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CHAIWAT HANCHANPANIT : DEVELOPMENT OF EXPERT SYSTEM PROGRAM AS A BASIC DIAGNOSIS OF VISUAL FATIGUE FOR MICRO COMPUTER USERS. THESIS ADVISOR : ANUCHAT POUNGSOMLEE, Ph.D., SASITORN TAPTAGAPORN, Ph.D., SUPICHAI TANGJAITRONG, Ph.D. 220 p.
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The Expert System developed in this study aims for a basic computer's users self-diagnosis of visual fatigue. Information on causes, and means of adjusting the work environment are provided in addition to the result of the diagnosis. The diagnosis pattern is the collecting of evidence from all related factors. Tools used for this program's development were Microsoft Access version 2.0, used for creating the Knowledge Base, and Microsoft Visual Basic version 4.0, used for creating the Inference Engine and User Interface.

Based on the knowledge of an expert on visual fatigue, 6 factors are used as most influencial to the problems i.e., personnel factor, device factor, environment factor, ergonomic factor, management & administration factor and defective symptom factor. These factors are also utilized to construct the knowledge rules for formulating the questions to be asked by the system. Apart from the ability to question and give diagnosis's result as the experts do, the previous diagnosis data are also transfered for the next operation.

After the developed program was approved by an expert on visual fatigue, it was tested by 30 purposive sampling of computer users. The program performed well. In addition, the program can also be applied to diagnose other similar problems, by substituting the Knowledge Base required.