

Assignment1_DIP211_ChernKai Wen(B1600537)

by Ian Chern Kai Wen

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Based on our research with the problems on traditional learning approach, it has been stated according to Mitchell (2008) & Wang with Rodgers (2006), traditional learning approach lacks the complexity in thinking and reasoning skills compared with other approach. Following on, Hameed, Badii, & Cullen (2008) has further proclaimed that most attendants can only be able to memorized approximately 58% of the presented materials during a 33 minutes class that is conducted in a traditional lecture setting on the first day. By moving forward to the second day, the memorizing content will be reduced to around 33% and likewise only around 15% is remain after a duration of about three weeks. In addition, Rashty (1995) included that the emphasis of traditional learning process causes the students to prioritize in acquiring theoretical knowledge rather than enhancing thought process for a problem. Therefore, the students lack the ability in inquiry-based education and problem-solving technique due to the completion of required subject matter quota by the teachers.

On the other hand, Albion & Gibson (1998) have given some facts about the benefits of interactive multimedia for problem-based learning. Among one of them is the high accessibility to various sources that provide rooms of exploration for the virtual multimedia environment encountering authentic problems as one of the key essence of problem-based learning, which stimulates inspiration and encourage student to find a solution to it. Moreover, "multimedia training has also demonstrated the effectiveness of story for motivating progress the gradual increasing of content transfer to users by Bielenberg & Carpenter-Smith (1996)." Last but not least, "our primary research has come to an understanding that the development of chains of events through analysing and synthesizing the data by a student can be assisted with a multimedia learning environment with abstract, theoretical and strategic scaffolds embedded within it. (Brush & Saye, 2001; Saye & Brush, 2002)."

Task 2:

Our project title is called Basics of Data Security.

Data security is defined as the protection of digital data from destructive forces, unauthorised users or actions and data leaks which are breached by hackers who have managed to infiltrate into the system. Furthermore, human or hardware error will most likely result in data lost incident that may end up corrupting and losing data. Furthermore, these data are generally stored in the database, servers or in personal computers, that is vulnerable and exposed to any cyber attacks and criminal activities.

Our goal for this project is to deliver the purpose of data security in relation to the internet and the manner of data flows between two or more nodes including data control between them. Moreover, we will also introduce the accessibility and edibility of data type that can be handled by a web administrator and the ways of data can be lost or stolen.

Moreover, we will teach the fundamentals of a well-known database communicator, SQL. Users will learn how SQL stores and retrieves data from the server which includes manipulating and controlling a SQL server.

Last but not least, we want to create an awareness of how Data Security plays an essential role in interacting between data servers and users including the possibility of data being compromised by external sources such as hackers or human and hardware errors.

Task 3:

For most of the current applicable system in this modern society, there will surely be security risks such as theft, loss of data integrity and loss of availability. Based on the information of our system that we can provide for our intended users to ensure that they can strengthen their data security, we have a few characteristics that our users can refer and rely to it. In the security department section, there will be User Authorization and Integrity Controls. Through the rules of authorization, our admin will be able to limit every user's access permission. Hence, we can avert some unknown users that want to access our system. Moreover, this will allow our security system to be more feasible in every field.

Furthermore, our system also provides the privileges for users to grant and revoke access to anyone by their choice, giving them an eco-friendly and safe environment when using our system. This can be one of the reason that users get attracted to our system. Subsequently, our data security team also contains integrity controls that will assure all the entered data into the database are valid. Following on, alter table command changes is also used in the SQL database to modify and manage constraints to the customer table. Additionally, system catalog contains the information of the tables and is maintained automatically. This is mostly likely the reason for users to be attracted to the system too.

In conclusion, stored procedure also consists that of a client/server system that allows user to access the database through client while the client through the server to the database, giving it a two factors authentication that reduce risk of unauthorized access. Likewise, trigger action will also response automatically to certain command to execute database operation, which increase clarity and transparency of the system. Thus, it can draw the user attention to this system.

Task 4:

B1600537 Chern Kai Wen: Audio and Video

First of all, to describe the audio and video element, “The multimedia system usually evaluates these two elements quality as separate entities. Despite that, it is stated there is consequential evidence that an impact on the users may occurred distinguished quality of the other elements depends on the medium quality. (Watson & Sasse, 1996; Rimmel et al., 1998).” The format of an audio and video are divided into compressed and uncompressed which will much affect the quality of the file. As in terms of providing higher quality for sound and visual data presentation, it is more advisable to use uncompressed file format as it retains the perfect data representation of the original copy, which does not require the needs of data striping but require much larger file size.

However, most users nowadays like to keep file size relatively small and more storing capacity is used everyday, which is why compressed audio and video format are becoming more common and frequently used. Even though these files have been compressed, “psychoacoustics has been used to determine the perception of noise approach based on the limitation of hearing of human being by stripping noise which is not noticeable. (Moon et al., 2015)” According to Anantha Padmanabhan & Chandramathi (2015), video compression technique also has been used in the process of reducing the data quantity of digital video images through the composition of recompensing temporal motion and spatial image reduction. Both these techniques has proved to retain the quality of the multimedia element while considering the limitation of human anatomy which can leave an impression of sound and visual to the users.

“Graphics can provide the most innovative ways and feasibility for a learning session. They can either be from drawings, spreadsheet graphs, pictures and photographs. “The reasons for pictures to have large capacity of identification memory capacity of recognition memory is due to the skills such as dimension, texture, line, etc. (Encyclopedia, 2017)” In my view, Graphic is an element that used to improve the information such as text, picture or animation. Beyond that, graphic can produce by using computing technology drawing or painting manually. There are 2 types of graphics which is vector graphic and bitmap graphic. Vector graphic comes with many mathematical formulas that need to draw line, shapes and calculations. By the way, vector graphic is easy to modify due to it able to let user to do rotating, resizing, modifying the colours or change image line width. Besides, it takes less memory on disk space compared with Bitmap. Bitmap graphic are more common than Vector because it is very flexible to present by any image. However, it occupies larger memory need to be stored due to containing thousands of coloured pixels within it.

“Text in multimedia systems can deliver particular information or reinforcement for information contained in other media elements. For instance, when Web pages contain images, it can also include some text for the browser as another way to present, when the images cannot be present in proper way. (Smith, 2017).” Text basically divided into two types which is Unformatted text and Formatted text. Unformatted text also called as Plaintext that fixed the size of characters and Formatted text also called as Rich Text which included different text styles, shape and size. Font is the characters that using different styles or sizes of a typeface. Apart from that, font has its own classifications such as Spacing, Serifs & San Serif, Shape and Weight. Besides, fonts are divided into two type such as vector and bitmapped. The different of them is Vector fonts require lesser file size but Bitmaps fonts need one size in one bitmap which occupied more file size. When come to our project, we will use this element (Text) to create our project title, information, quiz and navigation’s instruction.

Text is a most common way to delivery basic information to the user. When delivering a message, text would be the most effective ways. As we know, text is less attractive if is in a long paragraph. To make it more attractive, we should ensure that the font we choose is readable and we can adjust the line space of the text especially when there is a lot of word. Yet, bold or underline text to point out the notion. Nevertheless, text also can list out the guideline how application works. There are two types of text which is unformatted text (Plain text) and Formatted text (Rich Text). Yet, ²the difference within rich text and plain text which is Rich Text Format entitle to exchange the texts files since it is a file format. However, users are having further of formatting for examples: font sizes, the text colours and the font styles, etc. On the other side, Plain text format only contains line breaks and spacing. There will be no further text editing allow (Intelitouch Help, 2017). So, in our project we use text to name every button. Besides, we also used in content and menus to give user a clear information on how it works.

In animation, it was like a set of images that display in a fast mode. Users will be attracted by the interminable illusion (Bielenberg & Carpenter-Smith, 1996).). In the showbiz, the animation plays a huge role. When the animation that are more realism, it will attract people's eyeball to concentrate on the action. In creating the animation, there are some familiar tool such as Adobe CC Animate, Flash, etc... After creating the animation, we can export them to SWF files and save it. (Smith, 2017). In our project, we will implement some animation such as the ways how the content shown out. Examples: "up, down, left, right, masking, etc."

According to Educational Coursework, animate is defined as to bring to life and to express feelings through telling story. For instances, telling a story that expresses emotions to an audience that may trigger deep thinking, creativity and reflection.” (Educational Coursework: 2D Animation,2012). Animation divides into 2 types, which is 2D and 3D, D stands for dimensional. Unlike 3D, 2D uses X and Y axis to turn around (Animation theory, 1995). Since Mickey Mouse was created in 1928, 2D animation becomes a technology and serve as a platform to be the products that communicates with the public. (The History of 2d Animation,2013). Animation helped people better understand a process in the form of video especially to enhance educational experience. On the other side, 3D has more than 2 axis, it is a animation that have more depth and can be felt realistically. 3D movie is one of the examples, it gives another kind of perspective to people. “In majority of 3D keyframe animation systems, the path of action from one end to another end is manipulated by the same spline that manipulated the timing (in and out) of the in between values.”(Lasseter, J, 1987).

Computer graphics defined as using a computer to create or to control various of picture, image, or diagram. Nowadays, it had become so popular that it is around everywhere from television to Youtube. Having said that, computer graphics are being widely used globally in two types, which is named as Bitmapped and Vector. According to www.prepressure.com, bitmapped images are pictures while vector graphics are mostly drawings. (Bitmap vs vector graphics, n.d.). Theoretically, bitmapped images are made of dots (known as pixel). Resolution and clarity of a bitmap image being count in dpi(dots per inch) .Moreover , its size can be reduced by throwing pixel away and can be restored by software , which involved the interpolation process. (Chastain, S., n.d.). For vector graphics, “it is made up of many single, scalable objects, these objects are calculated in equations, far more than just pixels.” Basically, it is the type of image designer normally used, as it can be placed over another image, allowing designer to modify. User is only able to convert vector to bitmap, but not the other way around. Vector images are in AI, SVG formats in most of the situation while the other side is JPEG and others.

Task 5:

Through the main design features for our assignment, we will be implementing two functional specifications including providing learning materials and giving interactive quiz for the users. As our given project title is data security, most of the information provided will be revolving about data protection, data loss prevention, data flow approach and database servers.

Accordingly, we will be providing the learning materials as given with text and some graphic animation throughout the slides, so it would not be too dull and static that will give the impression of traditional learning approach which most users encountered during the age pursuing their primary or secondary education. Hence, it is encouraged for us to add animation or graphic to present it in an attractive and compelling manner which can create visual impact for the users and impress them with some graphics or images whereas it will be embedded into their memory more easily.

Additionally, interaction quiz will be given to the users after reviewing or studied the learning materials. The quiz will be conducted through using animation while presenting the question and answers. The questions and answers will also be presenting in various forms to capture the attention of the users such as multiple choice answers. Thus, the users will gain interest and we can receive prompt response more successfully when a satisfactory ambiance were given to the users for interaction.

Task 7:



First of all, the first multimedia production stage is started with conceptualization. This would normally be required to brainstorm as a team together to give, discuss and share their idea between each other. Subsequently, a draft of the project idea can be visualized when everyone can reach to a common understanding on a basic level. The draft will determine the steps and procedure for all the team members to proceed on into the next stage, which in the meanwhile the following stage which of development plan and preproduction can be performed.

Next, in the development plan. We would first need to determine the project goals and objective. As the project goal will serve as a global scope and general statement for the team while splitting into smaller goals such as objective for specific specialists in the team. Moreover, activities matrix will be given out to perform task accordingly to the timeline including towards target audience and potential user groups that have interest in this building system, that builds up system that their liking. Preproduction stage can also be on stand-by once these criteria is fulfilled which finalize the market users and general goals.

Then, preproduction stage can start to heat up and the team members will need to start to create a storyboard to bring the ideas and concept into the proper scene. The team members would not be able to execute their tasks to integrate their skills into the program if the storyboard is not present. Hence, every member will need to cooperate with each other to create a storyboard with dynamic ideas and smooth flow to it.

After that, the fourth stage will be production. This stage will be one of the longest period to fulfilled and execute all the tasks as all the multimedia element such as text, graphic, video, audio and animation will need to be implemented into the program. These multimedia elements will be utilised well into the storyboard from the previous project stage, which can create a compelling program.

Subsequently, post-production will be carry out as production going to be finished. This stage is normally the finishing touch for the multimedia program and entering the test phase. The testing phase includes alpha and beta testing, which alpha testing is normally for internal developers and beta testing for selected users to discover 'bugs' and other glitches within the application.

Lastly, documentation is the last stage for the multimedia production. As the task is being listed down for every multimedia production stage, all these tasks will be recorded down in proper black and white documentation. Furthermore, the documentation will also provide users guidelines such as system requirement and instruction manual. The documentation also records the error for the developers to fix the problems or issues with higher clarity. To sum it up, it is necessary to do documentation for compiling important information together for further uses and reference.

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