

## **SUPERVISOR APPROVAL**

### **APPLICATION TO ASSESS CHILDREN ABILITY BASED ON SPEECH**

**By**

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This thesis was prepared under the supervision of the project supervisor, Dr. Hayati binti Abd Rahman. It was submitted to the Faculty of Computer and Mathematical Sciences and was accepted in partial fulfilment of the requirements for the degree of Bachelor of Computer Sciences (Hons.) Multimedia Computing.

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## **ABSTRACT**

In Malaysia, preschool children in age between four to six years old will undergo the assessment as the first preparation of skill before they went to learn further into primary school. The purpose of assessment is to determine the level performance of children. One of the skill need to be enhance is reading skill. As in their early stage of education, they need to build and practice by learn to pronounce the word properly through reading assessment. The result of assessment need to be keep by teacher as a record for future reference. Thus, teacher need to manage the record by filing it. However, this method is lack of efficient whereas teacher may have a redundancy of records or some record get missing. In addition, teacher also will took a longer time to compute and display the overall result of the children. So that, they need to have a better record method to reduce their time in manage those result. Hence, this project will overcome the problem as the project aims is to make a teacher easy to record and see the student performance through reading assessment. Besides, this project utilizes Javascript, HTML, CSS, Google Chart and Web Speech API to develop the reading assessment in web application platform along with the visualization of children's result. The evaluation of this project is done by severals lecturer in commit the heuristic evaluation to determine the functionality of application feedback, assessment part, visualization part and usability of this project.

# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

Early education is one of the medium that is importance to children's life. According to Nur Shairah (2016) stated that learning disabilities of children can be diagnosed at early education whereas the intelligence ability among children may be different within their same age of group. Children with problems in learning can be assessed through formal or informal ways. An assessment is useful especially for parents and teachers in assess learning performance and cater of their children in study at early stage before referring their children to a clinical, psychologist or pathologist.

In Malaysia, assessment in preschool level is used by teacher continuously and make it be as apart of teaching also for learning. The result of the assessment obtained by teacher is very useful because teacher can take a follow up action as well as to help them expand the potential of their student in many aspects such as cognitive, affective and psychomotor as a preparation for the student before went to primary school level.

There is an example of the assessment used to the children is screening test which can be download from online and it in paper-based. In united states, the articulation screener test used to help teacher or parents in access the capable of children in speech either having appropriate in development of speech or in delayed by testing the word target pronunciation at the initial position of the word, medial position and the final position (Henks, 2012).

However, in this changes of ages has led to the existing of various technology which broadly use in many areas. Assistive technology is one of the example.

According to Woods (2014) defined the assistive technology as an equipment that are created or renovated to be used by disabilities persons in enhance their weakness. The usage of assistive technology in this era is getting wider especially in education field. Furthermore, the usage of assistive technology not only to help person with disable but it also for person without disable.

Assistive technology become the tools that can assist not only teacher and parents to enhance children performance and ability in learning but also to the children itself. The assistive technology tools can be form either software or hardware which can reduce the impairment in aspect of mobility and sensory from be occurs while using computer technology several such as speech recognition programs, screen readers and screen enlargement applications (Family Center on Technology and Disability, 2012). Speech Recognition is the technology that can translate spoken language into digitized text or turns spoken commands into action. Nevertheless, speech recognition brings benefit for student who having learning disabilities include dyslexia and dysgraphia as they can be assess early before refer to the expert. Thus, in this study, will look up for the easy method in access the ability of children in reading through an assessment.

## **1.2 Problem Statement**

Good communication is importance to deliver information and communicate especially among children. It makes them better to engage in socialization and learn from their surrounding and from classroom instruction. The ability of children to recognize word is importance as it is initial of reading skill before they went for future learning phase.

Mostly, teacher conduct the assessment method as manually which is use the paper based to record the result performance of children. The children will answer the question based on their understanding according to what they have learned in class with guidance from their teacher. All of the result, obtained will be compute to show the achievement level of the children in reading.