Interactively Optimizing Layout Transfer for Vector Graphics

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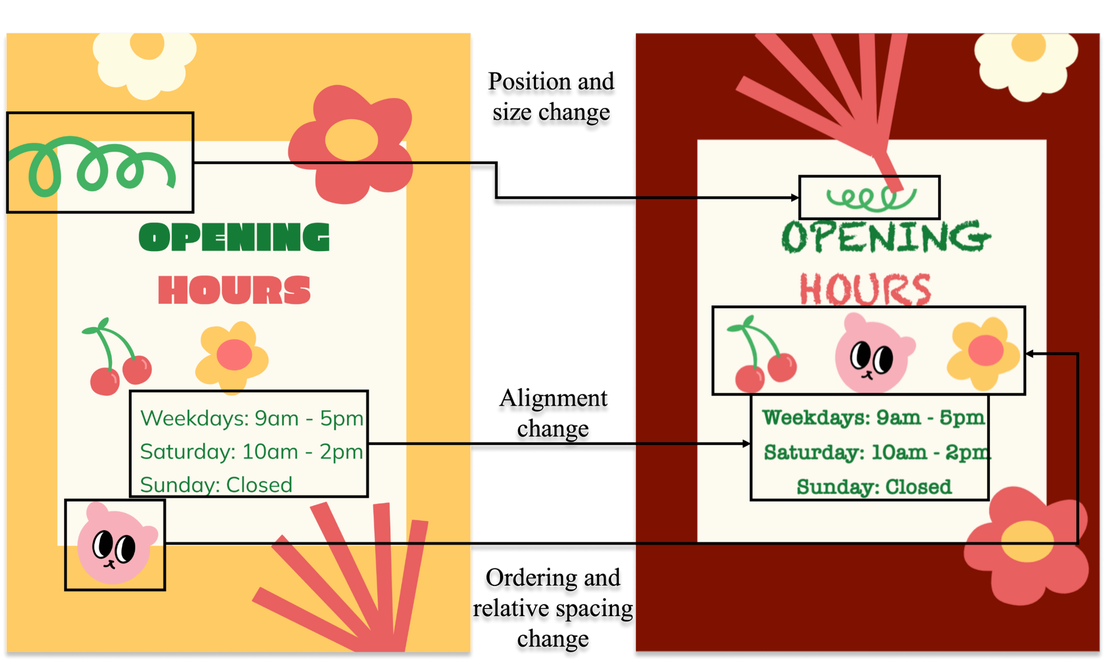
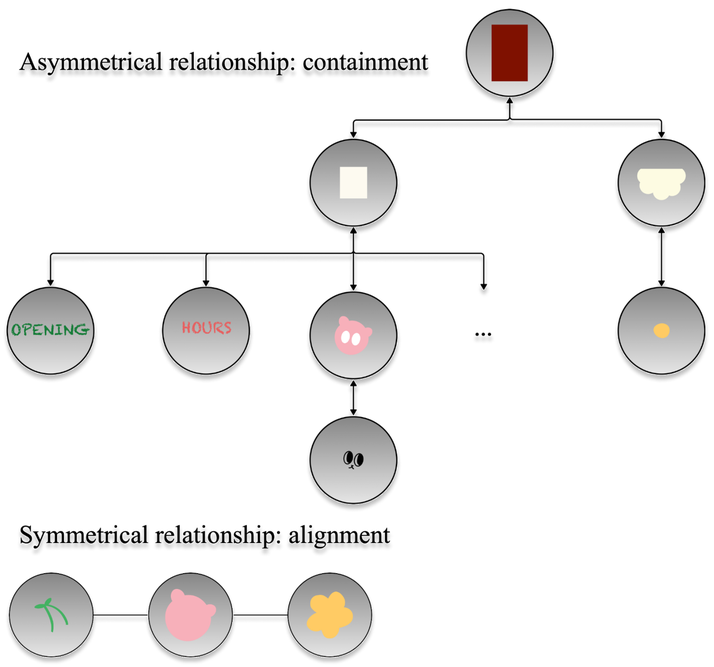




The different layout relationships we can model between elements.

Asymmetric rules (e.g., containment) are represented internally as ordered trees.
Symmetric rules (e.g., alignment) are represented as simple sets.

These two designs have varying layouts with differing inferred layout rules for corresponding groups of elements. The boxes and links in these designs represent different rules that we recognize.

Motivation

Designers often need to explore various layout alternatives and make adjustments such as changing the visual flow, adapting to different aspect ratios, standardizing spacing, or shifting visual emphasis. The existing transfer methods are mostly for HTML/CSS webpages, or use overly rigid templates.

Approach

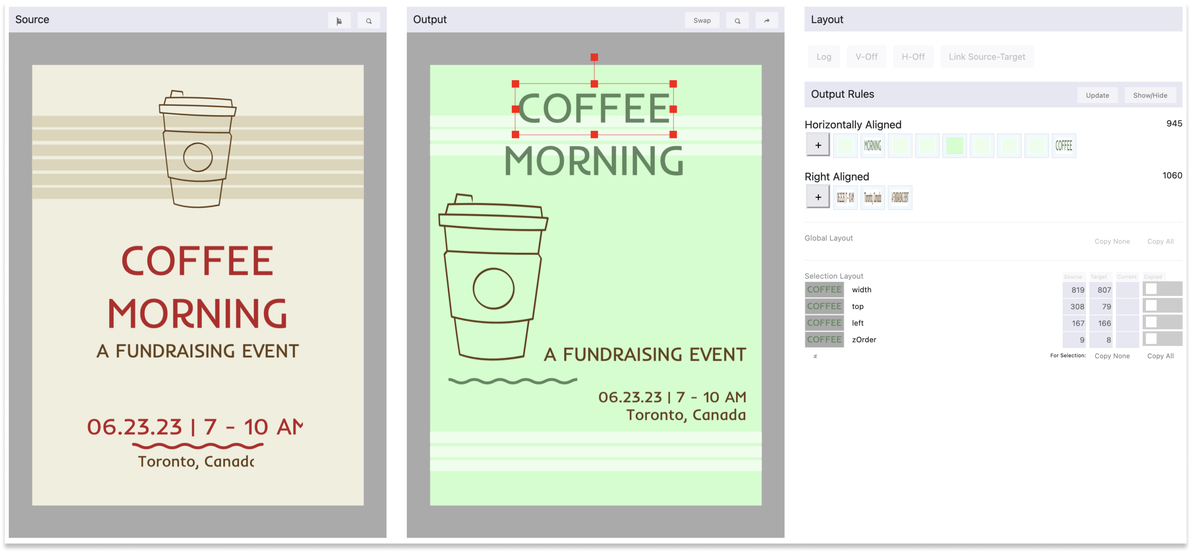
VLT addresses these needs by offering multiple levels of semantic layout editing controls, supported by automatic graphics correspondence and layout optimization algorithms. The aim is to empower designers with an efficient and flexible method to transfer and modify layouts in vector graphics designs.

Results

(1) VLT integrates automation into the design process, allowing designers to infer and transfer layouts.
(2) VLT provides multiple levels of automation-driven semantic control and editing techniques for designers.

Evaluating Layout Transfer

VLT User Interface



Designer Controls for Layout Transfer

Granularity	Technique
Highest	Global Layout Copy
	Element Layout Copy
	Individual Rule Adherence
	Correspondence Update
	Element Property Copy
Lowest	Direct Manipulation