto business school and David Kelley of Ideo argue this should be a process all businesses engage in for every purpose.
* We won’t go into all of the details, but it’s worth understanding its major principles so they can be applied to gamification.
* Elements of “design thinking”
  * **Purposive:** it has a goal.
    * You’re not just trying to make something beautiful, or create a process that does certain things, but to achieve some objective - and everything you do refers back to that objective.
  * **Human-centered:** It’s the experience, stupid.
    * Everything should be based on the person - coming up with solutions for people.
    * The experience is greater than the game element.
  * **Balance of analytical and creative thinking:** Not just a formula.
    * If you use just one or the other, your process can be too dry and formal, you won’t really address people’s experiential needs, and you miss out on lots of opportunities for creativity and innovation.
    * Focus on what to do when you’re “in the middle” - there’s some data, but not enough to give us a clear, clean, structured algorithm.
      * Abductive reasoning - inference from the best available explanation when information is insufficient.
  * **Iterative:** inherently expects to not get it right the first time
    * Try, fail, learn, try again.
    * Prototyping and playtesting
* Prof. Werbach and Dan Hunter developed a six-step (“D6”) gamification design framework we’ll discuss in more detail in the next videos:
  * **Define** business objectives - what are your goals?
  * **Delineate** target behaviors - what do you want your players to do?
  * **Describe** your players - who’s going to use this?
  * **Devise** activity loops - two kinds advance action: engagement and progression
  * **Don’t forget the fun!** - this can get overlooked while devising processes, rules, etc.
  * **Deploy** the appropriate tools - use the right elements, structures in the gamified system.
7.2: Objectives and behaviors

1. Define business objectives
   ● These are the goals you want the gamified system to accomplish - not things players might accomplish within the gamified system (points, badges, etc.)
     ○ Badges et al are only of value to the company if they get people to do something as part of the process (for example, buy more products or post more feedback).
   ● What is this for? What will define whether this system is a success or failure?
   ● Example: Foursquare - what might have it been trying to accomplish?
     ○ Social sharing - if it can get enough people to put enough contextual data in the database, that could be really valuable.
       ■ Things like seeing who the mayor is, seeing which friends (or other people) are there, seeing tips left (including by friends) makes users more likely to check in, which drives business value.
     ○ Influencer marketing - some venues offer special deals for “mayors”
       ■ Mayorship means you’re likely an influencer others will look to for advice. Others may take their cues from you - your buying decisions influence others’.
   ● How do you effectively catalog these goals?
     ○ List and rank possible objectives.
       ■ Be as concrete and specific as possible.
       ■ Determine whether some goals may be in conflict (trade-offs)
     ○ Eliminate means to ends.
       ■ Cut out the ones that aren’t *really* your ultimate business objectives, but stepping stones.
       ■ For example, badges are a means to an end.
     ○ Justify your objectives.
       ■ Come up with a short explanation for each objective still on the list.
       ■ You’ll start to see dependencies, interrelationships, etc.

2. Delineate target behaviors
   ● These are the things you want players to do.
   ● They should:
     ○ Be as specific as possible.
     ○ Have outlined success metrics (“win states”) for achieving the system’s goals.
       ■ What would tell you this was a success? How would you decide goals are achieved?
       ■ Should be related to what behaviors are.
     ○ Have analytics available for measuring the supposed path toward above metrics:
       ■ DAU/MAU (daily average users/monthly average users) - ratio of the two
         ● Typically used for social games that involve users coming back again and again.
         ● Tells you how engaging your site is
closer to 1 = a more engaging site  
closer to 0 = indicates more sporadic visits, or giving up after a few visits

- Virality - rate at which users refer others to the site.
- Volume of activity
  - How many points, levels gained, etc.
  - Can indicate usage, interaction, engagement, and what people are doing.

7.3: Players

3. Describe your players

- General things are a starting point
  - demographics - age groups, location, etc.
  - psychographics - what do you know about their behavior, what they like to buy/do
  - Even just knowing whether your users will be internal (employees) vs. external (employees)

- What motivations do your players have?
  - Example: WoW chat channel finds users looking for players to help them on a quest, seeking help with crafting, trying to hit an achievement, selling virtual goods, etc.
  - Bartle MMOG player type model: Richard Bartle (games researcher at U of Essex) devised framework decades ago while studying early MMOGs - found certain recurring players in four broad types. A good starting point; take with a grain of salt.

- achievers = players who want to act upon the world - want to reach an achievement, overcome an obstacle, and have some recognition of the accomplishment.

- explorers = players who want to interact with the world of the game - see what’s possible in the game, scope out the territory, push on the limits of the game “just because it’s there.”

- socializers = players who want to interact with other players - care about being on teams, talking/chatting, being part of a community. The social experience is more important than achievements.

- killers = players who want to act upon other players - don’t just want to go out and win the game, but to stomp upon others and totally vanquish/destroy them. Bartle expands this to others who want to impose themselves on other players - for example, a healer who’s “keeping the
whole group alive.” A small but important part of the system - often the most intense and aggressive participants.

- Important caveat: People are not always in one quadrant - people typically go back and forth between them in various situations. You shouldn’t segment your players “once and for all.”

7.4: Activity loops

4. Devise activity loops

- Core gameplay elements can be thought of in terms of loops (like the type in a computer program).
  - structures that are repetitive, recursive, but also branching into different directions.
- Two types of activity loops
  - Engagement loops operate at a micro level and involve individual user actions
    - Motivation - the game gives the user something to do, a reason to take an action, overcome a challenge, etc. If the motivation is strong enough, it leads to ...
    - Action - the user undertakes an action (such as visiting a site, checking in on Foursquare, etc.). This produces ...
    - Feedback - the user receives feedback on what they’re doing. Seeing the results of their effort - points, badges, etc. - provides more motivation for the user.
  - Progression loops operate at a macro level and involve broader structures of activity throughout the course of the game
    - One example: a series of fairly small challenges, all of which are part of an overall objective, and then those are part of the largest goal - getting from start to finish.
    - Steps must be balanced in an effective way so user has sense of the ease of individual steps and the sweep of the ultimate goal simultaneously.
    - Could also represent the player’s journey from
n00b to master, via rising and falling action:

- Difficulty ramps down at points to offer player a “break” - if it’s constantly an upward climb, players get exhausted.
- Boss fight a demarcation point of getting to the next overall major level or segment of the game - opportunity for real achievement or accomplishment - mastery over that part of the game.
- Not every moment of the game is the same kind of challenge - the variety makes it interesting.

7.5: Fun and tools

5. Don’t forget the fun!

- It’s surprisingly easy for people in the midst of creating a gamified system to lose sight of the objective of ensuring a fun player experience.
- You want to make sure the tools you deploy - PBLs, etc - are used in a way that unleashes the different characteristics/versions of fun we discussed earlier.
- Example: Samsung Nation - intro chatter describes why this is “exciting” - it lets you earn badges, move up in ranks, have fun discovering the site.
  - But is discovering a corporate website REALLY all that fun? Did this gamification system really focus on the aspects that are engaging to the user?
  - Maybe they designed a system that’s effective in designing rewards and providing a platform for those motivated by PBLs, but if the underlying activity isn’t fun and engaging, there’s a challenge in making that effective for a broader group than just those motivated by those rewards.
- It’s important to remember that fun can be anywhere.
  - Example: Fitocracy
    - Site has strong commitment to making things fun - “Woo-hoo!,” friendly graphics, “fitness is more fun when it’s social”
    - Reinforces the idea that working out is awesome and that you’re awesome for starting on this path.
    - The point is you’re focused on where the fun is in the activity you want to encourage (exercising)
  - Example: LinkedIn progress bar
    - The fun is in getting feedback, seeing how far along you are, and seeing you’re most of the way there and only have a little bit more to do.
    - Not deep, meaningful, life-changing fun - just a lightweight bit of engagement on top of an otherwise mechanical activity (filling in your profile).
  - Example: Fold.it - application developed at U of Washington by researchers studying protein folding (the 3-D structure protein molecules fold into that determines their effect on the human body)
    - A monstrously difficult problem - takes massive amounts of time even for supercomputers.
But 3-D shapes look like a pattern that people like to play around with if there’s an interface that’s designed well.

Researchers created a system in which players are given puzzles and scored based on finding the best possible pattern for folding proteins.

Has been super-successful in getting people to play around with protein folding voluntarily and devising some real breakthroughs in medicine.

6. Deploy the appropriate tools.

- Once you’ve asked all the right questions, you need to consider all the different techniques, tools and options you have, and pick the best, most appropriate for the task at hand.
- Then iterate, improve, playtest, iterate, improve, playtest, and so on.

Module 8: Design choices

8.1: Taking stock: Two approaches to gamification

There are really two different “types” of gamification - some overlap, but different things people mean when they use the phrase.

- Could be summed up by how you answer the question: Is a slot machine a game?
  - Well, fundamentally, there’s no sense of game- or playlike attitude, and no meaningful choices - just a random number generator.
  - However, many examples of social games we have act a lot like a slot machine - they have engagement loops that pull in the user with a potential reward; involve surprise and trying to find patterns

- This is indicative of a broader split within gamification - the camp you’re in will guide some of your decisions
  - doing - doing things using games and gamelike structures
    - Inspiration from marketing and economics - disciplines about measuring behavior and figuring out structures that encourage people to behave in certain ways
    - Incentives
    - Satisfying needs/desires/wants
    - Game elements (inductive - building up from the elements)
    - Status
    - PBLs
    - Rewards
    - Making users do things (should mean “do things they want to do on their own, but wouldn’t otherwise”)
  - feeling - not necessarily what you do, but how you feel about it
    - Inspiration from game design and cognitive psychology - disciplines about what’s going on that makes someone interested in something, going deeper than surface phenomena.
    - Experiences
- Fun
- Game thinking (deductive - starting from general principles and getting more specific)
- Meaning
- Puzzles
- Progression/mastery/competence
- Making players awesome (figuring out what will help users achieve their full potential, and focusing more on their goals than an organization or company’s external goals for said users)

- Most designers might be more comfortable with the more game-based “feeling” crowd, but it’s important to also understand the “doing” perspective rather than dismissing it outright.
  - You might find one or the other more valuable based on the situation.

8.2: Is gamification right for me?
Asking four questions will help you determine whether gamification is the right approach for your company to take:

- Motivation - Would you derive value from encouraging certain behavior?
  - If motivation matters to the business problem, it’s likely gamification would be a good approach.
  - When is it important?
    - Emotional connections, unique skills, creativity or teamwork (high-value-add tasks)
    - Or to make dull, boring, repetitive tasks interesting
    - One example in Neal Stephenson’s Reamde:
      - Involves a CEO of a company behind a vaguely WoW-like MMORPG, but with a gamified business model: going to organizations that have dull tasks (such as monitoring airport security checkpoints to stop the idiot who goes in the wrong way and necessitates a huge security sweep)
      - Uses 3-D motion capture to represent people walking through passageway as in-game creatures walking through part of a castle, all in one direction. Users are warned that a goblin may be trying to sneak in the wrong way, and offered a big reward for catching him.
      - (Werbach’s review of the book: The first 200 pages are great; the remaining 800, not so much.)

- Meaningful choices - Are your target activities sufficiently interesting?
  - The ideas of competence and autonomy are equivalent to saying: The user must feel that he has choices and that those choices are meaningful.
  - Are there options for the user?
  - Do they link to things meaningful for the user?
○ Does the gamified system do things in a way that seems interesting, where the user has to make choices that influence an outcome they care about?
○ Many systems out there don’t seem to focus on this as much.
  ■ Google News badges - the only choice involved is which stories you read, and that’s not really a meaningful choice.
    ● Do you really want to read more about the topic you read about - Syria - or go read about something else - which is how most media are designed?
● **Structure** - Can the desired behaviors be modeled through algorithms?
  ○ Is this a problem that will lend itself to a digital system that encodes the basic rules for this problem set?
  ○ If not - because it’s too vague or too subjective or has rules that aren’t sufficiently clear - gamification may not work.
  ○ Samsung Nation - What does it take to get points? What things are worth more?
    ■ e.g. 100 points for Twitter sharing vs. 500 for product registration
● **Potential conflicts** - Can the game avoid tension with other motivational structures?
  ○ In an enterprise setting, those structures might include: salary, not wanting to get fired, etc.
  ○ You don’t want user to get into weighing trade-offs
  ○ Example: School - lots of motivators, from extrinsic to intrinsic, to get students to authentically care about learning.
    ■ Lee Sheldon’s gamified gamification courses - all students start at 0 XP (or an F), progress through levels based on what they do, and settle at their final grade (maxing out at 1860 XP). In this class, it’s the entire grading structure.
    ■ Very powerful if designed right, but must be designed consciously around existing incentives.
    ■ A conflict with a separate existing grade system would cause real tension and dissonance for students.

8.3: **Case study: Designing for collective good**

If you’ve decided a gamified approach suits your business challenge, how do you ensure it’s done in a thoughtful, deep, substantive, meaningful way?

Let’s look at Stack Overflow, a service thatpulls together standard PBL elements in a coherent and consistent way to address some of the deeper aspects.

● Q&A site for programmers to seek help with writing software or coding problems from peers.
● Now part of Stack Exchange, a larger network of Q&A sites on a variety of topics - network has over 2M registered users, averages 5,000 new questions per day and over 10,000 new answers per day
● How do you get people to spend their own time to answer questions from strangers? Stack Overflow has actually been tremendously successful at this.
A blog post by co-founder Jeff Atwood explains some of the reasoning behind design decisions to implement gamification:

- Had no idea what gamification was when the site was set up; decisions were not based on gamification being an interesting or “cool” practice - but ways to solve the specific challenges they had.
- Looked at the problem in the appropriate way:
  - Programming (and answering questions about it) could be thought of as something very dull and rote - or as something cool, wonderful, magical and gamelike
  - Atwood: Programming pretty much a field of constant learning … it’s supposed to be fun.
  - Leads toward a gamified approach that’s authentic - makes people want to do something.
- Implemented a system that fits their community
  - Knowing the players and understanding what the community is that’s involved in the activity.
  - Esp. important because meaning is socially constructed in communities - depends on the norms of the groups and their communities.
  - Take Foursquare’s badges, for example - creative, colorful, containing inside jokes, they’re designed to be cool in their own right.
  - SO has a much different aesthetic - badges are displayed as numbers next to gold/silver/bronze disks alongside reputation points. This reflects that SO’s community is one of programmers/”geeks” - skip the visual clutter and goes straight to what’s important: the information.
- Atwood: Design focused on making “helping your fellow programmers the most effective way to ‘win’.”
  - Likened it to “my personal Counter-Strike” - a Half-Life mod structured around groups coming together and fighting as a team. (If you go off on your own, you’ll die.)
  - In addition to posting their own answers, users are encouraged to “improve” others’ answers by editing them - creates a self-reinforcing, self-improving system.
  - There’s room for further discussion beneath each answer - more information can be provided and the question/answer become more precise.
- Pro-social behaviors are incentivized.
  - Atwood alludes to Clay Shirky’s article “A Group Is Its Own Worst Enemy” - Shirky notes that the Internet’s lack of hierarchy and structure makes it easy to form groups online, but they tend to fall apart: The group has a set of goals, but individual members tend to pull in their own directions.
  - Reputation points come from upvotes on your questions and answers from the community.
- Special “powers” - different levels of moderation - come with increased reputation: flagging posts, editing posts, etc.
  - **Bounties** - users posting questions can make a public offer of reputation to someone for coming up with an answer (or a good answer) - creates notion of exchange and gifting
  - **Badges** aren’t displayed in a big cabinet, but about doing things - some good for the site (“visit all the sections of the FAQ”), some about things that are good for others (“edit 100 posts that were inactive for 6 months”)
    - The gold badges - the ones people really want - involve higher amounts of tasks that might be considered rote (such as editing 500 posts, scoring 100 or more on questions, or becoming “famous” by asking a question seen by 10,000 visitors.
    - “All the gaming elements are there in service of a higher purpose … I believe it ultimately helps me become more knowledgeable and a better computer while also improving the very fabric of the web for everyone.”

### 8.4: Designing for happiness
- **Positive psychology** - developed most notably by Martin Seligman and Mihaly Csikszentmihalyi.
  - Idea is that psychology tends to focus on pathology (abnormal situations), so perhaps we should focus on the opposite - what makes people happy and fulfilled.
  - Much of this is relevant to understanding implication of games.
  - McGonigal has pointed to some of Seligman’s work and pointed to how some elements can address the elements of his PERMA framework for human flourishing:
    - Positive emotions
    - Engagement
    - Relationships
    - Meaning
    - Achievement
- The concept of **flow** is one of Csikszentmihalyi’s major contributions.
  - Idea is that we sometimes get into a state of being so engaged in what we’re doing that time seems to lose its meaning - we “lose ourselves” in the activity and become fully and completely engaged.
  - Occurs at least as often in work activities as in play.
  - Developed set of theories around what it takes to get into the flow state. Not an automatic and direct process, but requires an activity to have certain characteristics at a sufficient level for that individual.
    - Chart looks at difficulty level over time - how challenging a task is.
Too difficult, and it creates anxiety; too easy, and it creates boredom. In between is what Csikszentmihalyi calls the **flow channel** - if we stay between those boundaries, it creates opportunity to achieve flow.

- True especially if it’s an interesting activity that maintains its challenge - ramps up as you move along.

  - More conditions for flow:
    - There are clear goals.
    - There’s a balance between perceived challenges and perceived skills (see chart) - game feels like it’s “just hard enough”
    - There’s clear and immediate feedback, which allows you to become immersed in the experience.

### 8.5: Amy Jo Kim interview

*Expert in development of social architectures; author and presenter on applied game design and gamification.*

- Re: current gamification phenomenon - great wave of interest in games/gaming, easier to use mechanics (some standardized in APIs/toolkits). I think “gamification” as a term will eventually go away and this will become part of the toolkit of many types of design.
  - Amazon uses elements of what was once considered AI (such as collaborative filtering) but we don’t think of it as an AI company.
  - We won’t be able to call it just one thing because it won’t *be* just one thing. Will become an integral part of most software.

- Re: Bartle’s player types - Worth noting that Bartle himself said taking those structures and applying them to all gamification is silly. That’s a model of a certain kind of emergent human behavior he saw in MUDs (multi-user dungeons) - text-based precursors to MMOs. I’ve worked on MMOs (*Ultima Online, Earth and Beyond, The Sims Online*) and those were useful player types because of shared dynamics.
  - But there are many other types - Myers-Briggs, for example. Systems are for utility, but they never describe every facet of human behavior.
  - If you’re working on something that doesn’t have those dynamics, they don’t work. I’ve used player types with 20-clients, and found they only work in a small number of cases.
  - I’ve developed a take on player types that’s more about social media, social gaming - inspired by Bartle. Start by explaining Bartle’s player types and why they must be tweaked to work in other instances. For example, PBLs fundamentally appeal to achievers - a small segment of gamers.
  - This model uses social engagement verbs.
- Explore is very similar to Bartle
- Competing is similar to Achiever, but more specific
- Collaborating similar to Socializer but with a very game perspective
- Express reflects something that was missing from Bartle - self-expression, which is a huge driver in social media/gaming. For many, that’s a primary player type.
  - Other words are built around those - I have clients map out core actions in their product against this chart, and map against whom they’re trying to reach.
    - **Express** - build, create, design, purchase, decorate, customize, choose
    - **Compete** - win, challenge, show off, compare, taunt
    - **Explore** - view, vote, collect, rate, curate, review
    - **Collaborate** - comment, like, greet, help, share, give
- Re: collaborative gaming - what opportunities are there around this type of noncompetitive play?
  - Remember earlier definition of “game” - a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome. That defines *zero-sum games* - games in which opponents compete for scarce resources: I win, you lose.
    - Examples: head-to-head battles, war sims, rank-ordered competitions, gambling
  - But this doesn’t define all games - even some of the most successful hit games don’t meet this standard.
    - *The Sims* has no quantifiable outcome - you just keep playing. Neither does *Ultima Online*. I’d define those as a structured experience with rules and goals that’s fun to play.
    - They’re *non-zero-sum games* - we’re not opponents, but partners. It’s a win-win or lose-lose scenario. My winning doesn’t mean you must lose
    - Examples: playground games, party games (*Draw Something*), martial arts, a charity walk
- Re: any particular mistakes people make when they come out of web design/social media and attempt gamification - People in the web world understand funnels & engagement loops, and basic loyalty concepts, but not the fact that a gaming experience changes over time.
  - Key stages of player journey (life cycle) require different sets of features and powers to give the player. Experience should unfold and change over time as user's commitment/skill increases - it’s fundamental to a good game.
  - If you don’t understand this, it will only work for a little while; it’s not sustainable.
  - I use the three stages of newbie/regular/expert as an analytic tool to help you think about the first day/week, then two months in, then the “elder game” - what can the 2%-5% of players who are most skillful do that other players can’t? What keeps them hooked?
  - Engagement loops at every stage, not just first stage.
Module 9: Enterprise gamification

9.1: Enterprise applications

Some uses of gamification within large “early adopter” enterprises, as identified by Constellation Research:

- Intranet or extranet engagement - game elements used to enhance in-house collaboration systems
  - Encourage contributors, comments, responses
  - Leaderboards to identify expertise/involvement in certain topics
  - SAP Community Network - resource for the company and developers who use its software at other companies
  - Similar dynamics to Stack Overflow, other forums

- Productivity enhancement - helping/encouraging employees to do their core job better
  - Must take into account different kinds of jobs
  - Can drive information, feedback that helps employees improve
  - Example: Arcaris (now called PlayVox)
    - Call centers have large numbers of agents who they want to 1) process calls as quickly as possible and 2) process calls as well as possible.
    - Arcaris offers:
      - dashboards for each employee displaying metrics such as level, customer satisfaction, achievements, etc.
      - leaderboards for supervisors displaying KPIs (key performance indicators) for all employees
    - There is a danger to this kind of application - could be used to oppress employees through constant monitoring in a way that doesn’t really help. We’ll discuss this further later.

- Efficiency enhancement - encourage employees to make their core job more efficient.
  - Email - answering email isn’t most people’s primary job, but it’s part of that core job - and a massive timesuck.
    - Baydin’s Email Game - adds dashboard with timer, progress bar and points given for quickly dealing with email and getting it out of the inbox.
    - Seriosity’s Attent - creates virtual currency of “tokens” that are spent to send/receive email, requiring people to consider whether that email is really worth sending.

- Knowledge management
  - Deloitte’s WhoWhatWhere - used to encourage its consultants to learn more about each other and areas of expertise, so they can draw on the knowledge of employees around the world.

- Human resources
  - hiring - can identify best candidates by having them play a game
  - onboarding
  - acculturation - getting people engaged in the culture and working as a team.
○ corporate training
○ performance reviews
○ employee recognition
○ travel and entertainment - Google gives its employees a fixed amount to use, but applies any left over to a virtual economy - employees can bank it, donate it to charity, or cash out (at a smaller amount)

● Innovation
○ U.K.’s Department of Work and Pensions - Idea Street
  ■ idea “stock market” in which employees put their ideas out there and colleagues “buy” or “sell” stock in those ideas
  ■ People can join teams for ideas
  ■ Good ideas rise to the top

● Serious games
○ Siemens’ “Plantville” - manufacturing plant simulator
  ■ Can be used for training or other purposes to show what’s required in effectively managing a plant.

9.2: Workplace motivation
What motivates people at work?
● Rewards - pay, bonuses, stock options, praise, promotions, responsibility
  ○ Almost entirely extrinsic motivators
  ○ It’s important to remember rewards aren’t the full story.

● How can gamification unlock intrinsic rewards?
  ○ Skill development - learning also about problem solving, figuring out new things
    ■ LiveOps (virtual call center operator) - site geared toward skill development for its employees, largely working from home part time
  ○ Information - employees don’t always know how they’re doing on a day-to-day basis
    ■ Objective Logistics - gamification targeted at restaurants
      ● dashboards track servers’ performance
      ● employees can get feedback, challenges, metrics
      ● company also gets information it can use to give the best shifts to the best employees
  ○ Corporate citizenship - things you do at a company that aren’t necessarily related to your job
    ■ Windows Language Quality Game
  ○ Fun - can achieve direct results in the workplace
    ■ Zappos.com’s Face Game
      ● When employees log in, they’re shown a picture of a randomly selected colleague and asked if they know that person’s name.
      ● If you get it wrong or don’t know, the system tells you and offers a link to that person’s intranet profile page.
• Helps people get to know their co-workers - what they do and what their skills are - so that information can be leveraged.

9.3: The game vs. the job
In enterprise gamification, this is an interesting distinction that pops up.
• Why is this important?
  o The designer of a gamified system is focused on the job - the gamification is a means to an end (motivating employees to do something of business benefit)
  o Employees may well be focused on the game - the thing that engages them - and have a strong tendency to go in the direction the game pushes them.
  o When there’s a divergence between the way employees are pushed by the game and pushed by the job, that can cause problems.
  o Example: A gamified system at a call center might offer rewards for ending calls within 30 seconds or completing over X calls in an hour. That could cause employees to focus solely on speed and volume of calls, to the detriment of customer service quality
    ■ But if points were revised to emphasize good customer satisfaction with a higher point value - or bonus for a “streak” of favorably rated calls - it would return some of the focus to that aspect of the job.
    ■ Also worth noting that we don’t know just how much this suggestion aligns with the actual duties of the job.
    ■ Goes back to the first step of our design framework - determining your business goals.
  o Corporate citizenship behaviors - people are motivated to take positive actions outside their job to be kind to colleagues or good for the company
    ■ Includes altruism, conscientiousness, civic virtue, courtesy, sportsmanship
    ■ Gamification can tap into these for the good of the company (for example, in the Windows Language Quality Game)
    ■ Ross Smith, head of Microsoft test group that developed the Language Quality Game and others, devised framework to determine which applications lend themselves to this kind of approach:
      • Involves 2 different kinds of behaviors/tasks and 3 kinds of skills.
      • Posits that productivity games such as LQS only work in two specific sectors of the chart

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<tr>
<th>in-role behavior (related specifically to job)</th>
<th>core skills - skills everyone in org. has</th>
<th>unique skills - skills limited to an employee or group</th>
<th>future skills - skills employee would like to obtain</th>
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Lauren Phillips
Gamification, Winter 2014
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citizenship behavior (doing extra things for company/colleagues) | X |
|---------------------------------------------------------------|---|

- For LQS it involves:
  - A core skill - speaking the language - that everybody has
  - Citizenship behavior (having it be an in-role task wouldn’t lend itself as well to a gamelike system)

- Thus, two big categories of applications in which gamification/productivity games work well:
  - Groups, community, getting as many people involved as possible
  - Individuals - building skills

- Gamelike structure may not be the best way to build unique skills - there’s no level playing ground.

9.4: Playbor
- **Playbor** - portmanteau of “play” and “labor”
  - Based on our earlier definition of “game,” playbor doesn’t qualify because it’s not truly voluntary to play or to take the rules seriously
  - Example: Target’s POS system, which gives cashiers a “green,” “red” or “yellow” rating based on how fast they get customers through the line.
    - Could be seen as added incentive for team members
    - OR could be seen as the company monitoring them to the level of every checkout, and purely about extrinsic controls vs. fun or meaning for the employee
  - Another example: Disneyland hotels’ leaderboard system for laundry and housekeeping employees, who call it the “electronic whip” - perceived as threatening punishment
    - “felt I was being controlled even more” - doesn’t promote autonomy or intrinsic motivation, and can demotivate.
    - led to competition, and some trying to race to the head of the pack. But this caused dissension and made others worry that a reasonable pace wasn’t enough.
    - Employees skip bathroom breaks for fear they’d hurt production and have manager demanding an explanation

9.5: Daniel Debow interview
*CEO of Rypple; heads up its division (now Work.com) after Salesforce acquisition*
- “What Rypple really does is amplify behavior” - focuses on goal-setting, coaching, recognition for doing great work that can become part of reputation. Easy way to gather feedback - whether it’s something light, like “what’s one thing I could’ve done better in my presentation,” to something sim. to traditional performance review. “Social performance management”
• Why are game mechanics valuable in this context? We never set out to build this as a game, though we hired people with experience in building large-scale games. We thought in terms of designing a great experience - thinking of things people have a natural affinity for, like getting rewarded, competing. Only after the fact did we get the feedback that we were gamifying.
  ○ Game designers were very careful not to slap PBLs on everything - it all has to have a reason. If all it took to create a compelling game was to slap game mechanics on everything, EVERY game like that would be successful - in reality, most games fail because the underlying gameplay is not intrinsically rewarding.
  ○ Gamification for our purposes was really only to amplify behaviors that were already good or desirable.
• How do you find those things that are intrinsically rewarding? Sometimes obvious, sometimes not.
  ○ The things we’d say would be:
    ■ Look at the data
      ● One of the first things we allowed people to do was ask for anonymous feedback. Some people did that, but it’s not a sustained behavior and not everybody will engage.
      ● Data suggested people liked to give feedback and were happy to do so. So we asked how we could make giving feedback the core of the solution, and design that so it doesn’t wind up being largely negative feedback that makes people feel bad about it.
    ■ Look at behavior
      ● We observed people would do things like send a “great job” email and copy that person’s boss, or give people physical tokens or “badges” - metrics of their achievements.
      ● No one really cares about the badge or thing - it’s the meaning behind it. The fact that you’re getting peers to say that what you did mattered, in a way where others would understand what it represents.
      ● Look at it this way: If I gave you a piece of metal and a purple ribbon, you probably wouldn’t be too impressed. But when you tell people what it represents - that it’s a Purple Heart, awarded to those wounded in action while defending your country - it’s treated with reverence. The thing itself hasn’t changed - just the meaning of that thing.
      ● Consider Facebook’s origins in two real-life behaviors: people leaving messages on walls in college dorms, and and people looking at physical copies of “facebooks.”
    ■ Try things - experiment
      ● You don’t really know how people behave until you try something out.
What’s fundamentally different when employing game mechanics for enterprise (internal company) use vs. more external marketing/engagement uses.

- Lots of similarities but also lots of differences - must experiment and try things, but at the same time be aware of the social construct.
- Example: Rewards (specifically monetary) drive behavior. Companies like Dropbox and Paypal have offered double-sided incentives; refer a friend and you’ll both get $10.
  - We wanted to be able to offer something similar within an organization. Rypple was a free (may have said freemium?) app, so managers could implement it without going through HR - we wanted them to spread it, so we ran a test with a similar offer. We already had a natural “invite your friends” function but thought the incentive would aid spread of our app.
  - But we found that incentive actually made people use it less - it turned out people felt extremely uncomfortable endorsing products for money within their company, that it “tainted” the expenditure of social capital.
- Also, employees’ willingness to engage in petty/seemingly frivolous behaviors is dictated by a company’s culture. People can use Rypple to create their own badges that contain their own iconography/meaning, then send it to someone.
  - But people aren’t just willing to spread their behavior, but willing to moderate it. What might work externally might not work internally - people worry about getting too many badges. They’re very aware of the fact they’re at work and that other people are watching - more calculating about not deviating from the norms of that culture.

Can these mechanisms, and gamification, work in more traditional companies as well as they do in startups, etc.? Yes, for 3 reasons:

- Companies like Facebook and LinkedIn are extremely driven, businesslike - they’re “real” companies now and less different than one might imagine.
- We already have lots of less “famous” Rypple users, such as trade show companies or ad agencies
- We’re constantly getting inundated from large, established companies that have performance management problems just like other businesses do - they very much want to find solutions that resonate more with the modern workforce.
- It’s not like people don’t play games at work already. I worked at Goldman Sachs and even investment bankers had little Lucite “GeoToys” on their desks - they took them very seriously, collected them, showed them. What’s that if not a status symbol or marker of accomplishment?
  - Another example? Job titles or other leveling rewards (corner office, prime parking space).
- Use the language of work
  - Ben Dattner (Columbia psychologist) devised the “Blame Game” - regarding how blame is assigned at work.
  - Steven Miles’ Career Game - using game theory to look at how you move through work.
“Game” refers to strategic behaviors when there’s scarcity and competition - not too dissimilar to what’s happening at work. The key is to figure out how you harness behaviors/sociology/psychology to harness what have, frankly, become pretty perverse games and translate them into productive behaviors.

- How do you prevent mechanics from just making things more competitive/cutthroat?
  - Be empirical about things - try them, see what happens. It’s interesting to see how we have our own little theories about how people behave, and often they’re empirically wrong. (That’s the meta-story of behavioral economics)
  - Paypal - almost anyone who heard this idea would scoff at it, say people would probably rip people off. However, most act with integrity - this is the reason society generally works.
  - You will get free riders, people gaming the system, etc. - but you can’t assume this; you have to look at actual data.
    - Get people who’ve designed games involved in the problem. These are relatively sophisticated tools, and you need some kind of context and grounding.
    - Think about them as amplification tools - what you want to see more of. Be careful what you choose.

9.6: Ethan Mollick on games at work
- Professor at Wharton
- Using games at work isn’t new - Graffiti found at the pyramids suggest team-based competition among workers constructing them.
- Studies dating to end of 19th cent found games near ubiquitous at work - especially in very tedious situations, such as factory floors.
- Games at work were widely seen as “shirking” until Michael Burawoy’s work in the 1970s - realized games served an additional purpose beyond blowing off steam
  - By playing games, workers were accomplishing their employers’ goals
  - “Consent” - idea that you’re “buying in” to gamification
    - Making it voluntary avoids this problem
    - “Mandatory fun” requires consent
    - Three critical elements - workers must:
      - Understand the rules
      - Think the game is fair
      - Pay attention to the game
- Experiment at fast-growing startup
  - Large sales force divided into three groups
    - 1 “business as usual” with the same compensation structure
    - 1 with ESPN-style leaderboards on top of regular compensation
    - 1 with a basketball-themed game on top of regular compensation
  - Gamification had little impact to begin with - realized we hadn’t taken consent into account
Lack of consent had a large negative impact on employees' affect toward their job
- Had positive impact on affect among those who did “buy in”
- The more hours workers put in on games outside work, the more likely they are to consent to games at work

Module 10: Social good and behavior change

10.1: Gamification for good
- The same techniques that motivate someone for commercial reasons can also be used to promote healthy habits, learning about personal finance, etc. This area is worth exploring because:
  - This type of gamification is different from others - it has its own unique issues, challenges, opportunities, and techniques that prove more effective.
  - Valuable see range of applications already out there
- By “social good,” we’re referring to both of the following:
  - things with some societal benefit above and beyond that for the sponsoring group/company
  - things that involve helping the person become better, happier, healthier, more fulfilled
- What’s different about gamification in this context?
  - Inherent relatedness - being part of something bigger than yourself
    - Either interacting with friends or activity having some greater meaning or purpose
    - Unlocking the power of this isn’t always simple.
  - Rewards for doing good? - people might find that idea troubling
    - Danger that gamification puts a premium on short-term rewards over intangible, intrinsic rewards
  - Behavior change - some element of this is involved in most examples in this context
    - Getting people “over the hump” to do something they already want to do.

10.2: Social good applications
Let’s look at some examples in a few categories:
- Health and wellness
  - Zamzee by HopeLab (a nonprofit using games for better health outcomes)
    - Targets teenagers in low-income areas, where there are major problems with obesity and other health issues
    - Accelerometer-based device tracks physical activity (similar to Nike+, Fitbit, etc.)
    - Pointz earned based on activity - also badges, levels, avatar customization, rewards
- Produces real results - survey of 350 randomly selected teens found a 30% increase in physical activity
  - SuperBetter (Jane McGonigal’s company)
    - Developed after she had a concussion - Jane created her own little game to motivate her to engage with family/friends, go through various steps for recovery. Generalizes that for all kinds of health problems.
    - Uses things like quests, allies, power-ups, “bad guys” (activities that should be avoided)

- Energy and environment
  - OPower
    - Gives reports on energy usage, trends, patterns - feedback mechanism
    - Adds social dimension by including data relating your power use to friends and neighbors - creates “friendly competition”
    - Goals
    - Leaderboard
    - Roughly 2%-4% improvement in energy savings in the areas OPower serves
  - Recyclebank
    - Points given for things like recycling - can be used for rewards

- Education
  - An area ripe for gamification - motivating students is a huge challenge and there are already “reward”/”scoring structures in place - but the key issue is making the system better, not worse.
  - Quest to Learn - schools in New York and Chicago built around games and game structures
  - Incorporating game structures into existing curriculum
    - Lee Sheldon’s gamified class points/levels structure
      - Recommended reading: The Multiplayer Classroom
  - Credentialing
    - Mozilla’s Open Badges framework
    - Contest for interesting applications

- Government
  - Why?
    - Government can act as an enterprise - thousands of workers
    - Government interacts with citizens - provides customer service
    - Government can use games to promote its policies, benefits for citizens
  - White House enlisted Constance Steinkuehler Squire (professor in games/gamification) as a policy adviser for 18 months
    - Late 2011 - meeting involving 23 government agencies doing experiments with games/game elements
10.3: Social impact techniques

- Feedback, rewards, monitoring, communal pressure: CAPRI (Congestion and Parking Relief Incentives)
  - Stanford project to address shortage of spaces, traffic on campus
  - Provides incentives for those who spread out their arrival/departure times, parking patterns.
  - Feedback and rewards - points; speedometer-type gauge
  - Monitoring - recorded automatically through GPS on users’ smartphones
    - Getting people to report is a common problem with social-impact gamification
    - Use of automatic sensors can be very powerful, but can also raise privacy concerns - must be transparent about it.
  - Communal pressure - can see friends’ behaviors in the system (kind of like OPower), which activates social norms.

- Competition: Kukui Cup at University of Hawaii
  - Competition among students in residence halls to see which floors/areas can minimize power usage the most
  - In addition to PBLs, strong educational aspect
  - But built around trying to win, do better than peers.
    - Focus on competition can be dangerous in commercial applications.
    - But here, there’s no external structure (like “this is your job”) - competition is about taking pride in winning by doing something you want to do anyway.

- Impact: Practically Green (now WeSpire)
  - Promotes sustainability by showing the consequences of your activities
  - At the company level, can see the sum total of all its employees’ activities, which can be a powerful motivator

- Chance: Let’s look at another aspect of CAPRI
  - The system offers cash (certain reward), but users can get credits instead to play a Chutes and Ladders-type game for a chance at a bigger reward.
  - Has some skill- and performance-based elements - higher levels give the player a better game board, better chance of bigger prizes
  - Users prefer the game, even though reward is random and not guaranteed.
  - CAPRI based on some prior work in Bangalore - that trial doubled the number of cars in the test area parking outside “rush hours”
  - Another trial in Singapore found 10% impact on overall traffic patterns.

10.4: Behavior changes

- Largely about habit formation - changing the default behavior
  - This requires activating the conscious, structured part of the brain.
    - Doing things we know we “ought to” can be difficult because it requires a conscious effort - unlike running on unconscious “autopilot”
The intent is to help people move these behaviors into “autopilot” - something they’re inclined to automatically do.

- **BJ Fogg’s behavior model:**
  - B = mat (behavior = motivation x ability x trigger)
    - **motivation** - the more you want to do a thing, the more likely you are to do them
    - **ability** - the easier a thing is to do, the more likely you are to do it.
    - **triggers** - the things that push us at a particular moment to engage in an activity
      - if ability and motivation are high, triggers are more likely to work
      - trigger becomes associated with the activity, echoing operant conditioning theory
  - If all three are present, the action will be taken
  - What could we learn from this framework?
    - Motivation and ability can trade off against each other
    - Trigger timing matters a lot
      - must be designed at right moment, when person is willing and able to undertake desired activity
    - Trigger types
      - Sparks - increase motivation
      - Facilitators - increase perceived ability, make task seem easier
      - Signals - “alarm clock”
  - Takeaways for gamification
    - Engagement loops → motivation
    - Progression loops → perceived ability
    - Good games trigger effectively
  - Recommended reading: [Michael Wu’s blog post on the Fogg framework](#)

### 10.5: Susan Hunt Stevens interview

*Founder and CEO of Practically Green (renamed WeSpire in 2014)*

- PG was founded to help motivate/inspire people to embrace healthier, sustainable choices. Technology brings transparency to social norms - can see what friends/colleagues are doing and compete, collaborate, learn, share and encourage.
- Game elements are the foundation for creating a scale - “how green am I?”
  - Level system helps people understand just where they are in their journey.
○ Points system helps users find ways to improve or “level up” - it’s based on science and life-cycle data, with some art thrown in.
○ Challenges, badges, encouragement give recognition for and celebration of the less tangible benefits of green living.
○ The key thing is that no one ever put fun into sustainability before - all about sacrifice, preachiness etc. Making learning/engaging/acting fun gets a lot more to participate - particularly those who’d never consider themselves green.

● What does it take to get people to engage in long-term/automatic changes?
○ It’s important to distinguish between games and gamification - most games have a shelf life around 12-15 months. But habits/behaviors that impact real life wind up being lifelong (or big-chunk-of-life-long) things, which requires something to be designed very differently. Must drive long-term engagement, keep people motivated/inspired, use content alongside game elements.
○ In particular, it’s community - something often overlooked in gamification, but 80% of people are involved for social elements/benefits - true whether it’s our goals or a fitness club or an extended multiplayer game like WoW. It’s the people that keep you coming back. We probably spend as much, if not more, time emphasizing ways to build that community, let people interact, motivate, inspire, challenge, compared to framework/mechanics/PBLs/etc.

● Anything different about community-building in this context related to game mechanics vs. other contexts?
○ Because it’s personal info, there seems to be more comfort with trusted groups than with groups of strangers. Some exceptions - players with no networks who come here to connect with others that share interests - but generally more impactful to put this into a community that already exists (workplace, book club, etc.), add transparency to social norms. Participation rate very different for trusted communities vs. communities of strangers; also the changes have much more impact than when the affiliations are looser.
○ Oddly, people participate/engage the most when playing with work colleagues. That’s followed by friends and family; then other groups; and last people participating with strangers.

● How does getting that feedback drive people to act more sustainably?
○ Enables people to “level up” - helps make the content we’re presenting through recommendations, other actions more contextual to who they are/what they’ve done. (There are patterns based on age, demographics, lifestyle, etc.)
  ■ I’m not going to suggest getting a LEED home and a solar array to someone just starting out.
  ■ Start with easier-to-accomplish things that get some kind of recognition and feedback, which will reinforce and motivate you to take on tasks with bigger impacts. Creates a feedback loop.

● How do you avoid getting them too focused on rewards, to the point that it crowds out intrinsic benefits?
○ One reason we don’t have redeemable points - many have a “currency.” We’ve avoided that for many reasons, but a large part is that the more valuable/tangible it is, the more incentive there is to cheat or game the system.
○ Must balance the system to gauge why and how a person is participating, and if that participation’s having the intended result. Unlike many gamification systems, getting people to buy more stuff defeats the purpose - even if it’s green stuff!
○ We focus instead on creating intrinsic rewards/motivations rather than extrinsic. Hopefully even those drawn in by badges, feedback, etc. come to realize they’ve learned a lot and want to do better.
○ Social’s such a big component that it does keep people more honest. You’re much less likely to lie about composting in the work cafeteria if your colleagues can call you out for it. And no one we’ve surveyed indicates that actually happens.

● Do you think these kinds of approaches will become the norm for behavior change/social impact applications?
○ Started thinking about the site’s foundations before social media had become a thing, and one reason I was leery of the idea was that I couldn’t figure out how to scale it, bring transparency. Digital/social media has made it easier add transparency to things we don’t know about each other - compete, compare, etc.
○ I do think it’ll make a huge difference in behavior change. But I think that what happens offline is extremely important, and that it’s bringing those worlds together that is very powerful.

Module 11: Critiques and risks

11.1: Pointsification
● Pointsification - criticism arguing that gamification doesn’t or can’t accomplish its stated goals
○ Coined by British game developer Margaret Robertson in 2010. She and others argue that gamification takes “the thing that’s least essential to games” - mechanics such as points, badges, etc. - “and representing it as the core of the experience.”
  ■ Calls it “an inadvertent con” that tricks people into believing it’s easy to give their business/service the power of a good game.
  ■ Worries it cheapens the idea of games
○ These are legitimate criticisms that can be addressed by looking at gamification more broadly.
  ■ Two streams of work feed into gamification; What Robertson et al label as “pointsification” is almost entirely on the behavioral side and involves the shallower aspects thereof.
○ But DOES gamification actually work?
  ■ Real research on effectiveness is limited
There’s a lack of significant empirical research looking at different forms of gamification and results it can provide in various contexts. Social scientists have started research in this area, so there will be more data on the process eventually.

- Potential for engagement decay after initial spike
- Crowding out intrinsic rewards (overjustification)
- These aspects led one critic, Kathy Sierra, to term gamification as “the high-fructose corn syrup of engagement”
  - takes richness, organic value of games/engagement and distills it into something very simplistic and shrill; seems great because it’s sweet and cheap, but we’re discovering it’s actually harmful

  - Not a fatal critique of all gamification, but worth keeping in mind so you can avoid sliding down that path and just applying points systems, etc. where not appropriate

  - Foursquare was a tremendous gamification success story - game elements atop Dodgeball’s social location system powered it to huge success and adoption
  - But in 2012, the app was redesigned in a way that seemed to significantly de-emphasize game elements (outside of profile page)
  - One might conclude one of the following:
    - Gamification didn’t work - either didn’t produce business results, or produced them for a while before people got sick of it.
    - OR that the game elements are still present, but emphasizing them isn’t as important now that the app usership has reached critical mass rather than in growth mode. Monetization and building out from that rich pool of data may be focus.

  - The point is, it behooves everyone to try to keep questioning whether this is a technique that is worth using.

  - What are some implications we can take away?

    - Names are powerful.
      - The word “gamification,” and the implication that it’s about games, really rankles some critics.
      - Names are memes, and this is the one that’s stuck
    - Bad gamification is bad
      - Behaviorist gamification is subject to the limits/dangers of rewards
      - There’s more to games than gamification, and vice versa
      - Caveat ludor - keep in mind the difference between gamification and pointsification, and recognize the bite that criticism has.

11.2: Exploitationware

Exploitationware - the idea that gamification can potentially be TOO effective, and can get people to do things that aren’t in their best interest - is another criticism.

  - Coined by Ian Bogost, noted game designer/researcher
He argued that gamification is an intentional con (not “inadvertent,” as Robertson wrote) - a way to try to make people think their job doesn’t suck, even if it does. Could be used to confuse people and make them ignore real conditions.

- For example, Disneyland’s “electronic whip” system discussed earlier
- His broader point: it fundamentally undermines the nature of economic and social exchange between employees and employers.
  - “proposes to replace real incentives with fictional ones,” which strips away the value and trust on which real incentives are based.

What’s key is how the tools are being used in gamification.

- Gamification systems designed to enhance call center productivity
  - Some are about manipulation, closely tracking employees’ actions in ways that treat workers as commodities, which probably isn’t healthy for the companies
  - But there are also examples that encourage call center operators to learn, feel more engaged in their work.
- Gamification designers should avoid systems that inadvertently cause divergence between players’ interest and that of the system designer, or as a shortcut “trick” to force people to do something. It can be easy to fall into one of these if the designer’s not careful.
  - Cow Clicker, one of Bogost’s creations, demonstrates how easily one can fall into this kind of system.
    - Created in part as satire of social games driven by virtual goods, virtual currency, appointment dynamics, etc.
    - The game has no point whatsoever - entire game mechanic is having to on a cow over and over.
    - Different types of cows are available as virtual goods - some are more rare, some are unlocked with certain clicking behaviors
    - Designed to show the fundamental emptiness on these kind of systems that rely purely on engagement loops.
    - Over 50,000 people started playing this game - some accumulating ridiculous high scores or amounts of virtual currency.

Pay attention to early steps of our gamification design framework:

- Step 1 is focusing on business objectives: What’s the purpose of encouraging someone to take an action, and how does it tie into these deep, important goals?
- Step 2 is identifying players - focus on those involved in the game and don’t treat them as automatons forced into an activity

11.3: Gaming the game

One of the most common and dangerous mistakes: forgetting about who the object of this system is - the player.

- You can anticipate some aspects of behavior, but you can never be completely certain what they will do.
● It’s critical to recognize that one thing they may do is **game the system** - do something that was never expected and never intended.
  ○ This may dangerous - for both game designer and game player.
    ■ Nicole Lazzaro’s “Gamification Can Kill” example: One of San Francisco’s bridge onramps uses congestion-based pricing to subtly encourage use at off-peak hours. However, one result is that it “incentivizes” people headed toward that bridge at 6:59 p.m. to swerve off the road and wait until the clock hits 7 p.m. (and $2 cheaper) - this could create accidents.
    ■ Could react to prompts in ways not necessarily anticipated, or in too much of anticipated ways.
● **Sometimes people will cheat** - figure out a way to achieve their own aims in the system that aren’t those of the game designer. For example, a flaw allowing users to accumulate lots of points with minimal effort.
  ○ Recall that part of what makes something a game is players’ voluntary adherence to the rules - if we don’t follow them, we’re not playing the game; we’re doing something else.
  ○ In gamified systems, it’s easy for people to feel like the game allows for bending of the rules (or creating their own) in ways the designer would consider cheating.
    ■ Well-designed games with social elements are last to see this - the social pressure (explicit and implicit) is enough to get people to avoid cheating (even in ways they could).
  ○ Depending on system’s nature, designer may just live with it, or the game may need to be built to anticipate this aspect.
    ■ This is why iteration and playtesting are so important in designing both games and gamified systems.
● In some cases, cheating may actually be a virtue, helping achieve the results the game designer was thinking about.
  ○ James Gardner (Spigit) works on gamified prediction market systems - those involve promoting innovation within companies by getting people to bet real cash (or virtual goods that can be converted to real ones) on real ideas.
    ■ Worked on Idea Street program for UK’s Department of Welfare and Pensions
    ■ Before that, worked on Lloyds Bank’s innovation market.
      ● System allowed people to buy and sell innovations.
      ● People could get together in teams to develop ideas.
      ● Market decides which ideas are the most popular and successful, and the company would try to implement those.
      • **Insider trading** emerged in this system - people realized they could find the good ideas, join up with those groups, and follow ideas as they rose and were successful.
        ○ In financial markets, this is totally “cheating” and a form of fraud - it undermines trust.
But here, it was a feature - a way to strengthen and grow teams around ideas, and reinforce signaling value around ideas with greatest potential.

- Part of game design is building in structures that
  - ensure that unanticipated/spontaneous activity doesn’t destroy the game, create imbalances, or otherwise make the game unplayable or undesirable for a large group of its players.
  - create systems that help the game, with players exercising autonomy to become intrinsically motivated.

11.4: Legal issues
Legal systems generally aren’t the primary consideration in creating a gamified system, but legal and regulatory considerations could be important in some cases. Here are a few examples:

- **Privacy**
  - You have potential to get a LOT of information about your players - not just demographics, but granular data on activity - potentially every action they take in-game.
    - Has potential to promote customization of the game, and provide real learnings for the company that implements it.
    - However, developer has tremendously detailed, personal info, which raises privacy concerns.
  - A very large, quickly-developing legal area, particularly in online/digital contexts that are not entirely addressed by the current legal system.
  - Can vary widely depending on location - U.S. is pretty laissez-faire on regulation, but Europe and other parts of the world aren’t so much.
  - Be careful anytime you have access to personally identifiable information - tells you something definitely about a single individual.

- **Employment/labor law** (exploitation and “playbor”)
  - For example, Target’s gamified checkout system; Disneyland hotels’ “electronic whip”
  - Many countries restrict what employers can do involving their employees; there also rules governing groups of employees who collectively bargain.
    - again, far stricter in Europe than in U.S.
  - These will come up in any kind of internal gamification where game elements are used to affect/influence work performance.
  - The questions:
    - Is this being properly disclosed?
    - Is this consistent with what law requires regarding working conditions?

- **Deceptive marketing**
  - Jesse Schell - talked jokingly of the potential for gamification to make marketing inescapable. But most of those “ideas” (such as piping ads directly into people’s brains) would give us pause if they were real.
There are rules about how things can be marketed or advertised (again, these vary by country)

- **Stealth marketing** - a system that is not clearly designed to market. May "trick" people into thinking they're just playing a game - into thinking it's rewarding for some reason other than the product someone's trying to get them to buy.
  - Could be viewed as deceptive trade practices.
  - It needs to be clear to the people involved that this is trying to sell them something.

- **Intellectual property** - involving access to information or digital assets.
  - Any virtual goods in a system - even badges - could potentially be protected under IP law.
  - "Borrowing" items or the structure from an existing product could cause you legal problems.

- **Virtual property rights**
  - This is an emerging and evolving area of law.
  - Ownership vs. license: Do virtual items have some legally protected value beyond IP rights?
    - Say a user spends a lot of time and effort (and potentially real money) to get a virtual good. What happens if the game designer decides to take it away, or if its value decreases after a change in the rules of the game?
    - Thus far, the courts have ruled on the side of this being a license - something you get contractually, but not as a property right.
  - There are also specific issues involving virtual currencies.
    - In U.S., the CARD Act regulates stored-value gift cards to prevent potential abuse - for example, what happens after the card expires? It's not clear how this might apply in gamification.

### 11.5: Regulatory issues

Areas where some practice might be allowed, but may be subject to some restrictions:

- **Paid endorsements**
  - Situations in which someone is surreptitiously becoming a marketer/endorser for a product.
  - Federal Trade Commission in U.S. has implemented rules in recent years, primarily targeting bloggers given free products/swag in exchange for writing glowing things about companies.
    - Some of these bloggers were becoming, in effect, paid endorsers, but it wasn’t made clear to readers that they weren’t random person who just loved this product.
    - These rules require disclosure: If you are endorsing a product because they gave you something, you have to disclose that fact.
  - How does this affect gamification? Many systems let users earn points by “recommending” something via social media.
For example, “liking” a Facebook post (as with a Samsung Nation badge), or tweeting about a product. In these situations, the person involved is not necessarily getting paid directly (just getting virtual value, may not have tangible rewards) - but at some point this might run afoul of these rules.

**Banking regulation**
- If what's involved in the system is “like money” - or freely tradeable in a similar fashion - it may be considered a “bank” and fall under additional regulations:
  - record-keeping
  - reserve requirements
  - currency manipulation
  - measures to prevent fraud and money laundering
  - consumer protection
  - taxation and accounting
- As a service provider you may not be allowed to engage in those activities unless you are registered or regulated as a bank.
- Typically, gamified system developers do NOT want to be dealing with any of this stuff, and you probably won’t run into it that often.

**Sweepstakes and gambling**
- If there’s a valuable, tangible reward achievable through the system, it could fall under:
  - sweepstakes laws (generally at state level in U.S.)
    - random drawing that may have one buy a ticket or using a product to enter
    - laws may require sponsor offer “no purchase necessary” entry into the contest.
  - gambling laws (national regulations)
    - In U.S.: Gambling is permitted in designated areas (such as Las Vegas or Atlantic City, some Indian reservations, government-sponsored lotteries). Interstate gambling is prohibited.
    - Other countries may permit gambling but regulate it to prevent things like, say, children getting access.
    - Questions come up when online gambling sites are set up outside the U.S. (or other places) and then made available in those areas.
- Gambling law distinguishes between games of skill and games of chance.
  - Gambling = games of chance; no guarantee of a win based on skill.
  - Law may not apply the same way to games in which skill is involved.

**Module 12: Beyond the basics**

**12.1: Beyond the basics**
Let's look at some broader aspects of gamification than what we've covered so far.
• Inducement prizes (competitive) - use people’s competitive instinct to encourage them to do something.
• Collective action (collaborative) - crowdsourcing solutions to problems
• Virtual economies - how economic pressures/techniques can be applied
• The future of gamification - will it be used primarily for good or evil?

12.2: Inducement prizes
• A contest to motivate a result; prizes as a way to reward or encourage behavior (as opposed to honoring past behavior, as in Nobel Prizes or Oscars)
• Have gained steam in the last few years, but have a long, established history
  ○ Raymond Orteig - in 1919, promised $25,000 for whoever was first to cross Atlantic in New York-Paris flight. Charles Lindbergh won the prize.
• Can be an alternative to direct-funding means such as internal R&D or outsourcing and grants.
• What are the benefits?
  ○ Efficiency
    ■ Prize money can incentivize far more investment than the initial pot.
    ■ It’s estimated Lindbergh et al spent a total of $400,000 in chasing Orteig’s $25,000 prize.
  ○ Encourage creative, flexible, out-of-the-box solution
    ■ Contest doesn’t specify the means - just the end (objective).
    ■ Exxon Valdez - Oil Spill Recovery Institute put up a prize for finding a way to more easily pump viscous oil (solidified due to the cold) out of the water.
      ● Illinois chemist’s technique won - inspired by vibration technique he’d developed to help a friend lay concrete a few years earlier.
• Since there’s an extrinsic reward, is this still gamification? Yes.
  ○ Remember the factors of self-determination theory that make something rewarding - all of these are present in a well-designed inducement prize competition.
    ■ Competence - requires skill and accomplishment; demonstrating the success of a technique you’ve developed.
    ■ Autonomy - you’re not told how to solve the problem, just “here’s what we hope to achieve, you figure it out.” Allows for freedom and flexibility.
    ■ Relatedness - go out to a large group, typically require collaboration/coordination among teams; in many cases involve achieving a major societal goal and/or moving science/knowledge forward
      ● for example, things like building autonomous cars.
• We’ve recently seen a number of inducement prize initiatives:
  ○ Private sector:
    ■ X Prize Foundation - nonprofit
● Started with $10 million Ansari X Prize to encourage creation of a privately built spacecraft capable of entering low Earth orbit (won by Richard Branson's team)
● As in Orteig’s contest, the contest generated far more investment than the prize - an estimated $100 million spent by teams.
  ■ Innocentive, Kaggle, TopCoder - all companies that develop such competitions
  ○ Public sector (U.S.)
    ■ DARPA Grand Challenges (such as the self-driving car mentioned earlier)
    ■ America Competes Act - encourages and makes possible these types of contests on a wider scale.
    ■ Office of Science and Technology Policy initiative
      ● Has generated over 200 challenges involving over 45 agencies.
● What are the attributes of a successful inducement prize?
  ○ Multiple individuals/teams capable of competing
    ■ Needs to have a number of organizations that believe they can accomplish the goal.
    ■ If only one group has the knowledge/resources to achieve the goal, go on and hire them to do it.
  ○ Costs that are sufficiently small
    ■ Needs to be cheap enough for these organizations to justify spending their own money on it - after all, only the winner gets the payout.
  ○ Balancing scale of the competition vs. incentives for the participants
    ■ Karim Lakhani (Harvard Business School):
      ● There’s incentive to make the prize as big as possible, involve as many competitors as possible - leads to more out-of-the-box ideas
      ● At the same time, adding more competitors reduces the likelihood that any one competitor will win - and that has potential to reduce motivation.
  ○ Opportunities to leverage results
    ■ In public contests, there almost always is - the chance to advance science.
    ■ In private contests, the same is often true.
      ● What did Branson have to gain from spending more than the $10 million Ansari prize? Glory - but also a chance to get into the private space tourism business with Virgin Galactic, based on the technical research and notoriety gained through the competition.

12.3: Virtual economies
We enter the realm of virtual economics when we add money (or things that work like money) to a gamified system.
● Virtual goods - persistent virtual rewards (i.e., a badge that stays on my account even if I stop playing the game a while and come back later)
○ Scarcity (harder to get or less widely available) gives the reward value, much as a physical good would.
○ Widespread in many social games today.
  ■ *FarmVille* - recognized that virtual goods could be used as means of monetization: spending real money required to get some rare items or to achieve certain tasks more easily.
  ■ Worldwide virtual asset market was $7B in 2010, expected to reach nearly $13B by 2016.
● Virtual currency - points used as a medium of exchange.
  ○ Tradable or redeemable for virtual goods (such as weapons or customizations) or physical goods (a coupon or even money).
  ○ Not a “thing” in and of itself - just an accounting mechanism.
  ○ Example: Loyalty programs, such as Nescafe Australia’s Cup of Rewards
    ■ Points for entering codes from Nescafe products
    ■ Exchange for discounts, coupons on various other real-world products.
  ○ A common issue with these systems: not being built/designed with focus on fun.
    ■ This assumes that the “redeem points for real rewards” aspect will be enough to motivate users to return to the site and keep buying products.
    ■ Tangible rewards have serious limitations, as we’ve discussed previously.
● Virtual economy - allows participants to trade with each other, either directly or through a marketplace.
  ○ Some examples: *EVE Online* (and other MMORPGs); *Second Life*.

If designed well, these systems can have attributes of both gamification and economics. What does it take to be successful? **Balance.**

● Economic dynamics are driven by scarcity, not money. It’s important to ensure there’s the right level of scarcity.
  ○ Scarcity is a variable defined (at least at some level) by the designer.
  ○ Must constantly balance to ensure there’s not too much money (leading to inflation and devaluing the currency) or too little money (in this case, it’s too hard to get).
● “Faucets and drains” (sometimes called “sources and sinks”)
  ○ “Faucets” put money into the economy; “drains” take money out of the system.
  ○ Monopoly examples: “passing Go” is a faucet; buying houses/hotels is a drain.
  ○ Example: *World of Warcraft’s* Sandstone Drake - a very desirable item that is not only difficult to get, but extremely expensive to make. Prevents players from just amassing tons and tons of money and throwing the system out of balance - it incentivizes removing money from the system at the right times/amounts.

Dangers in virtual economies
● Real money costs real money.
  ○ Companies setting up these kinds of systems need to be sure they understand the obligations they’re taking on.
● Remember the hedonic treadmill and crowding-out effect, since these rewards tend to be tangible and extrinsic.
  ○ hedonic treadmill - rewards become less and less desirable.
  ○ crowding-out - people become less motivated because they think it’s so tied up in the reward.
● Rarity and surprise offer intrinsic value/motivation.
  ○ If something “feels cool” - difficult to achieve, looks great, really interesting - that might hold value for players independent of the extrinsic value.

12.4: Collective action
Gamification can be a powerful tool for motivating large numbers of people to come together and work on a common task or set of tasks.

● Here’s a framework for this family of approaches.
  →
● What might motivate people to take on a task if it’s not for their employer?
  ○ Money: Amazon’s Mechanical Turk is best-known platform - invites workers to voluntarily take on HITs (Human Intelligence Tasks), things that can’t easily be done by a computer.
  ○ Fold.it - created by U of Washington biomedical scientists studying protein folding.
    ■ 3-D shape into which proteins fold has huge impact on the body - but this is very computationally difficult.
    ■ However, it’s a puzzle - and people love figuring those out.
    ■ Game-like system asking users to figure out the most efficient layout using real-world proteins.
    ■ Thousands motivated to help - in one example, they figured out in days a problem that researchers had spent years trying to solve. And the press loved the “gamers” angle (even though these weren’t really “gamers” in the broader sense).
  ○ Microtask - Finnish company working with the National Library to digitize important works - needed people to review and proofread OCR’d text.
    ■ Digital Coot - game in which creatures are building a “bridge” out of words from the OCR text. Allows users to “feed in” their work into the digitization.
      ● Got a huge number of participants to review 2.5 million examples.
    ■ Company also has a business that does this in paid environments - game increases level of motivation
      ● form processing
● In some cases, crowdsourcing/microwork may be done without people even realizing it.
  ○ ESP Game - developed by Carnegie Mellon U researcher.
- Asks two different people to describe the same picture
- If both type the same word, it’s very likely to accurately describe the picture.
- Fun for players, but also helps meta-tag images to improve search quality.
- Google bought this technology to improve its image search.

- What situations lend themselves well to this?
  - Nature of the task
    - Can it be split up easily?
    - Are humans better than computers?
  - Is it something where a gamified system would be successful for motivation?
    - Are users doing task for money, love, fun … or all three?

12.5-6: The future of gamification
What does the future hold? No one knows - this is a very fast-changing field.
- What if it continued to become more pervasive?
  - “Sight” - 8-minute film by Eran May-raz and Daniel Lazo
- Consider also Jesse Schell’s TED talk - another view of the future, albeit a sarcastic one.
- Both get us to think about not just the upsides of this technology - but also ways in which it could go horribly wrong.
- The point is to get you asking questions, and making choices:
  - Empowering or manipulative?
  - Shallow or thoughtful?
  - Doing or feeling? (see discussion earlier)
- Oh, yeah, and remember that secret message? It was “FOR THE WIN," which by a staggering coincidence is the title of the instructor’s book.
  - Most of the stuff moving around on the shelves was a red herring.
  - Every unit had one or two playing cards visible. Add up their numbers, and you get a code (a simple Caesar cipher - 1 = A, etc.)
  - Who won? Everyone - the contest was focused on interest and enjoyment in the game.
  - Why did the instructor do it? It illustrates the themes discussed throughout the course.
    - Adding a little fun can make a process more engaging, can get people focused, and can transform something otherwise boring.