

## ***ABSTRACT***

*Since the discovery of the COVID-19 virus in 2019, the world has faced a serious challenge in dealing with the spread of this disease. In Indonesia, the number of positive COVID-19 cases has continued to increase over time, placing significant pressure on limited healthcare facilities. This pandemic has highlighted the urgent need for efficient and accurate patient monitoring. Monitoring the conditions of COVID-19 patients plays a crucial role in effective treatment and care efforts. In this context, the development of an Application Programming Interface (API) becomes relevant to connect a dashboard system with patient condition parameter data. This study proposes the design of an API using the Laravel framework with the implementation of the waterfall method. The aim of this study is to design an API to connect the dashboard with patient condition parameters, evaluate the effectiveness of the waterfall method in API design, and test the API's functionality using black-box testing. The waterfall method was chosen due to its ability to guide structured design and produce measurable solutions. This study successfully designs an API that connects the dashboard with patient condition parameters, enabling real-time patient condition monitoring by medical personnel. Testing using black-box testing through tools like Postman proves the good functionality of all API endpoints. This study contributes to the monitoring of COVID-19 patient conditions through API development and the application of the waterfall method.*

*Keywords: Software Engineering, API, Laravel, waterfall method, black-box testing.*