## APPROVAL PAGE

Approval of the School of Computing of Telkom University

I certify that this thesis satisfies all the requirements as a thesis for the degree of Master Informatics.

Date Sept 11, 2017

(Dana Sulistvo Kusumo, Ph.D.)

| Head of Master Informatics  |
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| This is to certify that we have read this thesis and that in our opinion it is fully adequate |
| in scope and quality, as a thesis for the degree of Master of Informatics.                    |
| Date Sept 11, 2017  |
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