

## *Abstract*

*Risk of damage or loss of property may occur even been given protection. Non-life insurance provides protection to property with one conditions of premium payment. Bonus-Malus premium is a payment system in which the Bonus is defined as reduction in premium value to be paid, while Malus interpreted as an addition in premium value to be paid. Poisson-Gamma distribution assumes Poisson as claims frequency and severity of claims assumes as Gamma distribution aims to obtain a premium formula on Bonus-Malus system. UML modeling is used to describe a software system associated with the object. Computer application system will simplify, accelerate, and accurate in calculating premium. Bonus-Malus premium tables can be obtained from the formula of claims frequency and claims severity can be combined to provide more options in calculation of Bonus-Malus premium. Based on simulations in calculating, the value of the loss ratio expressed Bonus-Malus system better than the current system by comparing loss ratio value which the loss ratio value in the Bonus-Malus system is smaller than the current system. (HF)*

**Key words :** *Premium, Bonus-Malus, UML, Poisson-Gamma, Loss ratio*