

Compulsion Loops & Dopamine in Games and Gamification

Sebastien Samson
sebsamson.com

Gamification

What is Gamification really about?

~~Rewards~~

You might think Gamification is about Rewards but it's not

Dopamine

Gamification and Games as well are about Dopamine (everything in this talk applies both to video game design and gamification)

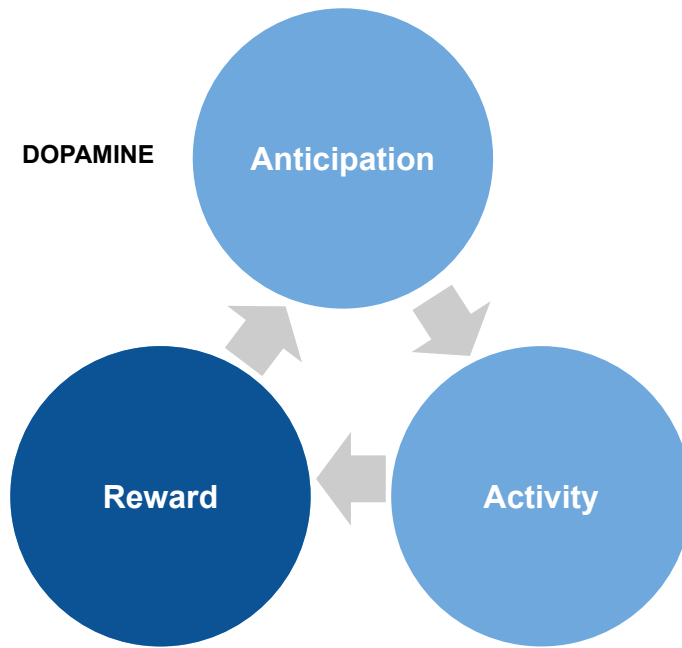
Dopamine is a drug made by your brain

Makes you do stuff seeking rewarding outcomes

Responsible for addiction but also for seeking food, shelter etc.

Compulsion Loops

To explain how to use dopamine in gamification i'm going to use Compulsion Loops



Compulsion Loops come from Behavioral Theory and are use in Game Design since about ten years

They explain how Dopamine is produced and drives people to perform certain activities for rewarding outcomes

But to explain how dopamine is created

Ill have to start from the end and start by the end with rewards, then go all the way through Activities to get to Anticipation and Dopamine

Rewards?

A lot could be said about rewards

There are a lot of researches

Too much for this talk

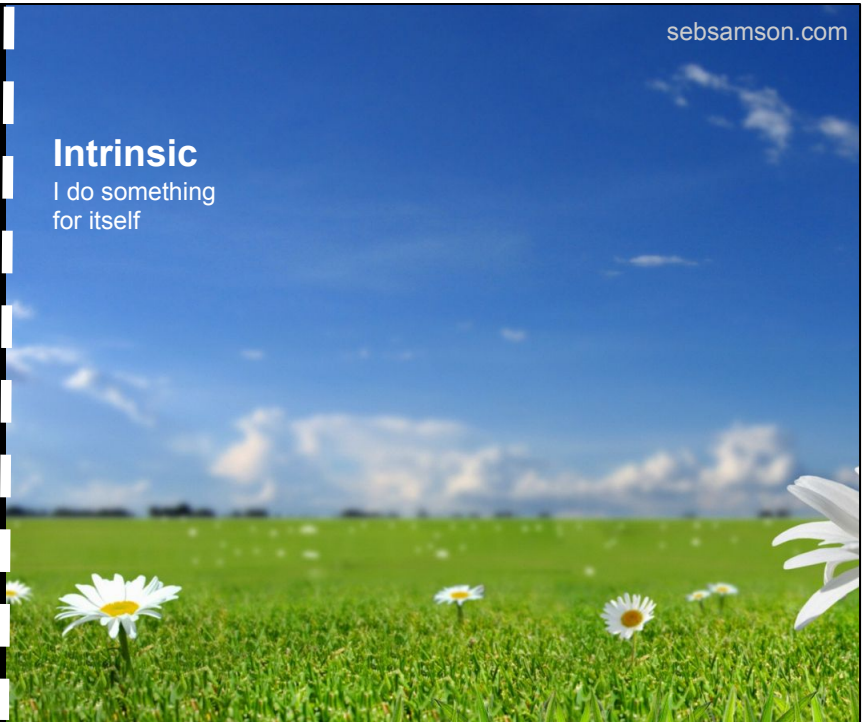
For the sake of simplification, in the context of compulsion loops lets divide rewards into two categories

Extrinsic

I do something for something else

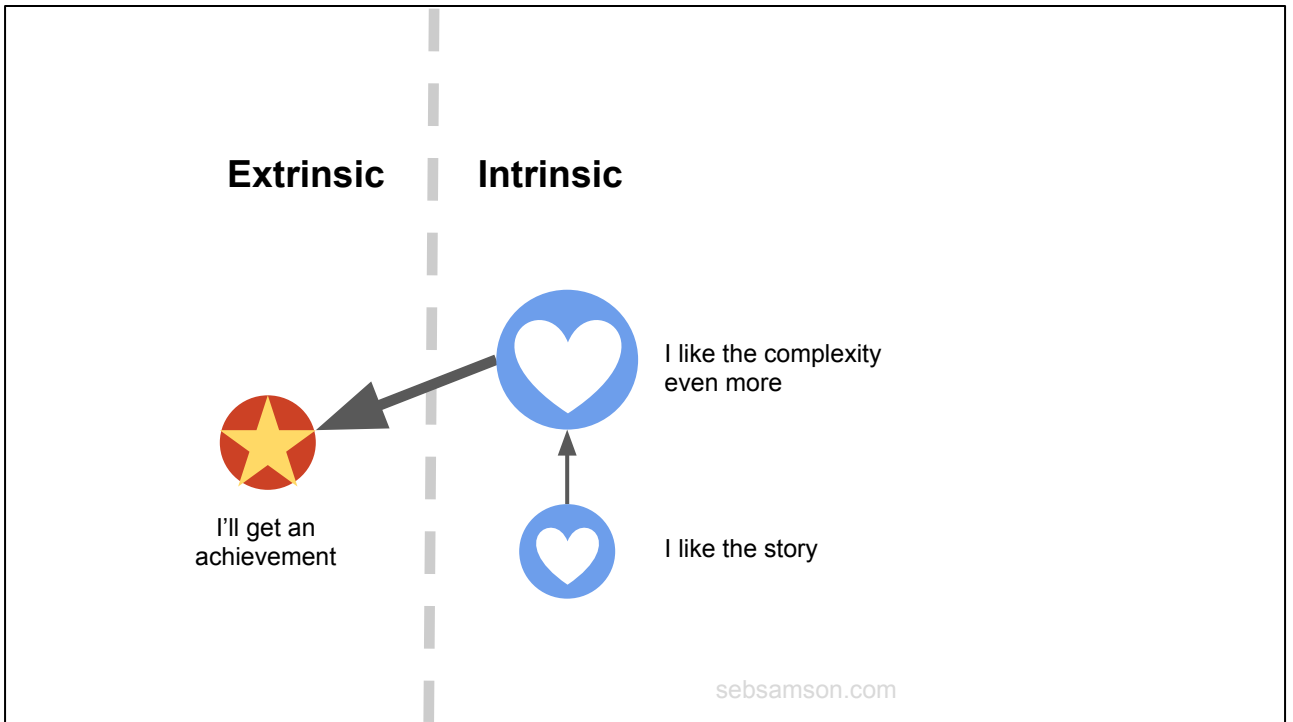
Intrinsic

I do something for itself



when you do something for something else, the something else is an Extrinsic reward to the activity

When you do something for it's own sake the activity is its' own intrinsic reward



Say I play a game because I like following the story
Then I discover I love the mechanics even more
My motivation shift from story to mechanic. Both are intrinsically rewarding activities
Now say the designer put in achievements for performing the mechanics
I start doing the mechanics to get the achievements. This is called the
“Overcompensation” phenomenon
I am being rewarded extrinsically to do something I was doing for it’s own sake
If the achievements stop I will probably stop playing even though before I was doing it
for it’s own sake

Interesting Tasks?



Intrinsic
Reward!!

EX: Creating something out of LEGO

Uninteresting tasks?



Extrinsic
Reward

EX: cleaning my room

1. I clean else I'll get punished
2. I clean because I don't want to disappoint mom
3. I clean because I like it clean. (more internal but extrinsic to the activity)

This is usually as far as "Internalization" goes unless you are a Kung-fu master of cleaning and love cleaning just for it's own sake in which case it would become an intrinsic motivation to the activity but most people stay at the extrinsic motivation



Activity in gamified apps and games = challenge

Challenge?

$$\text{Challenge} = \frac{\text{Difficulty}}{\text{Skills}}$$

What i'll show you is a little perl I picked up at Ubisoft
Its part of what they call Rational Game Design
Skills are the smallest unit of your game loops

Physical Challenges

- Dexterity
- Precision
- Measurement
- Timing
- Reflexes
- Endurance
- Speed
- ...

Mental Challenges

- Management
- Planning
- Tactics
- Logic
- Memory
- Self-regulation
- ...

Social Challenges

- Cooperation
- Coordination
- Leadership
- Diplomacy
- Subterfuge
- Bonding
- ...

This is a non exclusive list of challenges I use to help me identify the skills in the challenges I design

It's inspired from "Rational Game Design" player skills used by Ubisoft Studio but I expanded it

Everyone must find the skills in their own challenges. They may not be in the list There are usually many skills in a challenge but the difficulty may vary. Know which skills you want your user to focus on and balance the difficulty. Cut the boring ones or compensate with other funnier challenging ones

**Can I get better at it?
Is it fun?**

When designing your challenges ask yourself these 2 questions



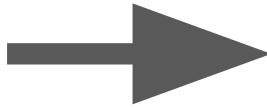
Anticipation?

So what can Anticipation do for us?

CHURN



RETENTION



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Anticipation is important for retention

Retention is when users keep coming back

Without anticipation users have thousands of apps, hundreds of tv shows, chores and work to do, beers to drink with their friends. They will not come back

Churn is when players don't come back

How do we make sure they something to anticipate?

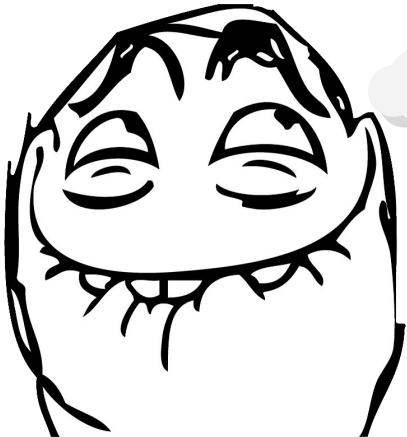


my project

Think of a project

- INTERESTING TO YOU
- YOU CARE FOR IT
- YOU WANT TO MAKE IT PROGRESS
- SOMETHING YOU WANT TO COME BACK TO

DOPAMINE



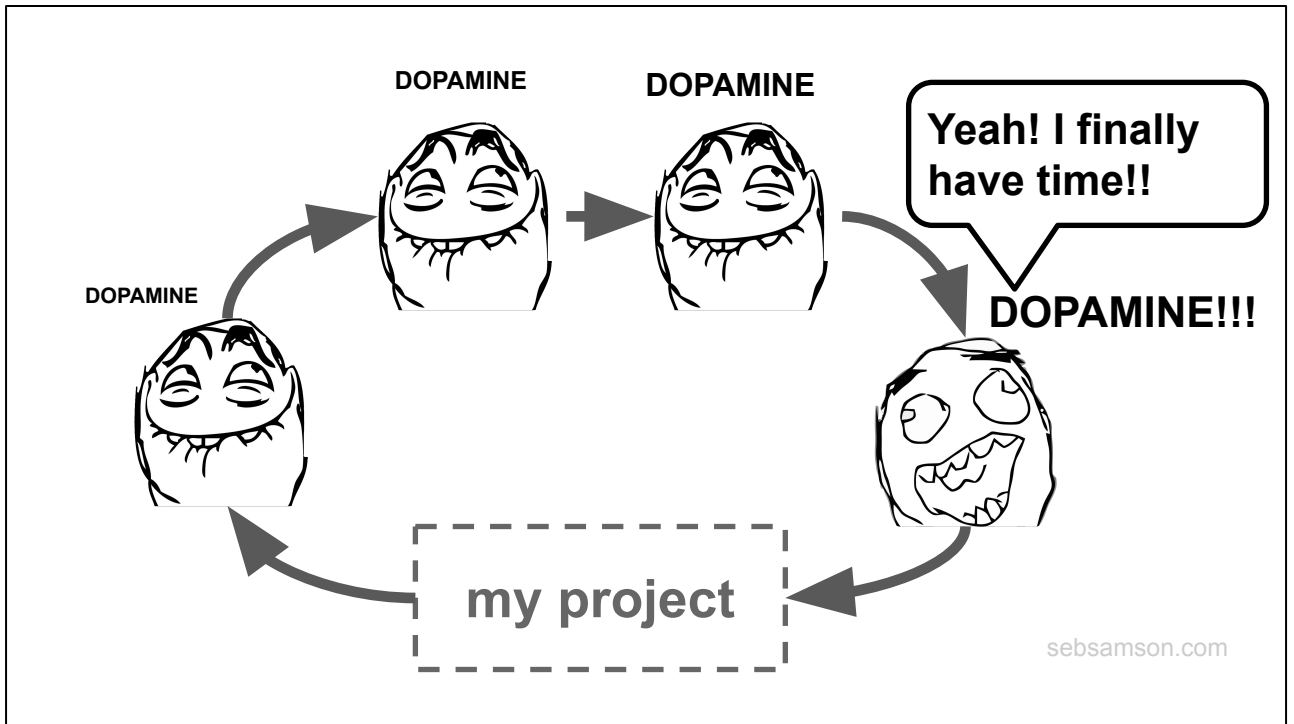
my project

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When you think about returning to that project your brain produces Dopamine

Dopamine = Anticipation

Thinking about meaningful project with motivating challenges will trigger re-engagement because of the dopamine



Looking forward to it is a trigger that produces Dopamine
Time is the ability to do it (Behavior Threshold)
*Time or money or opportunity

**Insert kitten photo
here**

Look these up

Dopamine : Compulsion Loops used in games - John Hopson

Ability, Motivation, Trigger : Behavior Threshold - Fogg Behavior Model

Skills vs Difficulty : Flow - Csikszentmihalyi

Rational Game Design : Player Skills - Ubisoft Studio

Extrinsic vs Intrinsic Motivation : Self-Determination - Deci & Ryan

What makes a project meaningful : Metamotivation - Maslow

Don't make a fuss about achievements : Achievements considered harmful? - Chris Hecker

More on rewards risks : Punished by Rewards - Alfie Kohn

Low-Interest tasks : Cameron

Fun facts as Rewards for boring tasks : Motivated by Meaning - Aubry L. Alvarez, Amy E. Booth