COMPUTER-AIDED SYSTEM
FOR
ASSESS DYSLEXIA AMONG CHILDREN

WEK060051 MERVIN SHO HUAN CHUN

Under the Supervision of
Assoc. Prof. Dr. Ow Siew Hock

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This project is focus in developing Dyslexia Assessment System (DAS). It consists of three levels; Beginner, Intermediate and Advance level. The purpose of this system is to assess dyslexic child in the dyslexia center before the child can be enrolled into the class and after the child attended the course. This system is developed also to reduce the time taken by the teachers to assess the child manually and paper required to do the assessment. Each level has different sections with different difficulties. There are three users for each of the level: dyslexic child, admin (teacher), and parent. Each of the level also has user module and admin module. User module is where user to take assessment and view results while admin module is where admin performs editing, deleting and adding to all of the sections. Currently, the system only supports Malay language. In the near future, the system will be improved to support more languages.
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Chapter 1 Introduction

1.1 Project Definition

DAS (Dyslexia Assessment System) is a system which is used to assess the dyslexia among the children through the assessment. The assessment is written by an expert from Persatuan Dyslexia Malaysia. It will reduce the teacher workload while carrying out that particular assessment to assess the dyslexia among children.

1.2 Project Team

This project consists of 3 team members. The development of DAS will be divided among the team members. The system is decomposed into 3 subsystems which are Beginner, Intermediate and Advanced Level.

The table below shows the work breakdown of the 3 subsystems.

<table>
<thead>
<tr>
<th>Metric Number</th>
<th>Name</th>
<th>System Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEK060034</td>
<td>Kong Seng Kean</td>
<td>Beginner</td>
</tr>
<tr>
<td>WEK060036</td>
<td>Lean Zhen Whei</td>
<td>Intermediate</td>
</tr>
<tr>
<td>WEK060051</td>
<td>Mervin Sho Huan Chun</td>
<td>Advanced</td>
</tr>
</tbody>
</table>

Table 1.2 Project Team Work Breakdown
1.3 Problem Statement

Nowadays, there are various methods for detecting the dyslexia among children in the market. For example, Functional Magnetic Resonance Imaging (fMRI). It is very expensive and required expertise for using this method to detect. Even though the accuracy of detection is very high but not everyone afford to pay for it. Besides, there is no proper system to detect dyslexia in Malay. In addition, the current detection in Malay is in manual mode. So, it is slower compared to system. As a result, we decided to develop DAS.

1.4 Project Objective

The objective of this project is to develop a computer-aided system to assess dyslexia among children. Secondly, we would like to conduct an empirical study on the effectiveness of teaching at Persatuan Dyslexia Malaysia by analyzing the pre and post assessment result of student.

1.5 Development Methodology

In the Development Methodology, the Software Development Model that we choose is Spiral Model. As for the Software Development Technique, we chose Prototyping. The reason why the Spiral Model and prototyping are chosen is because that the properties of our future system are rather “visionary”. Many of the requirements are not being explained clearly by our client at the early stage of development. By using this model, our system can be modified to adapt their requirement changes. By June, we will have to at least come out with a prototype system to gather our test data from our test subjects who are students from Persatuan Dyslexia Malaysia. In each stage, the objectives of that stages will be identified, options and constraints will be listed, risks in choosing between different options are considered and lastly plan to proceed to next stage is determined. The prototype built will eventually evolves into our final system.
1.6 Project Scope

The user system is consisting of children and administration staff. Children will be the test subjects who actually use the system to determine whether they are dyslexic in anyway. The children will be divided into different classes of user which are the beginner level, intermediate level and lastly the advanced level. Each class of user will contained different set of assessment test. As for the administrator, they can access the system at admin level which authorizes them to add, modified and delete questions in the system.

1.7 Project Outcome

The final outcome of this project is a computer-aided system to achieve the followings:

- Assess dyslexia among children at beginner, intermediate and advanced levels using detection established by the expert from the Persatuan Dyslexia Wilayah Persekutuan (PDWP).
- Generate report of the detection results for parents as well as for the use of PDWP.

1.8 Project Schedule

Project schedule is “the project timeline, identifying the dates (absolute or relative to a start date) that project tasks will be started or completed, resources will be required and upon which milestones will be reached.” [visitask.com – Schedule 2006]

To make our project a successful one, a project schedule has been planned to manage the time and activities needed to accomplish the project. The activities are displayed in the Gantt Chart below:
1.9 Chapter Summary

In this chapter, it describes the project definition of the DAS system. It also describes the problem statement as well as the objectives of the project that we’re going to achieve. Besides that, it also includes the project scope and the methodologies that we’re going to use in developing this system. The team members that involve in this project are also included together with their names and work breakdown. In the last section of this chapter, the project expected outcome of the DAS and the schedule are also described. The schedule will include the start and end date of each activities involve in this project.