ABSTRACT

The development of science and Information Technology (IT) has brought the need for learning that causes users to encourage several villages in Indonesia to implement connectedness of IT-based utilization. The village is an area where the learning system is not adequate because it is difficult to get similar learning content. The learning process can be carried out by developing interactions between villagers using IT into digital form which is bridged by accessing internet technology, namely the Social e-Learning application or village electronic learning application. So it is necessary to create awareness of citizens to make changes in life for the better to increase knowledge of the right information.

The internet is an important thing in today's modern era, the number of internet users among villages in 2017 was 32.50%. In the previous module development, the Social e-Learning application has content that can convey learning in content creation activities to share knowledge between users by uploading content that has been created by the user. For this reason, this learning system still has shortcomings related to the provision of inadequate and undirected content.

In this Final Project, from several problems described, it is possible to develop Social e-Learning software which aims to make it easier for villagers to use IT to identify learning media to build smart villages. The application that will be developed does not yet have a recommendation feature, so users have difficulty when they want to get similar articles. To develop this application, an Artificial Intelligence or AI is needed to be applied in this application, one of which is making suggestions and recommendations based on the similarity of the content in the article. AI was chosen because the development of this feature can suggest content to villagers by recommending similarity articles based on different categories that will be related to a content-based recommendation system by applying seven categories of articles, making it easier for residents to access applications with article similarity scores and improve recommendations quality for suggesting items based on content of interest.

Village social e-Learning was developed by implementing a similarity based element algorithm with a content-based recommendation system to support the module in making suggestions and article recommendations for the similarity of available content. The algorithm method presents information textually with a recommendation system according to the needs of the villagers. Data collection in this study uses a web crawler with data crawling techniques to generate datasets. In addition, the tools used in the development of this application are Java Enterprise Edition (Java EE) and the method in developing this module uses the Prototype model. This application also performs the process of designing the system architecture by implementing multi-tiers including the client tier, presentation tier, integration tier, and resource tier. The result target of the application developed in this module is to increase useful content according to the needs of residents by including content based on categories regarding village news.

Keywords— social e-learning, smart village, artificial intelligence, creating content-based suggestion and recommendation, similarity