

**PHYSICS FORMULA APPLICATION BASED ON MOBILE  
ANDROID FOR TENTH GRADE HIGH SCHOOL**



**FINAL PROJECT REPORT**

Submitted as one of Fulfillment of the Requirements

For Getting Bachelor Degree

In Department of Informatics Faculty of Communications and Informatics

Universitas Muhammadiyah Surakarta

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**2013**

## APPROVAL

### PHYSICS FORMULA APPLICATION BASED ON MOBILE ANDROID FOR TENTH GRADE HIGH SCHOOL

It has been inspected, approved and passed on:

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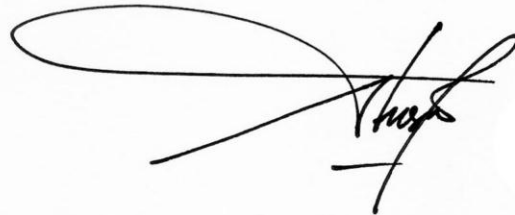
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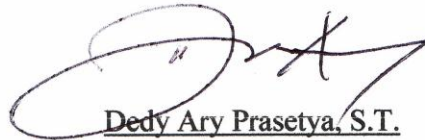
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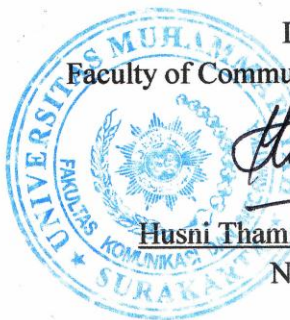
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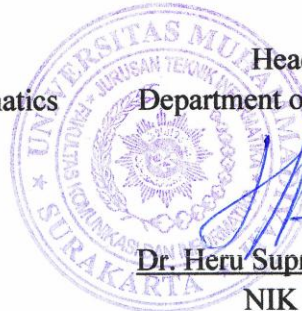
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## CONTRIBUTION LIST

The author herewith assert that there are no work had been submitted to obtain bachelor degree in any University in this final project report and as far as the author concern no work or opinion had been written or published by another person except the written references which are referred in this report and mentioned in the bibliography.

Here are the contributions lists in the preparation of the final project:

1. The author designed the application with the help of books and internet itself.
2. Codes of program that are taken from internet and books that are attach in the bibliography.
3. Application programs that the author used for programming are
  - a) Eclipse Helios 3.6.2.
  - b) Java Development Kit (JDK)
  - c) Android Development Tool (ADT) 22.0.1
  - d) Software Development Kit (SDK) r22.0.1
4. Materials and exercises that are taken from tenth grade physics book that i attach in the bibliography
5. Images of every formula background in the program that are taken from <http://www.clker.com/>
6. Videos in the program that are taken from <http://www.google.com/>
7. Music back sound in the program that are taken form <http://www.google.com/> and edited by author.

8. The application program the author used to edit video is Any Video Converter.
9. The application programs the author used to edit images are CorelDraw X5 and Adobe Photoshop CS 6.

This statement and this contributions list the author make to be honest.  
the author responsible for the contents and truth of the above list.

Surakarta, June 2013



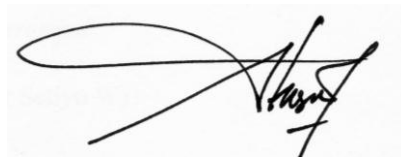
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## MOTTO AND DEDICATION

### MOTTO:

*Do not be afraid to dream because confidence with your dream is the beginning of your  
success*

*There are portions of their own, do not need to think too much about the others, stay  
focused, try and pray, because you need to know that God does not sleep*

(Author)

*Keyakinan itu kunci utama sebuah mimpi menjadi nyata. Kalau kamu tidak yakin  
dengan diri kamu sendiri selama itu juga tidak akan pernah yang kamu ingini  
terwujud*

(Jujur Setiyo W)

*Hai orang-orang yang beriman, jadikanlah sabar dan sholat sebagai penolongmu,  
sesungguhnya Allah bersama orang-orang yang sabar.*

(Al-Baqarah : 153)

*Kemampuan adalah apa yang dapat dilakukan. Motivasi menentukan apa yang  
dilakukan, Sikap menentukan seberapa baik kita melakukannya*

(@MerryRiana)

## **DEDICATION :**

1. Allah SWT that always heard and ease my way of submission to the preparation of this final project.
2. *Ibu* Sri Hariyati and *Bapak* Suharto who always pray for me, always give encouragement, moral and material support's that will never be shortchanged. This is the evidence of devotion for you all. I love you more than anything.
3. *Mbak* Tika, *Mas* Ahmed, my lill nephew Khansa for morally and materially support's.
4. Jujur Setiyo Widayanto for love, happiness, full support and motivation. May Allah reward your kindness.
5. Information Technology UMS as almamater.

## INTRODUCTION

Thank God, we pray gratitude to Allah SWT has bestowed His grace and guidance so the author can finish this final project with title "Physics Formula Application Based on Mobile Android for Tenth Grade High School".

This final project is structured to fill the curriculum in Department of Informatics Engineering Universitas Muhammadiyah Surakarta, as a student in order to complete the obligations of the degree program.

The author realizes that this final project is still far from being perfect, therefore criticism constructive feedback from various stakeholders author hoped for improvements in the future.

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17. Class E especially for Dian, Putri, Ling and Melani.

18. All friends of 2009 informatics UMS.

19. Other people who cannot mention one by one that helped to finish this final project.

Finally, the author hopes that this final project report will give benefit for all people and especially useful for writers and readers in general to increase, enlarge and enrich knowledge and insights of science. Amien.

Surakarta, June 2013

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## **ABSTRACT**

The aim of design and building Fisikandroid application is presenting an education application based on mobile android that contains physics formulas with more attractive material so it will easy to be understood by students. Trial respondent application is students of SMA N 2 Sukoharjo. The background of this research is a merger between two concepts there are technology and education. Android as an operating system is growing into the media presentation of the physics material which presented more interesting and accessible to students.

To building the application using eclipse Helios, SDK, JDK and You Wave Android as main program and Adobe CS 6, Any Video Converter, CorelDraw X5 as support programs. Method of data collection in this research is questionnaire and comparison of pretest result.

The end result of this research is an educational application based on mobile android that contains the physics formulas of class X, which presented more attractive and easy to be understood by students. It is proved from the questionnaire that 86.67% of respondents agreed if this application has elements of education, 96% of respondents stated this is an attractive application, 82.67% respondents agreed the information in this application is easy to understand, and 86.67% of students experienced increases in value after using this application which means that this application can improve students understanding of the material presented.

**Keywords: Android, Physics, Eclipse, Fisikandroid, Education**