Supplementary materials for the paper titled "A Flexible Framework for Fusing Image Collections into Panoramas"

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This document serves as a supplementary document to further expand upon the capabilities of the Ray Graph structure.

I. 360°AND STREET PANORAMAS

We first provide some additional examples for 360°and street panoramas. Fig. S.1 shows some results of 360°panoramas from two different datasets. These have been created from a Ray Graph traversal which maintains the directional coherency by varying the view direction. Fig. S.2 shows a longer result of a street panorama constructed using a Ray Graph traversal which collects parallel rays.

II. CENTIPEDE PANORAMA

The centipede panorama is a hybrid of 360°and street panoramas. As described in Section IV-C of the paper, the Ray Graph traversal used for generating this panorama is divided into four sections. There, sections C and D alternate between view directional variation and spatial variation, where the number of intermediate viewpoints used and the rays per viewpoint can be adjusted. Fig. S.3 shows a series of centipede panoramas where the number of viewpoints is decreased (top to bottom) and the number of rays per intermediate viewpoint is increased to adapt (top to bottom).

III. STORYTELLING PANORAMA

Fig. S.4 and Fig. S.5 shows two examples of storytelling panoramas created from two different datasets. As the panorama moves through time (top to bottom), the history of what has been seen is recorded in the periphery of the panorama.

IV. INTERACTIVE EDITING

Our final example, Fig. S.6 shows before and after results of a street panorama where brushing has been used to remove occlusions within the panorama. Here, repetitive brushing of the same region has been used to successfully remove occluded objects from the original panorama.
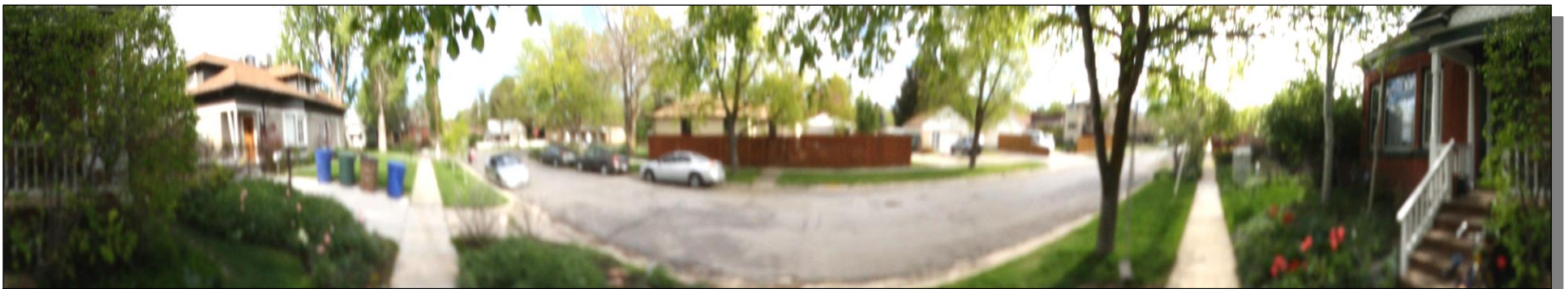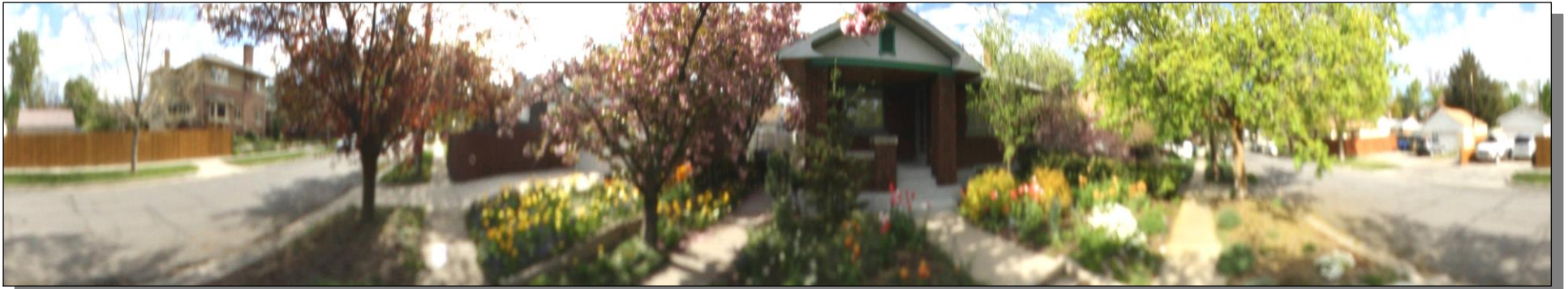
Fig. S.1 : Examples of 360° panoramas constructed using a Ray Graph traversal which selects the rays by varying the view direction.

Fig. S.2 : A longer street panorama example constructed using a Ray Graph traversal which moves along parallel rays between neighboring viewpoints.

Fig. S.3 : Series of centipede panoramas where the number of intermediate viewpoints is decreased (top to bottom) and the number of rays per viewpoints is adapted.

Fig. S.4 : Series of storytelling panoramas constructed using a Ray Graph traversal. As the panorama moves through time (top to bottom), the history of what has been seen is recorded in the periphery of the panorama.
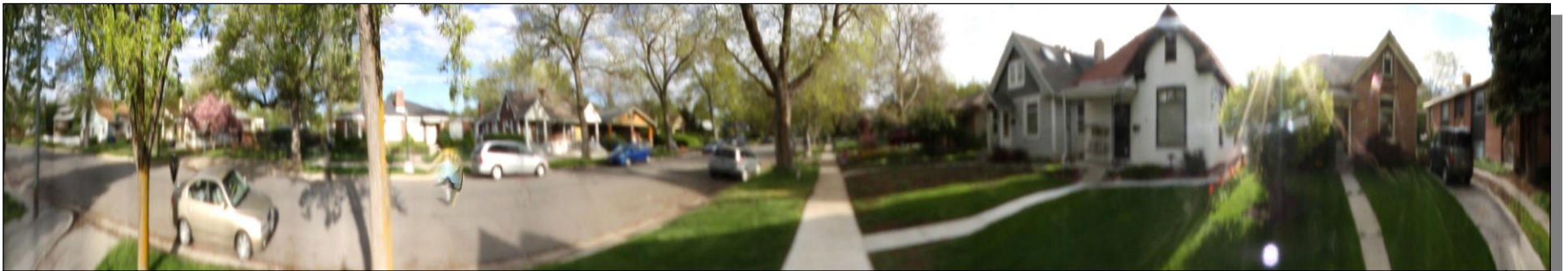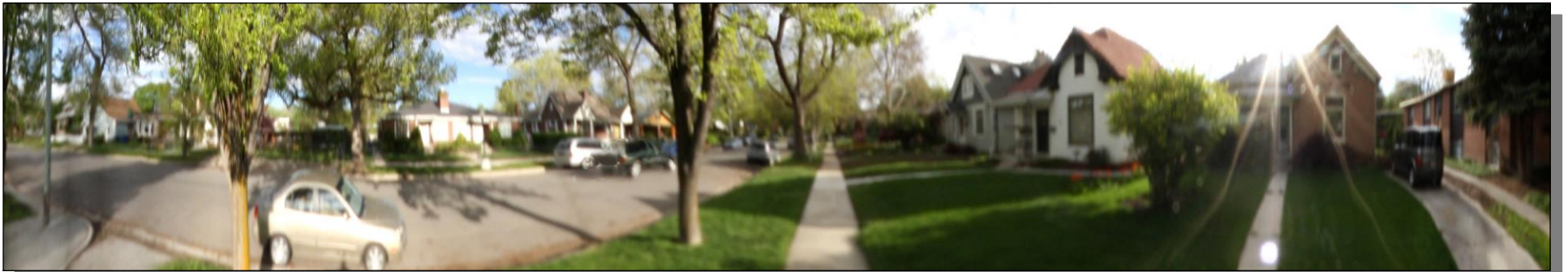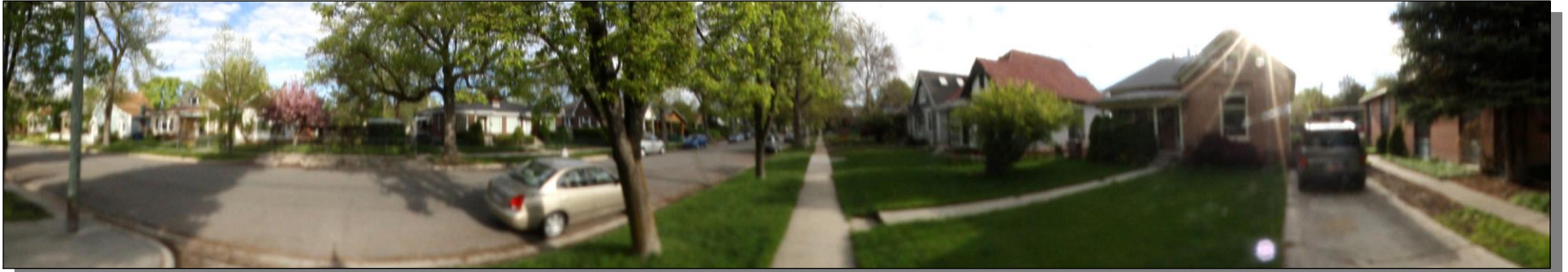
Fig. S.5 : A series of storytelling panoramas constructed using a Ray Graph traversal.

Fig. S.6 : Before and after (top and bottom) example of street panorama, where brushing has been used to remove occlusions.