INTISARI

PENGEMBANGAN SISTEM OTOMASI PADA *TISSUE PROCESSOR* DENGAN METODE *REVERSE ENGINEERING*

Anas Fatah

21/483524/SV/20325

Tissue Processor adalah alat untuk mengolah suatu jaringan untuk sajian histologi pada laboratorium medis atau biologi. Sebelum ada alat ini, jaringan diproses secara manual oleh manusia sehingga kurang efektif dan bisa buruk dampaknya ke manusia karena cairannya. Dengan *Tissue Processor*, jaringan diproses lebih efisien dan lebih aman. Alat ini masih di impor dari luar negeri, sehingga harganya mahal. Maka dalam penelitian digunakan metode *Reverse Engineering* yaitu pengkajian ulang alat yg sudah ada. Dengan mengkaji ulang tersebut, konsep yang sudah ada di alat bisa dipahami dan dipelajari, untuk kemudian dilakukan pendesainan dan perancangan kembali. Tujuan penelitian ini antara lain adalah (1) mengetahui prinsip kerja alat *KD-TS6A Tissue Processor* dengan metode *Reverse Engineering*, (2) menyesuaikan kinerja alat dengan kebutuhan, (3) menambah fitur tambahan untuk memudahkan penggunaan alat yang lama, dan (4) menghasilkan potensi kenaikan nilai *TKDN*. Penelitian menggunakan metode *Reverse Engineering*, yang merupakan metode penemuan prinsip teknologi dari suatu objek melalui struktur dan cara kerjanya. Penelitian menghasilkan beberapa hasil seperti (1) metode *Reverse Engineering* membuat prinsip kerja alat *KD-TS6A Tissue Processor* bisa dipahami, (2) kinerja alat sesuai kebutuhan, (3) fitur tambahan memepermudah kerja alat, (4) potensi kenaikan *TKDN* berhasil didapatkan sebesar 20%.

Kata kunci : *tissue processor, reverse engineering*, *tkdn*, *plc, hmi.*

UNIVERSITAS GADJAH MADA

ABSTRACT

DEVELOPMENT OF AN AUTOMATION SYSTEM IN TISSUE PROCESSOR USING REVERSE ENGINEERING METHOD

Anas Fatah

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Tissue Processor is a machine for processing a tissue for histology presentation in medical or biological laboratories. Before this tool existed, the tissue was processed manually by humans so it was less effective and could have a bad impact on humans because of the liquid. With Tissue Processor, tissue is processed more efficient and save. This machine is still imported from abroad, so the price is expensive. In this study, the Reverse Engineering method's was used, which is a review of existing machine. By reviewing the machine, the existing concepts can be understood and learned, then be redesigned. The purpose of this research including (1) find the work principe of KD-TS6A Tissue Processor machine by Reverse Engineering method's, (2) adjust the machine performance to the needs, (3) add additional features to simplify long use of machine, and (4) resulting potensial increase of TKDN value. Research using Reverse Engineering method, which is a method of discovering the technological principles of an object through its structure and way of working. The research produce several results such as (1) The Reverse Engineering method makes the working principe of the KD-TS6A Tissue Processor can be understand, (2) The machine performance is suitable to necessary, (3) additional features simplify machine work, and (4) the potential increase in TKDN was successfully obtained by 20%.

Keyword : tissue processor, reverse engineering, tkdn, plc, hmi.