Identification System Trainer of Normal and Abnormal Heart Sound for Intelligent System and Digital Signal Processing Subject

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ABSTRACT

Teaching materials in learning are very important for students to achieve success. The selection of appropriate learning resources can improve student learning achievement. Props can arouse students' interest in learning, and make it easier for teachers to explain the concept of the material delivered.

At this time the implementation of the Intelligent System and Digital Signal Processing in the Department of Electronics and Informatics Engineering is still utilizing Matlab software to develop artificial neural network systems and digital signal processing, not yet implemented into hardware. Based on these conditions, the concept of the two subjects is difficult to understand, students have difficulty imagining the application of the two courses. The absence of teaching aids in the form of trainers also makes it difficult for teachers to convey clearer concepts to students, this can be seen in the results of the lab reports reported at the end of each practice. The trainer is expected to generate high-level thinking skills (Higher Order Thingking Skill / HOTs), which includes the ability to think critically, analytically, logically, reflective, metacognitive, creative, and the ability to cooperate. Both the Intelligent Systems and Digital Signal Processing courses require HOTs ability because reasoning and critical thinking abilities are interrelated.

The objectives of this study (1) Produce trainers in the Intelligent System and Digital Signal Processing courses to identify normal and abnormal heart sounds. (2) Knowing the performance of the trainer in identifying normal and abnormal heart sounds. The method used in the study of Normal and Abnormal Heart Identification System Trainer for Courses in Intelligent and Digital Signal Processing Systems is included in the R & D procedure carried out to develop product prototypes or new product engineering. This research and development will produce products in the form of hardware and software prototypes. In detail the phases in the development method include (a) Potential and problems, (b) Data Collection, (c) Product Design, (d Design Validation, (e) Design Revision, (f) Product Trial, (g) Product Revision , (h) Test of Use, (i) Product Revision.

Kata Kunci: Trainer, heart sound, Inteligent System, Digital Sugnal Processing