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Simultaneously accelerating OpenVG and SVG tiny with multimedia hardware

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Highlights

- *OpenVG* and *SVG Tiny* are most suitable for accelerating 2D vector graphics output.
- Most previous *OpenVG* and *SVG* implementations need fully-dedicated VLSI chips.
- We alternatively accelerate them with widely-used multimedia-processing hardware.
- Our result shows 3.5 to 30 times accelerations without fully-dedicated hardware.

Abstract

OpenVG and *SVG Tiny* are the most widely used de facto standards for accelerating 2D vector graphics output on various embedded systems, including smart phones and tablet PC's. In this paper, we present a cost-effective way of simultaneously accelerating both of *OpenVG* and *SVG Tiny*, based on the multimedia-processing hardware, which is widespread on mobile phones and media devices. Through the effective use of these multimedia processors, we successfully accelerated *OpenVG* and *SVG Tiny* at least 3.5 times to at most 30 times, even with less power consumption and less CPU usage.

Graphical abstract



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Keywords

OpenVG; SVG Tiny; Middleware; Multimedia processor; Implementation

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