

## Abstract

Latest advancements in information technology have been widely utilized in various sectors, including the processing and storage of corporate data. Data is an important asset for companies, like the PT Smartfren Telecom Tbk (Smartfren), a leading telecommunication service providers in Indonesia. One crucial dataset at the Smartfren Surabaya branch office is Network Power System (NPS) data, which is currently manually input and stored in Microsoft Excel, causing inefficiency and risk of human error. This study aims to create a website to manage NPS data using the Extreme Programming (XP) method. By doing so, NPS data with more than three thousand records can be easily processed and stored systematically. The research' procedure based on XP includes planning, design, coding, and testing with Black-box and User Acceptance testing with three iterations. Black-box testing result showed a 100% functionality level in each iteration, and User Acceptance Testing results were 87.09% in the first iteration, 87.27% in the second, and 92% in the third. Therefore, this confirms that the NPS website system successfully meets standards and the users' needs. Hence, this study demonstrated the advantages of transitioning from manual way to web-based systems and developed using XP method to evolving the user needs.

**Keywords:** Extreme Programming, Network Power System, Data Processing, Information Systems