

**PROPOSED IMPROVEMENT FOR MINIMIZING QUEUING  
PROCESS IN INDONESIAN HOSPITAL**

**A THESIS**

**Submitted to Partially Fulfill the Requirement for the Degree of Bachelor in  
Industrial Engineering**



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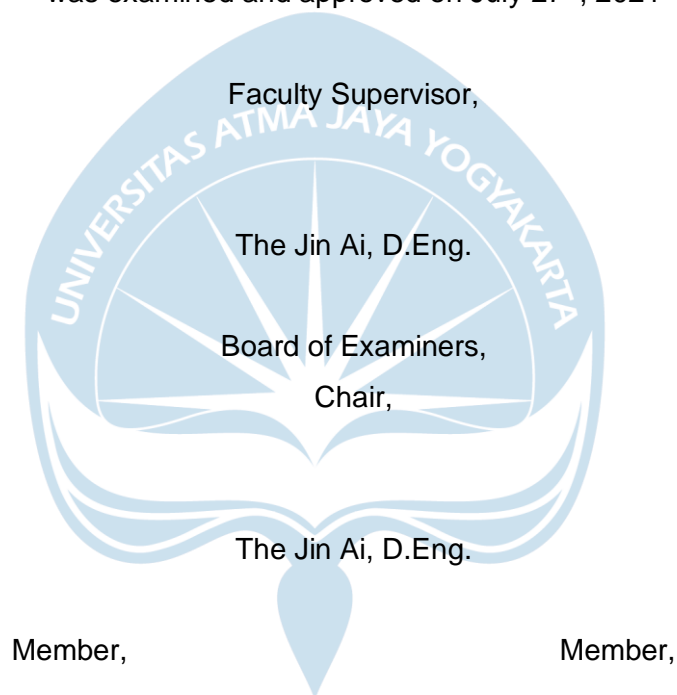
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## DECLARATION OF ORIGINALITY OF RESEARCH

I, the undersigned below:

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I hereby declare that my final project entitled "Proposed Improvement for Minimizing Queuing Process in Indonesian Hospital" is the original result of my research in the 2020/2021 Academic Year and does not contain plagiarism from any work, except those mentioned in the quotations and bibliography, as befits a scientific paper.

If there is a contradiction with this declaration in the future, I am prepared to be prosecuted and processed in accordance with existing rules, including the revocation of my bachelor's degree from Atma Jaya University Yogyakarta.

Thus, this statement is made truthfully and genuinely.

Purbalingga, July 27<sup>th</sup>, 2021



Fransiska Yovita

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At the end, the author realizes that there are still many shortcomings in this report. Nevertheless, it is hoped that this report can be useful for the readers.

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## Abstract

This study is aimed to find a solution for minimizing the outpatient queuing process in the hospital in Indonesia. Simulation technique is being used to identify proper appointment scheduling with patient unpunctuality to support the implementation planning of online registration in Indonesian hospital. In specific, the system of outpatient installation section at the clinic under study and the proposed system are modeled and simulated using Arena software to determine the optimum inter-arrival scheduling time with unpunctual patients.

Results indicate that the implementation of scheduling system in hospitals has a substantial influence on improving the queuing process. With sufficient data, Indonesian hospitals will be able to calculate the optimum inter-arrival scheduling time which will benefit all stakeholders, including patients, medical personnel, and the hospital itself. As evidence, it was discovered that a five-minute scheduling period for patients in the psychiatric department of hospital X is regarded optimal, considering total time spent at the polyclinic, doctor utilization, and the number of patients can be served per day as the performance measures.

**Keywords:** simulation, scheduling, queuing management, patient unpunctuality

