

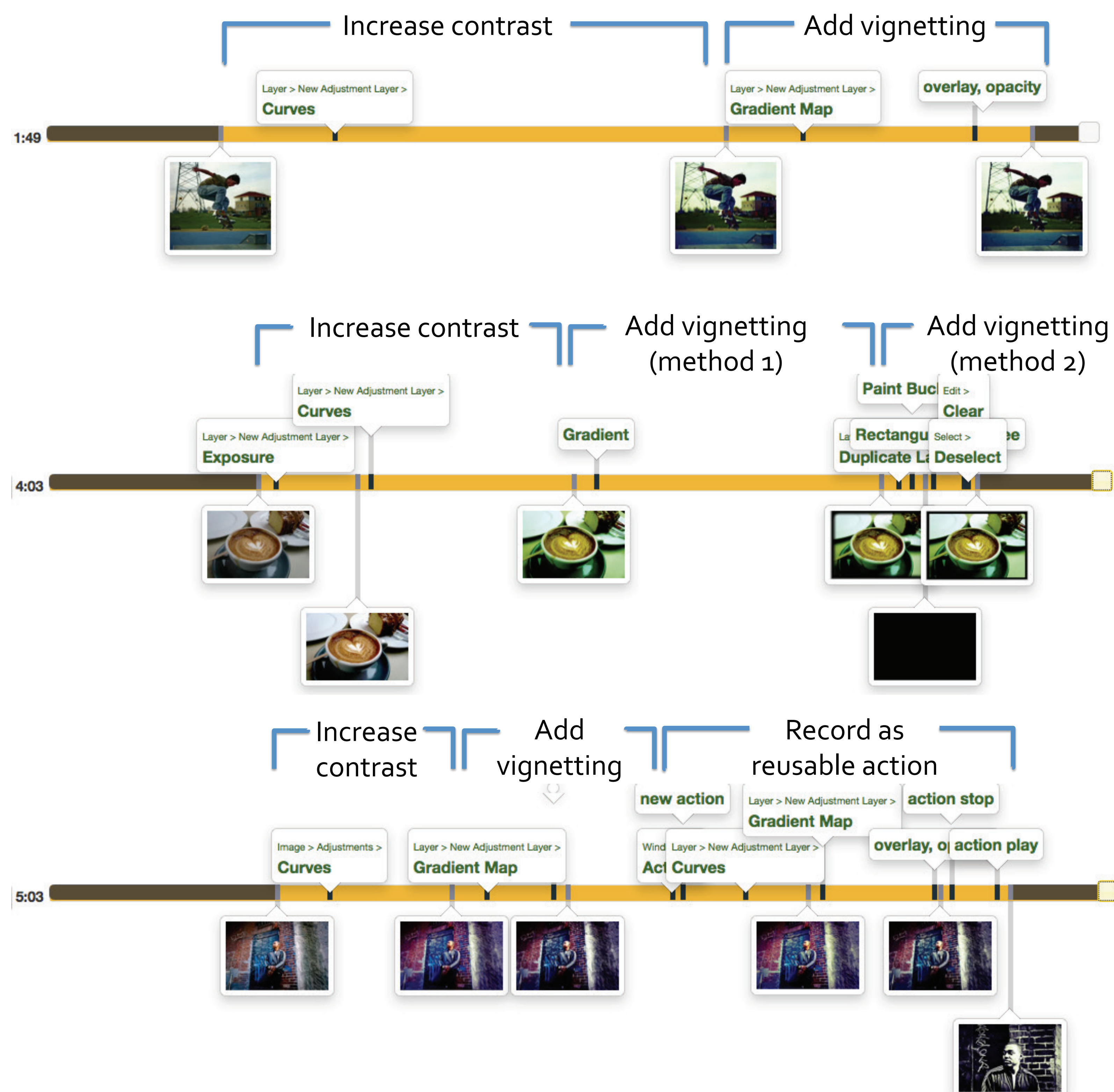
Learnersourcing Subgoal Labeling to Support Learning from How-to Videos

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How can we extract and present high-level goals in video tutorials?

Subgoal labeling* supports learning new knowledge by clustering a group of steps into a higher-level conceptual unit.

* Catrambone, R. The subgoal learning model: Creating better examples so that students can solve novel problems. *Journal of Experimental Psychology: General*, 127, (1998), 355-376.



How can we collect subgoal labels for a large set of online videos?

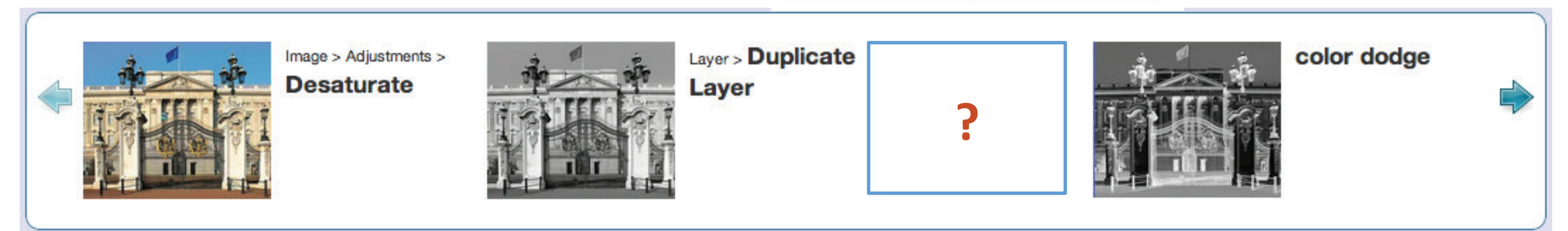
Learnersourcing channels learners' activities while watching a video into useful input to the system.

Collecting learner input by injecting quizzes before / during / after watching a video

Tool Identification

What tool is missing here?

- Invert
- Gaussian Blur



Why do you think 'Desaturate' was used here?

Can 'Duplicate Layer' and 'Invert' be combined as a single step?

- Yes
- No

Why?

Clustering Steps

What tools go together to accomplish a goal?
e.g., *Desaturate* should be applied before *Invert*

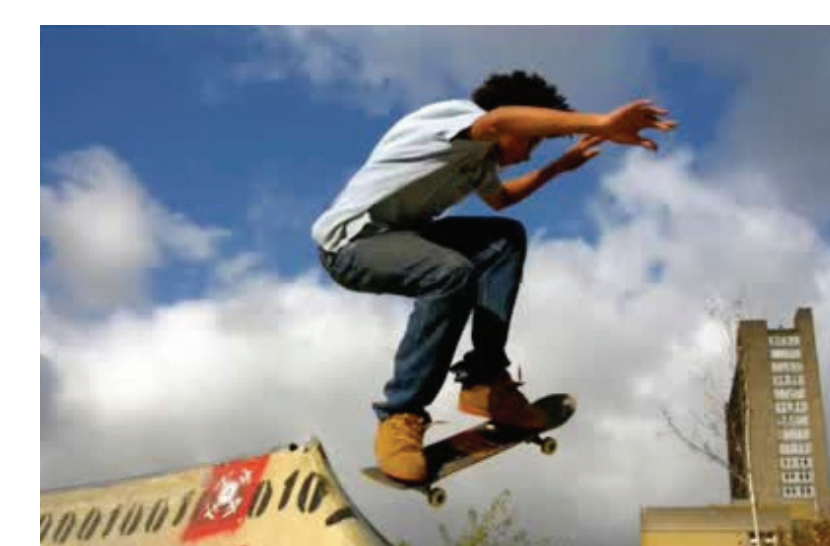
Rationale / Intention

What is the reason for applying this tool?
e.g., Why use an s-curve in RGB?
To maximize contrast.

Self-Explanation

Natural language description of a step.
e.g., Make the person look as if he's rapidly moving.

How would you describe the effect from left to right?



ToolScape thinks 'motion blur' is used here. Is this correct?

- Yes
- No

Label Verification

What do you think is a tool used here?

- Curves
- Hue/Saturation
- Gradient Map
- Rectangular Marquee

Tool Identification

Mixed Initiative: AI and learners work together

