

# SKINNER BOX IN MOBILE GAMING

Dmitrijus Babicius

# Who am I

- Dmitrijus Babicius
- For some reason, studied politics
  - ▣ Bachelor in Political Science
  - ▣ Master in International Politics and Diplomacy
- But mostly works with games
  - ▣ Nordcurrent, NECOLT, Melior Games
  - ▣ AppCampus project
  - ▣ 7 times awarded in various Hackathons
  - ▣ 2 awards in Start Up pitch contests
  - ▣ Member of Lithuanian Association of Game Developers (Management Board)

# Why are mobile games so addictive?

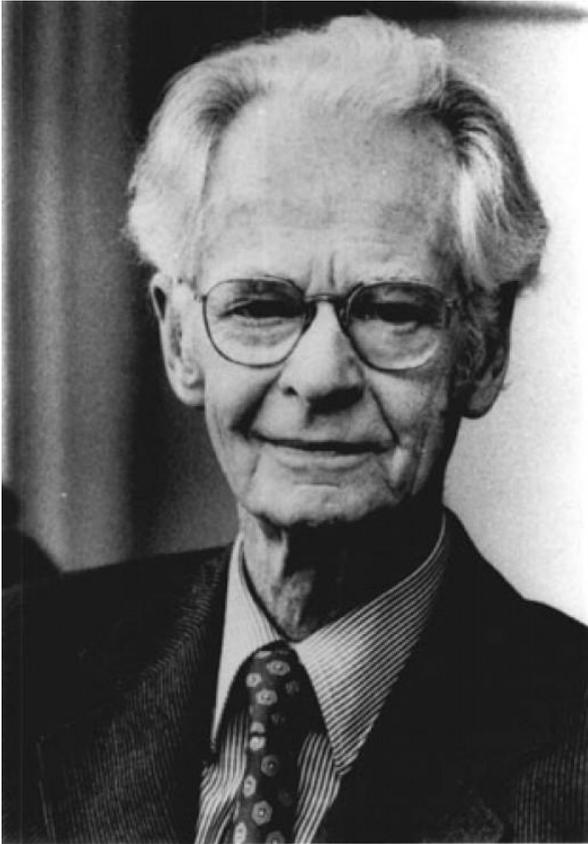


# Ivan Pavlov – Classical Conditioning



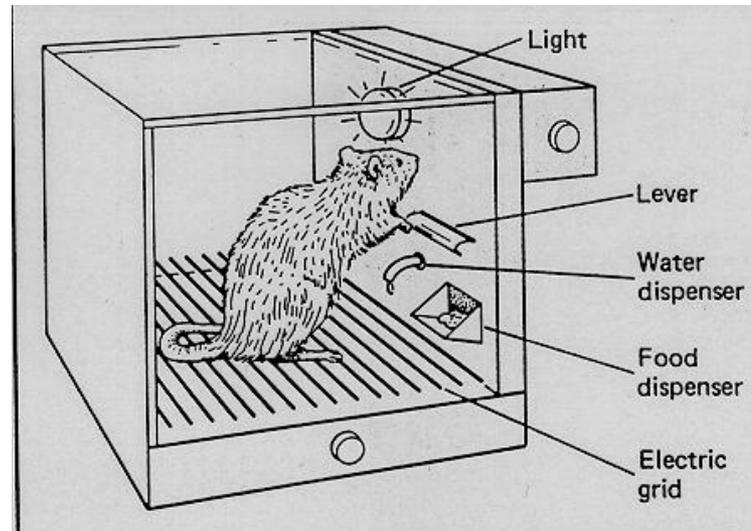
- Founding father – Ivan Pavlov
- A signal before the reflex
- Involuntary behavior

# B.F. Skinner – Operant Conditioning



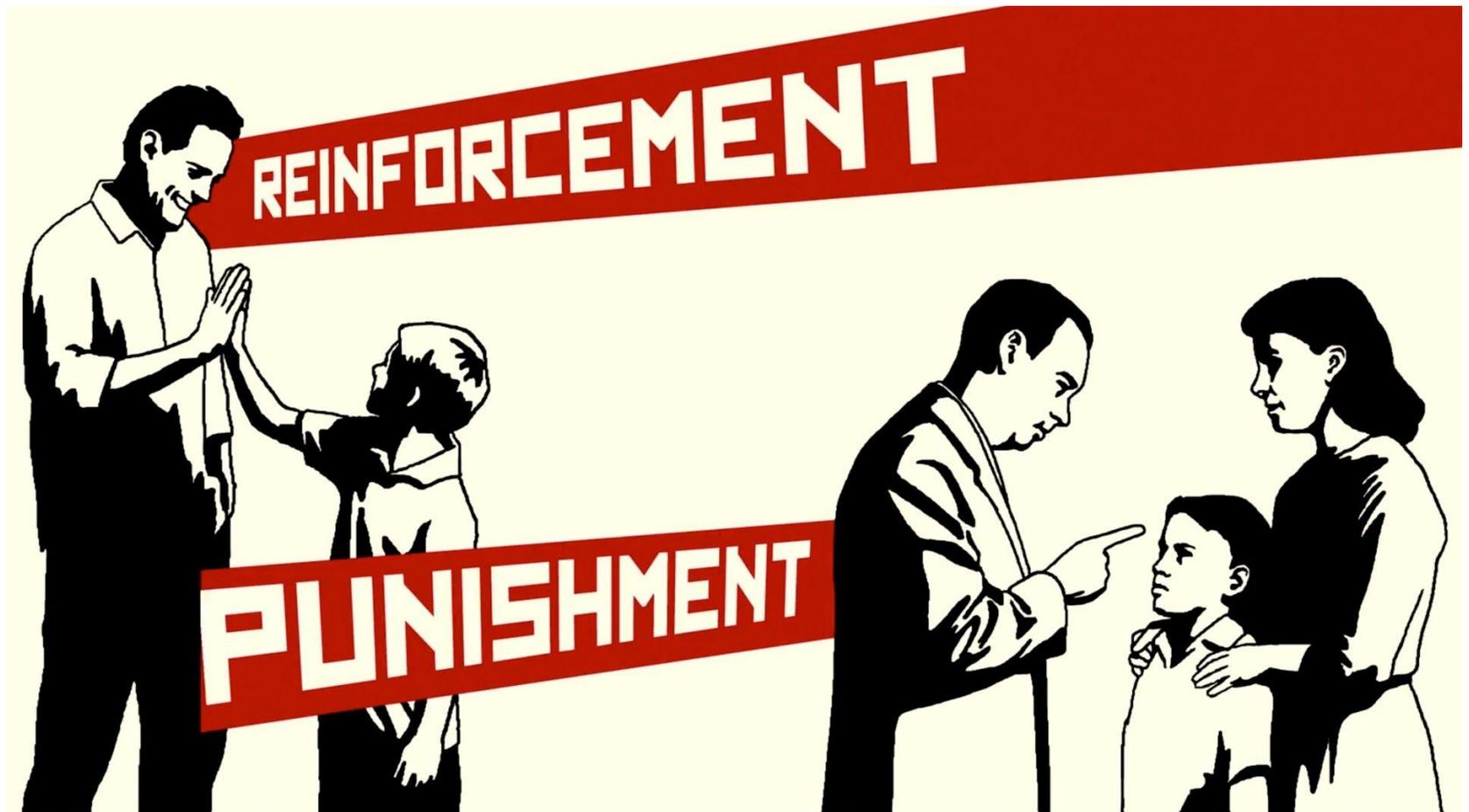
- ❑ Founding father – B.F. Skinner
- ❑ A stimulus as a consequence
- ❑ Triggers voluntary decisions

# Skinner Box



- An apparatus to study animal behavior
- May involve both rewards/reinforcements and punishments

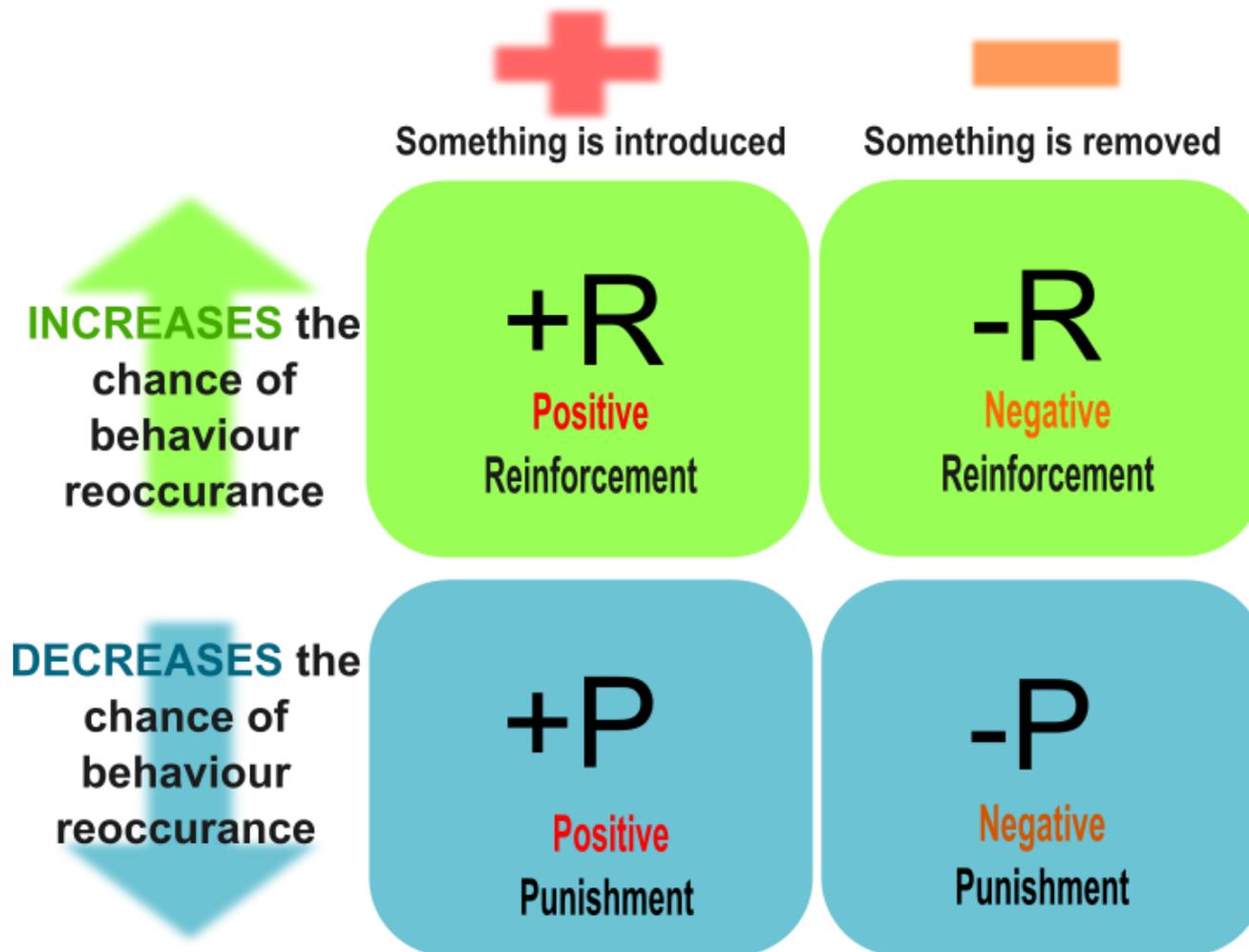
# Reinforcements and Punishments



# Positive and Negative



# 4 Types of Stimuli



# Skinner Boxes in Gaming: Old

- Skill-oriented
  - ▣ The purpose of stimuli is to increase the player's skills/engage them in the narrative or the gameplay
- The game's content as a limited single structure
  - ▣ The game has the beginning, narrative development and conclusion
- Unlimited resources
  - ▣ With sufficient skill, the player can easily access all the features of the game relatively fast

# Classic Doom



# Skinner Boxes in Gaming: New

- System-oriented
  - ▣ The purpose of stimuli is to engage the player in the game's core loop and to guide them to IAP
- The game's content is unlimited
  - ▣ The content is regularly updated and the structure of the game strives to be endless
- Limited resources
  - ▣ Even a skilled player can hardly access all the resources fast; they may acquire them by paying real money though

# Panda Pop



# Skinner Trick 1: Variable-Ratio Schedule

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- Reinforcements introduced at random intervals after an unpredictable number of actions result in a high response rate and only brief intervals after the reinforcements.

# Pokemon GO



# Skinner Trick 2: Interval Awards

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- Reinforcements introduced at increasing intervals are a relatively safe way of leaving the subject addictive to responses with gradually reducing their consumption of resources.

# Clash of Clans



# Skinner Trick 3: Psychological Disassociation

- The more semantic layers are put between a morally questionable or unpleasant action and its reinforcement, the more the subject is likely to provide that action.

# Candy Crush



# Skinner Trick 4: Action Restriction

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- Temporarily restricting the subject's access to the reinforcement-action cycle tends to result in higher retention of the subject.

# Candy Crush... again



# Skinner Trick 5: Illusion of Growth

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- Raising the value of reinforcements steadily makes the subject less dissatisfied with the apparent misbalance of the system.

# Executioner



The screenshot shows a character in a black and white striped prison uniform in a forest setting. The character is holding a large blue sign that says "MENU". The background is a yellowish, hazy forest. The interface displays several floating numbers and icons:

- +67
- 4136375
- +67 PER SECOND
- +67 CRITICAL!
- +403
- +67

**POLICY**

| GUARD TOWERS                   | ULTRAMAX                        | FISSION PROPULSION              |
|--------------------------------|---------------------------------|---------------------------------|
| Bulags are twice as efficient. | Prisons are twice as efficient. | +1500 execution per Black Hole. |
| 2,000,000                      | 2,500,000                       | 8,000,000                       |

**EXECUTORS**

| EXECUTIONERS | PRISONS | FIRING SQUADS |
|--------------|---------|---------------|
| 74           | 45      |               |
| 84,684       | 18,348  | 18,700        |

# Skinner Trick 6: The Great Snap

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- Making the subject addicted to responding and then gradually restricting the reinforcements is likely to push the subject into a situation where they are willing to commit less satisfying actions for more frequent reinforcements.

# The Current Fall of Skinner Box?

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- Developers tend to rely on the techniques too much
- Monetization too dependent on the whales
- Players are more aware of the techniques now
- More “Skinner” games with engaging and interesting gameplay

Thanks for your attention!

