Preface

Bismillahhirrohmanirrohim.

Alhamdulillah, with permission from Allah Subhanahu Wa ta'ala, this final project can be completed. The effort of hard work and perseverance. Although many obstacles but can be completed perfectly.

The final project is made as a prerequisite completion Bachelor of Informatics Engineering School of Computing Telkom University. The final project is made to train the mental discipline of students before entering the industry after graduation later.

The author hopes to get feedback from readers after reading this final task, criticism and suggestions are necessary to correct errors made by the author. Finally, the authors hope readers gain new knowledge and benefits after reading this final project.

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Bandung, 14 March 2018 Author

Muhammad Fadli Faturzaman