WOULD THE REAL MARY POPPINS PLEASE STAND UP?

APPROACHES AND METHOD IN GAMIFICATION

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INTRODUCTION
WE ARE ALL
GAME DESIGNERS
OLD IDEA: LEARN ENJOYMENT DESIGN FROM GAMES

RECENT SURGE OF INTEREST
GAMIFICATION
The use of game design elements in non-game contexts

Deterding et al. 2011
I have completed 11 runs for a total of 22.21 mi. My average pace is 10'13" per mi.
Your regional rank for Dec/2010 (as of December 16, 2010)

Your Score
Ranked 3
Average Energy Economy: 4 miles/kWh

Champion's Score
Average Energy Economy: 4.8 miles/kWh

SUSTAINABILITY
Nice work!

You're proficient in this topic. Choose a new exercise to earn more points, or you can do more problems to increase your streak.

9 + 9 = ?

Answer: 18
The Pursuit of Happiness
THE UNWITTING FIGURE HEARD
Two conflicting theories of fun
<2>
WHAT IS FUN?
(BABY DON’T HURT ME)
(a)
“JUST A SPOONFUL OF SUGAR HELPS THE MEDICINE GO DOWN”

AKA FUN AS ADDITIVE SUBSTANCE
SOME THINGS ARE inherently FUN
AND SOME THINGS ARE NOT
SO: ADD FUNSTUFF™ TO NONFUNSTUFF™ FOR MORE FUN
AKA 1990’S EDUTAINMENT
the passion (s.)

d i f

di---L---e-s-----

English
die Lei

Word Invader

= 2

15 43
USA: Defense

Checking account overdraft protection:

- Covers transactions when your account has insufficient funds
- Can be tied to your savings account
- Generally has a fee for the service
- All of the above
A resounding failure...
GAMIFICATION

The use of game design elements in non-game contexts

… WHICH DOESN’T BODE WELL FOR THIS

Deterding et al. 2011
“IN EVERY JOB THAT MUST BE DONE, THERE IS AN ELEMENT OF FUN”

AKA FUN AS EMERGENT SYSTEMIC QUALITY
KLAAR OM TE BEGINNEN?

- Kijk naar rechts en sluit een oog
- Eet met je menseneter zoveel mogelijk hoofden van voetgangers
- Speel tijd tussen twee haltes
- Niet genoeg mensen gegeten?

Begin bij de volgende halte opnieuw

level 1: 3 mensen
level 2: 8 mensen
level 3: 12 mensen
level 4: uitstappen!
Every activity can become fun, interesting.
EXPERIENCE IS A DYNAMIC, EMERGENT QUALITY
MECHANICS → DYNAMICS → AESTHETICS
MECHANICS

+$ \leftrightarrow +

-$ \leftrightarrow -

DYNAMICS

Slow poverty gap

AESTHETICS

Frustrating end game

Hunicke, LeBlanc & Zubek 2004
SO how DO YOU design THAT?*

* obligatory visualisation of ephemeral design work with people pointing at post-its

Deterding et al. 2013
GAMEFUL DESIGN METHODS
Lots of Industry Work, Little Research

Deterding et al. 2013
If you want to know more

- Conceptual development of requirements from literature
- Review of existing methods against requirements
- Iterative design-based development and evaluation of method through 19 projects & workshops with teams of 2-6 (n=335)

The Lens of Intrinsic Skill Atoms: A Method for Gameful Design

Sebastian Deterding
Northeastern University

The idea that game design can inspire the design of motivating, enjoyable interactive systems has a long history in human-computer interaction. It currently experiences a renaissance as gameful design, often implemented through gamification, the use of game design elements in non-game contexts. Yet there is little research-based guidance on designing gameful systems. This article therefore reviews existing methods and identifies challenges and requirements for gameful design. It introduces a gameful design method that uses skill atoms and design lenses to identify challenges inherent in a user's goal pursuit and restructure them to afford gameplay-characteristic motivating, enjoyable experiences. Two case studies illustrate the method. The article closes by outlining how gameful design might inform experience-driven design more generally.
GUIDING QUESTIONS

1. What are the enjoyable, motivating experiences characteristic for gameplay?
2. What game structures and processes afford these experiences?
3. How does game design create these structures and processes?
4. How can we integrate this into design methods for non-game systems?
»Fun is just another word for learning.«

RAPH KOSTER
A THEORY OF FUN FOR GAME DESIGN (2004)
»Fun from games arises out of mastery. It arises out of comprehension. It is the act of solving puzzles that makes games fun.«

RAPH KOSTER
A THEORY OF FUN FOR GAME DESIGN (2004)
»An understanding of human motivation requires a consideration of innate psychological needs for competence, autonomy, and relatedness.«

EDWARD DECI, RICHARD RYAN
THE WHAT AND WHY OF GOAL PURSUIT (2000)
CHIEF SOURCE OF GAME ENJOYMENT: OVERCOMING CHALLENGES

Faktor Null

N²(4,241,0)

NOT FUN

FUN
»Fun is just another word for learning.«

through interesting challenges

RAPH KOSTER

A THEORY OF FUN FOR GAME DESIGN (2004)
GOALS ...
CONSTRAINING ACTIONS ...
interesting challenges
+ FEEDBACK ...
= EXPERIENCES OF COMPETENCE
FORMAL STRUCTURE OF GAMES: SKILL ATOMS/LOOPS

Cook 2007, cf. Dormans 2012
MECHANICS → DYNAMICS → AESTHETICS

HOW THE USER EXPERIENCES IT

Hunicke, LeBlanc & Zubek 2004
HOW THE DESIGNER CREATES IT

MECHANICS → DYNAMICS → AESTHETICS

Hunicke, LeBlanc & Zubek 2004
»The life blood of game design is testing. ... Why are we playing games? Because it’s fun. You cannot calculate this. You cannot test this out in an abstract manner. You have to play it.«

RAINER KNIZIA
SHIFT RUN STOP, EPISODE 40 (2010)
ITERATIVE EXPERIENTIAL PROTOTYPING & TESTING
CENTRAL GOAL CONFLICT OF APPLIED GAME DESIGN
Rescue Princess 2.0

Press the button to rescue the princess.
How do we make one support the other?
INTRINSIC INTEGRATION: CORE CHALLENGE = TO BE LEARNED SKILL

WHAT ABOUT REAL-WORLD OUTPUT, NOT LEARNING?
»Tacking on ad hoc complications will not evoke fun.«
For ticket, drag red dot through labyrinth
»Mowing the lawn or waiting in a dentist’s office can become enjoyable provided one restructures the activity by providing goals, rules, and the other elements of enjoyment to be reviewed below.«

MIHALY CSIKSZENTMIHALYI
FLOW (1990: 51)
CREATE FIND AND RESTRUCTURE ALREADY-INHERENT CHALLENGE

RULES
1. Players have equal piles of cards face up.
2. Player's play upper most pile card in chain.
3. Next player challenges a play card.
4. Challenge flips card order. Correct: last player

Correct: last player

Correct: last player

Correct: last player

Correct: last player

Correct: last player

Correct: last player
Today’s math curriculum is teaching students to expect — and excel at — paint-by-numbers classwork, robbing kids of a skill more important than solving problems: formulating them. In his talk, Dan Meyer shows classroom-tested math exercises that prompt students to stop and think. (Filmed at TEDxNYED.)
10. A king-size waterbed mattress measures 5.5 feet by 6.5 feet by 8 inches deep. To the nearest pound, how much does the water in this waterbed weigh?

11. A water tank is in the form of a regular octagonal prism. The base octagon has side length 11.9 cm. The lateral edge of the water tank is 36 cm.
   a) What is the surface area of the base?
   b) What is the volume of the water tank?
   c) If you pour water into the tank at a rate of 1.8 oz/sec., how long will it take you to fill the tank?

12. Madeleine’s hot tub has the shape of a regular hexagonal prism. The chart on the hot-tub heater tells how long it takes to warm different amounts of water by 10°F. Help Madeleine determine how long it will take to raise the water temperature from 93°F to 103°F.

13. A standard juice box holds 8 fluid ounces. A fluid ounce of liquid occupies 1.8 in³. Design a cylindrical can that will hold about the same volume as one juice box. What are some possible dimensions of the can?
how long will it take you to fill the tank?
NEEDS FORMATIVE RESEARCH TO ELICIT CHALLENGES
<4>
SUMMARY
GAMIFICATION

The use of game design elements in non-game contexts

TO DESIGN FOR GAMEFUL EXPERIENCES ...
DON'T SUGARCOAT NONFUNSTUFF™
how long will it take you to fill the tank?

FIND AN INTERESTING CHALLENGE
Rules

1. Players have equal piles of cards face up.

2. Players play upper most pilecard in chain.

3. Next player challenges or plays card.

4. Challenge - flips card over. If correct, last player takes pile.
   Incorrect - original player takes pile.

Structure it well.
AND PLAYTEST AND ITERATE ’TIL YOU GET IT RIGHT
THANK YOU

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