Abstract

A QR code is a special type of barcode that can encode information like numbers, letters, and any other characters. The capacity of a given QR code depends on the version and error correction level, as also the data type which are encoded. A QR code framework for mobile phone applications by exploiting the spectral diversity afforded by the cyan (C), magenta (M), and yellow (Y) print colorant channels commonly used for color printing and the complementary red (R), green (G), and blue (B) channels, which captures the color images had been proposed. Specifically, this spectral diversity to realize a three-fold increase in the data rate by encoding independent data the C, Y, and M channels and decoding the data from the complementary R, G, and B channels. In most cases Reed-Solomon error correction codes will be used for generating error correction codeword’s and also to increase the interference cancellation rate. Experimental results will show that the proposed framework successfully overcomes both single and burst errors and also providing a low bit error rate and a high decoding rate for each of the colorant channels when used with a corresponding error correction scheme. Finally proposed system was successfully synthesized using QUARTUS II EDA tools.
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Index Terms

Computer Science

Information Sciences
Keywords
Reed Solomon (RS)  Field programmable gate array (FPGA).