

DrawTalking: Building Interactive Worlds by Sketching and Speaking

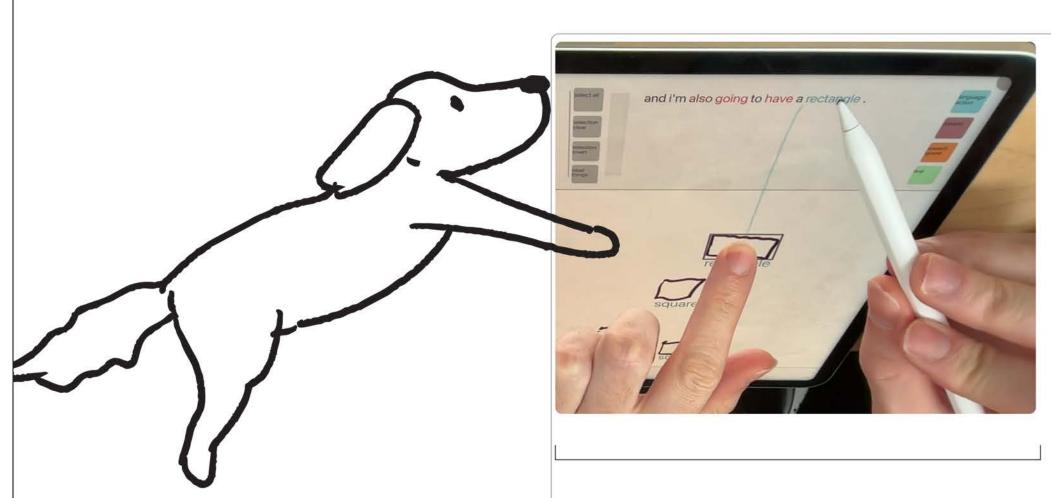
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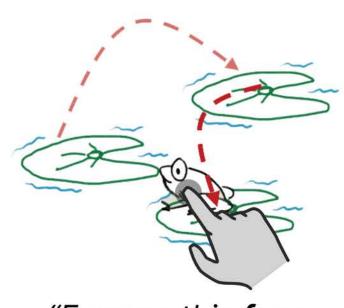
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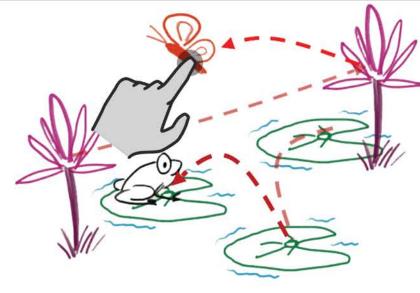




"<u>Forever</u> this **frog** hops to a **lily**."



"The **butterfly** follows the **frog**."



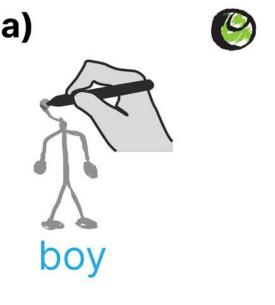
"This **butterfly** is <u>slow</u>."

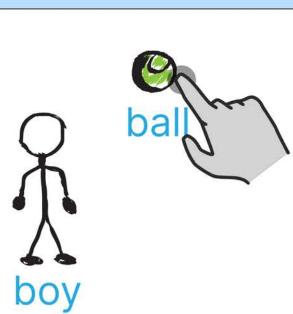


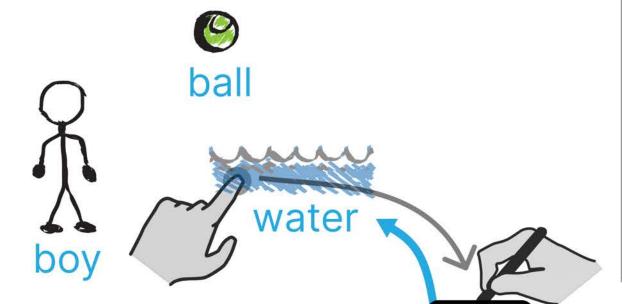


DrawTalking is an interactive approach to world-building that combines freehand-sketching and talking-out-loud.

It enables improvisational creative computation tasks without requiring code, and prioritizes user control and workflow fluidity.

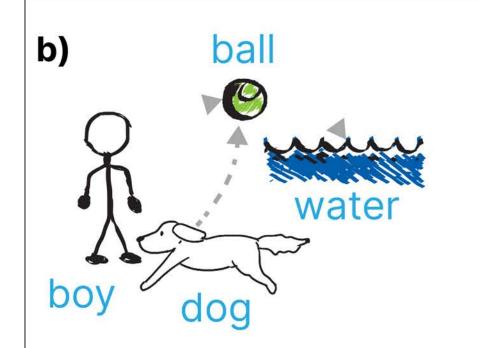


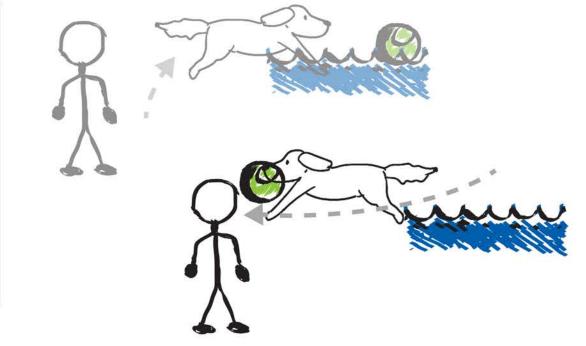






"This is a boy" ... "and this is a ball" ... "and I'm going to draw some water too. Lastly I'm going to draw myself a dog ."





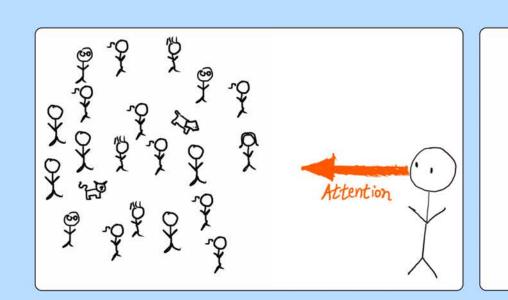
"Over and over the **boy** throws the **ball** into the **water** and then the **dog** gives the **ball** to the **boy**."

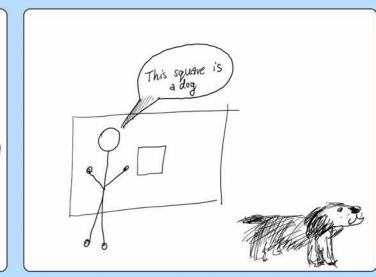


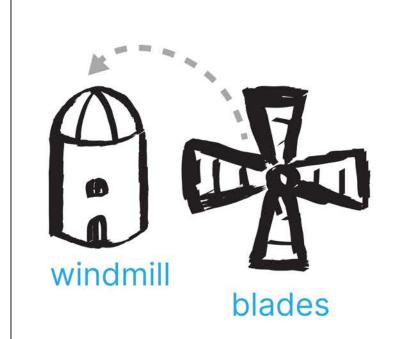
The user selects and moves the boy closer to the water. The movements redirect dynamically.

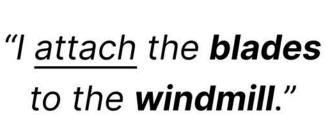
Core Concepts: 1. The user sho

- 1. The user should focus on storytelling and communicating with others, not the machine. The machine should extend natural creativity and capability unobtrusively.
- 2. Sketching + speaking as in explaining at a whiteboard lets you tell stories, control an interface, & build interactive worlds at the same time, with the same natural input!
- 3. Creative control, system transparency



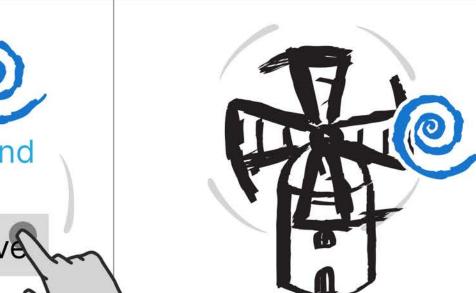






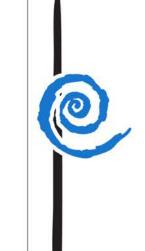


Save wind sketch.



"When wind collides with blades, blades rotate"

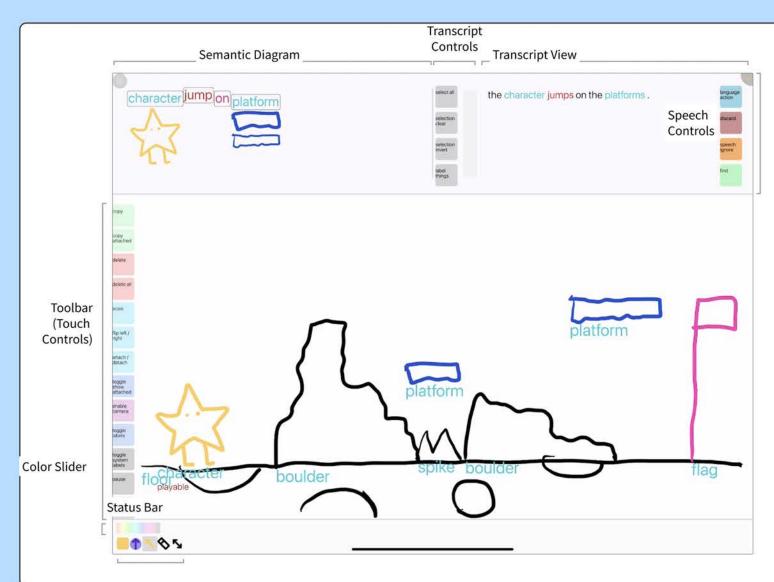
"After wind collides with blades, blades stop rotating.

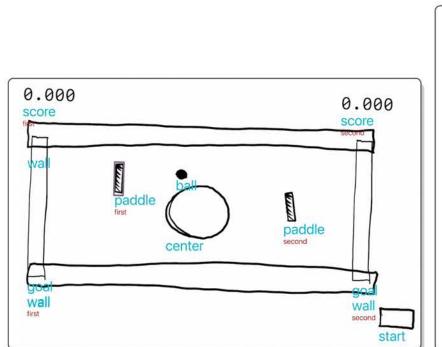


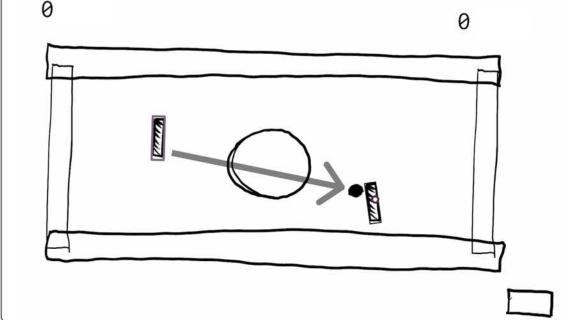




"When I <u>press</u> the **switch** I create **wind** at the **wall**." "After **wind** <u>appears</u>, **wind** moves right."

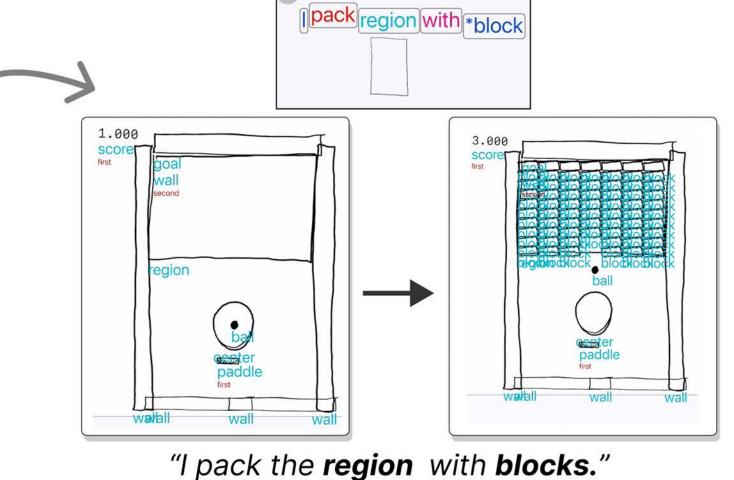




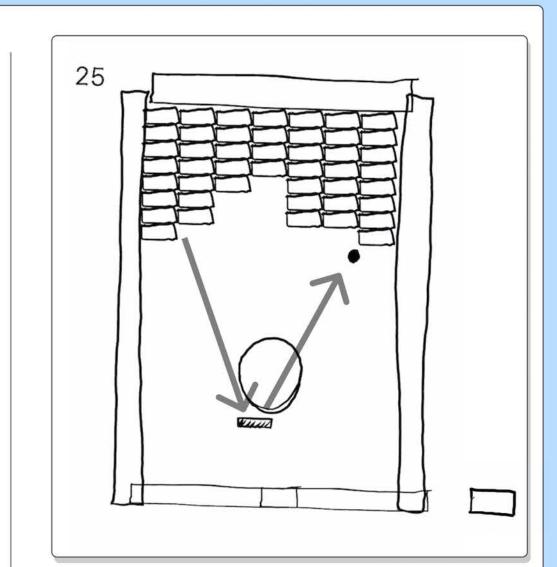


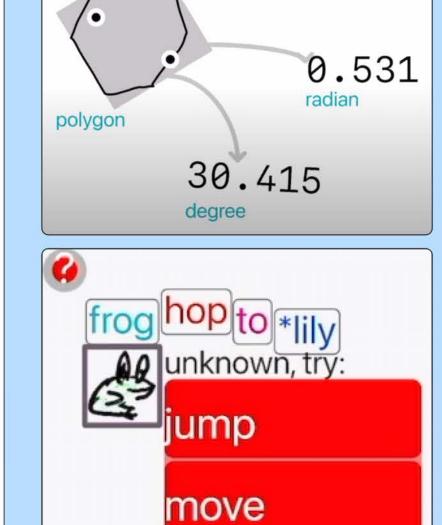
"When balls collide with paddles paddles reflect balls." ...
"When balls collide with first/second goals second/first scores increase"

User initially builds a game of "**Pong**"...
...and then transforms it into "**Breakout**"



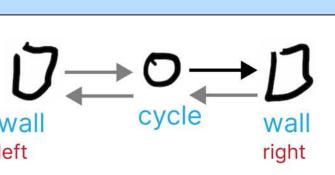
"I <u>pack</u> the **region** with **blocks.**"
"When **balls** <u>collide</u> with **blocks, balls** <u>destroy</u> **blocks**and then the **score** <u>increases</u>."







Save sun, moon, villager, ghost; then delete moon and ghost



(This functions as a "mechanical" timer.)
"Forever the **cycle** <u>moves</u> between the **walls**"
(move the walls to adjust timing)

"When the **cycle** collides with the left **wall**

the **sun** transforms into a **moon**."

"When the **cycle** collides with the right **wall**, the **sun** transforms into a **sun**."

(referring to the existing sun object.)

