ABSTRACT

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EARLY PHASE OF DETECTION OF FETAL HEART USING COLOR IMAGE PROCESSING
(xii + 60 pages; 57 figures; 1 table)

Currently the tools in medicine are increasingly sophisticated, one of these technologies is ultrasonography (USG). Ultrasound can be used to view the organs in our bodies, one of which is the heart in adults and fetuses still in the womb. However, the reality now is only specialist doctor of heart and blood vessels are able to read and understand the results of an ultrasound of the heart of a person. Not all midwives and obstetricians can read and understand the ultrasound results. Based on that, Writer invented an application that can be used to get an area of heart and detect the blood flow that can be used as next research for knowing there is a leakage in fetal heart.

The Image Processing pipeline of this application consist of 4 stages which is the stage of Image Acquisition, Color Image Processing stage, Image Segmentation stage to get an area of heart, and Representation Description stage to detect blood flow of heart using the contour and marked by red color. Applications will be tested using three kinds of tests consisting of functional testing stage of Color Image Processing, functional testing phase of Image Segmentation, and functional testing phase of Representation Description to getting the blood flow within the heart using contour.

The results of this application is to get the heart area and detect blood flow in the heart that can be used as research. Final result of this application so that a midwife or obstetrician can see if there is leakage of blood in the fetal heart.