

PENGEMBANGAN MEDIA PEMBELAJARAN PERANCANGAN FUZZY LOGIC CONTROLLER MODEL MAMDANI

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Abstract: This research is aimed to create a instructional media used for fuzzy logic subject, especially for fuzzy logic controller (FLC) material. The instructional media is in the form of software used for design FLC system and simulate towards the FLC design. The research was conducted in Electrical Engineering Education Department, Faculty of Engineering , State University of Yogyakarta. The method of employed is research and development for software. The development steps include: (1) requirement analysis, (2) design, (3) implementation (coding), and (4) testing, while the method used was white-box and black-box testing. Materials used in this instruksional media ware arranged and adapted wit the syllabus in Electrical Engineering Education Department. The black-box testing on the criteria of software functional requirement was determined in the beginning of instructional media development. The criteria were devided into 6 (six) groups as follow: (1) window (GUI), (2) pull down menu and mouse operation, (3) data entry, (4) documentation and help facilities, (5) instructional media functional of FLC designing, and (6) instructional media installation. Result of the tests then used for defining the software performance. The software performance taken from 53 items of software functional requirement criteria of 83% was met. The testing as instructional media side is the form of validation involved 2 (two) instructional media experts, 2(two) material experts, and implementation test to the students of year 2004 in fuzzy logic subject. The data were collected by questionnaires. Validation of instructional media of Mamdani model FLC design by instructional media experts was 82,95% of excellent category, by material experts was 77,88% of excelent category, and by user (student) was 71,58% of proper category. Based on above tests, instructional media of Mamdani model FLC design in this research is stated to be proper as a instructional media for fuzzy logic subject.

Kata kunci: media instruksional, *fuzzy logic controller*

Ilmu pengetahuan dan teknologi terus berkembang dari waktu kewaktu. Sejalan dengan perkembangan tersebut universitas sebagai salah satu lembaga pendidikan juga mengalami perubahan. Salah satu bentuk perubahan yang terjadi yaitu adanya pergantian kurikulum. Di Jurusan Pendidikan Teknik Elektro Universitas Negeri Yogyakarta (UNY) juga tidak luput dari perubahan tersebut. Salah satu perubahan yang tampak dalam pergantian kurikulum yaitu munculnya mata kuliah baru. Dengan perubahan tersebut maka kesiapan dosen dan ketersediaan sarana penunjang seperti media pembelajaran menjadi penting agar proses belajar mengajar (PBM) dapat berlangsung dengan baik.