

DESIGN AND DEVELOPMENT OF ANDROID-BASED LEARNING MEDIA FOR LEARNING ALGORITHM AND DATA STRUCTURE

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ABSTRACT

Learning media is part of the learning component, the media is included in the discussion of the overall learning system. The use of media is expected to be a special concern in every learning activity, this is to assist the delivery of learning in supporting the advancement of today's technology-based education world. One of the learning techniques is in the form of algorithms and data structures. Technological advances make learning media usable on Android devices. This study aims to design learning media algorithms and data structures based on Android. The research method uses a waterfall-type system development life cycle (SDLC). The results of the study are learning media algorithms and data structures can be designed for Android devices. The results of system testing using black-box testing provide results as expected.

Keywords: *Android, Algorithms and Data Structures, Learning Media, SDLC.*

INTRODUCTION

The development of mobile technology to date is growing rapidly to the realm of education (Heflin et al., 2017; Martin & Ertzberger, 2013). Today's education has been integrated with mobile technology. Teachers or lecturers in the mobile technology-based learning process can provide an instructed conception through a mobile application (Chen & Tsai, 2021). Research at Spanish University proves that there is an achievement of understanding in students with the mobile learning model, this is also helped by the increase in the way teachers integrate mobile learning with learning materials (Aznar-Díaz et al., 2020; Diacopoulos & Crompton, 2020; Hamat et al., 2012). The use of information technology for education in Indonesia during 2017-2020 has achieved an increase in published research (Revelation Widodo et al., 2021) and other research results mention that between 2003-2010 there were 164 research studies (Wu et al., 2012) and in 2007-2016 mobile learning has become a fairly increasing trend in scientific publications (Fu & Hwang, 2018). The integration of learning with mobile technology has also experienced an increase