LGST/OPIM 240: Gamification for Business

Spring 2016, 1 cu   MW 9:00-10:30am

Overview

Gamification is the application of digital game design techniques to business and other domains. Video games are the dominant entertainment form of our time because they are powerful tools for motivating behavior. The structural elements of these games—such as points, leveling systems, achievements, and quests—can be applied to many business processes. Firms can also learn from the design strategies of game developers (for example, recognizing what kinds of experiences different people find fun or engaging) and from relevant psychological insights about behavior and motivation.

Companies today are incorporating gamification in areas as varied as marketing, human resources management, productivity enhancement, health and wellness, innovation, and customer engagement. These programs are not games; they are game-like or game-influenced activities. For example, a sales competition might rank competitors on a live "leaderboard," or a corporate training program might award virtual "badges" for mastery of certain content. This course is about implementing such systems in ways that generate sustained engagement and produce measurable business benefits. No particular technical skills or game-playing experience are required.

Learning Objectives

After taking this course, you should:

1. Understand what gamification is, and how organizations are using it.
2. Be familiar with the fundamentals of game design and motivational psychology.
3. Be able to develop a gamified solution to a business problem using a design process.
4. Recognize the limitations and risks of gamification.

Instructor

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Course Structure

This is a "flipped" course. Content that would normally be delivered in class through lectures will be provided through short video segments (typically 5-10 minutes each), originally developed for the Coursera massive open online version of this course. Throughout the syllabus are short online quizzes that will test your understanding of the material in the videos.

One major benefit of this approach is that it frees up class time from basic content delivery. You can get the lectures in my MOOC, but only here can we do interactive exercises, simulations, case studies, discussions, and games which will greatly deepen your understanding of the topic. The best way to learn gamification is to do gamification. Thus, many class sessions will involve group activities to apply and reflect on the concepts conveyed in the videos and readings. Both the individual study time outside of class and the active learning experiences inside it will contribute to your understanding of the subject matter, as well as your success in the course.

Policy on Devices in Class

Use of laptops, tablets, and smartphones is prohibited during class sessions, when not explicitly included in a learning activity.

I've taken this step for two reasons. First, a growing body of research shows that digital multi-tasking creates unavoidable distractions and interferes with learning. Even for note-taking, studies find that writing on paper is more effective than using a computer. Second, complaints about nearby students checking social media were among the most frequent comments on my recent course evaluations.

My job is to facilitate in-class experiences that go beyond what you could learn by reading a textbook or watching a lecture online. That will include use of devices for groupwork, real-time polls, and other activities, but when not expressly authorized, please keep them off. (Students with relevant approved accommodations should contact me to discuss exceptions.)

Readings *(additional materials are hyperlinked in the syllabus)*

Purchase from the bookstore or online

- Kevin Werbach and Daniel Hunter, FOR THE WIN: HOW GAME THINKING CAN REVOLUTIONIZE YOUR BUSINESS (Wharton Digital Press, 2012)

Coursepack available via Study.net

- Byron Reeves and J. Leighton Read, TOTAL ENGAGEMENT: USING GAMES AND VIRTUAL WORLDS TO CHANGE THE WAY PEOPLE WORK AND BUSINESSES COMPETE (Harvard Business Press, 2009) (selected chapters)

- Steffen P. Walz and Sebastian Deterding, eds., THE GAMEFUL WORLD: APPROACHES, ISSUES, APPLICATIONS (MIT Press, 2015) (selected chapters)

- Tracy Fullerton, GAME DESIGN WORKSHOP (Morgan Kaufmann, 2008) (selected chapters)

- Wharton School cases #81 (Foursquare), 82 (Club Psych), and 94 (Objective Logistics)

- Juho Hamari, Jonna Koivisto, and Harri Sarsa, "Does Gamification Work? A Literature Review of Empirical Studies on Gamification," *Proceedings of the 47th Hawaii International Conference on System Sciences* (IEEE, 2014)

- Scott Nicholson, "A User-Centered Theoretical Framework for Meaningful Gamification," *Proceedings of the 8th Games Learning and Society Conference* (2012)

- Juho Hamari and Vili Lehdonvirta, "Game Design as Marketing: How Game Mechanics Create Demand for Virtual Goods," *International Journal of Business Science and Applied Management* 5:14 (2010)

- Joey Lee and Jessica Hammer, "Gamification in Education: What, How, Why Bother?," *Academic Exchange Quarterly* 15.2 (2011)

- B.J. Fogg, "A Behavior Model for Persuasive Design," *Proceedings of the 4th international Conference on Persuasive Technology* (ACM, 2009)

Schedule

<u>*UNIT 1:   ONBOARDING*</u>

Weds 1/13   **Ready Player One**
Course goals and expectations. Introduction to the concept of gamification.

<u>Assignment</u>:   Complete the personal survey on Canvas.

Weds 1/20   **Gamification Basics**
What exactly is gamification, and how is it different from games? Overview and history of the gamification field. The value of studying gamification as a business practice.

<u>Watch</u>:   Videos 1.3, 1.4, 1.5, 2.1

<u>Read</u>:   For the Win, Ch. 1 (Getting Into the Game)

Mon 1/25   **Games as Motivators**
What are the factors that make successful games so fun and engaging, such that a simple-seeming app like Candy Crush can generate well over $1 billion annually? How might the motivational techniques of video game designers be applied to the workplace, or other business contexts?

<u>Read</u>:   Total Engagement, Ch. 2 (The Game Tsunami)

<u>Watch</u>:   Jane McGonigal, [Gaming Can Make a Better World](#)

Wed 1/27   **The Business Value of Gamification**
Why are firms turning to gamification to motivate their customers, employees, and communities? What does a typical gamification program look like? We will examine the case of USA Networks, which substantially increased engagement and grew online revenues for one of its shows with a gamified website for viewers.

<u>Watch</u>:   Videos 1.6, 3.1

<u>Read</u>:   Total Engagement, ch. 3 (Corporate Problems That Games Might Solve)

<u>Prepare</u>:   Club Psych Case

Mon 2/1   **No class (Rosh Hashanah)**

<u>Assignment</u>:   Quiz 1

Wed 2/3   **Foundations of Game Design**
Successful games are the result of good design, just like successful buildings or consumer products. We will examine what constitutes a game, and then consider some of the basic principles of game design that can be applied in business contexts.

      <u>Read</u>:   For the Win, ch. 2 (Game Thinking)

      <u>Watch</u>:   Videos 2.2, 2.3, 2.4, 2.5

<u>*UNIT 2:   GAME THINKING*</u>

Mon 2/8   **Sports Card Game Exercise**
The best way to practice thinking like a game designer is to design games. To illustrate how games can incorporate activities from the real world, you will create playable card games that mimic a sport.

      <u>Read</u>:   Game Design Workshop, Ch. 1 (The Role of the Game Designer)
                  Penny Arcade Report, The Design of Paint the Line

      <u>Watch</u>:   Videos 3.2, 3.3
                  Penny Arcade's Paint the Line ECG: Red Tide videos

Wed 2/10   **No class (Yom Kippur)**

      <u>Assignment</u>:   Quiz 2

Mon 2/15   **Applied Hedonics: What Makes Games Fun?**
"Fun" seems like a simple concept, but under closer examination, there are several categories of experiences that people find pleasurable. We will consider what research on video game players suggests about creating engaging experiences.

      <u>Watch</u>:   Videos 3.4, 3.5, 3.6

      <u>Read</u>:   Game Design Workshop, Ch. 11 (Fun and Accessibility), pp. 312-29

      <u>Guild Task</u>:   Working with your guild, refine your sports card game until it is far enough along to playtest. You should bring in a diagram of the game board (as appropriate), as well as a list of rules, with sufficient information for another guild to understand and play your game.

Wed 2/17   **Sports Card Game Gallery**
You will have the opportunity to play and evaluate other guilds' game designs. How effective were they at creating an enjoyable game, and how well did they represent the real-world sport through the gameplay?

        Guild Task: Finalize your sports card game. Bring in the final materials and rules.

Mon 2/22   **Deconstructing Games**
Now that we've seen what it's like to build a game, we'll work backward to see how features of finished games emerge from their rules and other design structures. The techniques we use to examine simple games will apply equally well to gamified systems implemented in business contexts.

        Read: Game Design Workshop, Ch. 2 (The Structure of Games)

Wed 2/24   **Game Elements**
A game element is a common design pattern used in games, such as levels or points. One of the key techniques of gamification is transposing these game elements into other contexts, such as marketing or training programs.

        Watch: Videos 4.1, 4.2, 4.3, 4.4

        Reading: For the Win, Ch. 4 (Game Elements)
                     Gamification Toolkit E-Book (Wharton Digital Press, 2015) *(optional)*

UNIT 3:   DESIGN AND MOTIVATION

Mon 2/29   **Player-Centric Gamification Design**
What is design thinking, and how do design processes help create good outcomes? What are the steps to a successful gamification design project, and in particular, how can systems be developed to meet the varied personalities of their players?

        Watch: Videos 7.1, 7.2, 7.3, 7.4, 7.5

        Read: For the Win, Ch. 5 (Game Changer: 6 Steps to Gamification)

        Assignment: Initial ideas for final project.

Wed 3/2   **Design Choices**
Many gamified systems use the same structural elements, so what distinguishes a successful or sophisticated example from an ineffective or superficial one? The effectiveness of gamification often comes down to choices during the design process.

        Watch: Videos 8.2, 8.3, 8.4

        Read: Nicholson, A User-Centered Framework for Meaningful Gamification

Mon 3/14   **Operant Conditioning**
Gamification is a practice of applied motivational psychology. Behaviorism, and in particular the concept of learning through reinforcement, are useful to understand the effectiveness of gamification, as well as its limitations.

     <u>Watch</u>:   Videos 5.1, 5.2, 5.3, 5.4, 5.5

     <u>Read</u>:   The Gameful World, Ch. 3 (Gamification as Behavioral Psychology)

Wed 3/16   **Self-Determination Theory**
What is the difference between intrinsic and extrinsic motivation, and how can gamification address both of them? When can reward-based gamification actually be counter-productive?

     <u>Watch</u>:   Videos 6.2, 6.3, 6.4, 6.5

     <u>Read</u>:   The Gameful World, Ch. 4 (Gamification and Motivation)

Mon 3/21   **Behavioral Economics**
In recent decades, economists ands other researchers have focused on how people behave in ways that aren't explained by classic models of rational action. Many of their recommendations dovetail with gamification.

     <u>Read</u>:   The Gameful World, Ch. 5 (Gamification and Economics)
                   Nir Eyal, <u>Getting Your Product Into the Habit Zone</u> (2012)

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Wed 3/23   **Guild PvP**
An in-class guild competition, based on what we have covered so far. Be sure to bring your notes to class, as use of electronic devices to look up answers will be prohibited.

     <u>Guild Task</u>:   Final project overview.

UNIT 4:   APPLICATIONS

Mon 3/28   **Gamification for Marketing**
How to use gamification to engage and retain customers.

     <u>Read</u>:   Hamari & Lehdonvirta, Game Design as Marketing

     <u>Prepare</u>:   Foursquare case

Wed 3/30   **Gamification at Work**
How companies are using gamification to motivate employees and enhance job performance.

          Watch: Videos 9.1, 9.2, 9.3

          Read: The Gameful World, ch. 18 (Gamification and the Enterprise)

          Prepare: Objective Logistics case

Mon 4/4   **Gamification and Learning**
Gamification is being used widely in schools, universities, and corporate training contexts to motivate learners.

          Read: Lee and Hammer, Gamification in Education

Wed 4/6   **Gamification for Behavior Change**
Using gamification as a form of persuasive design, or to promote socially desirable outcomes.

          Watch: Videos 10.1, 10.2, 10.3, 10.4

          Read: Fogg, A Behavior Model for Persuasive Design
                         HIP Program Interim Report Summary (2014)

Mon 4/11   **Epic Fails**
In this class, we'll peer into the dark side of gamification. Where can things go wrong? How to designing around common mistakes and limitations? And what legal and regulatory considerations come into play when building gamified systems?

          Watch: Videos 11.1, 11.2, 11.3, 11.4, 11.5

          Read: For the Win, ch. 6 (Epic Fails)

UNIT 5: BOSS FIGHT

Wed 4/13   **Final Project Development**
Initial feedback sessions on your final gamification projects.

          Guild Task: Final project update.

Mon 4/18   **Project Iteration and Feedback**
Feedback sessions on revised projects.

Mon 4/20   **Pitch Day 1**
Half the guilds will present their final projects.

Weds 4/25   **Pitch Day 2**
Half the guilds will present their final projects.

Mon 4/27   **Post-Mortem**
A "post-mortem" review session is a standard element of the game design process. After considering what we've learned during the course of the semester and what the future of gamification looks like, will discuss what worked well in the course, and what could be improved.

Grading

Your grade in the course will be comprised of the following:

Individual Assignments (45%)
As described in the next section, you must submit three assignments, each of which is worth 15% of your grade.

Guild Projects (30%)
Working as a group, you will produce a Sports Card Game and the "boss fight" final project, which involves a detailed proposal to gamify a real-world activity. Details will be provided during the course.

Quizzes (10%)
There are short (3 questions) multiple-choice quizzes that cover material in the assigned videos. These are designed primarily to ensure that you view and understand the videos prior to class. Take them online via Canvas at any time before the deadline.

Participation (15%)
This is an inherently interactive course. More than mere attendance is expected. Students will be assessed on their overall contribution to the course.

In addition, there will be a Guild PvP competition, in which guilds can earn extra credit points.

There is no final examination.

Assignments

As you will see, one of the important principles of game design is choice and experimentation. People tend to be more engaged, and perform better, when they feel in control and this risks of a mistaken choice are relatively low. I have adopted this insight for the course.

There are a number of assignments throughout the course. You must submit **three** of them, but you can choose which three. Pick topics that interest you, and that you feel like you can do a good job addressing. If you submit more than three assignments, you will receive credit for the highest three scores. (In other words, if you are not satisfied with your score, you may have the option of improving it by doing another assignment.)

For the assignments submitted in writing, there is no formal length or format requirement, but a good submission will typically be 3-5 pages, single-spaced. The longest papers will not necessarily receive the best grades. Being organized and concise is important, as is sophisticated analysis that does more than merely repeat materials from the readings or videos.

Because the assignments correspond to different parts of the course, each one has a deadline during the semester, which is specified in Canvas. Late submissions are not accepted.

Casual Games
Spend some time playing a casual online/mobile game, such as Candy Crush Saga, Clash of Clans, or Words With Friends. (These are just examples; it can be any game of your choosing.) Answer the following questions, drawing on the concept discussed in the course: Is the game fun? Why or why not? What could a business learn from this game?

Gamification Definition Video
Create a video, animation, or screencast up to ten minutes long, which explains the concept of gamification. Imagine you are describing to a friend or relative what this course is about, and why it's an important topic. To the extent possible, anticipate and address possible misunderstandings. Humor and creativity are encouraged!

Sports Card Game Review
Describe what you learned from the sports card game exercise about game design and/or gamification. Then, explain how you could apply those lessons in a business context, to solve a concrete problem. *Prerequisite:* Guild submission of a sports card game.

Bogost Response
Read Ian Bogost's two critical posts on gamification: Persuasive Games: Exploitationware (http://bit.ly/18LschT) and Gamification is Bullshit (http://bit.ly/18Lsg0Y). Write a response that either agrees with and expands on his criticisms, or disagrees and rebuts them. Support your arguments with evidence from the course.

Course Gamification
Describe how you would gamify one of your Penn courses (other than this one). Be as specific as possible about how the gamification system would operate (illustrations or diagrams would be helpful), and what it would be designed to achieve. Explain why you believe it would be effective.

Psychological Techniques
Spend some time playing a casual online/mobile game, such as Candy Crush Saga, Clash of Clans, or Words With Friends. (These are just examples; it can be any game of your choosing, so long as you didn't already use it for a prior assignment.) Analyze the techniques the game uses to motivate players to participate, and to keep playing. Are they effective? Why or why not? Draw on the psychological concepts discussed in the course.

Self-Improvement Gamification
Spend some time using the following free gamified services: Habitica (http://www.habitica.com/), Mindbloom (http://www.mindbloom.com/), and SuperBetter (http://www.superbetter.com/). Do a comparative analysis that explains which system you think is most successful, and why. Give specific examples of design aspects that you find effective or ineffective, and tie them back to concepts we discussed in the course.

Application Comparison
Compare the use of gamification in two of the four application categories we covered in class (Marketing, Workplace, Learning, Behavior Change). How would a successful gamification system differ in the two situations, and how would it be similar? In which do you think gamification can be more effective?

Duolingo Analysis

Use the free online language learning service Duolingo (http://www.duolingo.com) long enough to familiarize yourself with it. (The more you use it, the better your paper is likely to be.) Analyze Duolingo's use of gamification. Give specific examples and explain why they are effective (or not). Focus on distinctive aspects of Duolingo's implementation: How is its use of gamification different from any other site with the same basic elements?