

2012 SBA Sample

Module C

Title: English Vocabulary Game

## A. Objective and Analysis

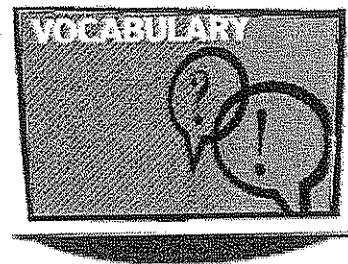
### What is an information system?

Information systems are implemented within an organization for the purpose of improving the effectiveness and efficiency of that organization. There are different types of information system, for example: office system, knowledge management system, database management system etc. Information system can handle various problems at the same time.

### Situation

An English language learning centre would like to provide an information system for children to play English vocabulary games which improve their English vocabulary. I am the IT project manager responsible for the project.

As internet is developed so quickly, children are now so easy to get into internet for different kinds of information. The English learning centre now set up a system that can allow children to play English games in order to improve their vocabulary. This is a very good idea since they now put more time on using the computer, if they play those games, they can learn English in a more fun way and thus more effectively.



### Problems

There are several problems need to face during before doing the project:

- ▶ Which English game we should provided to the children?
- ▶ What other functions and resources we need to include for both the children and parents?
- ▶ How to make the whole information system user-friendly?
- ▶ How to make the whole information system use less pc resources? (lower requirement)



### Identification of users

The ranges of user are primary school students. They are mainly age 6-12. They are familiarized with basic computer skills as the schools have computer lessons. Most of them are able to access the internet both from school and home.

### Sub Problems

#### English Vocabulary Game:

- What input method we should use in the game?  
Example: Keyboard, touch screen
  
- What outputs we need?  
Example: Animations, Sound effects
  
- How do the game record each player's score?

#### Information system

- What additional functions we need to provide?  
Example: Communication Platform, Mailbox,
  
- Can the information system display different languages?
  
- What software I need to design the layout?

## Requirements

### Basic requirement

CPU: Intel Pentium IV, AMD Sempron or above.

Memory: 1GB for Windows XP, 2GB for Windows Vista is recommended

Hard Disk: 40GB or above

Graphics card: Onboard Graphics

Sound card: Onboard Sound card

Internet Connection: Board band Ethernet connection is recommended

Display Adaptor: True color/high color VGA Monitor with 1024\*768 resolutions or more.

### Recommended requirement

CPU: Intel Core 2 Duo E8200 or above

RAM: 2GB or more.

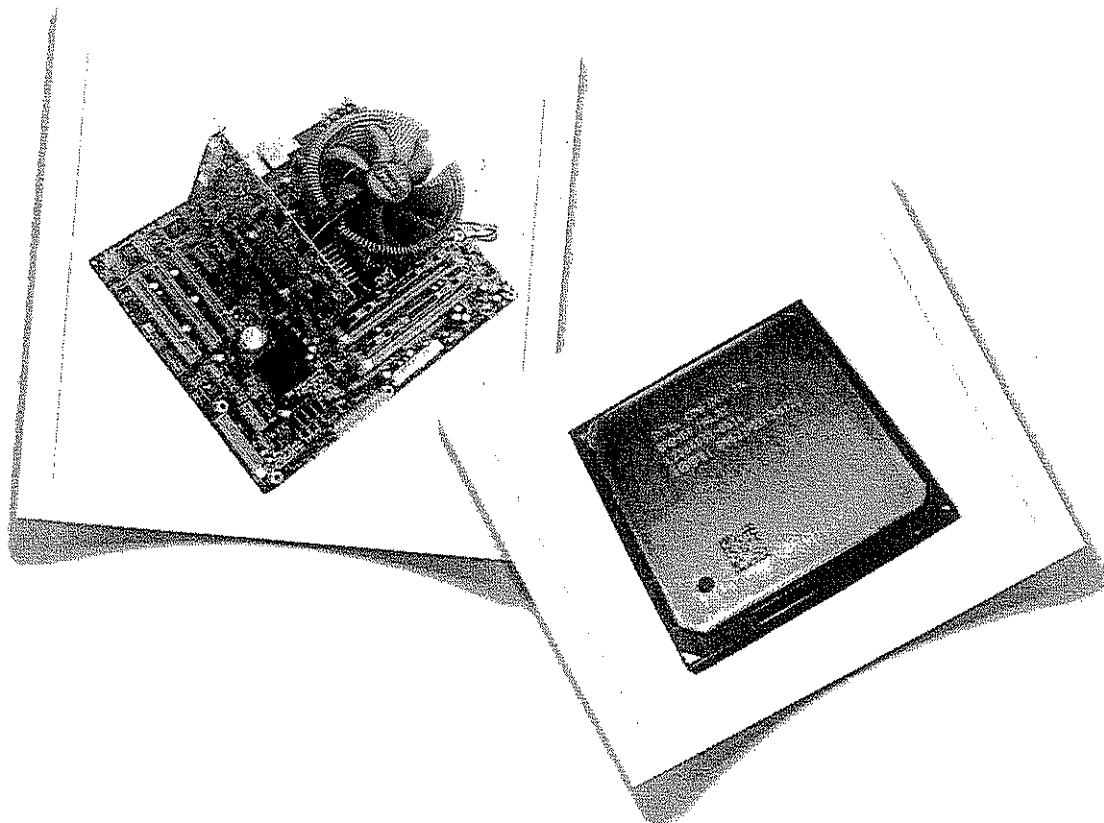
Hard Disk: 80GB or above

Graphics Card: Standalone Graphics card

Sound Card: Standalone Sound card

Internet Connection: Board band Ethernet connection is recommended

Display Adaptor: True color 32bit, 1024\*768 resolutions or more



### Alternative way of solving the problem

Main Target: How to improve children's English vocabulary?

#### 1. English game worksheet

Advantage:

- ▶ It has a lower cost, comparing to copy paper than building a webpage

Disadvantage:

- ▶ It may only can distribute to learning centre's student
- ▶ It is not environment-friendly
- ▶ It cannot record the result/mark of each player

#### 2. Watch English movie

Advantage:

- ▶ It is funnier than reading at books or working on worksheets
- ▶ They have different genres that can attract children to watch it

Disadvantages:

- ▶ children cannot learn vocabulary efficiently
- ▶ there may be improper words appear
- ▶ cannot see how they improve through watching movies

#### 3. Read English vocabulary card

Advantage:

- ▶ Easy to understand.
- ▶ High efficiency to learn English

Disadvantage:

- Boring for junior student, it cannot raise student's interest to learn english

### Conclusion

After concerning all the alternative ways, making a online English vocabulary game is still the best choice among all.

## Choice of IT tools – Sound Editing Software

### 1. Audacity

Audacity® is free, open source software for recording and editing sounds. It is available for Mac OS X, Microsoft Windows, GNU/Linux, and other operating systems. It can provide various kinds of functions such as record live audio, convert tapes and records into digital recordings, or mix sounds together.

### 1. GoldWave

GoldWave is a highly rated, professional digital audio editor. It's fully loaded to do everything from the simplest recording and editing to the most sophisticated audio processing, restoration, enhancements, and conversions. It is easy to learn and use. It has both free versions and full paid versions.

#### Features of Audacity

- ❖ Audacity can record live audio through a microphone or mixer, or digitize recordings from cassette tapes, vinyl records, or minidisks. With some sound cards, it can also capture streaming audio.
- ❖ It can Import sound files, edit them, and combine them with other files or new recordings. Export your recordings in several common file formats.
- ❖ It has different effects such as change the pitch, Adjust volumes with Compressor, Amplify, and Normalize effects etc.
- ❖ Spectrogram mode for visualizing frequencies-
- ❖ Free and Cross-Platform (Windows, Mac OS, Linux/GNU)

#### Features of Goldwave

- ❖ Play all your favorite songs and view real-time visuals.
- ❖ Record any source your computer supports, including microphone, line-in, and what-you-hear.
- ❖ Edit audio with all the basic commands such as Cut, Copy, Paste, Trim, Replace, and Overwrite.
- ❖ Perform dozens of different audio effects.
- ❖ Re-master old vinyl or tape recordings
- ❖ Process an unlimited number of files in many different formats.
- ❖ Includes a collection of powerful tools.

### Advantages of Audacity

1. Free and Cross-Platform Software
2. Include many useful and easy-to-use functions
3. suitable for beginners

### Advantages of Goldwave

1. Professional Software
2. very configurable
3. suitable for intermediates or above

### Conclusion

After consideration, I choose Audacity as my sound editing software. Since Audacity is easier to use, and it was taught by school teacher before, I have more confidence on handling the software. Also, it is a freeware so it can cut down the cost.

### Choice of IT tools – Webpage design software

1. Dreamweaver

Adobe® Dreamweaver® software empowers designers and developers to build standards-based websites with confidence. Design visually or directly in code, develop pages with content management systems. Use powerful visual CSS tools and ready-built templates, test your pages quickly and accurately, and save time with intelligent integration across Adobe® Creative Suite® software

2. Microsoft Expression Web Designer

Expression Studio 4 Web Professional includes a complete set of professional design and development tools for creating modern standards-based Web sites, streaming video, and Web graphics. It includes three professional applications that work together: Expression Web, Expression Encoder, and Expression Design.

### Features of Dreamweaver

- ❖ Allow users to preview websites in locally installed web browsers.
- ❖ Provides transfer and synchronization features
- ❖ Ability to find and replace lines of text or code by search terms and regular expressions
- ❖ enables use of basic JavaScript without any coding knowledge
- ❖ Allow to use third-party "Extensions" to extend core functionality of the application

### Features of Microsoft Expression Web Designer

- ❖ Professional Code Editor makes your editing and debugging more productive
- ❖ Expression Web provides the flexibility to support a board range of scripting and server-side technologies
- ❖ Allow to extend Expression Web's functionality with HTML and JavaScript.
- ❖ Built-in support for today's modern Web standards allow user to optimize sites for accessibility and cross-browser compatibility

### Advantages of Dreamweaver

- ❖ Support both Windows/Mac
- ❖ Support more web technologies (NSS,,XForms)
- ❖ Support more HTML specification

### Advantages of Microsoft Expression Web Designer

- ❖ The price is reasonable
- ❖ Feature IntelliSense for extended characters
- ❖ Includes SEO tools to give users information to improve the website popularity

### Conclusion

I will choose Dreamweaver as my final web design software. The reason I chose it is Dreamweaver is much more popular than MS Expression as it has been released many years ago. Also, our school only taught Dreamweaver as our web designing software, so choosing it will gain more convenience for me.

### Choose of IT tools – Photo Edit Software

#### 1. Photoshop

It is a powerful photo editing software which is widely use by professional photographers and media production company. redefines digital imaging with powerful new photography tools and breakthrough capabilities for complex image selections, realistic painting, and intelligent retouching.

#### 2. PhotoImpact

Ulead PhotoImpact (originally called ledit) is a raster graphics editing program published by Ulead Systems. Alongside its image editing capabilities, the program also features



HTML tools, such as a rollover assistant, an imagemap assistant, an HTML assistant, a background designer and a button library. The current version of PhotoImpact is X3.

#### Features of Photoshop

- ❖ It can achieve superior results in a few steps
- ❖ Can create realistic effects
- ❖ Works more than a photo editing software, it can create 3D objects too
- ❖ Explore fresh design possibilities with powerful tools

#### Features of PhotoImpact

- ❖ full-featured photo editing with inspiring photo projects and amazing digital art
- ❖ Quickly touch up your favorite snaps with innovative ExpressFix editing
- ❖ Use drag-and-drop layouts to create memorable photo gifts in just minutes

#### Advantages of PhotoShop

- ❖ Provide many kinds of professional tools
- ❖ Allow to edit 3D objects
- ❖ Edit image precisely with realistic painting and effects

#### Advantages of PhotoImpact

- ❖ Easy for Beginners
- ❖ Reasonable Price, yet have different edit tools

#### Conclusion

Finally, I will choose PhotoImpact as my photo editing software. Since it has a more reasonable price and it still have enough edit tools for me to create and edit image. Also, Photoshop requires a lot more specific skills to work smoothly on it. So photoImpact is the better choice.

#### Reference:

- <http://www.adobe.com/products/photoshop/photoshop/whatisphotoshop/>
- <http://audacity.sourceforge.net/about/features>
- <http://www.goldwave.com/>
- <http://www.adobe.com/products/dreamweaver/whatisdreamweaver/>
- [http://en.wikipedia.org/wiki/Microsoft\\_Expression\\_Web](http://en.wikipedia.org/wiki/Microsoft_Expression_Web)

## Part B: Design and Implementation

### Navigation Structure

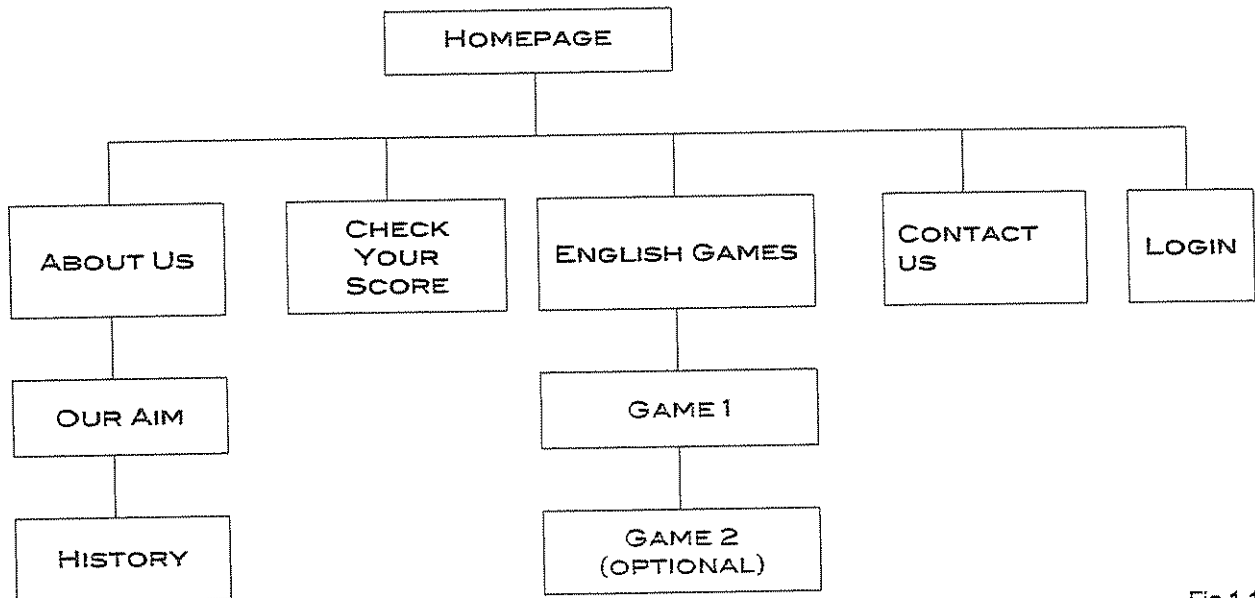


Fig 1.1

#### About Us

- Our Aim

⇒ Introduce the mission of the education center

- History

⇒ Briefly explain the history of the center

#### Check Your Score

⇒ Provide different statistics for users to keep track on their progress

#### English Games

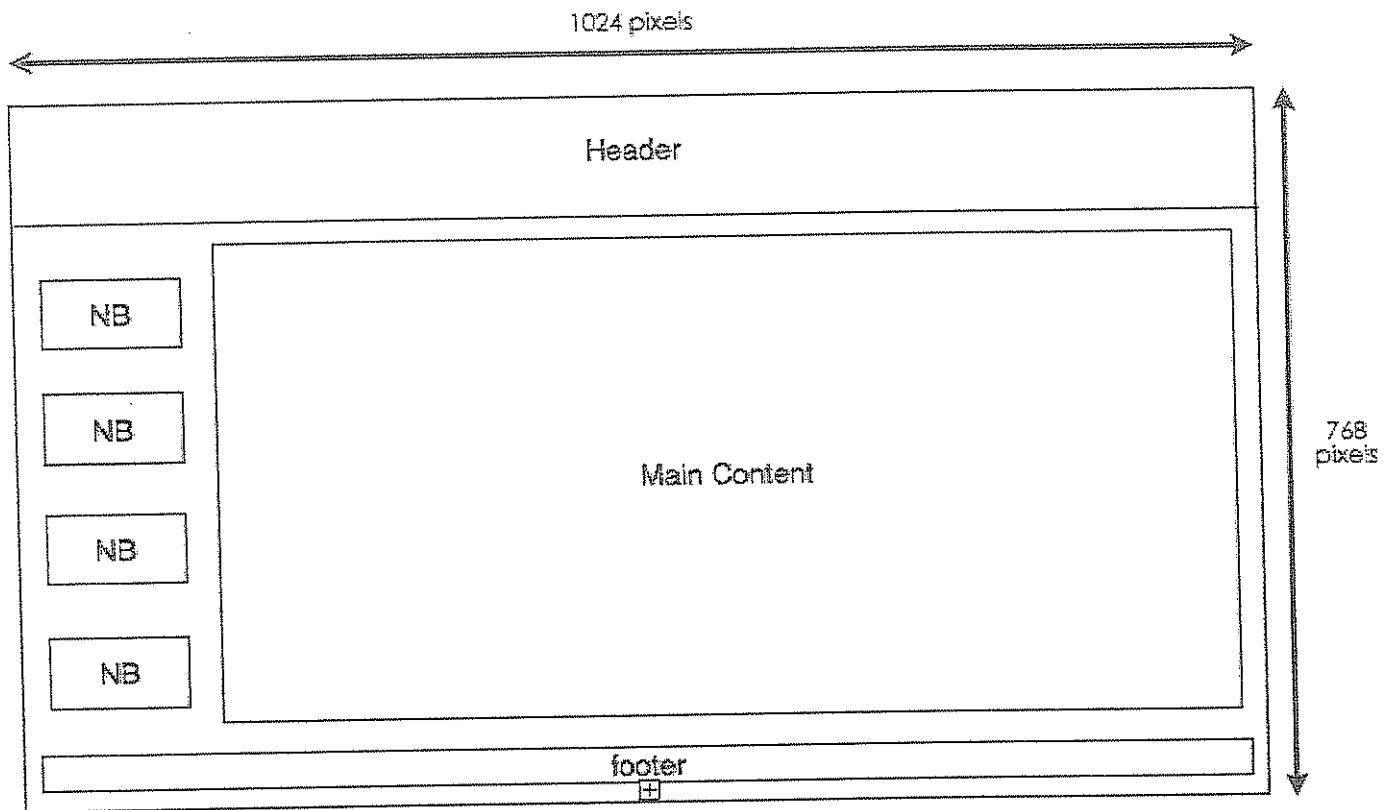
⇒ Show the English games and provide hyperlink to the game

#### Contact Us

⇒ Provide different contact method to students

#### Login

⇒ for users to login their account



### Design of the homepage

Fig 1.2

(\* nb = Navigation Button)

### Page Resolution

All webpage resolution will be in 1024 x 768 pixels, which suits most of the users. Also the website can contain more content so that users can scroll less to watch information and hence a more convenient web browsing experience. The ratio of header , main index page and the footer will be in 1:8:1.

### Color Scheme

The webpage will use light green as primary color, and some orange and blue color will also be used.

### Header

The header will contain the logo and the name of the english learning centre, which shows clearly to the customers. It is also a hyperlink picture which users can click it and return to homepage.

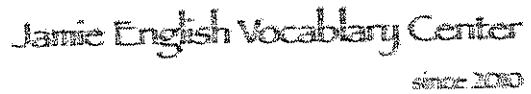


Fig1.3

### Navigation Button

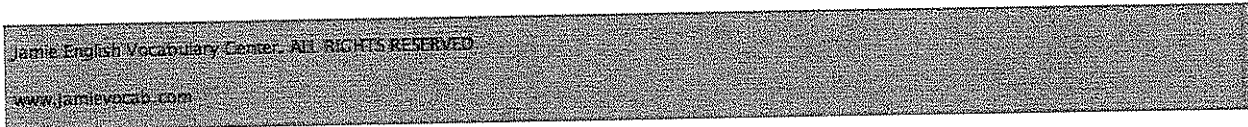
The navigation buttons would be in form of two level pull down menu -- spry menu bar. The four buttons are 'About Us' , 'Check Your Score' , 'English Games' , 'Contact us' , 'Login'.



Fig 1.4

### Footer

The footer would contain essential information about the web such as copyright. There will also have a marquee which shows the latest news.



## Design of the English vocabulary game

### Details of the game

The vocabulary game is a kind of word-finding game, which is suitable for our target group, Primary 4-6 students. The English vocabulary game will use flash as the main tool. The script language is javascript. The length of the word must be longer than 3 words, and alphabets will drop down when time passes a period of time. Player cannot let the word box reach the highest level or they will lose. On the left hand side there are some essential information, which shows the level, the score and the level.

Build words with blocks that are touching each other.

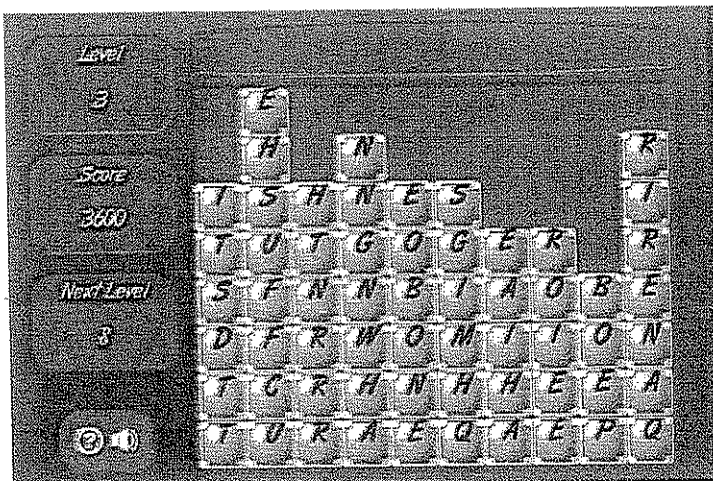


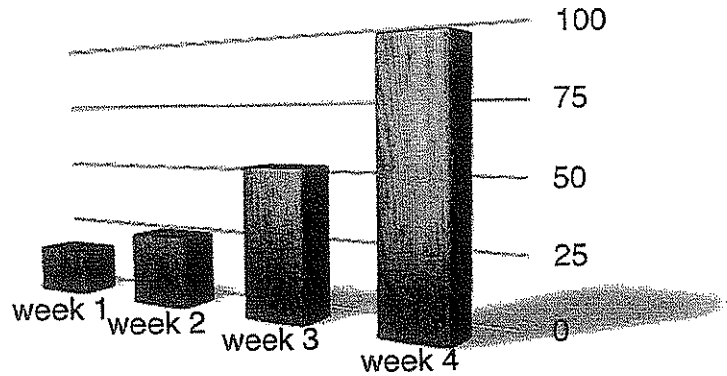
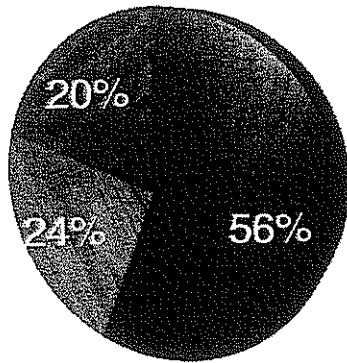
Fig 1.6

### Age Group

This vocabulary game is mainly for primary four to six students to strengthen their English base.

### Accounts for players

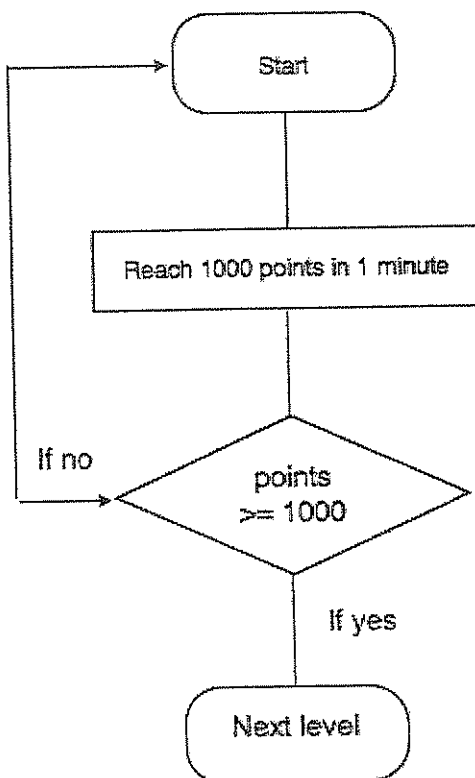
In order to let both teachers and students to keep track on their progress, each student will be given an account to store up the information. A database server will be used to store all the information. All students can resume their playing after they close the browser window.



### Feedback of the game

The above charts are examples of what player will see after they finish playing the game, or just enter 'check your score' page to see. The left hand side chart is showing the percentage of different kinds of words such as verb, noun or adjectives. The right hand side chart is a bar chart which shows the scores of the player in weeks. This can make both teachers and students easier to keep track on their progress and let them easier to improve.

### Flow Chart of the Game



Part D: Testing and Evaluation

Testing plan:

Testing Plan
Testing 1: Test whether the webpage is showing properly in different web browsers
Testing 2: Test the login plug-in is working properly
Testing 3: Test the Facebook 'LIKE' button is working properly
Testing 4: Test the game page can link to external website properly
Testing 5: Test the E-mail plugin is working properly

Testing Platform:

CPU: 2.5GHz Quad-Core Intel Core i5  
Monitor Resolution: 1920 x 1080 resolution  
Ram: 4GB (two 2GB) memory  
Hard disk: 500GB hard drive  
Graphics card: AMD Radeon HD 6750M with 512MB  
OS: Mac OS X Snow Leopard

## Testing 1

Objective: Test whether the webpage is showing properly in different web browsers

Method: Load the webpage using different browsers

Results:

Internet Explorer

Firefox

Safari

Google Chrome

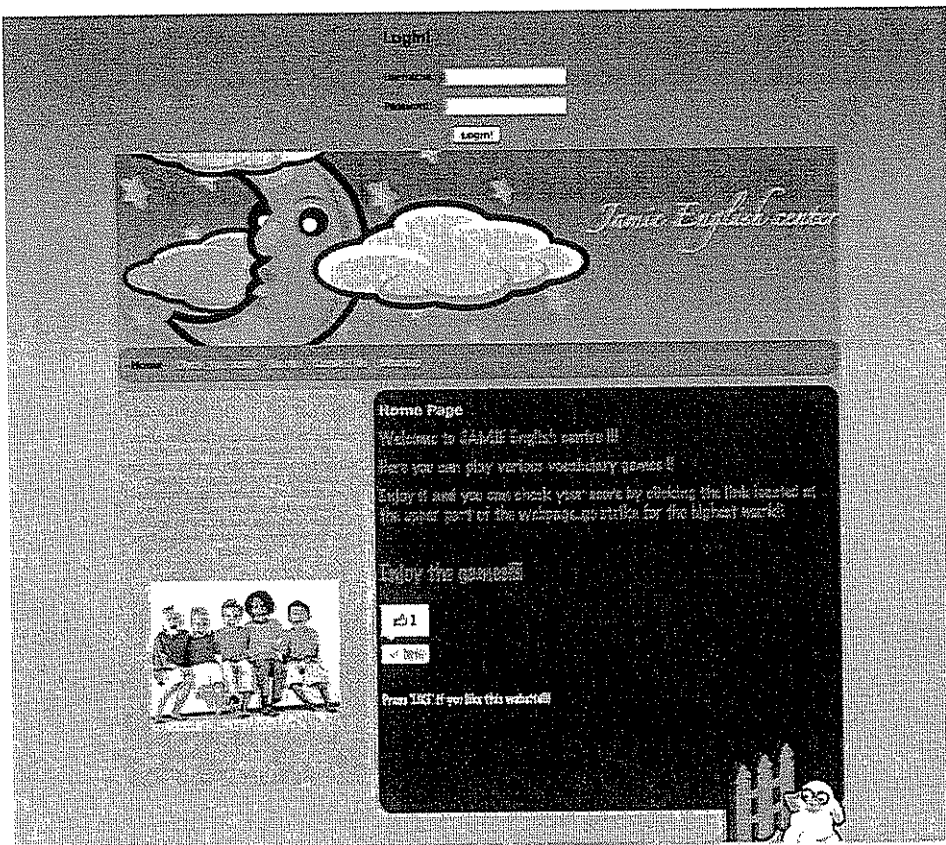


Image showing the website showing properly in safari browser.

## Conclusion

The test shows there are no errors showing when using different browsers to open the webpage.

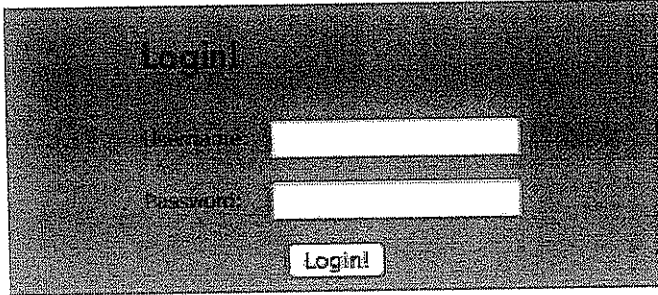


### Testing 2

Objectives: Test the login plug-in is working properly

Method: Login the system by using both correct and incorrect login names and password

Results: the login system are running properly and can identify the wrong password.

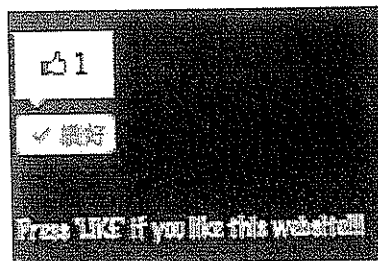


### Testing 3

Objectives: Test the Facebook 'LIKE' button is working properly.

Method: Click the 'LIKE' button in browser

Results: It works properly

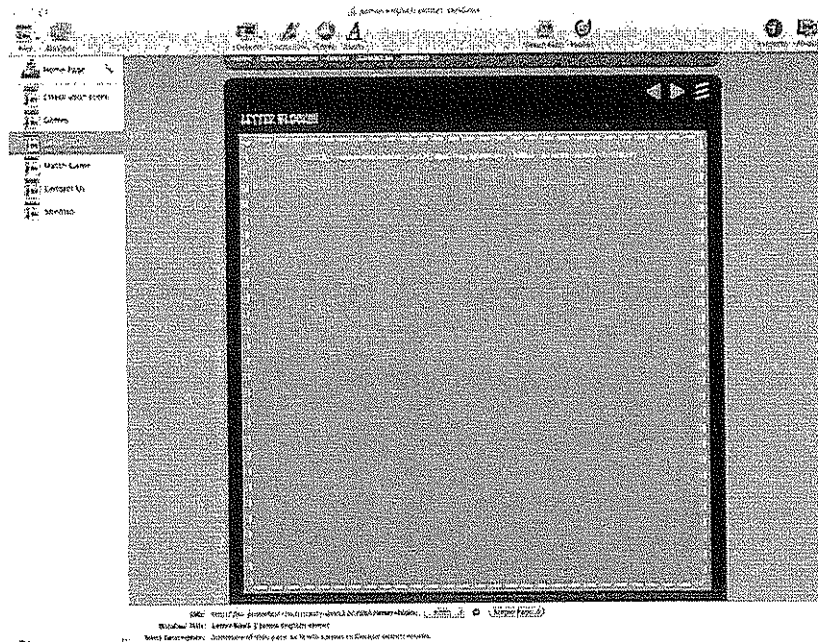


#### Testing 4

Objectives: Test the game page can link to external website properly.

Method: Click into the game page and connect to external website using different browser.

Results: The webpage can link to external website properly, but the window size is too small for people to play games. Amendment has been made to fit the vocabulary game.



#### Testing 5

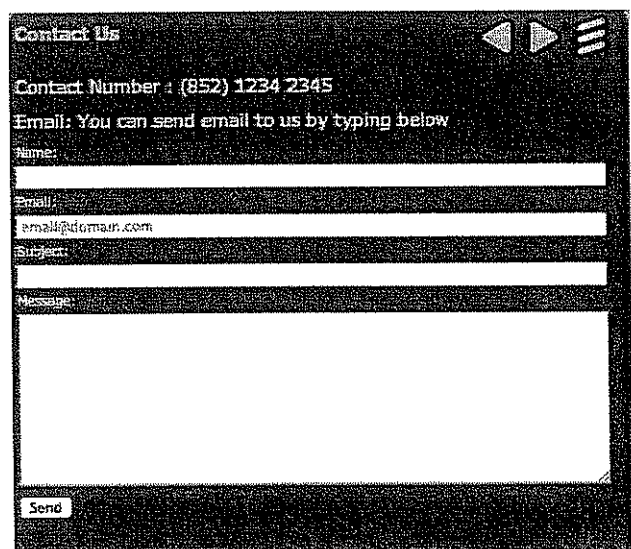
Objectives: Test the E-mail plugin is working properly

Method: type an e-mail and press send, see if there is a new E-mail in the mailbox

Results: There are no new E-mail

Problem: The E-mail address is wrong.

Correction: type in the right E-mail address.



## Part E: Conclusion and Discussion

### Conclusion on implementation process

I have gained priceless experiences after doing this assessment. The most difficult part of this assessment is constructing the website. Lots of amendments need to be made even at the final stage of the assessment such as changing the limits of the login plug-in. Also, this project let me learn more about web construction and website management, which are useful for me in the future.

Part of my classmates said building a website is a difficult job. Although I have this thought too, but you can find so much fun during a web construction. Also, this report cost me a lot of time since I have to edit it many times before handing in. But still, I enjoyed the process!

### Learning Process

The learning process are as follows:

1. Learn about the difference of different IT tools
2. Learn about using Sandvox, a web constructing software
3. Learn about using web injection
4. Learn about editing picture
5. Learn about making art text
6. Learn about how to design the web simply a draft

### Improvements

The improvements are as follows:

#### 1. Add more vocabulary games

Some users suggests that I should add more different vocabulary games so that the website can attract more children to visit. Also, they suggest that a short introduction should be added below the game name, then the player can briefly know about the game without click into it.

#### 2. Enhance the game showing technology

Since the game now is hyperlink to an external website for users to play, it would be affected if the external website have technical problem such as server shut down. This would greatly affect the playing experience and the website daily operation. People suggest we should insert the whole game in the website instead linking to external website, this can solve the problem created by the external website.

## Future Development

### 1. Add a game ranking in the homepage

Some users suggest that the webpage should add a 'Game ranking', which means that players can simply know which game is the most popular in a certain time period, such as weekly. Furthermore, the website should add a 'Player's ranking' to show the top10 players in the website.

### 2. Enhance the login system

There are a few improvements need to be made in future. First, we should set up a 'forgot password' button for users who forgot their account name or password. The system will further send an e-mail including the account information after the identification of the user. This can improve the user's experience.

### 3. Set up notice board

A notice board set should be set up in the main page of the website. The notice board can display some useful information such as what new games are added or what player is the best in the website. This gain convenience to the users to get information more easily.