worldSkills Malaysia | JuniorSkills Malaysia Online 2021

Junior Skills Malaysia(JSM) Online 2021

TECHNICAL DESCRIPTION

WEB DESIGN TECHNOLOGY

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1. WEB PAGE GRAPHIC DESIGN

A competitor shall know and understand:

- Structure and common elements of web-pages of various types and purposes;
- Issues connected with the cognitive, social, cultural, technological, and economic conditions during the designing;
- How to create and optimize the graphics for the Internet;
- How to design based on the submitted guidelines and specifications;
- What knowledge and skills are necessary for the selection of color, typography, and composition;
- Principles and methods of graphics adaptation for its use in the web-sites;
- Rules of supporting the corporate style, brand, and style guidelines;
- Limitations of the mobile devices and screen resolutions for viewing the websites;
- Principles of aesthetic and creative designing;
- Modern styles and tendencies in the design.

A competitor shall know how:

- Create and analyze the developed visual responses to the raised questions, including about the hierarchy, typography, aesthetics, and composition;
- Create, use, and optimize the images for the web-sites;
- Analyze the target market and the products promoted with the use of the design;
- Choose the design solution suiting the target market the best;
- Consider each element added to the project during the design development;
- Use all required elements during the design development;
- Consider the existing rules of corporate style;
- Create a responsive design which will be correctly displayed by various devices and with various resolutions;
- Stick to the original concept of the project design and improve its visual attractiveness;
- Turn an idea into an aesthetic and creative design.

2. PAGE LAYOUT

A competitor shall know and understand:

- Methods of providing the physically challenged audience with the access to the web-sites;
- World Wide Web Consortium (W3C) HTML and CSS standards;
- Methods of layout of web-sites and their standard structure;
- Web accessibility initiative (WAI);
- How to apply the relative CSS rules and selectors for the obtainment of expected result;

- The best practices for the Search Engine Optimization (SEO) and Internet marketing;
- How to insert, integrate and animation, audio, video, and other multimedia information and to control the behavior of other elements on the page.

A competitor shall know how:

- Create html-pages of the web-site based on the submitted graphic layouts of their design;
- Correctly use the CSS for the provision of uniform design in different browsers;
- Create the adaptive web-pages able to stay functioning on various devices and with various resolutions;
- Create the web-sites in full compliance with the current standard W3C (http://www.w3.org);
- Create and modify the web-sites considering the Search Engine Optimization.

3. CLIENTSIDE PROGRAMMING

A competitor shall know and understand:

- Capacities of the client programming language JavaScript;
- How to develop a code using the open libraries.

A competitor shall be able to:

- Develop the animation for the web-site to raise its accessibility and visual attractiveness;
- create and modify JavaScript for the improvement of the web-site functioning and interactivity;
- Use the open libraries.

4. SERVERSIDE PROGRAMMING

A competitor shall know and understand:

- How to develop PHP (PHP: Hypertext Preprocessor) code at the procedure and object-oriented levels;
- How to use the open libraries and Frameworks;
- Widespread models of organization and data storage and their implementation with the use of MySQL;
- FTP (File Transfer Protocol), the specific features of its client-side and server-side use as well as the software necessary for it;
- How to develop the web-services with the use of PHP, XML (Extensible Markup Language), and JSON;
- Various programming methods;
- How to develop a program code in accordance with the parameters (for example, MVC (Model View Controller);
- How to develop a safe web-application.

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A competitor shall know how:

- Create a library and modules for the repetitive tasks;
- Develop the web-applications with the access to MySQL database and the web-services on the requests of the clients;
- Interpret the ER (Entity-Relationship) diagrams into a functioning database;
- Create the SQL (Structured Query Language) requests using the correct syntax (classic and PDO (PHP Data Object));
- Provide security (the web-application resistance to the attacks and cracking);
- Integrate the existing program code with the API (Application Programming Interfaces), libraries, and frameworks;
- Develop an object-oriented program code.

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5. MARKING SCHEME SUMMARY

CRITERION		JUDGEMENT MARKS	MEASUREMENT MARKS	TOTAL
A	Web page graphic design	1	3	4
B	Page Layout	1	7	8
C	Client-side Programming	6	36	42
D	Server-side Programming	6	40	46
TOTAL		**14**	**86**	**100**

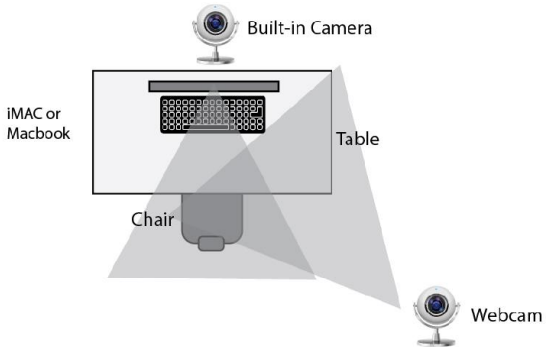
6. TOOLS & MATERIALS (ORGANIZER)

- One server to serve remote computers and remote computers equal to the total number of participants.
- A desktop computer for marking.
- Online meeting platform (Zoom / Google Meet).

7. TOOL & MATERIALS (COMPETITOR)

- Competitors will use their own local computer just to remote a competition site computer.
- All work must be implemented and saved at the remote computer.
- Institute must provide the facilities required. The diagram below can be used as a referral on how to set up the facility.
- A webcam / camera from behind is compulsory. The additional camera can be placed in front of the participant.
- Online meeting platform (Zoom / Google Meet).

1 PERSON SETUP



2 PERSON SETUP