

LEGOPIXELART

¹Pietro Gravino,²Cesare Bianchi,¹Bernardo Monechi,³Vito D.P. Servedio,^{2,1}Vittorio Loreto

¹Institute for Scientific Interchange (ISI), Turin, Italy
²Sapienza University of Rome, Physics Dept. , Rome, Italy
³Institute for Complex Systems, Rome, Italy

I define creativity as the process of having original Ideas that have value.

Ken Robinson

The definition of "creativity" is nowadays quite ambiguous. However, one of the most frequently used seems to be the combination of value and originality. Assuming such definition, is it possible to identify a certain element as "creative"? And is it possible to observe the evolution creative artworks and how their competition leads to innovative solutions?

$$\text{CREATIVITY} = \text{ORIGINALITY} + \text{VALUE}$$

We designed an experiment in the form of a pictionary-like guessing game, aiming to observe a community trying to solve a communication problem in an original way. The subject of the data gathering is the absolutely non-trivial dynamics under the search of the balance between the struggle to be original and the need to be understandable. The formation and surpassing of communication standards and conventions will be observed, leading to a new understanding of this kind of phenomena.

LEGOPIXELART is a representation guessing game.

On one hand, you can compose a bi-dimensional drawing using a small set of LEGO bricks to represent a given topic.
On the other hand, you can look at other players creations, trying to guess which concept they wanted to represent.



GUESS

Guess a concept drawn by another player in 30s.

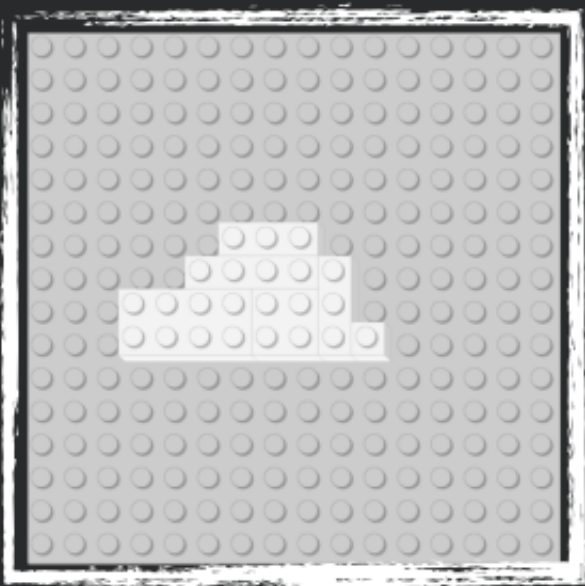


DRAW

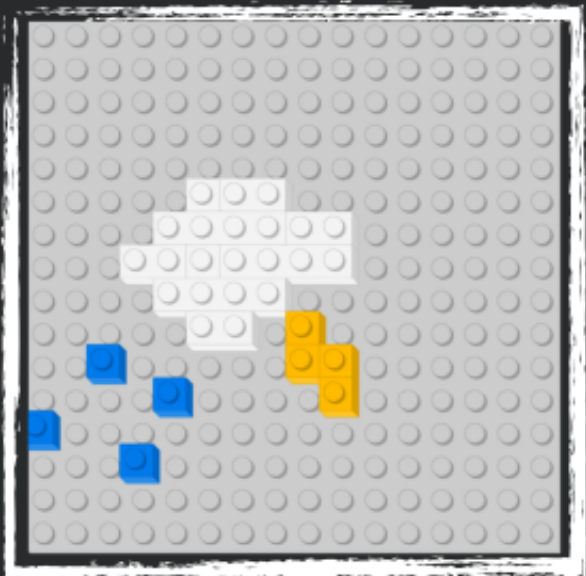
Draw a concept in 5 minutes using a set of bricks

Each Composition and its author earn point according to how many times a composition is guessed, copied, linked, share (VALUE) and according to its ORIGINALITY SCORE.

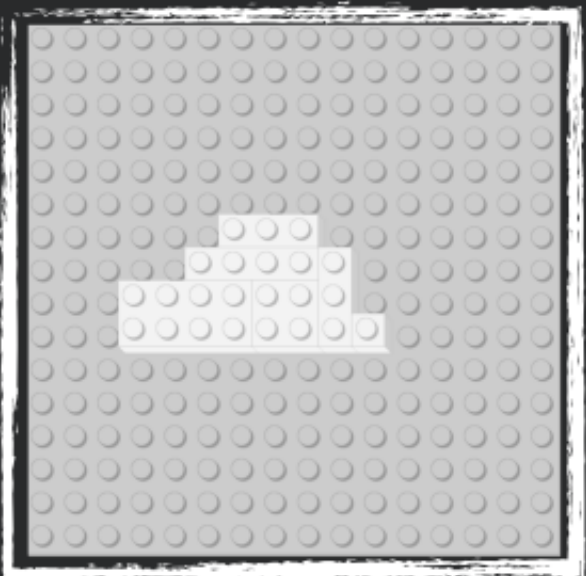
ORIGINALITY



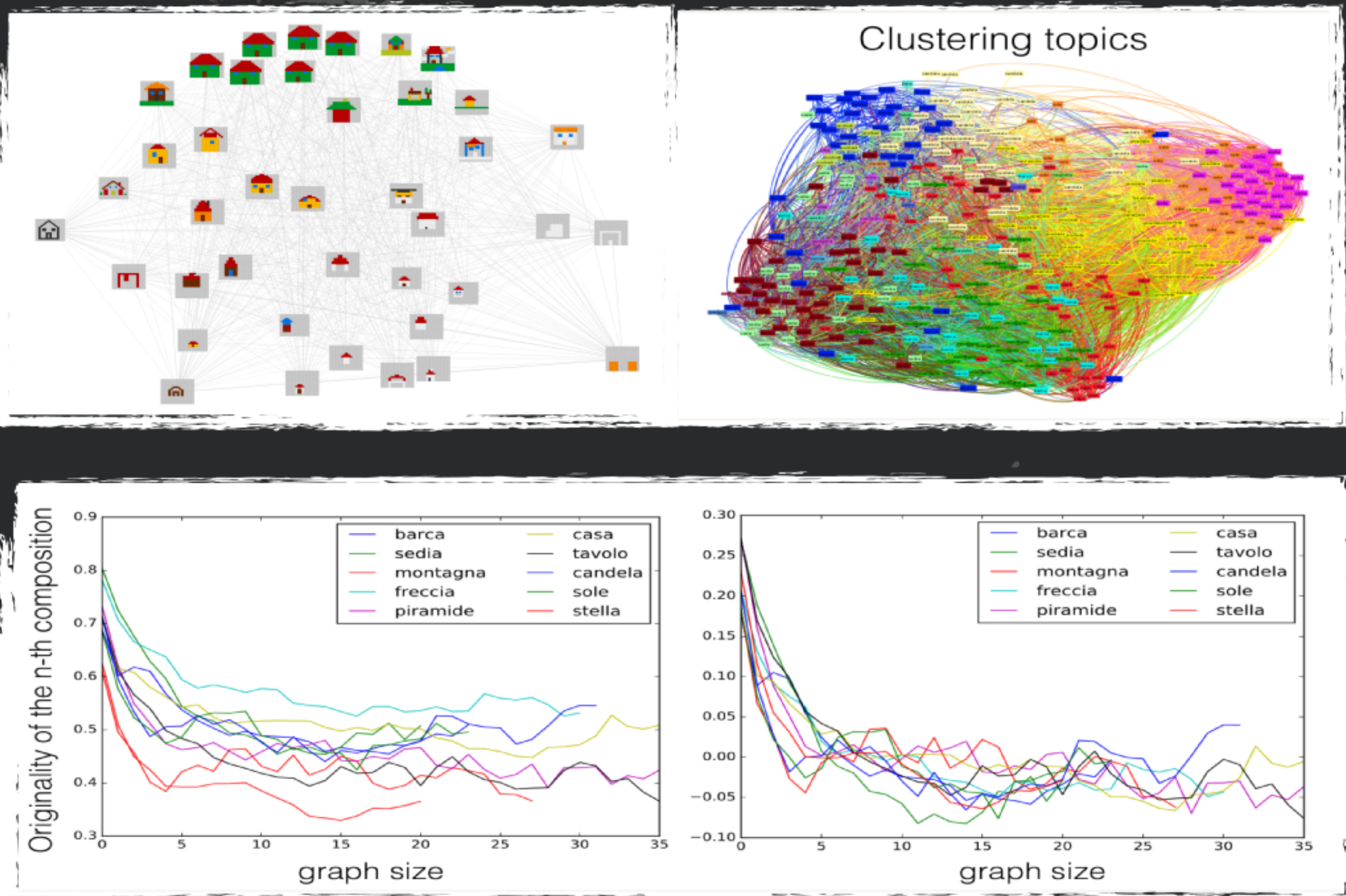
- position
- scale
- orientation
- proportion
- number of bricks
- kind of bricks
- pixel distribution



ORIGINAL



UNORIGINAL



USERS' STRATEGIES

	duration	tot interactions	tot bricks	guess success	originality	avg guess time	avg guess tries	likes	dislikes	tot pixels	points	avg brick pixels
duration	1	0,670**	0,455**	0,076	0,051	-0,021	0,045	0,001	0,04	0,419**	0,079	0,046
tot interactions		1	0,762**	0,191**	0,02	0,003	-0,016	0,219**	0,106	0,586**	0,215**	-0,085
tot bricks			1	0,209**	0,006	-0,033	-0,073	0,225**	0,065	0,794**	0,243**	-0,102
guess success				1	-0,228**	-0,215**	-0,246**	0,384**	0,244**	0,217**	0,373**	0,032
originality					1	-0,015	0,05	0,095	0,048	0,002	0,292**	0,029
avg guess time						1	0,512**	-0,09	0,014	0,002	-0,084	0,049
avg guess tries							1	-0,13	0,089	-0,043	-0,132	0,022
likes								1	0,119*	0,114*	0,622**	-0,140*
dislikes									1	0,059	0,371**	0,882
tot pixels										1	0,143**	0,424**
points											1	-0,083
avg brick pixels												1

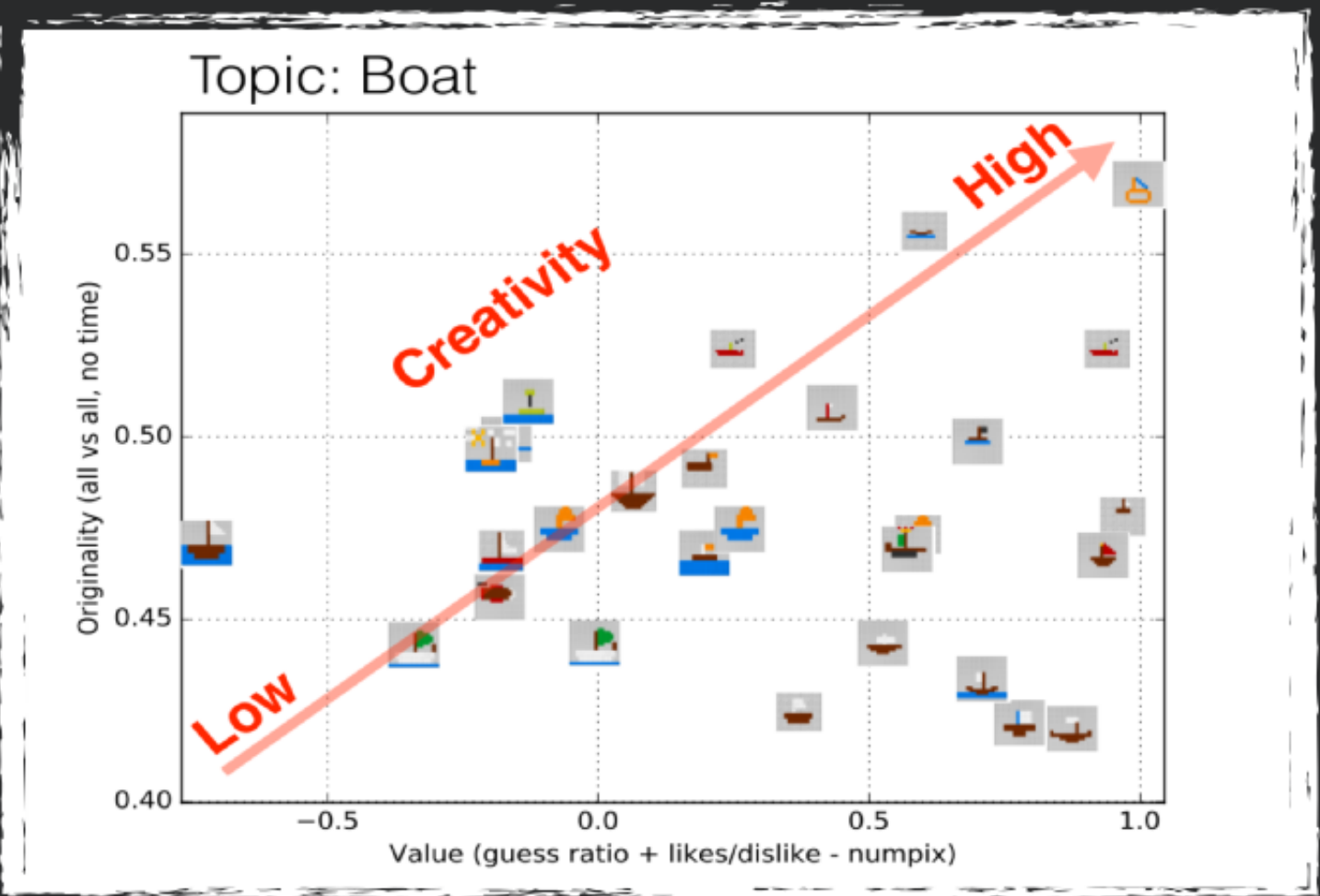
Principal Component Analysis

-Duration
-totInteractions
-totBricks
-GuessSuccess
-totPixels
-Likes
-avgGuessTime
-avgGuessTries
-Originality
-Dislikes
-AvgBricksPixels

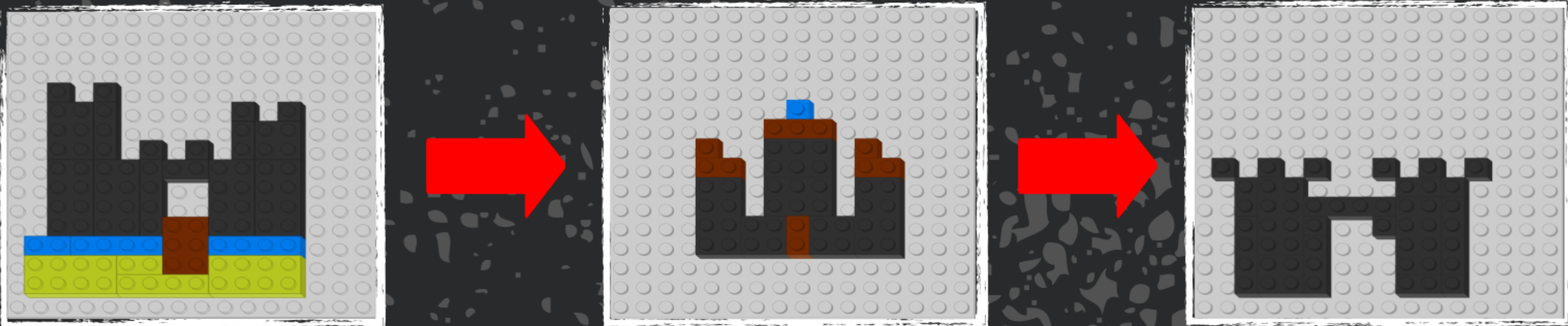
Commitment
(in)Accuracy
(un)Pleasantness

	1. Commitment	2. Accuracy	3. Pleasantness
Duration	0,701	0,120	0,042
TotInteractions	0,887	-0,011	-0,177
TotBricks	0,880	-0,156	-0,111
GuessSuccess	0,162	-0,606	0,160
TotPixels	0,805	-0,187	0,413
Likes	0,226	-0,318	-0,458
AvgGuesstime	0,042	0,759	0,083
AvgGuessTries	0,032	0,806	0,081
Originality	0	-0,011	-0,165
Dislikes	0,020	0,096	0,167
AvgBrickPixels	0,051	-0,068	0,908

CREATIVITY!



Most Creative Element in Time



LINK to PLAY: xtribe.eu/pixelart