

Real-Time Mobile Augmented Reality Using Markerless Subject Tracking

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Motivation

- Common methods for displaying augmented reality visuals utilize marker objects such as QR codes to track movement of subjects of interest
- This requires user interaction with the environment to place the markers on a surface, which is not always practical

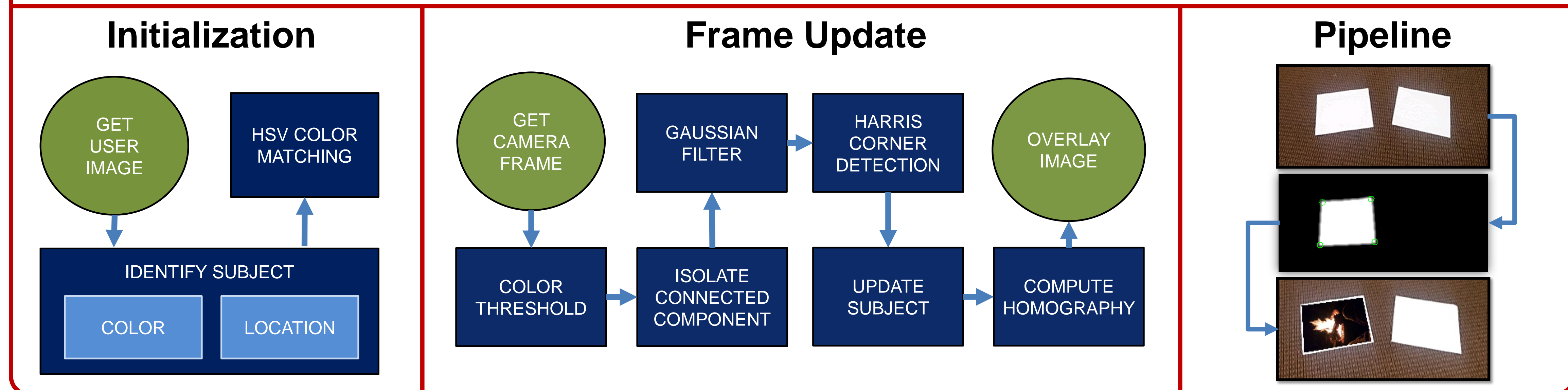
Project Goals

- Utilize subject's color and shape features to track and project augmented images without need for explicit markers
- Have algorithm run in real time on mobile Android devices

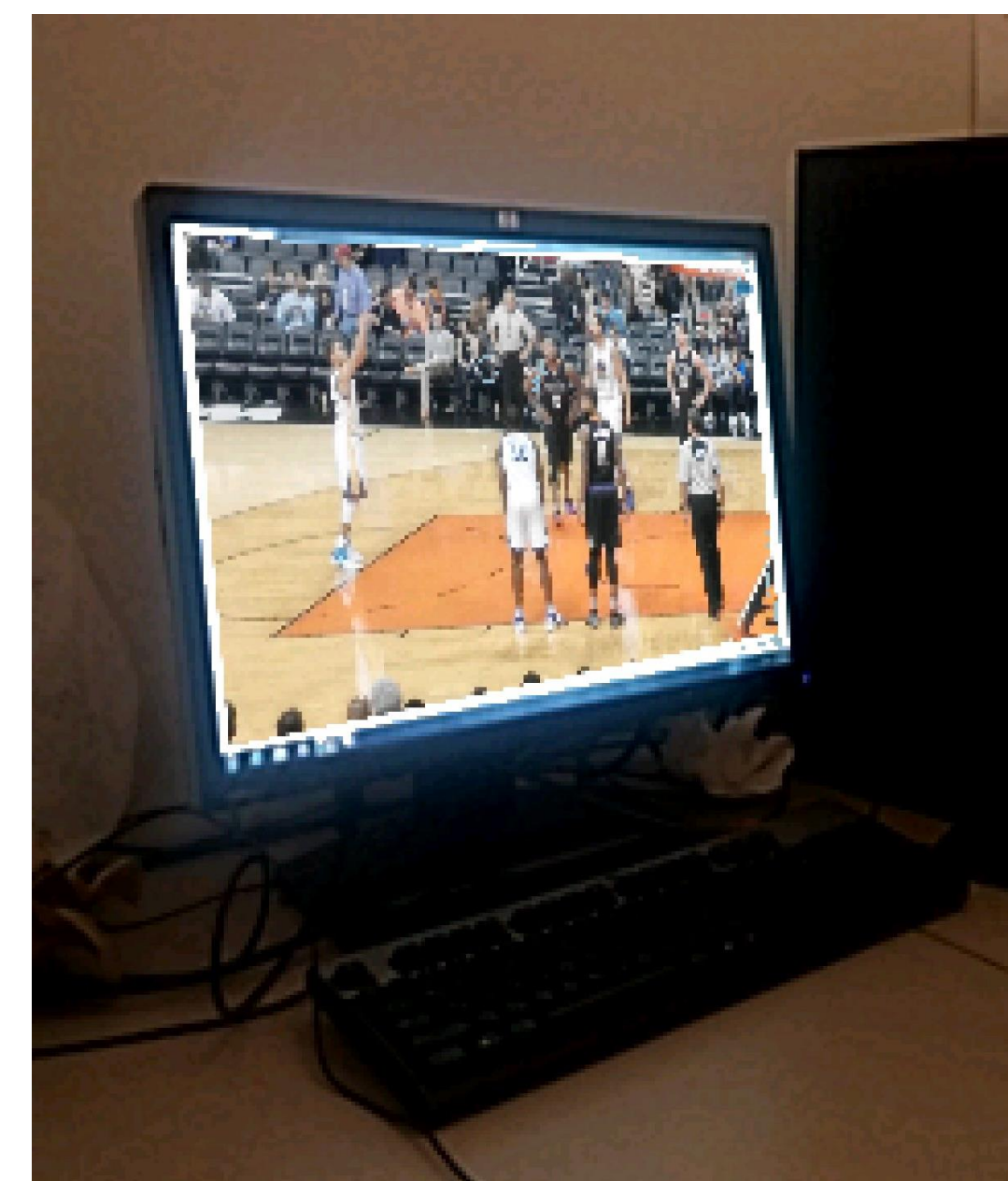
Future Work

- Handle minor occlusion of subject
- More realistic color matching/correction between user input image and camera scene
- Consider algorithm optimizations

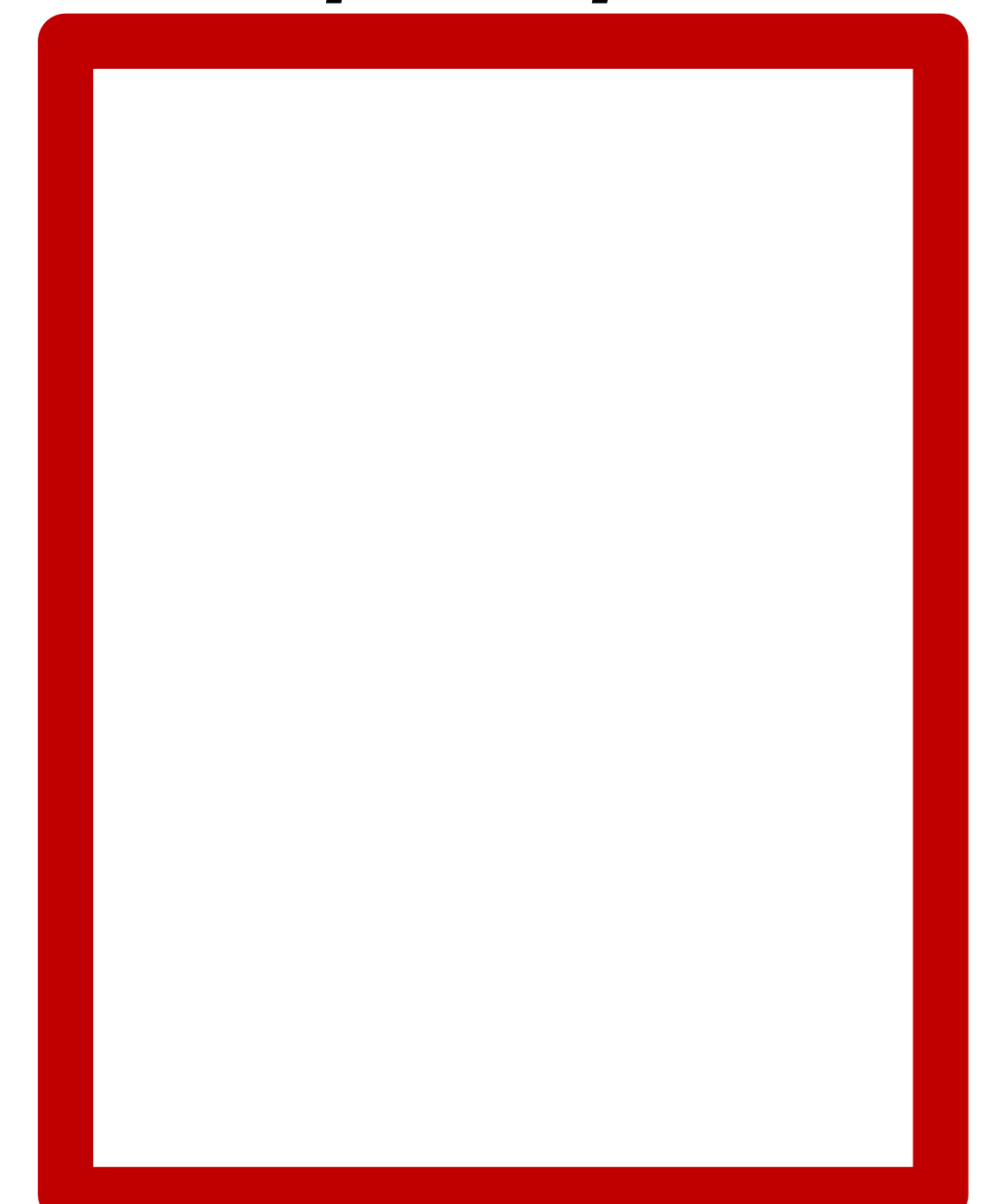
Method



Experimental Results



[DEMO]



- Able to track subject location and discern projective transform using detected corner positions
- System performs well when strong contrast exists between subject and surrounding area
- Algorithm successfully runs on Android device in real time