

## **Abstrak**

Application Coverage Simulation (RDCS) is an application used to simulate network coverage in a certain area. The purpose of this research is to develop an RDCS application using the Electron platform. Electron is a software development framework that enables the creation of cross-platform desktop applications with web technology. The software development method used in this research is the software development life cycle (SDLC) method. The stages in the SDLC include requirements analysis, design, implementation, testing, and application deployment. In the requirement analysis stage, the user needs and objectives of the RDCS application were identified. Furthermore, in the design stage, the user interface design, application architecture, and required components were designed. In the implementation stage, the RDCS application was built using web technologies such as HTML, CSS, and JavaScript. The Electron platform enables the use of these web technologies to develop desktop applications with access capabilities to the operating system and hardware features. Next, the RDCS application was tested to ensure optimal functionality and performance through functional testing, integration testing, and responsive testing. The result of this research is an Electron-based RDCS application that can be run on various operating systems such as Windows, macOS, and Linux. This application allows users to simulate network coverage by setting network parameters, viewing simulation results, and analyzing coverage quality. The conclusion of this research is that the development of Electron-based RDCS applications has been successfully carried out by utilizing the advantages and flexibility of web technology in desktop application development. This application is expected to assist network professionals in planning and optimizing network coverage more efficiently and accurately. In addition, this research also contributes to the development of application technology and software development in the field of network simulation.