

SUPPLEMENTARY MATERIALS

ABSTRACT

This supplementary material contains information on the generated strokes for each sketch, the filenames of the sketch animation GIFs, the prompts used for the sketches, and illustrations of the separation process for individual objects.

1. SKETCH STROKES

The sketches and its strokes are provided in Table 1.

Table 1: Sketch Objects and Number of Strokes

Sketch Objects	Strokes
Airplanes	32
Basketball and Player	16
Bear, Salmon, and Bird	32
Bicycle, Skateboarder, and Streetlight	32
Boat, Dolphin, and Dock	32
Butterfly and Rose	32
Cars	32
Child and Kite	24
Dancers	16
Dog and Ball	32
Dog and Frisbee	16
Drone and Building	32
Fishes	32
Penguins	32
Zebra and Lion	32

2. GIF FILENAMES FOR SKETCH ANIMATIONS

Our GIF animations are available on the IEEE SigPort link. Table 3 maps sketch titles to their corresponding GIF filenames, which contain the generated animations.

3. SKETCH PROMPTS

We present the prompts for each sketch images in Table 4 and Table 5.

4. SKETCH SEPARATION PROCEDURE

We illustrate the sketch separation procedure in Table 6. The first column shows the input sketch, while the second presents pixel segmentation results using the algorithm from [1]. Columns three to five depict the first three refinement steps of our heuristic algorithm. The sixth column provides the final output, generating a convex hull for each object. These convex hulls enable the separation of input sketch strokes into individual sketches, shown in the last three columns of Table 6 and Table 7.

5. STATIC AND DYNAMIC OBJECTS

Objects evaluated using the Optical Flow Score are classified as static or dynamic, depending on their description in the text prompt used for video generation.

Type	Objects
Static Object	"rose", "building", "streetlight", "wooden dock"
Dynamic Object	"basketball player", "bird", "goldfishes", "kite", "salmon", "cars", "frisbee", "puppy", "drone", "skateboarder", "airplanes", "ball", "zebra", "penguins", "bear", "dancers", "lion", "butterfly", "bicycle", "sailboat", "child", "dolphin"

Table 2: Table with Auto Line Breaks

6. REFERENCES

- [1] Ahmed Bourouis, Judith Ellen Fan, and Yulia Gryaditskaya, "Open vocabulary semantic scene sketch understanding," in *Proceedings of the IEEE/CVF International Conference on Computer Vision*, 2024.
- [2] Rinon Gal, Yael Vinker, Yuval Alaluf, Amit H. Bermano, Daniel Cohen-Or, Ariel Shamir, and Gal Chechik, "Breathing life into sketches using text-to-video priors," *arXiv*, 2023.

Table 3: GIF filenames; Baseline vs. Ours

Sketch Objects	Baseline [2]	Ours
Airplanes	airplanes03_32_scaled_EX_base	airplanes03_32_scaled_EX_final
Basketball and Player	basketball03_16_scaled_EX_base	basketball03_16_scaled_EX_final
Bear, Salmon, and Bird	bear_salmon_bird_32_scaled_EX_base	bear_salmon_bird_32_scaled_EX_final
Bicycle, Skateboarder, and Streetlight	bicycle_skateboarder_streetlight22_32_scaled_EX_base	bicycle_skateboarder_streetlight22_32_scaled_EX_final
Boat, Dolphin, and Dock	boat_dolphin_dock03_32_scaled_EX_base	boat_dolphin_dock03_32_scaled_EX_final
Butterfly and Rose	butterfly_and_rose01_32_scaled_EX_base	butterfly_and_rose01_32_scaled_EX_final
Cars	cars02_32_scaled_EX_base	cars02_32_scaled_EX_final
Child and Kite	child_kite_24_scaled_EX_base	child_kite_24_scaled_EX_final
Dancers	dancers3_32_scaled_EX_base	dancers3_32_scaled_EX_final
Dog and Ball	dog_ball02_32_scaled_EX_base	dog_ball02_32_scaled_EX_final
Dog and Frisbee	dog_frisbee_16_scaled_EX_base	dog_frisbee_16_scaled_EX_final
Drone and Building	drone_building_32_scaled_EX_base	drone_building_32_scaled_EX_final
Fishes	fishes_32_scaled_EX_base	fishes_32_scaled_EX_final
Penguins	penguins_32_scaled_EX_base	penguins_32_scaled_EX_final
Zebra and Lion	zebra_lion_32_scaled_EX_base	zebra_lion_32_scaled_EX_final

Table 4: Sketches, and prompts used for the different objects



A basketball player dribbles the ball down low.
The ball is bound from top to bottom and bottom to top.



A bear in a river catches a jumping salmon with dynamic, lifelike movements,
while a bird flies above, creating fluid and natural interactions.



The skateboarder performs jumps and tricks under the streetlight,
while the streetlight stands still, shining its light.
The bicycle glides forward as if sliding effortlessly.



A sailboat glides on the water with its sails full of wind, a dolphin leaps ahead,
and a wooden dock stands in the background, creating a lively ocean scene.



A butterfly flies to a rose,
flaps its wings and flits around, but the rose stays still.



A young child runs forward while flying a kite.
The kite soars above the child's head, following them as they run.



The puppy plays by rolling the ball around.
The ball on the floor moves wherever the puppy nudges it.



The puppy chases after the flying frisbee.
The frisbee is flying low, and the puppy runs quickly toward it.



The building remains stationary,
while the drone moves up and down, flying around the building.



A lion sprints with fierce determination in pursuit of a zebra,
both animals captured mid-motion, emphasizing the intensity and speed of the chase.

Table 5: Sketches, and prompts used for the same objects



Two airplanes move swiftly and steadily through the air.



On a horizontal stretch of road,
two cars are driving toward each other in their respective lanes.



The two dancers are passionately dancing the Cha-Cha,
their bodies moving in sync with the infectious Latin rhythm.



The two goldenfishes are gracefully moving through the water,
its fins and tail fin gently propelling it forward with effortless agility.



Two penguins are shuffling along the ice terrain,
taking deliberate and cautious step with its flippers outstretched to maintain balance.

Table 6: Object Separation Illustration for the different objects


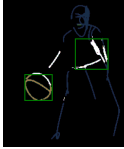
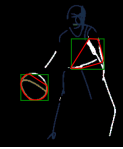
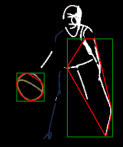
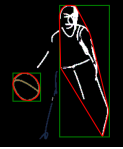






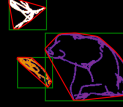






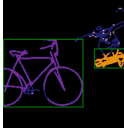
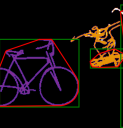
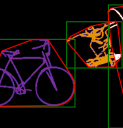
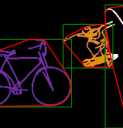
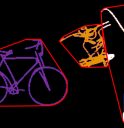






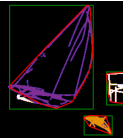








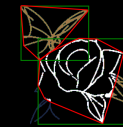





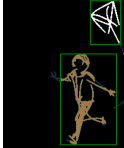
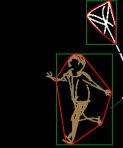

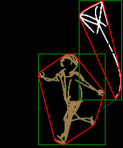





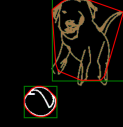
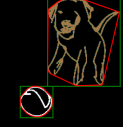
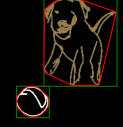
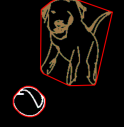




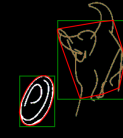
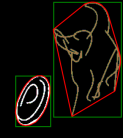
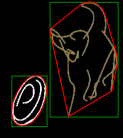
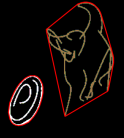




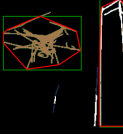

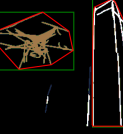





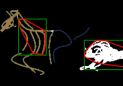
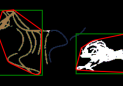
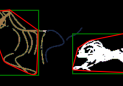



Sketch	Seg. In	Ref. Step1	Ref. Step2	Ref. Step3	Seg. Out	Obj#1	Obj#2	Obj#3
								
								
								
								
								
								
								
								
								
								

Table 7: Object Separation Illustration for the same objects

Sketch	Seg. In	Ref. Step1	Ref. Step2	Ref. Step3	Seg. Out	Obj#1	Obj#2
