

Gamification

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What is gamification?

- Introducing elements of games into human-computer interactions
 - Examples
 - Benefits
- What are games?
- What are the characteristic elements of games?
- **Why** are they elements of games?
- How to include game elements in an application?

Play



Seen in higher mammals, including man

Play



Prominent account → way of exploring body locomotor capabilities safely (Berghonell et al., 2015)

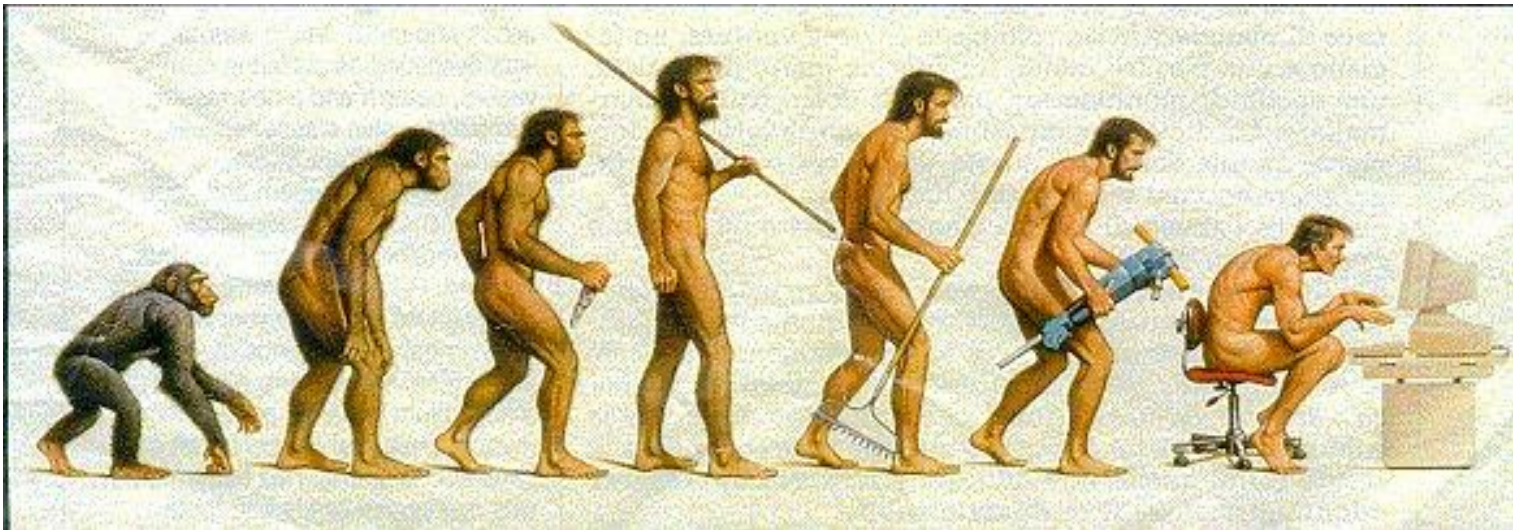
Games

- Play with rules
- As old as civilization
- Big business
 - >\$100B revenues
- Taken way too seriously



Video games

- Progression from physical to mental games
- Multiple genres
- Big business
 - >\$75B revenues last year



Taken way too seriously

- S Korea and China now have official laws and mechanisms to stop <18 players from playing more than 3 hours at a stretch

■ ADDICTIVE GAMING IMPACT

Video-game addicts play 37.5 hours a week on average, compared with just 18.8 hours for those not addicted.

Behaviour exhibited in the past year	Non-addicts (%)	Addicts (%)
Has a video game system in the bedroom	61.7	70
Started arguing more with parents about games	14	52.1
Fought with parents over games	16	51.1
Hit someone or damaged something at home during argument over games	8.9	37.8
Got too little sleep	22.4	63.8
Been late for school	5.2	31.1
Skipped school to play games	4.2	24.4
Spent less time with friends or family	17.1	61.9
Skipped meals, baths, or toilet breaks to play games	19.3	52.3
Relied on friends to help with homework	9.5	40

Source: Annals Academy of Medicine

Gamification vs games

- Games contain
 - Narrative
 - Rules
 - Dexterity
 - Control
 - Interaction
- Gamification uses
 - Need for closure
 - Sunk costs
 - Score accumulation
 - Social competition
 - Sense of progress



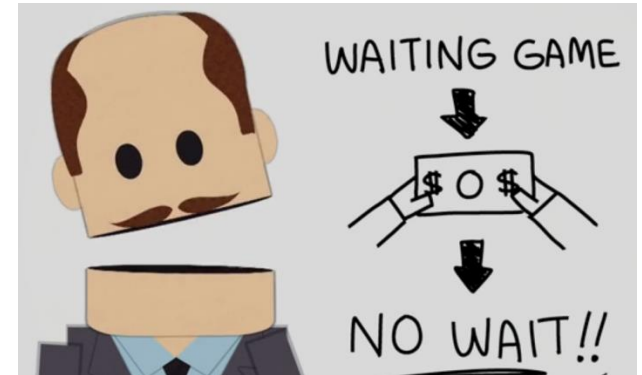
Need for closure

- Need for closure can be measured as a personality trait (Neuberg et al., 1997)
 - High in decisive people, inverse correlation with OPEN
- High NFCC → likelier to search using attributes
 - Massively consequential for consumer behavior (Choi et al., 2008)



Sunk costs

- Offer something for free
- Make it important to the user
- Start charging



	Dropbox	LinkedIn	NYTimes.com	Spotify
WHAT IT IS	A cloud storage and file-sharing service	A social media site for professional networking	A digital, enhanced version of the print newspaper	A music streaming and downloading service
WHAT'S FREE	2 GB of storage, with up to 16 GB more for referring friends	Creating a profile, making connections, basic communication	10 articles a month	Unlimited music, interspersed with ads
WHAT'S PREMIUM	100 GB of storage for \$9.99 a month	Advanced searches and communication, starting at \$19.95 a month	Full access, starting at \$3.75 a week	Downloads and ad-free streaming for \$9.99 a month
HOW MANY USE IT	More than 200 million users (free and premium)	277 million users (free and premium) at the end of 2013	53.8 million visitors in December 2013; 760,000 subscribers	24 million users, of whom 6 million are subscribers

Borrowed from freemium games

Score accumulation

- Create progressively harder to achieve levels
- Make them matter
- Align with business objectives



Cruise Points: 3



Cruise Points: 30



Cruise Points: 55



Cruise Points: 80



Cruise Points: 175



Cruise Points: 700

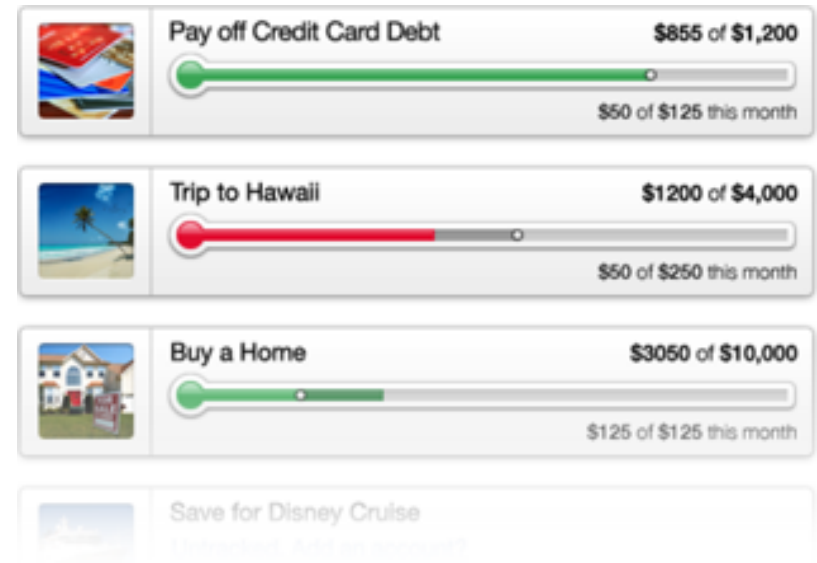
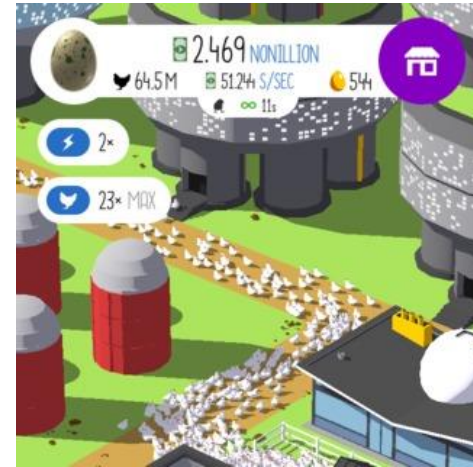
Social competition

- Use leaderboards, percentile scores
- Can choose between public and private displays
- Frequently used in call center and service sector operations
- Effective if associated with real-world outcomes



Sense of progress

- Draws on self-determination theory
 - Autonomy
 - Competence
 - Relatedness
- Implemented using PR highlights, goal tracking etc.



Example: Foursquare

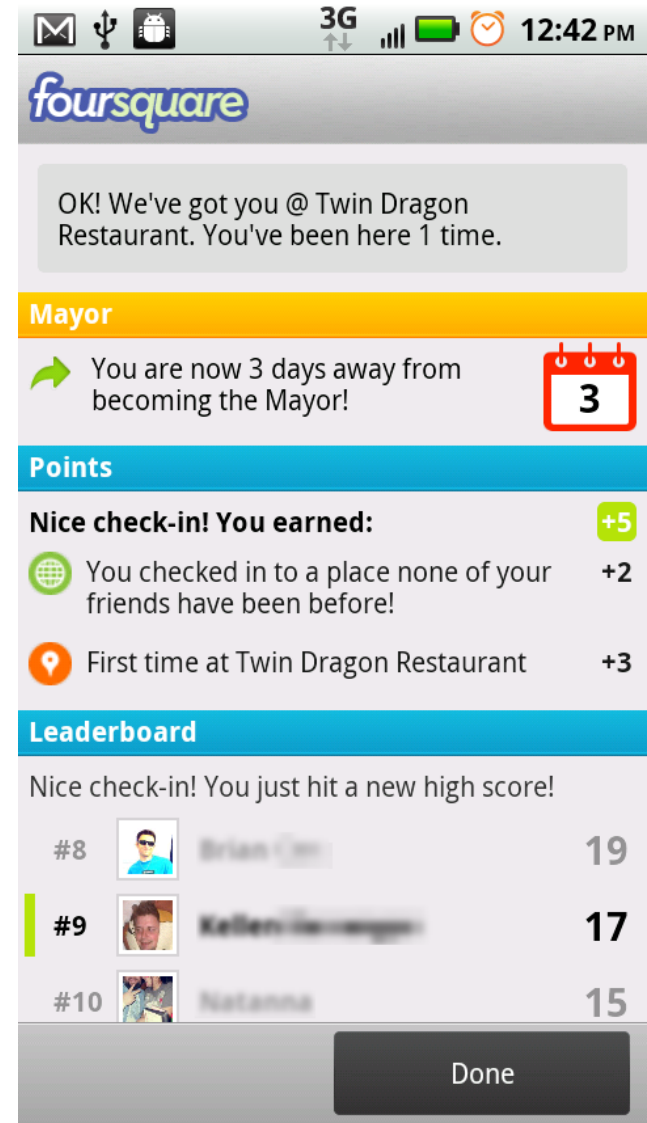
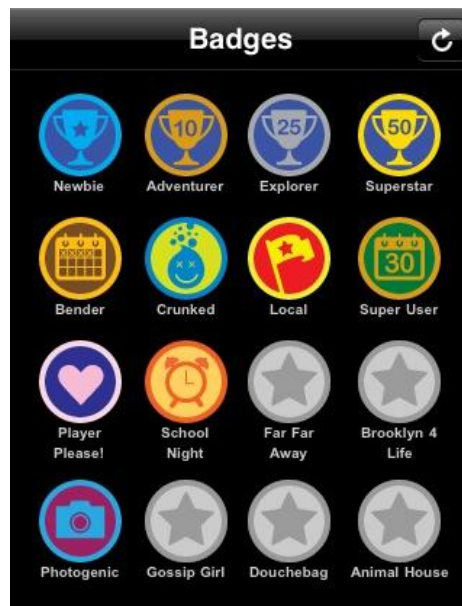
- A mobile game, a way of exploring cities, a way of telling friends where you are, and a way of tracking where friends have been and who they have been co-located with



Example: Foursquare

Game mechanics: points, badges, leadership board

Motivation drivers: collecting, achievement



Example: Foursquare



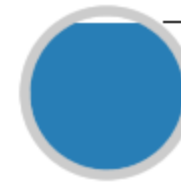
Example: LinkedIn

Game mechanics: Progress indicator

Motivation driver: Feedback



Profile Strength



All-Star

[Share your profile](#)

Example: LinkedIn

Game mechanics: network indicator

Motivation driver: Connecting, feedback

Your LinkedIn Network

197 **Connections** link you to 5,185,178+ professionals

1,037,246 **New people** in your Network since November 15

Game mechanics: endorsement buttons (communal discovery)

Motivation driver: Achievement, feedback

Most endorsed for...



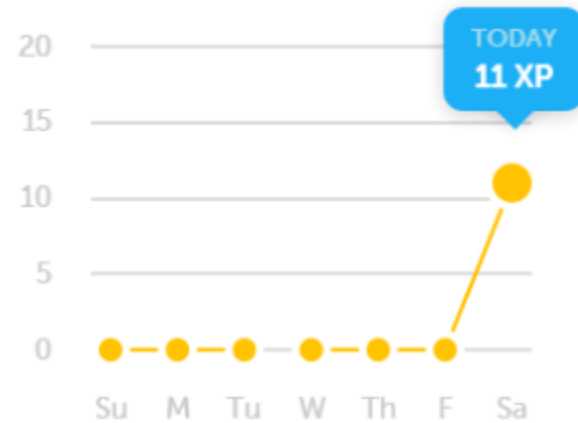
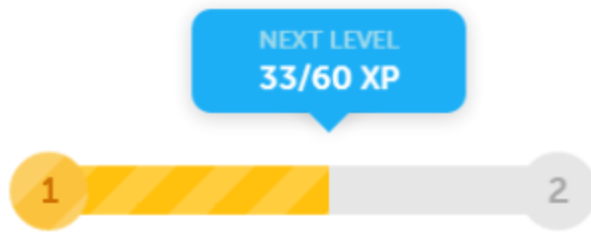
Example: Financial apps

- Mechanism: Closure, progress




E-learning/MOOCs

Lesson complete! +10 XP
Heart bonus! +1 XP



Online self-learning

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**derek@freeyourdata.net**

762 points

Achievements **18**



















Getting Started with Programming
Time to become a coding ninja.
8 sections 42 exercises JavaScript Introduction
100% Complete

Review of Functions in JavaScript
A quick overview of functions, how to define them, and how variable scope affects when and where variables can be accessed within functions.
3 sections 8 exercises JavaScript Functions
100% Complete

Hello, New York
A quick taste of programming suitable for even the busiest of New York schedules. (Apply what you learned in the Functions in Javascript course)
5 exercises JavaScript Functions
100% Complete

Starting a Startup
Like all businesses, our startup has to worry about costs. So let's calculate some costs! This course is a level 1 application of what you learned in: Functions in Javascript.
7 exercises JavaScript Conditionals
100% Complete

Introduction to Objects I



Summary - gamification

- Use UI elements to trigger human primary rewards
- Associate reward-satisfaction with business requirements
- Most useful in situations where true value to the user is long-term
 - Exercise
 - Learning something complicated
 - Gamification provides short-term surrogate rewards to keep them motivated
- Frequently abusive and addictive
 - Always ask, who benefits from this?

Focused at the top of the needs pyramid

