

**Real time video processing as it applies to a newscast**

**Abstract**

The goal of this project is to create a virtual news studio. In modern news production we have a reporter, an artificial news background, some image in a smaller box relating to the story and a corresponding caption. To do so we want to take a live video feed of a newscaster in front of a green screen and superimpose it upon a image of the news studio. The newscaster will also have a live audio feed. The picture and caption are loaded into the FPGA beforehand and can be switched during operation to represent the flow of news during program. As the reporters segways into the story, the producer can choose to take the the boxed image fullscreen. This would either be just an image or another live feed. The reporter provides live commentary.

This project can be broken up into a few major parts, input, processing, control, output. The input part relates to the main live feed, the possible otjher live feed and sound input. The processing involves recognizing the reporter from in front of the green screen and overlaying the reporter, small picture and caption in front of the studio background. Control involves all of the image switching as well as the fullscreen mode. The output is the final product of our project. If time permits we would like to include several additional features.