

***Development Of A Web-Based Breast Cancer Screening System Using Naïve
Bayes Algorithm At Prof. Dr. I.G.N.G Ngoerah General Hospital***

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ABSTRACT

Breast Cancer is a non-communicable disease with the highest number rate of cases in Indonesia. The IARC estimates an increase in the number of new cancer cases in Indonesia to 522,000 cases and 320,000 deaths in 2030. The coverage of early detection of Breast Cancer in Indonesia is 14.52%, Bali ranks 6th lowest in Indonesia. Breast Cancer is the third highest among other disease in 2024 at Prof. Dr. I.G.N.G Ngoerah General Hospital. This study aims to design a web-based Breast Cancer screening system using the Naïve Bayes Algorithm at Prof. Dr. I.G.N.G Ngoerah General Hospital. The type of research in system development uses the Agile Scrum method with a Naïve Bayes Algorithm data mining approach. The object of this study uses electronic medical records of patients diagnosed with Breast Cancer and non-Breast Cancer as many as 225 datasets. The results of the Naive Bayes Algorithm training process produced a classification accuracy of 87.56%, a precision of 80%, a recall of 85.70% and a Naive Bayes Classifier model for probability calculations in the screening system. System development through the product backlog stage consists of 4 products, sprint planning is carried out by designing the system flow in the form of flowcharts, data flow diagrams, entity relationship diagrams, and physical data models, sprint backlog is carried out with an estimated 36 days, daily scrum with four sprints, then sprint review and sprint retrospective are carried out black-box testing with alpha tests and beta tests. Prof. Dr. Ngoerah General Hospital is advised to integrate the early detection system with electronic medical records as a consideration for diagnosis and treatment planning.

Kata kunci: *Breast Cancer, SADARI, Naïve Bayes, Scrum, Screening*