

Icon Set Selection via Human Computation - Supplemental Material

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1 Introduction

In the following sections we will present the visual filters picked by interviewing multiple visual artists and surveying preferred live visual performance interfaces. We also provide all of the 45 icons designed for our method and used during the evaluation.

2 Video Filters

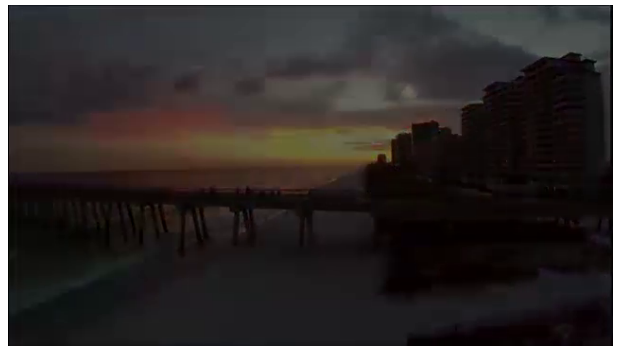


Figure 1: A frame from the original unfiltered video. 'Sunset at the Pier' by Mike Haytack, CC BY 3.0.

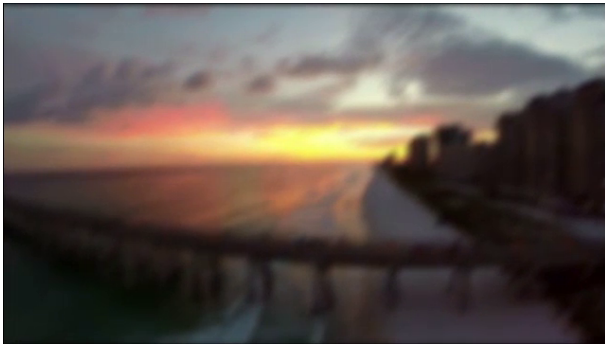
Filter Name	Filter Description
Brightness	Basic brightness filter with a parameter controlling amount of brightness.
Contrast	Basic contrast filter with a parameter controlling amount of contrast.
Gaussian Blur	A filter that blurs the visuals with a parameter controlling strength of blur.
Grayscale / Saturation	Saturation filter with a parameter controlling amount of saturation. The lowest setting makes the visuals colorless.
Hue Effect / RGB Cycle / RGB Controls	Basic coloration (hue) filter. Parameters control the color as well as the amount applied.
Solarize / Invert	Filter inverts the color value of the visuals. Parameter controls the amount of inversion.
Threshold	Filter thresholds visuals by intensity. Parameter controls the threshold level.
Trails	Filter causes each frame of visuals to leave a fading trail. Parameter controls the lasting effect of the trail.
Zoom	Filter enlarges image with a parameter controlling the amount of enlargement.



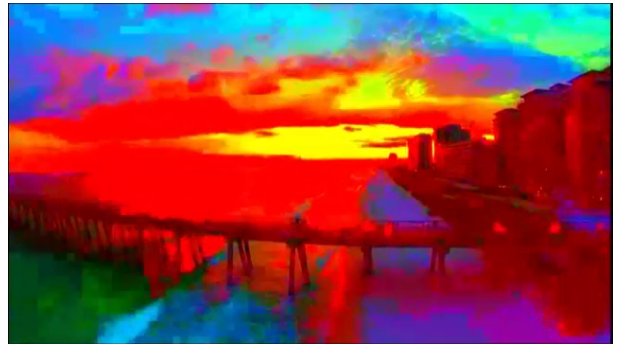
Brightness



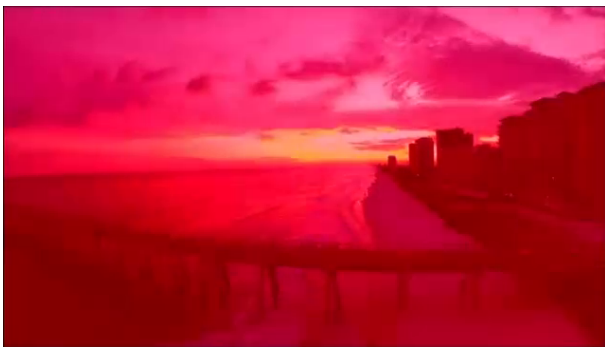
Contrast



Gaussian Blur



Grayscale / Saturation



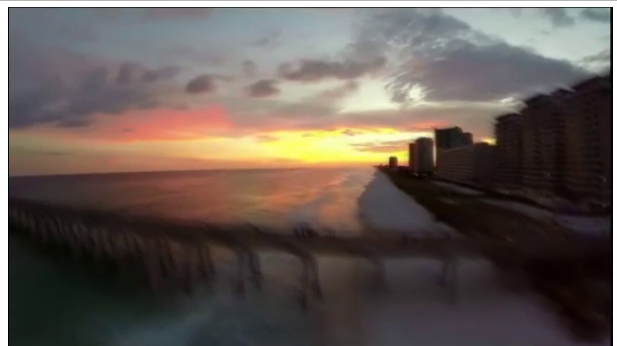
Hue Effect / RGB Cycle / RGB Controls



Solarize / Invert



Threshold

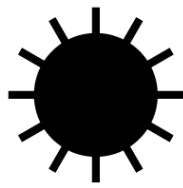
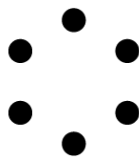



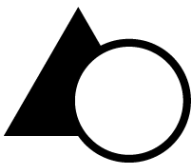
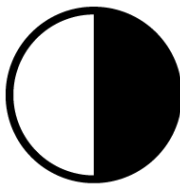
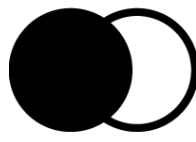
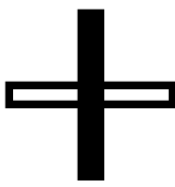


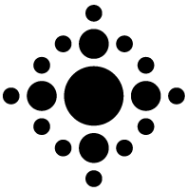


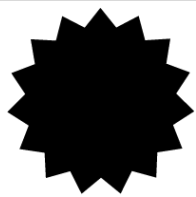


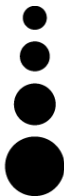
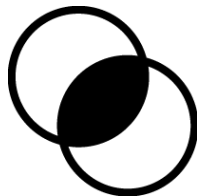
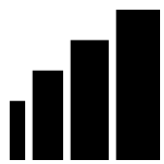
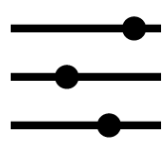
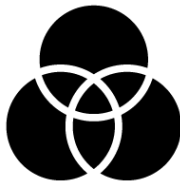

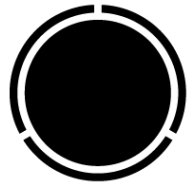
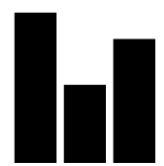
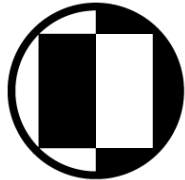
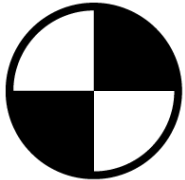

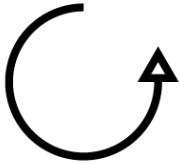






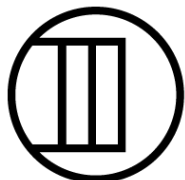
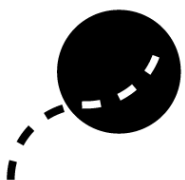
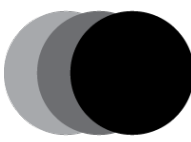




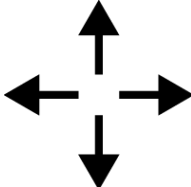
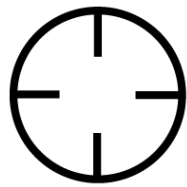
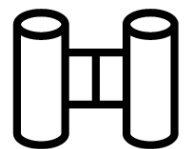


Trails



Zoom

3 Video Filter Icon Candidates

Filter Name	Icon 1	Icon 2	Icon 3	Icon 4	Icon 5
Brightness					
Contrast					
Gaussian Blur					
Saturation					
Hue					
Solarize					
Threshold					
Trails					
Zoom					

4 Human Computation Tutorial

Prior to commencing any tasks, crowd workers are given a tutorial including examples to minimize misunderstandings and clarify ambiguous terms. Below we show the displayed tutorial is depicted in Fig. 2, 3, and 4.

Task: Describe the image.

Describe an image/icon shown in one or two complete English sentences.

Detailed instructions:

- Inspect the image/icon.
- Describe it in English, with one or two complete sentences.
- Examples:
 - **✓Good:** Three balloons are in the image. The center one is a little shiny.
 - **✓Good:** The image shows three balloons, each at slightly different heights.
 - **✗Bad:** balons
 - **✗Bad:** asdasdkalsdj

Example Page 1 of 1:

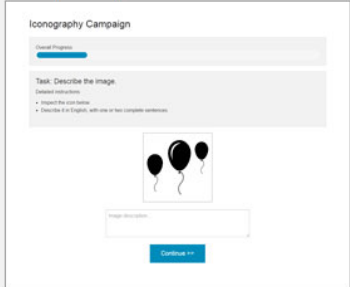




Figure 2: A portion of the human computation tutorial explaining how the user solves the context-switching icon description task.

Task: Select the most similar looking icon.

Select which of the two candidate icon is **the most similar** to the target icon.

Detailed instructions:

- Inspect the target icon.
- Click the most similar looking one among the other two candidate icons.
- Examples:
 - **✓Good:** Choosing  . Similar shape, similar size, similar orientation.
 - **✗Bad:** Choosing  . Different shape, different size, different orientation.

Example Page 1 of 1:

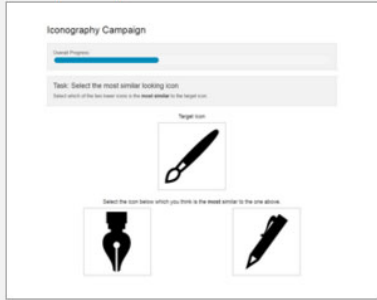


Figure 3: A portion of the human computation tutorial explaining how the user solves the icon identifiability-related task.

Task: Select the most representative icon.

Select the icon which you feel best represents a **filter** applied to an image.

Detailed instructions:

- Inspect the original image (left) and filtered image (right).
- Select the icon you think best represents the filter applied to the image (**not** the actual image itself - bridge, beach, building etc.).

Example Page 1 of 1:



Figure 4: A portion of the human computation tutorial explaining how the user solves the icon comprehensibility-related task.