ABSTRACT

Cervical cancer is a type of cancer that develops in a woman's cervix. The human papillomavirus (HPV), which attacks cervical cells and can spread through sexual contact, is the cause of it. Data from the Indonesian Ministry of Health indicates that cervical cancer is one of the leading causes of cancer death in women in Indonesia. This is due to the lack of facilities necessary to diagnose cervical cancer that are not yet adequately available and the high cost of treatment that prevents the public from obtaining the necessary treatment.

To address the challenges faced by the government and medical staff in Indonesia in the prevention and control of precervical cancer, an integrated smart information system was built to detect precervical cancer in West Java. The Smart Integrated Information System consists of a mobile application and WebGIS that can help governments and medical personnel in the early detection and control of precervical cancer in Western Java by performing VIA examinations using an Android camera in image format (.jpg) and viewing geographic data in map format.

The researchers developed a smart information system integrated into West Java to detect precancer of the cervix. In addition, the study integrated three previous studies that included image classification with an accuracy of 98.55%, mobile applications, and WebGIS. Additionally, the study uses the Extreme Programming (XP) method, as this method will change the system in accordance with developments in the health field and will change WebGIS mapping sections according to the needs of each area. Thus, this method is more suitable to be applied to this system than the feature-driven development (FDD) method because the XP method has the ability to develop the system flexibly.

Keywords: Cervical Cancer, VIA examination, WebGIS, Extreme Programming, Feature-Driven Vevelopment