

ACKNOWLEDGMENTS

Alhamdulillahirabbil ‘alamin, all praise and gratitude be to Allah SWT for all His graces, gifts and guidance to enable this writer to complete this thesis well. This thesis is one of the requirements for a Master’s degree in the Master’s Informatics at Telkom University. In the process of writing and completing this thesis, the author has received a lot of support, help and guidance from various parties. Therefore, the author would like to express his deepest gratitude to them:

1. Firstly, my sincere gratitude goes to the main supervisor, Hilal Hudan Nuha, S.T., M.T., Ph.D., who has patiently provided guidance, suggestions and constructive criticism during the writing of this thesis. Her guidance has greatly helped the author in compiling and completing this research well.
2. Secondly, to the Head of the Master’s Informatics, Mrs Dr. Setyorini, S.T., M.T., I would like to thank you for your guidance, support and input during the lecture period. You have provided the writer with invaluable guidance in developing academic understanding and equipping the writer with various relevant knowledge.
3. Thirdly, I would like to thank all the lecturers at Telkom University Masters Study Informatics who have shared their knowledge and experience during the lecture process. The knowledge imparted has provided the author with a strong foundation for the writing of this thesis.
4. Fourthly, I would like to thank my beloved parents for their endless encouragement, prayers, moral and material support. Without their prayers and blessings, the author would not have been able to complete this thesis properly.
5. Fifthly, to my friends in the S2 study Informatics, thank you for the togetherness, support and enthusiasm that we have shared together. The learning experience and discussions with you are very meaningful to the author.
6. Finally, I would like to express my deepest gratitude to all the members of the IoT laboratory who provided technical support and enthusiasm in the completion of this research. The cooperation and assistance you have provided has really helped the author to achieve maximum results.

Finally, the author is aware that this thesis is far from perfect. Therefore, constructive criticism and suggestions from various parties are highly expected for future improvements. It is hoped that this thesis can be of benefit to the readers and can be a reference for further research.