ABSTRACT

Attendance is a crucial aspect of village governance that needs to be managed, especially along with the rapid technological advancements that have significantly impacted various sectors, including village administration. The manual attendance system currently used at Glagahwangi's Village Hall has many weaknesses, such as being easily manipulated, environmentally unfriendly, and wasting time and resources. To address these issues, an Android-based digital attendance application was developed, which can be easily accessed by all village apparatus using smartphones. Additionally, to support better administration, a web-based admin panel was developed, allowing attendance management via computers. The development process of this application used the ICONIX Process method. This study resulted in an Android application developed using the Flutter framework and a web application using ReactJS for the front end and ExpressJS for the back end. Firebase was used as the database for storing and retrieving data. The Android application features includes clocking in and out, viewing work holidays, viewing and downloading attendance summaries, applying for official and non-official leave, working overtime and submitting missed attendance requests. The web application features includes managing user data, attendance, holidays, official and non-official leave, missed attendance, setting attendance limits and viewing overtime hours. The attendance application was tested using the black-box method with a total of 76 test scenarios based on predefined use cases. Testing of the attendance application was conducted with 75 scenarios accepted and 1 scenario not accepted.

Keywords : Glagahwangi Attendance Application, Android Platform, Web Platform, ICONIX Proccess, Black-Box Testing