

CHAPTER III

METHODOLOGY

This chapter will describe the research method which is used to conduct this study. It covers the research design, instrument of the study, and procedure.

3.1. Research Design

The design of this study is Research and Development study and it is in line with the objective of this study which is aimed to detect students' reading errors by using android operating system. As stated by Hall (2006) that Research and Development (R&D) is the term commonly used to explain the activities in order to create new or improved products and processes. In developing reading assessment for vocational high students, the researcher needs to do such kind of steps in order to complete the development of reading assessment.

According to Borg and Gall (1983), Education research and development (R & D) is a process used to develop and validate products. The steps of this study are referred to three steps according to Australian Government in Standards for Registered Training Organizations (2015) which are Plan, Design & Development, and Quality Check.

3.2. Subject of the Study

The subject of this study is 26 students from Tenth grade of SMK YPI Darussalam 1 Cerme.

3.3. Procedure of Developing Reading Error Using Android Operating

System

3.3.1. Plan

In this phase, the researcher uses two instruments to collect data; interview and give questionnaire. To reach students' need, researcher creates those instruments to develop her product. Those are done to know target need.

3.3.1.1. Interview

The researcher interviewed English teachers of SMK Darussalam 1 Cerme Gresik. According to the interview, researchers found that many students cannot pronounce the word correctly, because they do not understand the vocabulary. Although they understand in the way of expressing, it is very impactful in good and correct pronunciation grammar. Then there should be an exercise in correct pronunciation, so that students can pronounce appropriate good grammar pronunciation.

3.3.1.2. Questionnaire

The researcher gave questionnaires to 30 students. Researcher questioned the questionnaire. The points of questionnaire for the students can be broken down:

Table 3.2.1.2 The Organization of Questionnaire

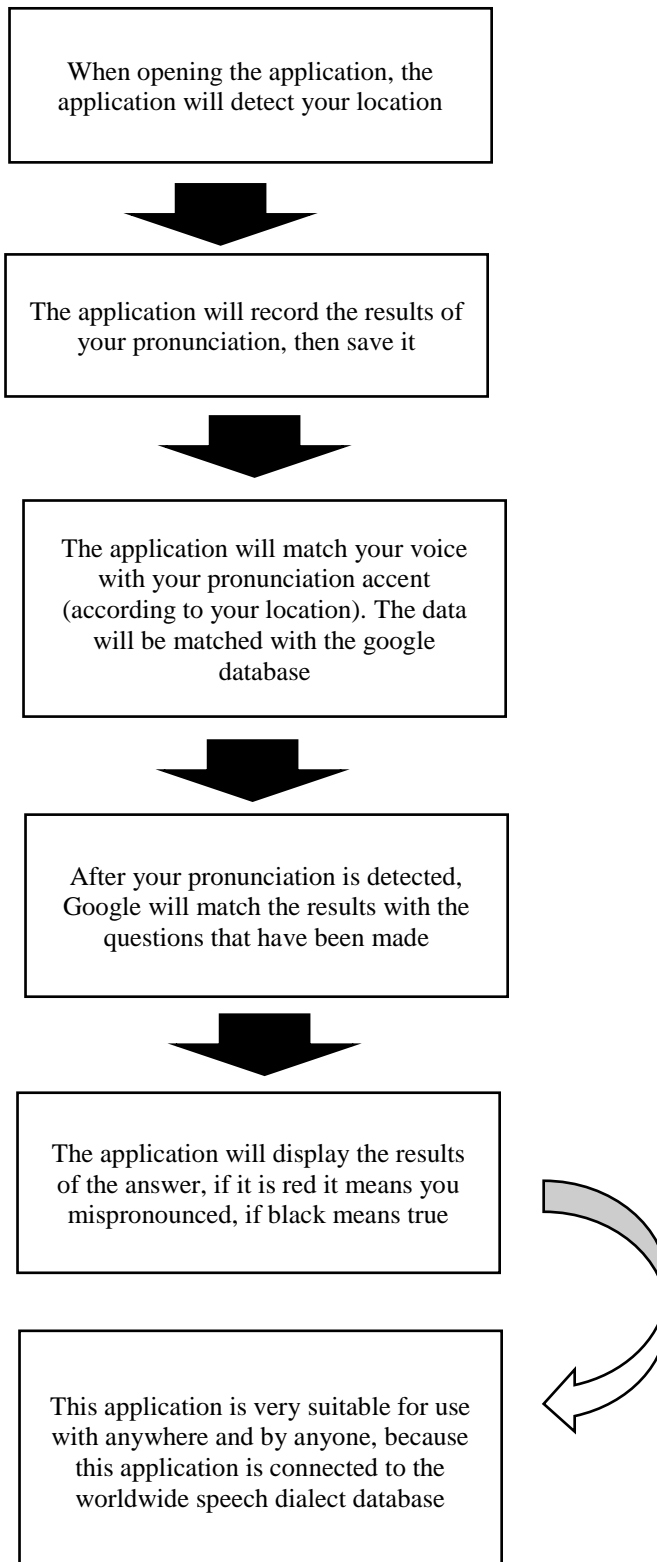
No.	Dimension	Number of items	Operational definition	Indicator
Target Need				
1.	Necessities	1-4	To find out what needs	To know the students' ability in reading

			of students in reading	
2.	Lacks	5-10	To find out the gap between and the required level for students in reading	To know the difficulties of students in learning reading
3.	Wants	16-17	To find out what students' wants that can be included in reading materials	To know the students' desire in learning English, especially reading
4.	Learning Need	11-15	To find out learning need of students in the classroom	To tell the way students learn reading

Adapted from Hutchinson & Waters (1978), Putri, Dyah A. W. (2016)

3.3.2. Design and Development

In the early stages of design and development researchers create procedures for how to work or application flowcharts, namely as follows ;



The Reading Error Detector (RED) application is an application that is connected or has collaborated with Google, so wherever we are and our language accent can be detected automatically so that it is very accurate for anyone to use.

At this stage the researcher designs from the needs that have been in can be a draft then divide into several menus, there are three main menu in this research that is, phrase, sentence, and paragraph. of the three menus were researchers divided by type. Following the division of the menus :

1. The title of part 1 is "Phrase". This part consists of 10 phrases which the students should read and pronounce them well. If the students pronounce them incorrectly, then the app will detect and give the score.
2. The title of part 2 is "sentence". This part consists of 10 sentences which the students should read and pronounce them well. If the students pronounce them incorrectly, then the app will detect and give the score.
3. The title of part 3 is "Paragraph". This part consists of 400-600 words in a paragraph which the students should read and pronounce them well. If the students pronounce them incorrectly, then the app will detect and give the score.

At the development stage, the researchers float the prototype into an android operating system. Therefore, make programming using the language "PHP" in configuration with android operating system.

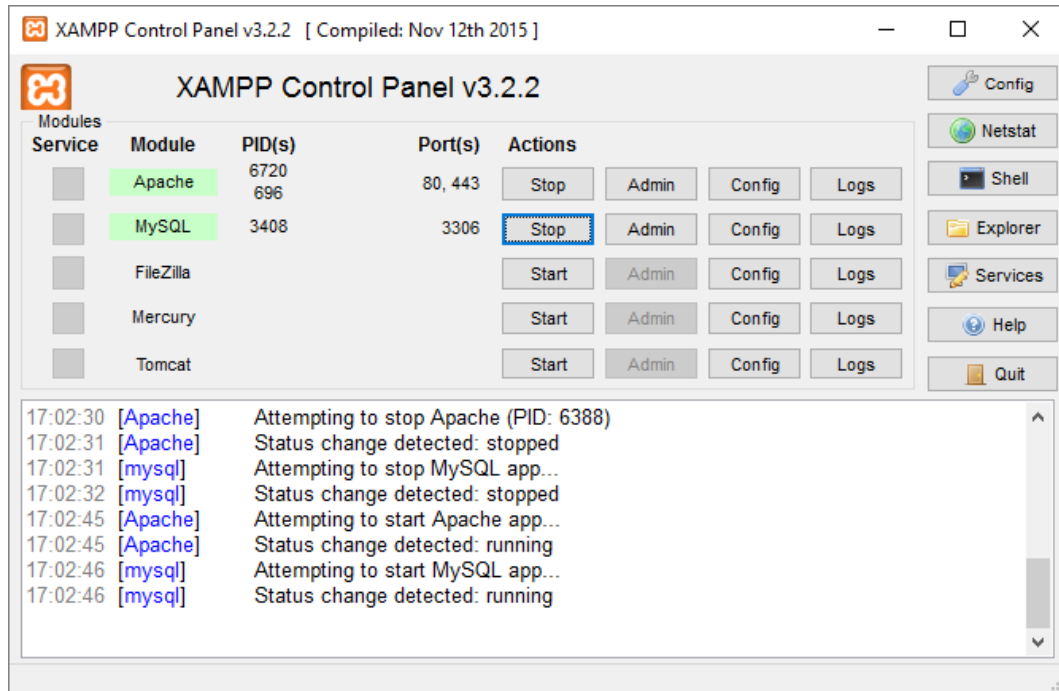


Figure 3. 1 Xampp Local server

Figure 3.1 shows xampp as a local server that is running the syntax as well as a database that stores all the data integrated reading skills.

In Figure 3.2 shows the syntax or code that translates into a website design, so that it will form a design or the desired image

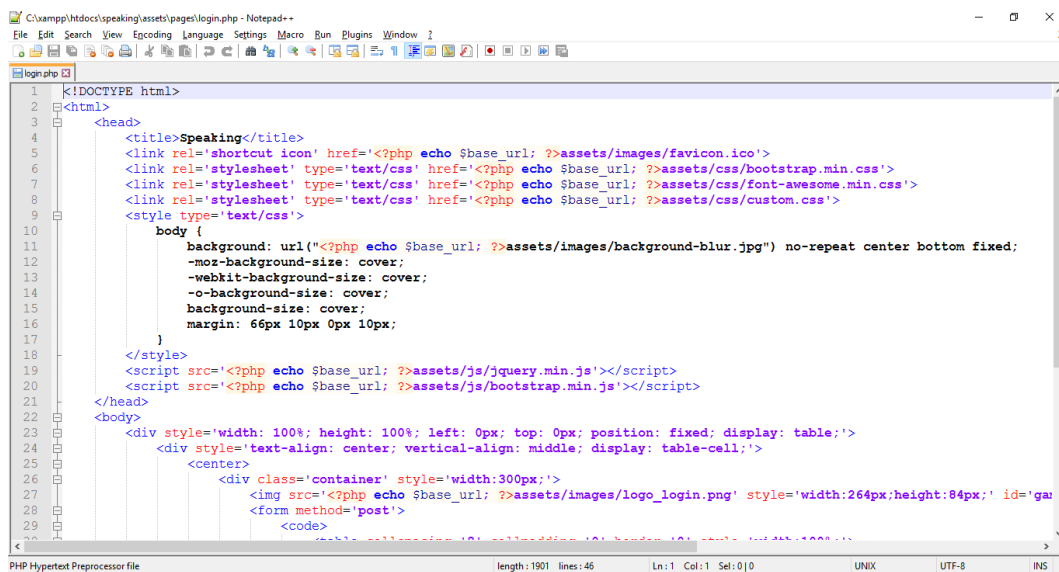


Figure 3. 2 Syntax Translated Into Web Design

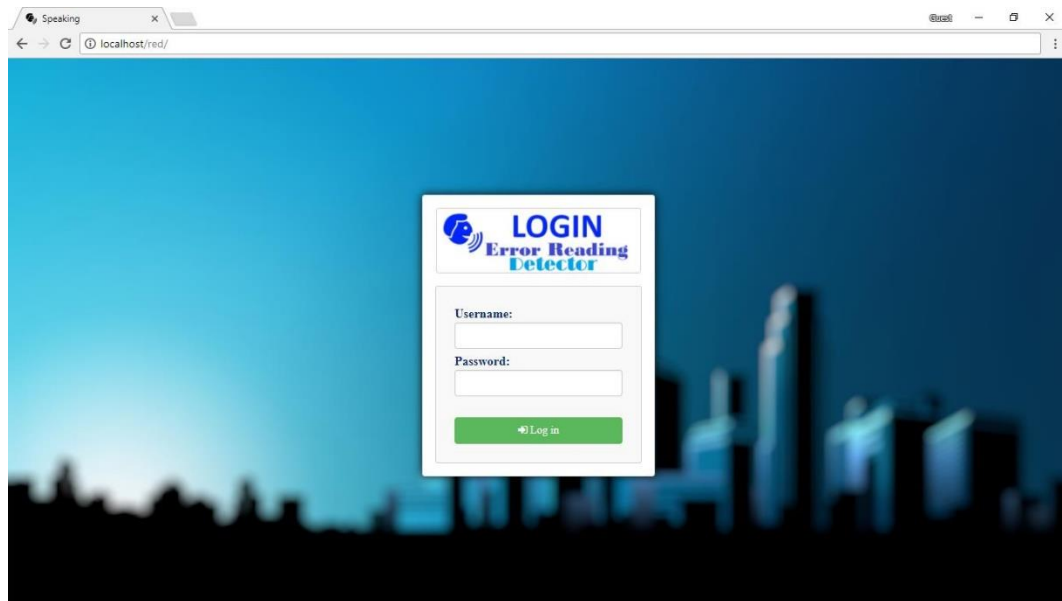


Figure 3. 3 Results of Design Transformation



Figure 3. 4 Menu on The Integrated Reading

3.3.3. Quality Checks

This step is aimed to measure up the appropriateness of the product professionally. The researcher will try out the product which has been developed

by the researcher. The product will be implemented in the classroom to find out how the product will work for students. By involving the experts in the process, the product would be even much reliable. Moreover, the experts can check the mistake or error in the product which could be minimized.

The experts are an English teacher of SMK YPI Darussalam 1 Cerme and an Informatic Lecturer of University of Muhammadiyah Gresik. The experts will get a checklist of the courseware in giving comment related to the product. Then, the researcher finds out the aspect that should be revised or developed more. The first expert will assess the content of the product which consists of the conformity of material, the depth of material, the accuracy of material, and the communicative of language, the accuracy of language, and the material presentation of learning. The second expert will assess software aspect, visual communication aspect, and advantage aspect.