

# Asynchronous Media: Converting to Android

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**Abstract.** Teachers require asynchronous learning media but lack knowledge of the converter technology required to create Android. By combining materials, visuals, videos, and learning evaluations, asynchronous learning media is essential for learners to fully understand the learning materials. The object of this research is the development of android-based learning media. The media created consisted of 5 sub-courses. This research was conducted at PGRI University Yogyakarta. This media development method uses the ADDIE model, namely Analysis, Design, Development, Implementation, and Evaluation from Link Mc, employing the steps of Analysis, Design, Development, Implementation, and Evaluation. The data validity techniques using media development instruments set by the Educational Development Institute consisting of 14 instruments. The scale used is a Likert scale. This research involves the Institute for Educational Development as a reviewer. The results of the study stated that Android for asynchronous learning media can be created using converters such as Ispring and Website 2 Apk Builder. The score obtained is on average 84% following the provisions of the specified media instruments. The media is well stated and deserves to be implemented. The socialization of this converter system is recommended to all teachers to improve their competence in the field of learning media making. Interactive learning media based on android can increase the interest of learners to learn because it is implemented asynchronously, and can be accessed anywhere and anytime because it is already installed on the student's smartphone.

**Keywords:** Ispring, ADDIE, apk.

## INTRODUCTION

During the Covid 19 pandemic, face-to-face learning cannot be carried out directly at various levels of education, as happened in higher education [1]. They study by switching from offline to online learning methods [2]. This change in learning methods change the way of learning from conventional to learning using technology [3]. This change requires students and lecturers to master online-based learning starting from hardware, software, and media used in the learning process.

Lecturers start with the simplest learning materials when implementing online learning, for example, learning using synchronous virtual media [4]. Synchronous virtual learning is carried out using media zoom (Gunawan et al., 2021), google meet (Amin & Sundari, 2020), and other media. The excessive use of internet quotas, which raises the

expenses of students and lecturers in the online learning process, is one of the obstacles to online learning with a virtual synchronous learning system. [5]. Another obstacle is the difficulty of the signal to carry out virtual synchronous-based learning[6].

Learning with an asynchronous system is required in order to overcome learning with a virtual synchronous system so that students and lecturers are not overburdened during the teaching and learning process [7]. Asynchronous learning is online learning that can be accessed anytime, anywhere. Students and lecturers must use an Android-based smartphone during the learning process with an asynchronous system [8].

Based on research from [9] stated that learning with Android-based smartphones can improve student cognition. According to[10], learning using an Android-based smartphone is fun learning. Learning using smartphones can increase student creativity because students must study independently[11]. According to [12], using mind mapping and cultural games [13] Android-based can improve student achievement and learning creativity.

Lecturers face challenges while creating asynchronous-based online learning media for teaching and learning activities. This is due to the difficulties of creating Android-based learning media.[14]. Requires sophisticated technology to create Android-based learning media[15]. It also takes time to learn how to use this technology [16]. Therefore, this research aims to create an Android-based asynchronous system learning media using a converter to android.

## METHOD

This research has been conducted at the Faculty of Teacher Training and Education, Universitas PGRI Yogyakarta. The object of the research is the development of learning media based on android with the program conversion system. The material development is arranged based on five courses that are applied in the even semester. The list of course names can be seen in Table 1 below:

**TABLE 1.** Subjects as Subjects for Media Development

No.	Theory	Study Program
1	Assessment Steps	primary teacher Education
2	Curriculum distribution	primary teacher Education
3	Multicultural	primary teacher Education
4	Human Rights Project	primary teacher Education
5	Perpendicular Coordinate System	Mathematics education
6	Changes in behavior	Guidance and counseling

This study uses a development research method. The model used is ADDIE from Dick and Carry, using Analysis, Design, Development, Implementation, and Evaluation. The data validity technique uses the media development instrument set by the Educational Development Institute, which consists of 14 instruments. The scale uses the Linkert scale. These instruments can be seen in Table 2 below:

**TABLE 2.** Subjects as Subjects for Media Development

No.	Theory
1	Android-based media
2	There is a title and identity
3	There are competency courses
4	There is relevant material
5	Color Suitability
6	Layout
7	Use of Illustrations and Fonts
8	Ease of Navigation
9	Interaction with Users
10	There is a learning evaluation

The scale used in this study is the Linkert scale using a score of (1) None; (2) It exists but is not relevant to the material; (3) Yes, but it is out of date and less relevant to exposure; (4) Yes, but not complete; and (5) Complete. In order to find out these results, a quantitative descriptive calculation is used using the percentage formula with the following formula:

$$\text{Percentage (\%)} = \frac{\sum R (1)}{N} \times 100\% \quad (1)$$

Information:

% = Percentage

R = The score obtained

N = Overall score

Based on the results of the score obtained in the form of a percentage, it is matched with the final table of the review conducted by the Educational Development Institute with the provisions of Table 3, as follows:

**TABLE 3.** Criteria for Review Results

Percentage	Theory
<50%	Not feasible
> = 50%	Less (major revision)
> = 75%	Enough (Revised)
> = 85%	It's Good / Worth it

## DISCUSSION

The basis of this research on android-based media development is to illustrate a necessity to change the paradigm of manual learning to technology-based learning. Technology-based media development is adjusted to the teacher's ability to master the material. Many teachers think that the use of Android-based media is a complex technique to develop. This perception makes teachers do not want to learn and create Android-based learning media.

Android-based learning is learning that is carried out via smartphone. Students may use it anywhere and at any time after it is installed on their smartphone. This is what is considered adequate for Asynchronous learning. Asynchronous learning is considered effective in learning during the pandemic because students can learn using their smartphones, so they are not constrained by time or forced to hold online meetings.

This study presents how to create learning media by utilizing conversion techniques to Android programs through applications that have been mastered by teachers. The application utilized is PowerPoint, which is a well-known and well-understood program among teachers. Because it is the primary software in Microsoft Office, it is also available on the majority of laptops.

Ispring and Website, two apk builders, were utilized as converters in this development study. The Spring program is a program that converts from a PowerPoint-based program to the internet, whereas the Website 2 apk builder software changes the internet language to Android language. The ADDIE model is used in the phases for producing Android-based learning media using the converting technique. This stage consists of Analysis, Design, Development, Implementation, and Evaluation. This stage will provide an overview of creating simple android media using the conversion technique that can be done quickly.

Making android media with a converting system starts with a needs analysis. This analysis is the initial stage of media development. The analysis was carried out by obtaining input from the teacher based on the analysis of the current learning conditions. At this point, the learning paradigm has shifted from an offline to an online model. This change certainly gives a lot of changes in the learning system that is adapted to online learning.

After getting various inputs and descriptions of the required media, the next step is designing. This step is completed by collecting a variety of images, sounds, backgrounds, and animations that correspond to the material to be produced. Storyboards are used in the design stage to help the construction of the media stage. The PowerPoint application was utilized in this study's design since it is extremely known to instructors and can be turned into an Android program.

After the design is done, the next step is the development stage. This stage is compiled by the media that have been designed. All media will be created using menu techniques so that the program can be run asynchronously and interactively. This program is also equipped with visual, audio, video, and evaluation.



FIGURE 1. Examples of Material, Video, and Evaluation are in the Android Program

In the development process, the Ispring program is the core of the conversion process from the PowerPoint program to the internet language. The Ispring program is a plug-in program that can be entered and integrated with the PowerPoint program. The inserting technique of this program is simple as simply by installing the Ispring program into the PowerPoint so that the programs that have been created can be converted. The primary settings that are necessary to change are testing each slide, removing the header, and setting the size on the smartphone. The Ispring program can be seen in Figure 2 below:

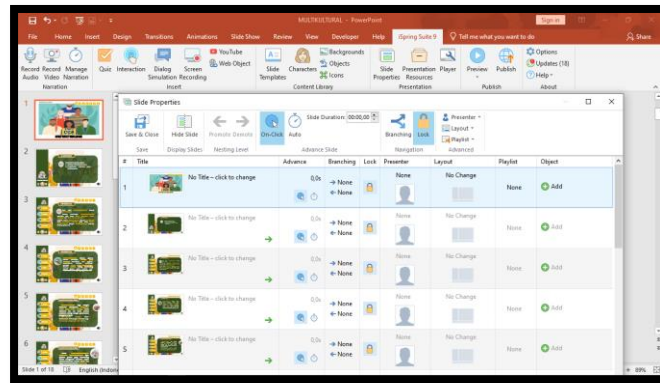
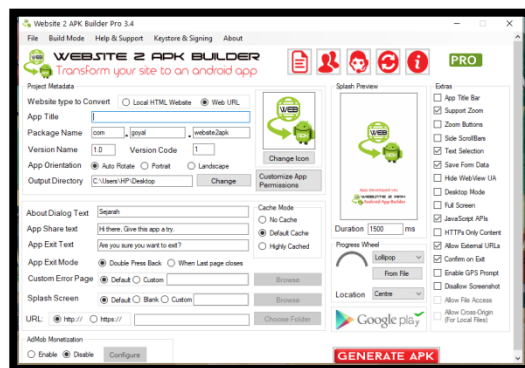


FIGURE 2. Display of the Ispring Program

The Ispring program aims to convert the PowerPoint language into an Internet language. This software may be accessed via a web browser, but to use it on an Android device, Website 2 Apk Builder, must be used to convert it. The conversion process does not take a long time. The program maker only opens the file on the Website 2 Apk Builder program, and it will automatically become an android program or often shortened to the application program. Figure 4 shows the appearance of the Website 2 Apk Builder program.

FIGURE 3. Website Display 2 Apk Builder



After the conversion process is completed, the program creator receives a file in the form of an application that can be installed and run on a smartphone. The android program is interactive with a touch screen system. Users may access the menu by pressing the supplied menu buttons, which are also equipped with various features such as photos, text, videos, and interactive assessments.

The next stage is implementation. In this stage, Android-based learning media began to be tested. The Educational Development Institute of PGRI Yogyakarta University also examined the trial. The five media are designed in the style of a portrait and a landscape shape. The program allows users to use the smartphone in vertical conditions, while the desktop allows the user to use it in horizontal conditions. Figure 5 shows the program results from android as a whole;



**FIGURE 4.** Display of All Programs Implemented and Evaluated

Educational development agencies have assessed the program. The instrument consists of 10 instruments. Based on the results of the review, the following results were obtained:

**TABLE 4.** Subjects as Subjects for Media Development

No.	Theory	Percent Eligibility	Predicate
1	Assessment Steps	87%	Good and decent
2	Curriculum distribution	84%	Good and decent
3	Multicultural	86%	Good and decent
4	Human Rights Project	83%	Good and decent
5	Perpendicular Coordinate System	80%	Good and decent
6	Changes in behavior	83%	Good and decent

Based on the findings, it is possible to conclude that all of the programs developed are practical and usable. According to the instruments established by the Educational Development Institute, this application fulfills the Element of Eligibility. The program's content meets the requirements for a digital title, material, media, video, and assessment that may be operated interactively.

The system for creating asynchronous media using the converting approach has been described in the steps above. The conversion system is carried out using the initial program, namely PowerPoint, and then the programming language is converted into an internet language with the Ispring program. The final step is to use the Website 2 Apk Builder software to adapt the language to android.

## RESULT

Based on the discussion that has been explained, it is known that making android with a converting system can be done quickly. The media can be used as a reference for making learning media with an asynchronous system. This converted program is certainly an android app or application and can be downloaded and installed on the student's smartphone. Students may learn the subject interactively after it is installed. Students may use the interactive menu from anywhere and at any time.

This program is considered to help teachers provide alternative asynchronous media to students. The benefits that can be taken by teachers who are willing to make Android-based learning media are:

1. Teachers can improve their abilities in operating media based on Information, Computer, and Technology (ICT) by studying the process of making android programs with a converting system.
2. Teachers have asynchronous media that can be used by students from any places.
3. The android program created by the teacher is interactive and can increase students' motivation to learn because it is equipped with material, illustrations, video explanations, and evaluations.
4. Asynchronous learning is required during a pandemic since students seldom interact face-to-face, therefore they want enjoyable and asynchronous learning material.
5. A converting android system programs are easy to create because they use programs that are familiar and often used by teachers, namely PowerPoint.
6. The conversion program and system are also accessible, i.e. using Ispring and Website 2 Apk, which are already available online.

## CONCLUSION

Based on the research findings, it can be inferred that creating asynchronous media may be accomplished by converting the software to a simple Android system. The conversion is accomplished through a series of phases, which include creating a program in PowerPoint, converting it to internet language using Ispring, and lastly transforming it to Android language using the Website 2 Apk Builder software. The completed Android application is delivered to students with e-learning or other connectivity to be used as an asynchronous learning media. Android-based learning has been equipped with learning materials, visuals, videos, and evaluations.

Based on the findings of this study, it will be required in the future to perform socialization about this conversion system for all instructors in order to enhance their competence in the field of creating learning media. Android-based interactive learning media is implemented asynchronously and can be accessible on students' cellphones anywhere and at any time, Android-based interactive learning media can boost students' interest in learning.

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