

**PENGEMBANGAN *PROTOTYPE* ROBOT *FORKLIFT* DENGAN KENDALI ANDROID  
*SMARTPHONE* SEBAGAI MEDIA PEMBELAJARAN EKSTRAKURIKULER ROBOTIKA DI  
SMA NEGERI 1 YOGYAKARTA**

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**ABSTRAK**

Penelitian ini bertujuan untuk : (1) Menghasilkan *prototype* robot *forklift* dengan kendali android *smartphone* dengan konstruksi yang tepat; (2) Mengetahui kelayakan *prototype* robot *forklift* dengan kendali android *smartphone* sebagai media pembelajaran ekstrakurikuler robotika di SMA Negeri 1 Yogyakarta. Penelitian ini merupakan jenis pengembangan (R&D) yang diadopsi dari 10 langkah pengembangan milik Sugiyono. Subjek penelitian adalah pelatih dan anggota ekstrakurikuler robotika di SMA Negeri 1 Yogyakarta. Data dikumpulkan dengan angket dan dianalisis secara deskriptif kuantitatif. Validitas instrumen dilakukan dengan *expert judgement*, sedangkan reliabilitas instrumen menggunakan rumus *alpha cronbach*. Hasil dari penelitian ini adalah : (1) Diperoleh media pembelajaran *prototype* robot *forklift* dengan kendali android *smartphone*. Hasil uji *black box* diketahui keseluruhan komponen robot berfungsi “Baik” dan dari hasil uji unjuk kerja diketahui robot dapat mengangkat benda hingga berat “61 gr”, (2) Kelayakan menurut ahli materi diperoleh rerata skor 56 terkategori “Sangat Layak”. Kelayakan menurut ahli media diperoleh rerata skor 63 terkategori “Sangat Layak”. Kelayakan menurut pengguna diperoleh rerata skor 68,8 terkategori “Sangat Layak” digunakan sebagai media pembelajaran.

Kata kunci : Penelitian dan Pengembangan, Ekstrakurikuler Robotika, *Prototype* Robot *Forklift*.

**THE DEVELOPMENT OF FORKLIFT ROBOT PROTOTYPE WITH ANDROID SMARTPHONE CONTROL AS A ROBOTIC EXTRACURRICULAR LEARNING MEDIA IN SMA NEGERI 1 YOGYAKARTA**

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**ABSTRACT**

*This study is aimed to: (1) Produce a forklift robot prototype with the control of Android smartphones with the right constructions; (2) Find out the feasibility of a forklift robot prototype with the control of an Android smartphone as a Robotic extracurricular learning media in SMA Negeri 1 Yogyakarta. This study was a research and development (R & D) type of development adopted from Sugiyono's 10 development steps. The research subject was the trainer and member of the extracurricular robotics at SMA Negeri 1 Yogyakarta. The data were collected by questionnaire and analyzed with descriptive quantitative. The validity of the instrument was done by expert judgment, while the reliability of the instrument used the cronbach alpha formula. The results of this study were: (1) produce the products in the form of forklift robot prototype learning media with the control of android smartphones. The results of blackbox test were known that all components work with "Good" function and from results of performance test were known that robot can lift objects up to weight 61 gr (2) The feasibility according to material experts obtained a mean score of 56 categorized as "Very Feasible". The feasibility according to media experts obtained a mean score of 63 categorized as "Very Feasible". The feasibility according to users obtained a mean score of 68.8 categorized as "Very Feasible" to use as a learning media.*

*Keywords: Research and Development, Robotics Extracurricular Robotics, Forklift Robot Prototype.*