**ICT SBA report (Elective C)**

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**A. Explanation of the multimedia elements**

1. Graphics

Places where I used graphics (see the screen captured images below):

* Logo of the cinema
* Posters of the movies
* Contact no. of the cinema
* Background of the website
* Background of the member login page
* Posters of the news and promotion
* Photo of the cinema





Usage of the file formats:

(a) JPEG

* used for posters, background of the member login page, photo of the cinema
* reasons: most of the posters consist of reality (human, realistic things…) and in true color, in order to keep the realistic parts and the original colors, while the background of that web page and the photo of the cinema are realistic photos, therefore JPEG is the best format to be used as it has the highest compression ratio and thus compress the graphics to a much smaller file size which reduce the loading time of the website. Also, the image quality could be retained mostly by using JPEG, it is especially better for storing realistic images.

(b) PNG

* used for logo, contact no. and the general background of the website
* reasons: all of these graphics are simple line art and it is the most convenient to use transparent background for the logo and contact no., therefore PNG is the best format to be used as it is better to save simple line art and it supports transparency as well as true color. PNG is also a compressed file format which compress the graphics to a smaller file size and thus reduce the loading time of the website.

2. Video

* Used in presenting the trailers of the movie. (Only the trailers of ‘Moonlight’ and ‘Jurassic World Evolution’ are available in the resulted website.
* used MP4 as the file format because it has the highest compression ratio and thus compress the videos to a much smaller file size and thus reduce the loading time of the website.

**B. Web Accessibility**

1. Allow users to change the font size of the website

* On the right top corner of the website (see the screen captured image below), there are 3 buttons (3 ‘A’ s with small, medium and large font sizes respectively) that allow user to change the font size of the website to a desired one which could increase the ease of visually-impaired or normal people to read the text in a more comfortable way and and thus increases their accessibility to this website.



* In expected result, cookies can be used to store the font size that the user chose at the beginning and the rest of the web pages will change to the chosen font size automatically, therefore user do not need to click on the same button every time he/she browser another web page.
* In resulted website, only the ‘About Us’ web page (‘about.html’) and ‘Upcoming’ (‘upcoming.html’) are available to change the font size.

2. Text-only version of the website

* Near the ‘A’s buttons, there is a hyperlink linked to a text-only version of the website on the homepage (‘index.html’) which allows blind people to use screen reader software to read the website and use the functions of the website and thus increases their accessibility to this website.
* In the resulted website, there is only one text-only version web page which is the homepage.

**C. Client Side Implementation**

1. Login

* After user inputs his/her username and password in the members login interface (‘membersl.html’), when he/she clicks the ‘login’ button, the client computer will first check if all the blanks had been filled in. If not, a message box saying “You have not filled in all the blanks!” will appear.

2. Sign Up

* After user inputs his/her information to sign up for the membership in the membership registration interface(‘memberss.html’), when he/she clicks the “submit” button, the client computer will first check if all the blanks are filled in and valid including
  + if the ‘First Name’, ‘Last Name’, ‘username’, ‘password’ and ‘confirm password’ are in correct lengths
  + if the ‘phone no.’, ‘email’ and ‘confirm email’ are in correct pattern
  + If the ‘password’ and ‘confirm password’ are the same
  + If the ‘email’ and ‘confirm email’ are the same
  + if the radio button saying “I have read and fully understood all the terms and conditions of the TickIt Cinema membership and hereby sigy my acceptance and submit my application with payment.” is checked (if the user is under the age of 18, the radio button saying ”I have obtained parental or guardian consent to the membership applications.” needs to be checked as well)

If not, the related message box(es) will appear near the invalid input value(s) that tell the user to correct it.

**D. Server Side Implementation**

1. Login

Expected Result:

* After ensuring all the blanks are filled, it will send the inputted username and password to the server, the server will then check if there is a username and password that together match the inputted data. If not, a message box saying “Incorrect username or password!” will appear. If yes, the browser will redirect to a homepage with a sentence “Welcome (user’s username)!” the right top corner and retrieve all the settings set by the according user before from the server and adopt to the web pages.

In Resulted Website:

* User is required to input ‘username1234’ as both of the username and password, if the required username and password are not inputted correctly, it will be seen as incorrectly inputted and the expected result will be achieved while if they are correctly inputted, the browser will redirect to a homepage with a sentence “Welcome username1234!” the right top corner.

2. Sign Up

* After all the client side validation is completed, it will send the inputted ‘username’ and ‘confirm email’ to the server, the server will then check if there is a same “username” or ‘confirm email’ in the server. If yes, a message box saying “Sorry, this username had been used!” or “This email had been registered!” respectively will appear. If not, the server will store all the inputted data and send a verification mail to the user’s email. After that, a message box saying “We have sent a verification mail to your email address, please verify the email to activate your membership! Thank you for registration!” will appear and the browser will redirect to the homepage (‘homepage.html’).

**E. Tickets Booking System**

Expected Result

* The user can choose any time of any movie from the ‘Ticketing’ web page (‘ticketing.html’), after he/she pick a time on a drop-down menu, the browser will direct to a seat booking web page according to the time and movie he/she picked, with all basic information of the movie and the time chosen, and a seat choosing system. User can choose the seat(s) he/she wants in the system and click the ‘Submit’ button. After that, a message box saying “Are you sure?” will appear to make sure the user is sure to submit the seat booking, after the user clicks the ‘OK’ button on the message box, all the information of the ticket booking, including
  + the seat(s) chosen,
  + the name of the movie
  + the date, time, house of the the show

will be sent to the server and adopt to a template of confirmation of the user’s seat reservation, the confirmation template with the user’s information will be shown after that.

* After checking all the information, if the information is all correct and the user clicks the ‘Confirm’ button, the server will first check whether the user has login his/her account or not. If yes, a purchase process will continue, the seat will be booked and the seat booking system will be updated as the server updated. If no, a message box saying “Please login to continue the purchase!” will appear and the browser will redirect to the login page (‘membersl.html’).
* If the information on the confirmation template is incorrect and the user clicks the ‘Back’ button, the browser will return to the seat booking page and allow the user to choose the seat(s) again.

In Resulted Website

* The whole booking system is only available when the user choose the second show time (‘Tue, Aug 8, 10:20 PM House 3 HKD 90.00 (2D)’) of the movie ‘Moonlight’
* After the user choose the required option, the browser will direct to a seat booking web page (‘booking.html’) with all basic information of ‘Moonlight’ and the time chosen, and a seat choosing system. User is required to choose seat no. ‘E3’ and ‘E4’ and then click the ‘Submit’ button, since the resulted confirmation template will show the seat no. as ‘E3’ and ‘E4’
* Other than the above, the whole system run as the same as the expected result