UNIVERSITI MALAYSIA PAHANG

BORANG PENGESAHAN STATUS TESIS ◆

JUDUL: ENGLISH COURSEWARE FOR PRESCHOOL STUDENT

SESI PENGAJIAN: 2011/2012

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ENGLISH COURSEWARE FOR PRESCHOOL STUDENTS

NURUL MAHAYA BT ABDUL RAZAK

Report submitted in partial fulfilment of the requirements
For the award of the degree of
Bachelor of Computer Science (Graphic & Multimedia)

Faculty of Computer Systems & Software Engineering
UNIVERSITI MALAYSIA PAHANG

JUNE 2012

SUPERVISOR'S DECLARATION

"I hereby declare that I have checked this project report and in my opinion this project is satisfactory in terms of scope and quality for the award of the degree of Bachelor of Computer Science (Graphic & Multimedia)"

Signature : .....

Name of Supervisor : TUTY ASMAWATY BT ABDUL KADIR

Date : .....

STUDENT'S DECLARATION

I declare that this thesis entitled "ENGLISH COURSEWARE FOR PRESCHOOL STUDENT" is the result of my own research except as cited in the references. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

Signature : .....

Name : NURUL MAHAYA BT ABDUL RAZAK

Date : .....

DEDICATION

In the Name of Allah, the Most Beneficent, the Most Merciful

To My Beloved Father and Mother:

Abdul Razak Bin Awang

Che Yan Bt Abdul Manaff

...Your Love and Sacrifice Will Be Always In My Mind...

To My Beloved Family Members:

Asnida, Sazali, Nazim, Adreana, Lukhman, Aisyahana

...May Allah Bless You All...

To My Supervisor:

Miss Tuty Asmawaty Bt Abdul Kadir

...Thank A Lot for Support, Encouragement and Guidance...

To My Academic Advisor:

Abbas Salimi Bin Lukhman

...Thank A Lot for Support, Encouragement and Guidance...

To All My Friends:

Especially Nurafidah, Nurul ain, Nurazma, Nuraqilah

...Thank You So Such for Your Supporting Teaching and Sharing Knowledge.

Sincerely

Nurul Mahaya

ABSTRACT

This paper presents a project related to the interactive multimedia (IMM) courseware for preschool students using user adaptive technique (AUI) and decision making technique. The purpose of this project is to develop the English courseware for preschool students and to implement the above two techniques in the multimedia courseware. The targeted users of this software are 6 years old students and English language is chose as the subject based on the curriculum standard by Malaysian Government. An adaptive user interface technique (AUI) let the students to choose their preferred preferences of the interfaces such as the layouts, the cursor, and the characters of the narrators. Besides, decision making technique that implement in the courseware will assist the students to make their decision. The courseware is developed based on ADDIE methodology. It is hoped that the development of this courseware could attract students towards learning activities and as well as enhancing preschool English language education specifically in Malaysia.

ABSTRAK

Kertas ini adalah mengenai satu projek perisian multimedia interaktif yang dibangunkan untuk pelajar prasekolah dengan menggunakan teknik-teknik seperti teknik pengguna adaptif (AUI) dan teknik membuat keputusan ("decision making"). Tujuan utama projek ini adalah untuk membina perisian Bahasa Inggeris untuk pelajar prasekolah dan melaksanakan dua teknik seperti di atas dalam perisian multimedia tersebut. Pengguna yang disasarkan adalah pelajar prasekolah yang berumur 6 tahun dan bahasa inggeris telah dipilih sebagai subjek mengikut sukatan kurikulum oleh kerajan Malaysia. Teknik pengguna adaptif (AUI) membolehkan pelajar untuk memilih keutamaan mereka seperti susun atur latar belakang, kursor dan watak-watak penyampai. Selain itu, teknik membuat keputusan ("desicion making") yang telah dilaksanakan di dalam perisian ini akan membantu pelajar dalam membuat keputusan mereka. Perisian ini dibina berdasarkan kaedah ADDIE. Diharapkan dengan pembinaan perisian ini, dapat menarik perhatian pelajar kea rah aktiviti pembelajaran dan juga meningkatkan tahap pendidikan bahasa inggeris khususnya di Malaysia.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

With decade's development, computers have changed the way people live and study especially in education. The use of computers so far has changed the traditional teaching methods. With the help of computer, teacher can express their idea and lesson more precisely and show it in clearly way with the help of pictures, audio, videos and graphics. There are not only blackboard and chalk thus make the classes become more exciting and interesting for student to learn.

Courseware acts as the medium to combine all the above aspects such as graphics, images, audio and video to present it to the students. Courseware is a term that combines the word course and software. Multimedia courseware use the different communication mediums to assist the student understand the subject that is being presented or illustrate ideas. With the rapid enhancement on interactive multimedia (IMM) courseware in the form of stand-alone CDs or DVDs and the web, student has been provided with exciting new learning styles with the combination of information and entertainment that thus create a new term in education that is, "edutainment". The establishment of smart school recently across Malaysia has rising a demand for more locally produced educational multimedia

courseware. Besides, foreign educational courseware which was used before is now considered not quite appropriate for the Malaysian educational environment and learning needs. Hence, lots of courseware being develops but only a small number of them that meet the student's requirement. They did not concern about the student's learning styles and lack interaction with the students.

Based on the problems, this Interactive English Multimedia courseware is developed as one of the solution for the above problems. The courseware combines the two techniques which are Adaptive User Interface technique (AUI) and decision support technique to improve on the interface and user interaction. The Adaptive User Interface Technique (AUI) let the students to choose the characters of narrator while the decision support technique assist the students to make decision while navigate around the courseware. The courseware treats the students as the main part of the learning process. This courseware concentrate on the English Language subjects for the preschool students aged 6 years old. The modules follow the English Language curriculur standard by Malaysia government. English language is chose because in Malaysia, it is the second language to master and it is a great way to learn it from the early age. It is hoped that this courseware will improve and enhance the quality of the traditional multimedia courseware as well as to assist students to learn English language in fun way.

1.2 Problem statement and motivation

Education plays an important role in development of human knowledge. Thus, with the help of advance technology, the learning process becomes interesting and exciting. Due to the increase of technology, interactive multimedia (IMM) courseware has the potential to catch the students' attention while in the class as well as to improve their understanding of the subject. Studies have shown that students get more information from the presentation that combine videos, audio, picture and graphic. It obviously shows that students learn more effectively with the multimedia courseware than the traditional method that uses blackboard and chalk. Today, there are a lot of demand come from the local people who search for a good courseware to be used for their Childs or students. Indeed lots of

multimedia courseware that being develop, but only a small part of them suitable to be used. This is because the courseware created as only for the teachers but not for the students who are the main part of learning process. The interfaces are not so friendly and students got problem while navigate through it. They sometimes cannot choose their own preferences such as the character of the narrator. Besides, when the students get stuck while using the courseware, there are no options or recommendations for them on how to get out from the situation or how to do next. Generally, the courseware did not have decision support technique. Because of the above problems, lots of courseware did not really suitable to be used and as result the teachers still used the traditional methods while the parents prefer to buy books than courseware.

1.3 Objectives

The objectives of this project are:

i. To develop interactive English multimedia courseware for the preschool students aged 6 years old.
ii. To implement the Adaptive User Interface technique (AUI) in the courseware to let the user change the character of the narrator.
iii. To implement the decision support technique in the courseware to assist the user to make decision while using or navigating the courseware.

1.4 Scope

The scopes of the project that have been identified are:

i. This interactive multimedia courseware is developed for Malaysia preschool students aged 6 years old.
ii. This interactive multimedia courseware is a standalone DVD system.
iii. English language is choosing for the courseware content and it follows the guideline of National Education Curricular by Malaysia Government.

iv. The techniques implemented are Adaptive User Interface technique (AUI) and decision support technique.

1.5 Thesis Organization

This thesis organization was summarizing all the chapter of the thesis. The thesis contains five chapters which are chapter 1, chapter 2, chapter 3, chapter 4 and chapter 5.

Chapter 1 is for introduction. In this chapter, the introduction, problems statement, objective, scope and contribution was included.

Chapter 2 is literature review. This chapter was describe the existing system and the comparison that make between all three existing system. The technique and method also describe in this chapter.

Chapter 3 is methodology. In this chapter, it describes the methods that choose for Intelligent Dialect Dictionary development. It also includes the storyboard.

Chapter 4 is expected result. This chapter continue from the previous chapter.

Chapter 5 is conclusion. This chapter will conclude overall about this propose project.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter briefly describes the review on existing techniques related with multimedia courseware. This chapter comprises two sections: The first section describes the comprehensive review on existing related systems. The second section describes the review on method, equipment, and technology previously used in the same domain.

2.2 Background

Interactive multimedia courseware become on demand after studies show that students get more information and tend to give full attention in class when they get engaged with the courseware (Baharuddin Aris, 1999). Multimedia courseware is attractive, dynamic, and effective since it combine still and moving pictures, audios, animation, videos. Student are motivated to learn because they can construct their own way of learn and decide for themselves how they want their lesson go through. But, since lots of courseware has been develop today, only a small number of them emphases on student's requirement. They did not take the students as the main subject of learning. Different students learn with different styles. Most of the courseware did not take this as serious and end up build courseware that did not satisfy the students. Besides, the courseware did not help the students much. If they get stuck, they seem hard to find way out. As result the students stop learn. This shows that it is important to implement

the decision support technique in the multimedia courseware because not all students become expert for the first time use.

2.3 Existing system

There is several existing system that related to the multimedia courseware. Below are the examples:

Existing courseware	characteristics
http://www.e-learningforkids.org/  Diagram 1. Main interface	✓ Web based multimedia courseware. ✓ Give the user option to choose the language. ✓ Menus are arranged in the vertical order. ✓ Users are able to choose according to subject or grade. The words grade may be misunderstand here. Grade means level of skill. ✓ Provide many subjects for different grade. ✓ No assist/guide is providing for the first time user. ✓ Too many button/ menu organized in main interface. ✓ Cursor change shape when touch

http://kidsone.in/  Diagram 2. Main interface	✓ Web based multimedia courseware ✓ The graphics, images, colors used are good combination. ✓ Interface not simple for first time user. ✓ Clickable button change colors when mouse over.
http://www.mingoville.com/en.html  Diagram 3. Main interface	✓ The best existing multimedia courseware among three. ✓ Have characters of narrator to assist the user while navigate through it. ✓ Courseware in the form of game. ✓ Lots of animations. ✓ Many graphics, images, audio and videos so take time to load from page to page. ✓ The system is not present well when there is low connection of internet. ✓ Cannot be used when there is no connection to internet.

Table 2.3: Comparison between existing systems

2.4 Design That Stimulates the Senses

Humans are mentally stimulated by a number of factors, and this is especially true with children. Successful children's websites implement a number of elements and design principles that create an environment suited for a child's personality and interests.

2.4.1 Bright, Vivid Colors

Bright colors will easily capture and hold a child's attention for long periods of time. Although color choice is a primary factor in designing any type of interface, this is especially true when designing a interface for children since colors make a big impression on children's young minds.

How many of the color combinations used in the screenshots below would succeed on a courseware aimed at an adult audience? Not many. So, when designing a site aimed at kids, use bright, vivid colors that will visually stimulate in an unforgettable way.

2.4.2 A Happy Mood

Kids will remember and return to a courseware if their experience is a happy one. Elements can be incorporated into the design to ensure that a cheerful, positive mood is presented.

Mickey Mouse Clubhouse website creates a happy mood by making Mickey himself a visual focal point on the page. His happy face and body language help enhance this happy feeling, creating a welcome atmosphere.

2.4.3 Elements From Nature

Children are stimulated by recognizable elements that they can relate to. Because children's experiences in life are limited, some of the things they are most familiar with are found in nature. Natural elements such as trees, water, snow, and animals are used in the websites

shown below. In many cases, these elements are overemphasized through size or simplicity of design.

The Disney website alters its theme depending on what product is being promoted. In this screenshot, they use a Grand Canyon-like landscape to create a memorable visual experience.

2.4.2 Larger-Than-Life Design

Large design elements have proved to be effective in all types of web design, demonstrated by the fact that large typography, large buttons, and large call-to-action areas have become commonplace in modern design. Because children are naturally drawn to simple, obvious, and recognizable objects, courseware designed for children will increase their effectiveness through the use of large design elements.

2.4.5 Animated Characters

Large, animated, speaking characters are a fascinating and captivating way to grab and hold a child's attention. Many coursewares designed for children use this element effectively.

2.4.6 Navigation and Call-to-Action Areas That Stand Out

In any interface design, navigation and call-to-action areas should be focal points. Children's courseware designers can oversimplify these areas so that children can navigate easily. Text-based navigation on children's websites would not be as effective as large buttons and graphics, because they would lack visual focus on a page.

2.4.7 User Interaction

Probably one of the most important ways for a children's courseware to succeed is to include elements that allow a child to interact with the site in some way. Children don't want to do intense reading or research; they want to play and be entertained.

On a typical website, certain design elements are viewed as distracting, unusable, and cumbersome. On a child's website, those same elements are viewed as an effective means of attracting users.

2.4.8 Interaction through Animation and Sound

Effects and experiences created with Adobe Flash are discouraged in typical modern web design, but on children's sites there is almost no other option. It's true that JavaScript animation and effects have come a long way because of the many JavaScript libraries available, but the ease with which complex animations can be created with Flash makes this method the first choice for many commercial websites designed for kids.

The Pauly's Playhouse site, like most of the websites featured in this article, is built entirely in Flash.

2.4.9 Talking Navigation

Sometimes a navigation bar will produce sound effects, but in other cases, the navigation links will sound out what they represent in a cheerful voice.

2.4.10 Analysis of the learning styles

Different students use different learning styles in studying. Sometimes they keep change their learning styles according to their need and environment. They operate as activist, a theorist, a pragmatist or a reflector (Baharuddin Aris, 1999). There are students

2.5.2 Decision making technique

Decision making can be regard as the process of resulting in the selection of a course of action. Every decision making will produce a final choice.

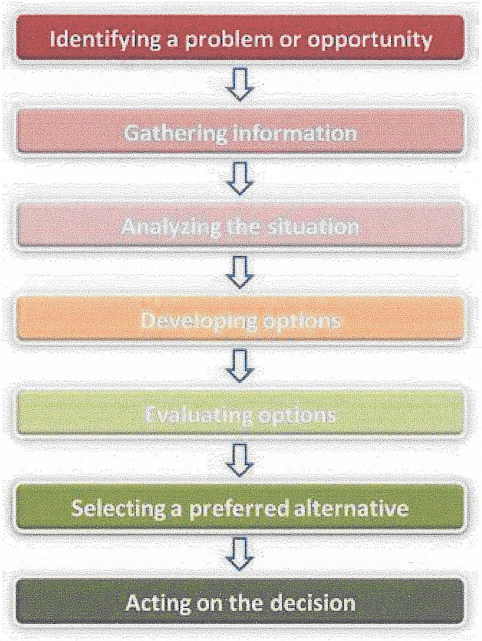


Figure 2.5.2 Flowchart of Decision making steps

who learn best with looking to pictures, listen to sound and interact with the courseware. Thus, the courseware developer has to take into account of it so that they can come out with the best courseware that satisfies the students. The courseware developer has to build the courseware that has different style of learning for example in exercise in order to produce successful multimedia courseware (Knox, 1977).

2.5 Technique used

2.5.1 Adaptive User Interface (AUI)

Adaptive User Interface (AUI) is a part of Human Computer Interaction that let the user to choose the preferred preferences (Wikipedia, 2011). The examples of the preferences are the layouts, cursor and character of narrator. The advantages of Adaptive User Interface (AUI) are that it has ability to meet the user needs. The AUI allow showing only relevant information based on the current user. This provides ease of access throughout the system.

2.5.1.1 The types of Adaptive User Interface technique implementation

2.5.1.1.1 Adaptive Presentation

It is used to display certain information based on the current user. Users with basic knowledge will only be shown with minimal information while users with high knowledge or skill will be show with more detailed information.

2.5.1.1.2 Adaptive navigation

It is used to help or guide the user to specific goal within the system by let the user altering the way of the system that he or she want. Example of adaptive navigation include provide links, provide altering layout for the user.

2.5.3 English language preschool curriculum by Malaysia Government.

No	Content	Learning
1	**Listening skills** listen to and recognize similarities in the sounds of language	1. identify words with the same beginning sounds 2. identify words with the same ending sounds
	listen to and recognise differences in the sounds of language	1. discriminate words with different beginning sounds 2. discriminate words with different ending sounds
	listen to and understand meanings of simple words	1. listen to words said aloud and identify objects named in the environment 2. listen to words said aloud and match with pictures
	listen to and follow simple instructions	1. listen and carry out simple instructions 2. Listen and perform actions based on instructions in games
	listen and respond to simple songs, poems, stories and dialogues	1. listen to songs and rhymes and respond to the rhythm 2. listen to songs, rhymes and stories and performs actions according to the meaning
2	**Speaking skills** communicate with peers, teachers and other adults socially	1. use body language such as gesture, eye contact and facial expression with appropriate language responses 2. Carries out simple functions of language orally eg. To greet, to thank, to ask 3. to carry out simple conversations
	use simple words	1. name parts of the body 2. name members of the family 3. name things in the environment 4. name things in the familiar stories, poems and songs
	Use simple statements	1. Talk about family experiences, favorite things and activities 2. talk about the weather 3. say out repeated sentences

		in stories
	ask simple questions	1. ask others about favourite things and activities 2. ask questions based on observations 3. ask questions based on stories they hear
	sing songs and recite rhymes and poems	1. sing songs and perform appropriate actions 2. recite simple rhymes and poems
	tell simple stories	1. tell stories about familiar things 2. retell stories using visual props
	dramatize familiar situations and stories	1. role play familiar daily situations 2. dramatise familiar stories
3	**Reading skills** recognize letters of the alphabet	1. link sounds to the letters 2. name and sound the letters of the alphabet
	hear and say initial and final sounds, and short vowel sounds within words	1. recognise and say the initial sound in the words and know which letters represent some of the sounds 2. hear and say vowel sounds
	read simple words	1. recognise and sound simple words 2. point to letters, words labels, labels and read or name them 3. recognise some familiar words
	develop interest in reading	read 2. read different texts

Figure 2.5.3 Table of stand English language by Malaysia curricular

2.6 Software approach

2.6.1 Adobe Flash Professional CS5

Adobe Flash Professional is a multimedia tool used to create content for the adobe engagement platform such as games, movies, courseware, content for mobile phones and web applications. It helps in create the animation, button, animated movie clip used in the interface. Adobe flash also let the user to draw inside it. It assists in produce expressive interactive content.

2.6.2 Adobe Photoshop CS5

Adobe Photoshop is a tool used to create and edit powerful image. The features inside it are image-editing software, lens corrections, automated editing tools and improvement to create 3D images.

CHAPTER 3

METHODOLOGY

3.1 Introduction

This chapter briefly explains the methodology that this interactive English courseware used to manage the courseware development. The methodology that applied in this development process is ADDIE model.

Methodology is a principle from which specific methods or procedures may be derived to interpret or solve different problems within the scope of a particular discipline. Different from an algorithm, a methodology is not a formula but a set of principles.

This project is a paradigm all of the system development which is consists of development phases from beginning of development until the end of the multimedia courseware. The ADDIE is select as methodology to guide in develops courseware it also ensures that the development of the courseware can be conduct in smooth way.

3.2 ADDIE model

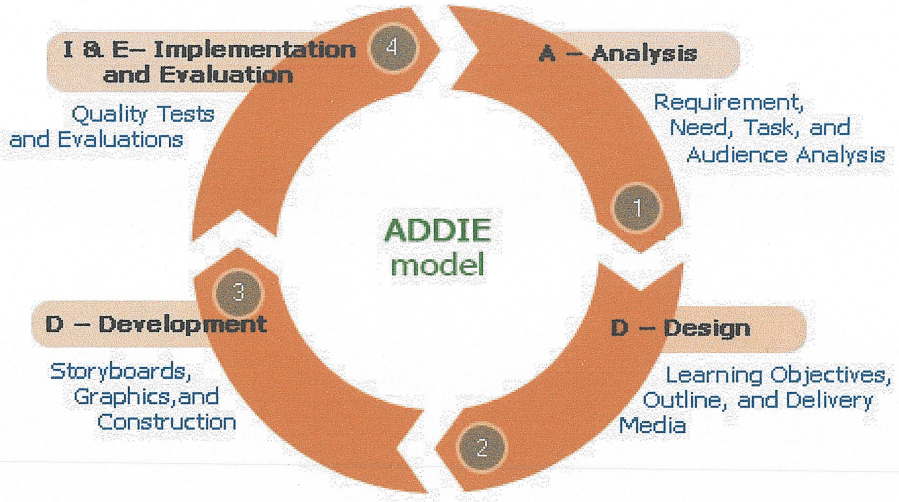


Figure 3.2 ADDIE model

ADDIE refers to a methodology for developing systems like multimedia courseware. Traditionally the ADDIE model generate process which normally used by instructional designers and training developers. The five phases of this model are analysis, design, development, implementation and evaluation. These phases present a dynamic, flexible guideline foe building effective training and performance. This ADDIE model is an Instructional System Design (ISD) model.

3.2.1 Justification of using ADDIE

The reason why ADDIE is chose as model in this project is that the phases are systematic where the steps are carefully describe and follow a logical order. It is also a systemic model which the steps are intended to cover all processes critical for success as for example the designer is constantly aware of the interdependence of the elements of the total instructional system. Furthermore, ADDIE model is reliable because the steps are spelt out in sufficient detail and it is also iterative model to be used. The cycle of the steps which are analysis, design, development, implementation and evaluation will be repeated for number of times during this project.

The phases that involve in this project are:

i. Analysis phase
ii. Design phase
iii. Development phase
iv. Implementation phase
v. Evaluation phase

3.2.1.1 Analysis phase

In this need analysis phase, a few activities involve, such as identifying what the courseware will be develop and recognize the problem that face by current courseware based on case study taken from research of existing courseware. Besides, through this phase an analysis is done by identify user age and knowledge about English language, determine the courseware objective, gather information related to the content of the courseware, match the information gathered and finally specify the hardware and software that suitable to use.

3.2.1.2 Design phase

In this phase of courseware development process, the overall courseware structure and framework is developed. First the storyboard is created, and then followed by interface design. There are two specification used in this courseware which are adaptive user interface technique in designing screen and decision making technique to assists the user so that it meets the user requirement.

3.2.1.3 Development phase

During this phase, the courseware is developed. All of the courseware media such as button, graphic, animation, sound and voice that have been develop will be integrated and navigation button used to link each interface or module in the courseware prototype. Besides, the actual programming code is also generated during this stage.

3.2.1.4 Implementation

Based on decision making system technique and User adaptively technique approach, courseware interface and modules were designed according to the storyboard created earlier in the design phase. The development and implementation of the courseware is presented in the courseware flowchart as showed in figure 4. The courseware consists of 4 modules including user adaptively interface module, mission modules, exercise modules and quiz modules. User can choose on how to create their path of learn whether to select mission module, exercise module or quiz module. But the better learning flow is that students need to go to mission first, then do exercise and after that try the quiz module. The decision making technique had been implemented in the quiz module where the students will be given a set of decision to assist them while doing the quiz.

3.2.1.5 Testing

When the courseware prototype and the coding are done, the courseware program testing started. As this courseware used adobe flash, it will be burn to DVD and then will be installing to computer.

3.2.2 User adaptively interface module

The module will give option for the user to choose the character of narrator according to their preferences that will be used while navigate the courseware.

3.2.3 Mission module

This module consists of 8 missions that need to be completed by the user. The missions are the structured learning course in which 8 themes are covered using a variety of recurrent activities. Each mission contains activities. The themes that are covered the family, weather and seasons, numbers and letters, clothes, the body, food and shop, animals, house.

3.2.4 Activities module

Each mission consists of a sequence of activities which ensures that the students meet the same words repetitiously in varying forms and contexts throughout the words.

3.2.5 Quiz module

The quiz module will consist of 5-6 sets of questions that combine all the 'missions' that the users learn from the activity module. The rule based expert system implemented here. The courseware will examine user's understanding of the learning through the result of the quiz and show how percent the user could understand the learning and will give suggestion to the user which part they have to improve.

CHAPTER 4

IMPLEMENTATION

4.1 Introduction

This chapter will be describing the whole processes in the project development. Generally this chapter describes the implementation of the project. The implementation would be on the interface design and source code of the project.

4.2 Interactive English Multimedia Courseware interface

4.2.1 Homepage interface

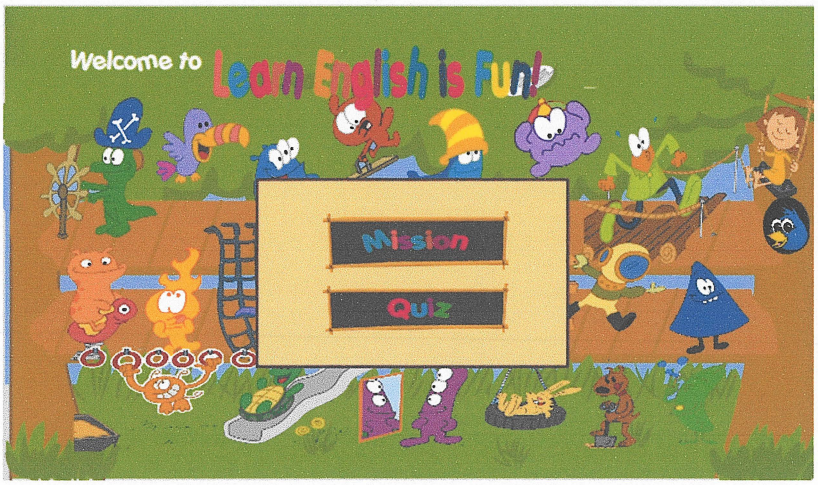


Figure 4.2.1 Interface of homepage

4.2.2 Adaptive User Interface (AUI) interface

Figure 4.2.2 Interface of Adaptive User Interface (AUI)

4.2.3 Mission module interface

Figure 4.2.3 Interface of Mission module

Figure show that the interface for mission module that consist of 8 missions. These missions are my family, numbers and letters, food and shops, the body, clothes, weather and seasons, animals and house.

4.2.3.1 My family interface

Figure 4.2.3.1 Sample interface of My family

4.2.3.2 The body interface

Figure 4.2.3.2 Sample interface of The Body

4.2.3.3 Clothes interface

Figure 4.2.3.3 Sample interface of Clothes

4.2.3.4 House interface

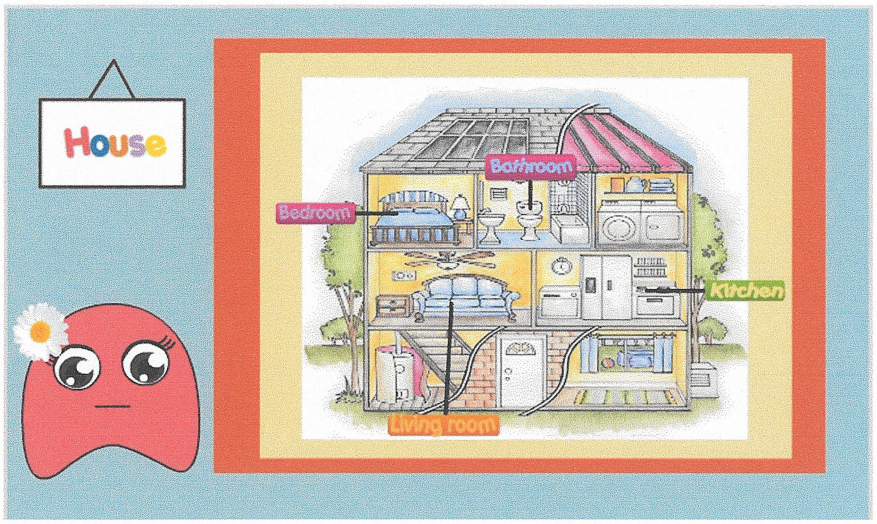


Figure 4.2.3.4 Sample interface of House

4.2.3.5 Animals interface

Figure 4.2.3.5 Sample interface of Animals

4.2.3.6 Weather & seasons interface

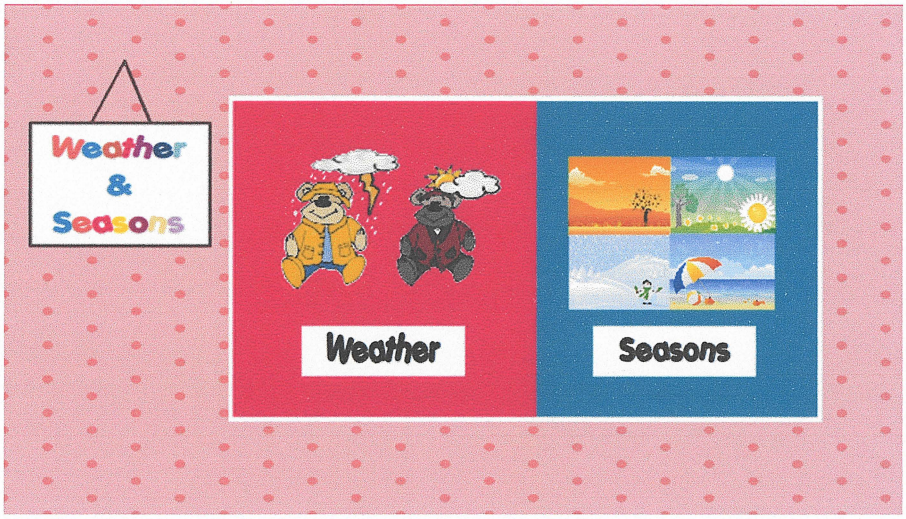
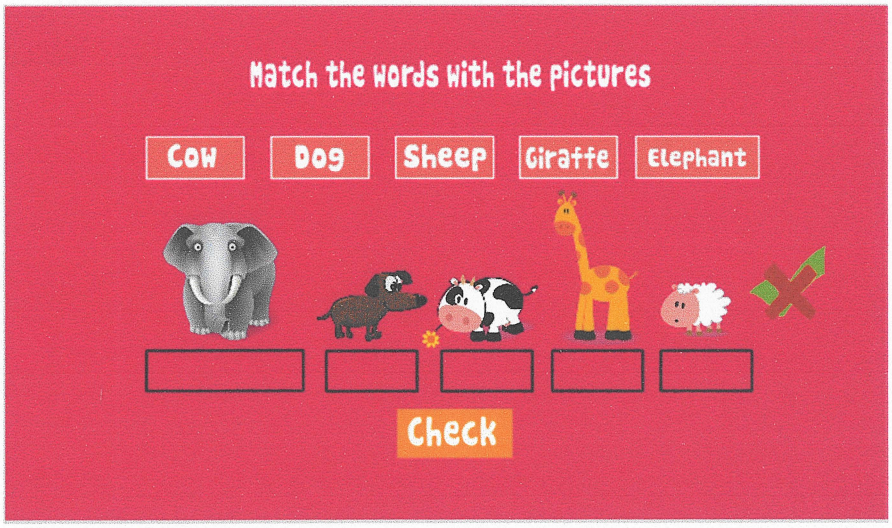


Figure 4.2.3.6 Sample interface of Weather & Seasons

4.2.3.7 Foods and shop interface

Figure 4.2.3.7 Sample interface of Foods & Shop

4.2.3 Quiz module interface



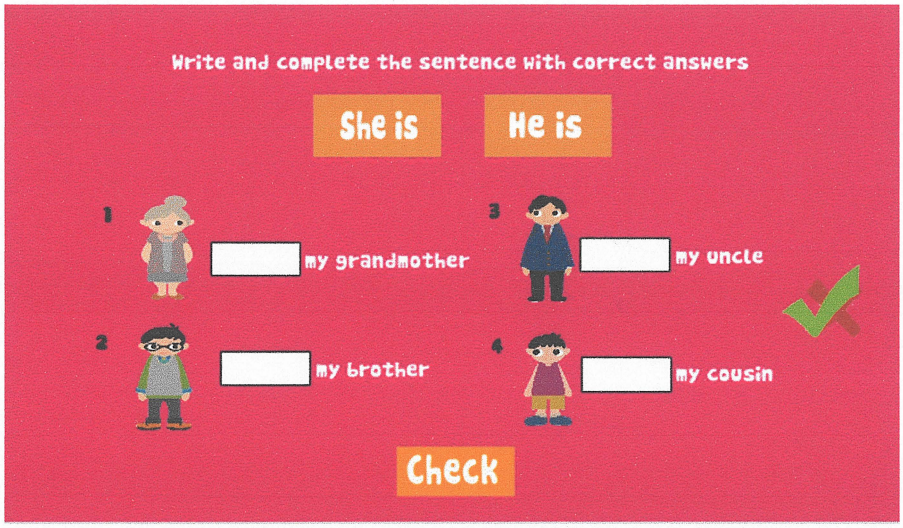


Figure 4.2.3 Sample interface of the quiz module

4.3 Implementation of coding

```
stop();
button_wan.visible = true;
button_wan.addEventListener(MouseEvent.CLICK,
fl_ClickToGoToAndStopAtFrame_12);
function fl_ClickToGoToAndStopAtFrame_12(event:MouseEvent):void
{       gotoAndStop(2);}
 stop();
button_uncle.addEventListener(MouseEvent.CLICK,
fl_ClickToGoToAndStopAtFrame_18);
function fl_ClickToGoToAndStopAtFrame_18(event:MouseEvent):void
{       gotoAndStop(8);}
stop();
button_aunty.addEventListener(MouseEvent.CLICK,
fl_ClickToGoToAndStopAtFrame_19);
function fl_ClickToGoToAndStopAtFrame_19(event:MouseEvent):void
{       gotoAndStop(9);}
```

Figure 4.3.1: Sample Action Script for My family

```
b_Letters.addEventListener(MouseEvent.CLICK,
fl_ClickToGoToAndStopAtFrame_24);

function fl_ClickToGoToAndStopAtFrame_24(event:MouseEvent):void
{
        gotoAndStop(3);
}
b_Numbers.addEventListener(MouseEvent.CLICK,
fl_ClickToGoToAndStopAtFrame_23);

function fl_ClickToGoToAndStopAtFrame_23(event:MouseEvent):void
{
        gotoAndStop(2);
                                        }
```

Figure 4.3.2: Sample Action Script for Letters and numbers

```
b_foggy.visible = false;
b_foggy.addEventListener(MouseEvent.CLICK, fl_ClickToHide_20);

function fl_ClickToHide_20(event:MouseEvent):void
{
        mc_weather.visible = false;
        mc_foggy.visible = true;
        mc_sunny.visible = false;
        mc_rainy.visible = false;
        mc_thunder.visible = false;
        mc_tornado.visible = false;
        mc_windy.visible = false;
        mc_overcast.visible = false;
        mc_rainbow.visible = false;
        mc_sunrise.visible = false;
        mc_snowy.visible = false;
}
b_rainy.visible = false;
b_rainy.addEventListener(MouseEvent.CLICK, fl_ClickToHide_21);

function fl_ClickToHide_21(event:MouseEvent):void
{
        mc_weather.visible = false;
        mc_rainy.visible = true;
```

```
        mc_sunny.visible = false;
        mc_thunder.visible = false;;
        mc_tornado.visible = false;
        mc_windy.visible = false;
        mc_foggy.visible = false;
        mc_overcast.visible = false;
        mc_rainbow.visible = false;
        mc_sunrise.visible = false;
        mc_snowy.visible = false;
                                }
```

Figure 4.3.3: Sample Action Script for Weather and seasons

```
b_6.addEventListener(MouseEvent.CLICK,
fl_ClickToGoToAndStopAtFrame_30);

function fl_ClickToGoToAndStopAtFrame_30(event:MouseEvent):void
{
        gotoAndStop(2);
}
b_5.addEventListener(MouseEvent.CLICK,
fl_ClickToGoToAndStopAtFrame_28);

function fl_ClickToGoToAndStopAtFrame_28(event:MouseEvent):void
{
        gotoAndStop(3);
}
b_4.addEventListener(MouseEvent.CLICK,
fl_ClickToGoToAndStopAtFrame_27);

function fl_ClickToGoToAndStopAtFrame_27(event:MouseEvent):void
{
        gotoAndStop(5);
}
b_3.addEventListener(MouseEvent.CLICK,
fl_ClickToGoToAndStopAtFrame_26);

function fl_ClickToGoToAndStopAtFrame_26(event:MouseEvent):void
{
        gotoAndStop(2);
}
```

```
b_2.addEventListener(MouseEvent.CLICK,
fl_ClickToGoToAndStopAtFrame_29);

function fl_ClickToGoToAndStopAtFrame_29(event:MouseEvent):void
{
        gotoAndStop(4);
}
b_1.addEventListener(MouseEvent.CLICK,
fl_ClickToGoToAndStopAtFrame_25);

function fl_ClickToGoToAndStopAtFrame_25(event:MouseEvent):void
{
        gotoAndStop(3);
 }
```

Figure 4.3.4: Sample Action Script for Animals

```
b_back.addEventListener(MouseEvent.CLICK,
fl_ClickToGoToAndStopAtFrame_48);

function fl_ClickToGoToAndStopAtFrame_48(event:MouseEvent):void
{
        gotoAndStop(1);
}
mc_oven.stop();
b_cooker.addEventListener(MouseEvent.CLICK, fl_startplaying_7);
function fl_startplaying_7(event:MouseEvent):void {
//play();
mc_oven.visible = true;
mc_oven.play();
}
b_pot.addEventListener(MouseEvent.CLICK, fl_startplaying_6);
function fl_startplaying_6(event:MouseEvent):void {
//play();
mc_pot.visible = true;
mc_pot.play();
}
mc_frying.stop();
b_frying.addEventListener(MouseEvent.CLICK, fl_startplaying_9);
function fl_startplaying_9(event:MouseEvent):void {
```

```
        //play();
        mc_frying.visible = true;
        mc_frying.play();
}
```

Figure 4.3.5: Sample Action Script for House

```
        stop();
        mctrue._visible = false;
        mcfalse._visible = false;
        //finish._visible = false;
        //b._visible = false;
        //finish._visible = false;
        clickme.onPress = function()
        {
                if ((field10.text == "She is") && (field11.text == "He is")&& (field12.text
        == "He is") && (field13.text == "He is"))
                {
                        mctrue._visible = true;
                        betul = betul+1;
                        //clickme._visible = false;
                        //finish._visible = true;
                        //b._visible = true;
                        //b._visible = true;
                        //finish._visible = true;
                }
                else if ((field10.text == "she is") && (field11.text == "he is") &&
        (field12.text == "he is") && (field13.text == "he is"))
                {
                        //field2.text = "Congratulations! Your answer is correct";
                        betul = betul+1;
                        mctrue._visible = true;
                        //clickme._visible = false;
                        //b._visible = true;
                        //finish._visible = true;
                        //b._visible = true;
                        //finish._visible = true;
                }
                else
                {
```

```
                //field2.text = "Sorry! Your answer is wrong";
                salah = salah+1;
                mcfalse._visible = true;
                //clickme._visible = false;
                //b._visible = true;
                //finish._visible = true;
                //x = new Sound();
                //x.attachSound("CHIMES");
                //x.start(0,1);
                //b._visible = true;
                //finish._visible = true;
        }

}

mcfalse._visible = false;
mctrue._visible = false;
cow.onPress = function()
{
        this.startDrag(true);
        //status5 = "";
};
cow.onRelease = function() {
        this.stopDrag();
};
dog.onPress = function() {
        this.startDrag(true);
        //status5 = "";
};
dog.onRelease = function() {
        this.stopDrag();
};

sheep.onPress = function() {
        this.startDrag(true);
        //status5 = "";
};
sheep.onRelease = function() {
```

```
        this.stopDrag();
};

giraffe.onPress = function() {
        this.startDrag(true);
        //status5 = "";
};
giraffe.onRelease = function() {
        this.stopDrag();
};

elephant.onPress = function() {
        this.startDrag(true);
        //status5 = "";
};
elephant.onRelease = function() {
        this.stopDrag();
};
clickme.onPress = function() {
        //status5 = "";
        if ((eval(cow._droptarget) == h) && (eval(dog._droptarget) == g) &&
(eval(sheep._droptarget) == j) && (eval(giraffe._droptarget) == i) &&
(eval(elephant._droptarget) == f))
        {       betul = betul + 1;
                mctrue._visible = true;
                //status5 = "Congratulation! Your answer correct.";
                //betul = betul+1;
                //x = new Sound();
                //x.attachSound("btol");
                //x.start(0,1);
                //s2._visible = true;
        }
        else
        {       mcfalse._visible = true;
                salah = salah + 1;
        }
};
```

Figure 4.3.6: Sample Action Script for Quiz module

CHAPTER 5

RESULT AND DISCUSSION

5.1 Introduction

This chapter briefly discusses the results of the project and following by discussion.

5.2 Expected Results

This Interactive Multimedia English courseware is built to be used by preschool students aged 6 years old. The English is taught according to National Educational Curricular by Malaysia Government. It is a multimedia courseware which combines the Decision making technique and user adaptive technique. The kids are hoped will learn English in the fun way.

The courseware contains multitude of English activities that range from the educational activities, to exercise. The activities speak to all senses and intelligences by combining pictures, animation, sound and text. With this courseware, it is expect that students will get some knowledge to assist them before entering primary school.

The courseware also is built based on four principles such as differentiated tuition, use of many learning styles, independent learning and ICT integration. With differentiated tuition, it is hoped to possibility address the child's individual needs for a variety of input. Besides, the courseware is expect to take the children's wide ranges of learning styles and his or her multiple intelligent into account. Through this courseware also, it will help the child to improve their autonomy and knowledge about their own learning integration in curriculum through holistic learning environment.

Regardless of the child's prior knowledge of English, he or she will experience the English language in a natural context where it is comfortable, useful and meaningful for them to try out their understanding of the language.

5.3 Advantages and disadvantages

5.3.1 The advantages of this system are:

1. The navigation will produce sound effect and sometimes navigations link will sound out what they represent in a cheerful voice.
2. Students will be able to learn various topic in a single courseware
3. Students can choose their own character.
4. The use of bright colors will let the students have a long term memory of what they learn

5.3.2 The disadvantages of this system are:

1. Students cannot choose many exercises

2. Do not have many animations

5.4 Future Work

Although this courseware already fulfill the objectives, scopes and purpose successfully, but it still have some limitations. There are two constraints of the system:

1. The exersices are limited
2. The animation are limited

There are some suggestion for this courseware:

1. Variety of exercises
2. Many animations

5.5 Discussion

The implemented of decision making technique and user adaptive technique in this courseware is hoped could generate new perspective in user design and promote new era of multimedia courseware production.

This courseware is created as an alternative medium in changing the traditional teaching and learning that only use textbooks as a reference or chalk and talk into a better form of learning environment. It is also expected to be a major contributor in learning and teaching English preschool and as a medium for the implementation Of Information and Communication Technology (ICT) in preschool education in Malaysia.

CHAPTER 6

CONCLUSION

In conclusion, Interactive multimedia courseware has been shown to be highly effective in increasing student motivation and learning. The interactive multimedia courseware that combine the decision making technique and Adaptive User interface implemented in this courseware could generate new perspective in user interface design and promote new era of multimedia courseware production. It is hoped that the development of the courseware could attract students toward English education in order to prepare them before entering the primary school. Hence, the courseware could help to produce excellence student with good attitude for the sake of the country in developing a knowledge and success society.

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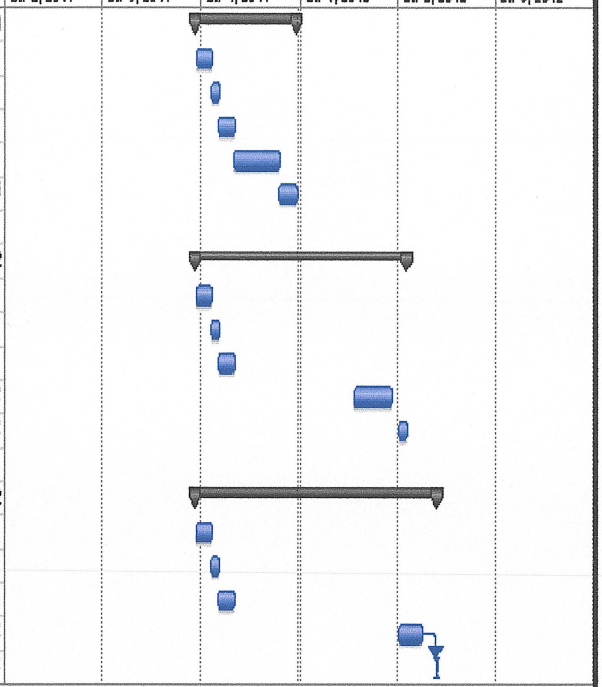
APPENDIX A

GANTT CHART

ID	Task Name	Duration	Start	Finish
1	iteration 1	68 days?	Mon 26/09/11	Wed 28/12/11
2	intital planning	11 days?	Mon 26/09/11	Mon 10/10/11
3	Requirement	6 days?	Mon 10/10/11	Mon 17/10/11
4	Analysis and Design	11 days?	Mon 17/10/11	Mon 31/10/11
5	implementation and testing	31 days?	Mon 31/10/11	Mon 12/12/11
6	Evaluation and Deployment	13 days?	Mon 12/12/11	Wed 28/12/11
7				
8	iteration 2	141 days?	Mon 26/09/11	Mon 09/04/12
9	Initial Planning	11 days?	Mon 26/09/11	Mon 10/10/11
10	Requirement	6 days?	Mon 10/10/11	Mon 17/10/11
11	Analysis and Design	11 days?	Mon 17/10/11	Mon 31/10/11
12	Implementation and Testing	26 days?	Mon 20/02/12	Mon 26/03/12
13	Evaluation and Deployment	8 days?	Mon 02/04/12	Mon 09/04/12
14				
15	iteration 3	161 days?	Mon 26/09/11	Mon 07/05/12
16	Initial Planning	11 days?	Mon 26/09/11	Mon 10/10/11
17	Requirement	6 days?	Mon 10/10/11	Mon 17/10/11
18	analysis and Design	11 days?	Mon 17/10/11	Mon 31/10/11
19	Implementation and Testing	16 days?	Mon 02/04/12	Mon 23/04/12
20	Evaluation and Deployment	1 day?	Mon 07/05/12	Mon 07/05/12



Project: gantt chart psm
Date: Fri 30/12/11

Task
Split
Progress
Milestone
Summary
Project Summary
External Tasks
External Milestone
Deadline