**DESIGN AND IMPLENTATION OF PROGRESSIVE WEB APP (PWA) FOR TEKNIK INFORMATIKA PRAKTIKUM APPLICATION**

Muhammad Ragil Trireza Ramadhan 14116150

Advisor

Arkham Zahri Rakhman, S.Kom., M.Eng.
Arief Ichwani, S.Kom., M.Cs.

## ABSTRACT

Every semester, Informatic Engineering Study Program/Deparment of Sumatera Institute of Technology conducts a practical work for testing and implementing theories that have been obtained in the class. Currently, the practical work's information for schedules, materials, and submitted assignments are distributed via messenger. In implementation of practical work, there are several obstacles that experienced by participants. One of obstacles is they usually miss the information of schedule because the schedule distributed via messanger and the media for collecting the assignments are different for each subject. To solve the obstacles, an informatics engineering application with concept of Progressive Web App (PWA) was created. PWA is a website that imitates native application which can be accessed offline, can be installed on the home screen so easy to access, and can be received push notification. PWA uses service worker technology to control pages on web even when the application is close, so it is possible to get push notification. PWA also uses manifest application to allow application to be installed on user's homescreen. Informatic Engineering appplication for practical work was developed using PWA in order to be used in any flatform wheater Android, iOS, and Windows. The informatic technology application already tested using Google Lighthouse and its meets all the Google PWA criteria. The application also tested using Chrome DevTools and it is proven reduce 99.55% data usage and 9.23% faster to load the page when the application uses service worker and cache.

Keywords : *Progressive web app*, *website* ,practice, *push notification*