

# Tooling for Game Art Generation with AI

Business Finland funded project for digitalization of  
the creative industry.



# Project Background

## Why?

- Faster prototyping ⇒ more market testing ⇒ **higher success probability**

## What?

- Tool to prototype **game visuals in minutes**, vs. weeks

## How?

- Integrate **art AI services** into Cosmic Lounge's **Puzzle Engine**



# Cosmic Lounge

- Mobile puzzle games developer
- Founded 2022
- €4.5MEUR VC funding
- €100k Business Finland grants
- 20 employees in Helsinki/Oulu
- In-house AI powered technology



## COSMIC LOUNGE

*Crafting Stellar Puzzle  
Games*

# Cosmic Lounge Founders

Seriously

King

ROVIO

Disney

EA



Playtika

KABAM

DIGITAL CHOCOLATE



ROCKET PACK

INI



COSMIC LOUNGE  
"CRAFTING STELLAR PUZZLE GAMES"

CHIEF EXECUTIVE OFFICER  
**TOMI HUTTULA**

"We're here to put a dent in the game universe."  
STO

COSMIC LOUNGE  
"CRAFTING STELLAR PUZZLE GAMES"

CHIEF TECHNOLOGY OFFICER  
**TOMMI KIVINIEMI**

"I like stuff."  
HEL

COSMIC LOUNGE  
"CRAFTING STELLAR PUZZLE GAMES"

CHIEF OPERATING OFFICER  
**PETER TOKOI**

"Space for growth and creativity"  
HEL

COSMIC LOUNGE  
"CRAFTING STELLAR PUZZLE GAMES"

VICE PRESIDENT OF DESIGN  
**SIMO RAJAMÄKI**

"Work hard, play harder."  
HEL

COSMIC LOUNGE  
"CRAFTING STELLAR PUZZLE GAMES"

LEAD TECHNICAL ARTIST  
**MIKA KARKINEN**

"Soy Garlic Chicken is the foundation of any life form throughout the universe."  
HEL

COSMIC LOUNGE  
"CRAFTING STELLAR PUZZLE GAMES"

PRINCIPAL GAME PROGRAMMER  
**JOHANNES PÄIVINEN**

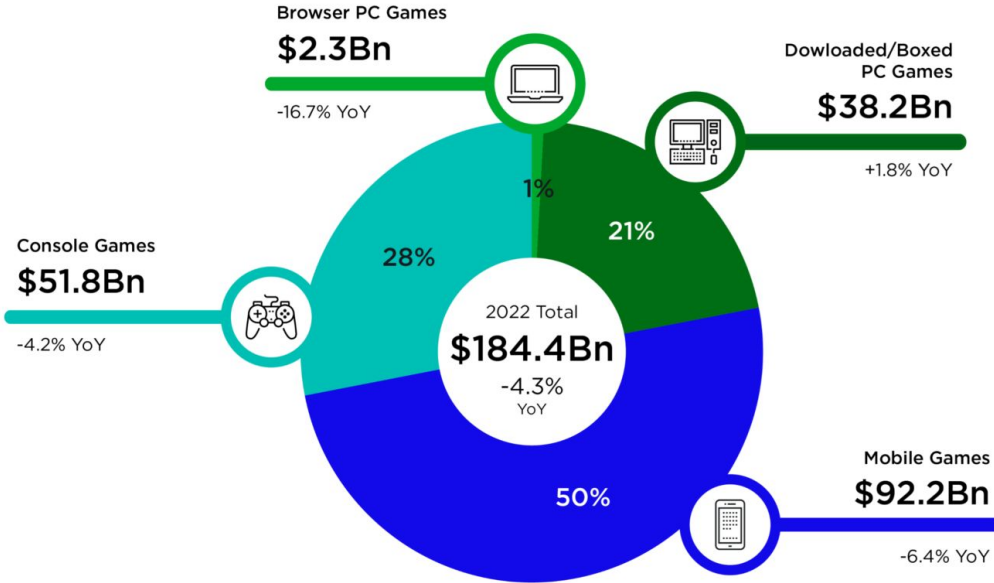
"Don't sweat the petty things. Also don't pet the sweaty things."  
HEL

Average of 10 years in mobile games industry. Worked on several Top 50 games.



# 2022 Global Games Market

Per Segment With Year-on-Year Growth Rates



Mobile Games market  
\$92Bn

≈ Filmed Entertainment market

Source: Statista



# Hit driven business.

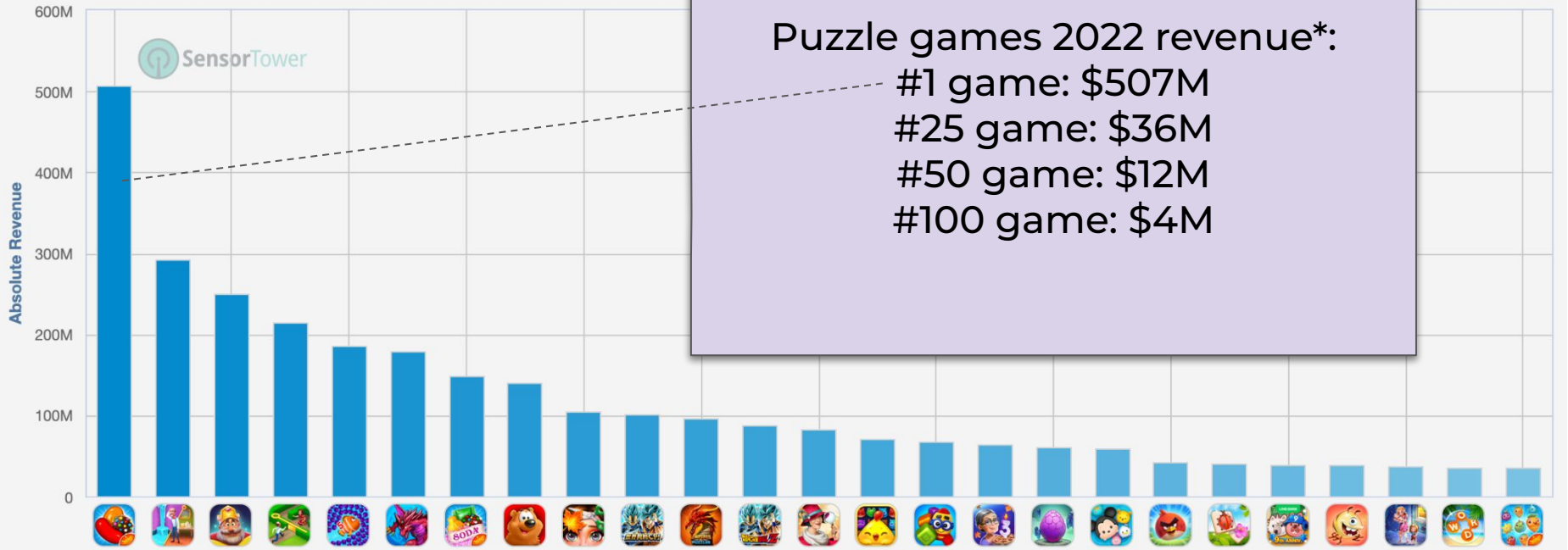
Puzzle games 2022 revenue\*:

#1 game: \$507M

#25 game: \$36M

#50 game: \$12M

#100 game: \$4M



Top Apps by Absolute Net Revenue

App Store - Jan 1, 2022 - Dec 31, 2022 - iPad, iPhone - Games - Puzzle - All Countries

\*IAP only. IAA not included.

Game idea's hit potential can be tested with prototypes, but

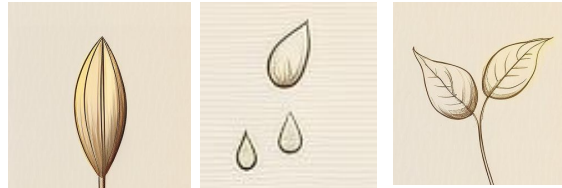
**Building market testable prototypes is slow.**

Just the art creation for a new game idea prototype can take several weeks.



# Example: Prototyping with Puzzle Engine

A Game Designer has a new idea for puzzle game: **Flower Merge!**



SEED + WATER = SPROUT



SPROUT + SUN = FLOWER

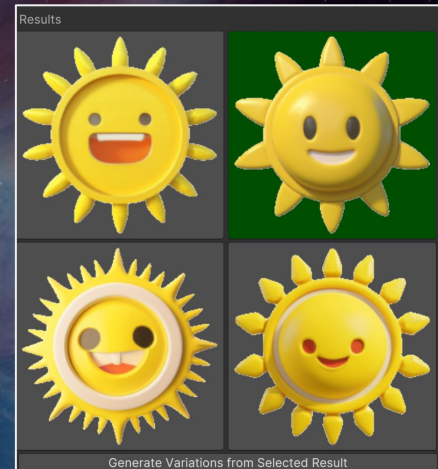
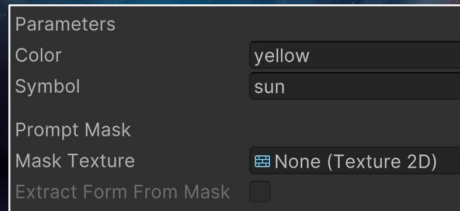
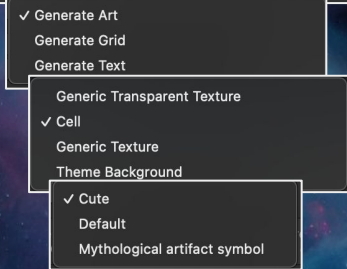
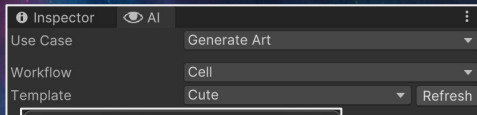


# Puzzle Engine: Embedded AI Art Generation

- Select AI use case (art)
- Select purpose (game cells)
- Select style (cute)

• Describe the object  
("yellow sun")

- Select the art asset  
from different options

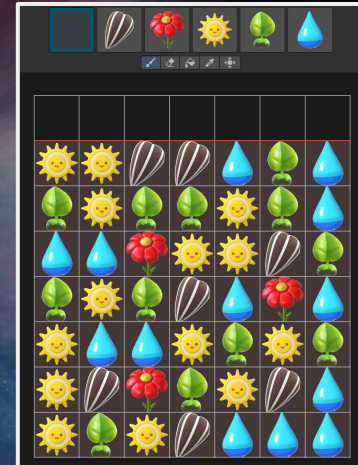
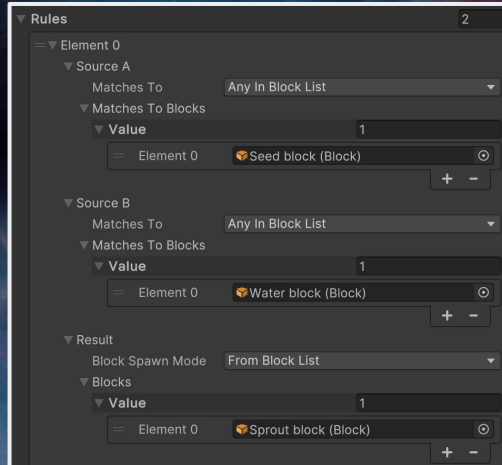


# Puzzle Engine: Embedded AI Art Generation

- Create all art assets

- Configure the game logic

- Configure game levels





# Puzzle Engine: Embedded AI Art Generation

- Play and test the game

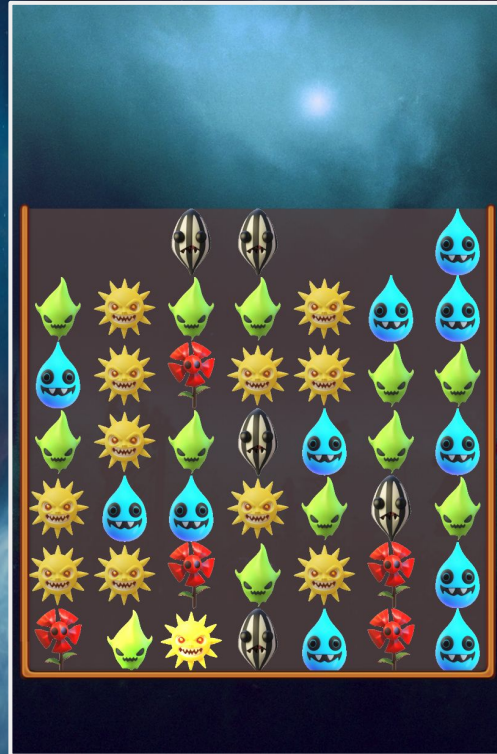
- ... and create more art assets, e.g. for backgrounds.





# Puzzle Engine: Embedded AI Art Generation

- ... or create a Halloween themed version of the prototype in 15 minutes.



# AI at Cosmic Lounge

- Art AI is still just another tool for game development
- We have professional artists, who also leverage art AI services
- We have also other AI based use cases in development
  - AI assisted game design
  - AI assisted game testing
  - AI based game personalization
  - AI based localization



A vibrant, multi-colored nebula in shades of blue, teal, and red, set against a dark starry space background. The nebula's wispy, ethereal structure fills the entire frame.

# Thank You

Come to hear more at RovioCon Google 2023, November 29th.  
Presentation: How Cosmic Lounge is Using AI to Change the Game