



Sample Test Project

Regional Skill Competitions – Level 3

Skill 17 - Web Design and Development

Category: Information and Communication Technology

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SAMPLE

Section - A

A. Preface

Skill Explained:

Web Design/Development encompasses many different skills and disciplines in the production and maintenance of websites.

Having completed the website planning and design, the Web Designer then integrates the website with third party tools and platforms. During the development process Web Designers implement the design, use their programming skills in order to create dynamic functionalities, test, and debug the website using a variety of devices.

A Web Designer has many employment opportunities. This can range from being a self-employed freelancer, or an entrepreneur, to being employed by advertising agencies and web development companies as well as many different other types of organizations.

Web Design involves implementing specific solutions that follow the business rules and objectives outlined by the client. Strong design and communication skills, coupled with research techniques and a grasp of target audiences, are essential to be a good Web Designer.

Competition Modules Overview

- Module focuses on the Website layout and design
- Create graphics for web
- Use graphics for web
- Create design using provided brief and specification
- Use principal and Techniques for web sites layouts
- Use the current development trends
- Identify the target market and create a concept for the design
- Create design using provided brief and specification
- Use principal and Techniques for web sites layouts
- Use the current development trends
- Develop aesthetically pleasing and creative design.

Client Side and web development

- Integration of the JavaScript's
- Develop animation to assist in context explanations and visual appeal
- Enhance functionality
- Utilization of colors, typography and compositions.
- Create code that conforms and validates to the W3C standards
- Use of JavaScript/JQuery to enhance web site functionalities
- Use of CSS3 pre/post process
- Tools used are Adobe creative cloud.
- Working for limitation of Internet enabled devices and Screen resolution
- Application should have the cross-browser compatibility
- Website should assist with search engine performance

Server-Side Module

- Manipulate data using PHP programming skills
- Utilize open source Library and framework
- Use Data modelling techniques to design and implement database with MySQL
- Use of Web Services
- Use the approach of control structured (OOPs)
- Create Secure Application
- Manage data exchange between server and client systems

Eligibility Criteria (for IndiaSkills 2018 and WorldSkills 2019):

Competitors born on or after 01 Jan 1997 are only eligible to attend the Competition.

Total Duration: 14 Hrs

Section - B

B. Test Project

Introduction:

The Test Project you will be doing is modular and is comprised of 2 modules. Each new module focusing on distinct aspects of the Web Design and Development skill. The modules could be independent or interrelated to the other modules.

General Instructions to the competitor

You will be competing for 2 new modules presented to you in a day. A portion of the module will be completed in the morning (before lunch) and another portion of same will be completed in the afternoon (post lunch). Once the time limit (specified for each module) is completed, your module will be marked.

When you have finished the current module, you can proceed to the requirements for the next module.

Save the final website into your marking folder labeled:

Module Name	Module to be Saved	Duration
Web Application Development	Day1_mod_A_xx	4 hrs.
Web Application Design	Day2_mod_B_xx	2.5hrs.
Server Site Application Development	Day2_mod_C_xx	3.5hrs
Responsive Website Development	Day3_mod_D_xx	4hrs.

Where 'xx' is FirstName+LastName.

Within each daily folder, save all your created, edited or used source files such as psd/ai files, fla files...etc. in a folder called "source_files_xx", where 'xx' is your unique code.

Day 1- (4 hrs)

Module "A": Web Application Development

Introduction

Your task is to format the supplied history of Solar Magic company from India in an aesthetically pleasing manner to enhance the viewing of data for users.

The Data format is as below:

- State
- District

- Dealer Id
- Dealer
- Dealer Type
- Mobile No.
- Total
- units Sold
- Total revenue in \$

DESIGN INCLUSIONS

You are free to make use of any design enhancements using the tools provided to create a page where visitors can view data. The official Solar Magic identity has been provided and should be adhered to always.

REQUESTED FUNCTIONALITY

The page created should contain the following functionality:

- Sorting of the columns within the data. (High -> Low and Low -> High) **(units sold wise / Total Revenue wise)**
- Top 5 sales results should be highlighted to stand out from other results.
- Filtering of all columns within the data.
- Alternative row colours for data.
- Data is extracted from a database.
- Ability to search data. **(eg search on mobile no , dealer etc)**
- Ability to filter multiple columns at one time.
- Responsive layout of page.
- Competitors can enhance the page provided to the best of their ability. These requests are not required, but will be judged for quality of work provided.

Graphical representation

Company is looking for graphical representation of data for management to take appropriate decision. You can use suitable charts to these views.

- State wise Revenue & nos. unit sale
- Per state - City wise revenue and nos. of unit sale
- Over all Solar unit sale.

Instructions to the Competitor

- Save your work files in your server root directory called Day2_Mod_D_XX where XX is FirstName+LastName.
- Please make sure your landing page in above directory is home page
- Create/generate a DB-diagram named “db-diagram.xxx” (xxx is the extension/type of the file eg. pdf or jpg) and put it into the directory mentioned above.
- Create a SQL dump of your database and put the *.sql file in a folder “/dbdump” inside the directory mentioned above.

(Day 2- 2.5 hrs)

Module “B”: Web Application Design

Introduction

A Toy mobile manufacturer called “Smart-Mobi”, requires your help to design their Web Site for promoting its mobile segments. Though the company is a new entrant in the mobile segment, it has worldwide presence in the other electronics segments for past 50 years and is no.1 especially in market.

The company would like to build on to this existing corporate identity for the Mobile segment. It is looking out for reaching out to not only its local but also overseas customers. Thus, the Web Site should be informative and have universal appeal. It should promote existing products as well as customisations.

Minimum requirements of Design:

Customers/Visitors Area	1. A visitor/customer should be able search for a product (Category wise).
	2. Register (sign In, login), giving Name, Complete Address, Contact Number, City, Country, Place an Order (country specific with currency conversion information), Request for Customization.
	3. Report /Register service/complaints/feedbacks etc.
	4. (Tracker System) track his/her order/complaints/service schedules.
	5. Feedback
Admin Area	1. Add/delete/update products, orders, customers, complains, feedbacks, service requests etc.
	2. Order tracking with the estimated delivery dates. Should be able to track customer’s order/complaints/service schedules.

Your task is to create a design of a website (not code) for an mobile industry using the media and information provided. You may provide with text/images that will help you in your design. You are not required to use all of the images and text that have been provided but you should ensure that there is sufficient text and images included in your design to give a good overall feel of how the website will look once constructed. If you feel that it is appropriate to add any additional information, then this would be acceptable.

Your submitted work for this project will consist of the following:

- The design should have area for animation.
- A design plan to identify the concept of your design.

- This should be identified using Mock-Ups to show your design for the home page and other pages.
 - A design can show the navigation of your chosen pages that should be constructed in a hierarchy format. This should also include the back end/admin area/student area of the website.
 - A colour chart/palette that identifies the colours that will be used on the constructed site. These should be identified by the inclusion of color samples.
 - All text should be identified with the font type, size and colour.
 - Placeholders should be used to show the placement of text, images within the layout and content area of the website.
 - Whitespace, balanced text and images should all be considered.
 - The constructed site will also show a search facility, and this must also be included in your design of the home page.
- You are also required to design a logo for the mobile industry identity that must be used as part of your design. The identity you design should represent the subject of the website. (can use Adobe)

Instructions to the competitor

- Save your file in your C:\ directory on the server called "Day2_Mod_C_XX", where XX is FirstName+LastName.

Day 2- (3.5 hrs)

Module "C": Server Site Application Development

Introduction

Your task is to create application for above "Smart-Mobi" module. You will be marked on implementation of Design, PHP and Database construction. Marks will also be given for using JavaScript to enhance your application.

Customer/Visitor Task

- Visitor should able to register them self with valid feedback.
- Registered customer should able to login and register a complain/Service/Feedback
- Login customer should able to trace own order/complains/status
- Customer can book complains/feedback at any given time.

Admin Task

- Admin can login with 'Admin' and password 'Admin123'
- Admin should Maintain (add/delete/update) all significant data in the database related to products, orders, customers, complains, feedbacks, service requests etc.
- An (Tracker System) online order tracking system for admin along with the estimated delivery dates should be provided. Should be able to track customer's order/complaints/service schedules.

Additional Functionality

- Error handling
- Accessibility features to enhance the booking system.
- Valid HTML and CSS.
- Design your website thinking about the user experience.
- Program your application using PHP server-side programming language and a MySQL Database.
- Use Javascript that improves your booking system interactivity.

End Result

Save your files in your root server directory and name it Day2_modB_XX (where XX is your competitor FirstName+LastName). Save your native design files in the folder just created and call it Day2_modB_design_XX (where XX is your competitor FirstName+LastName).

Day 3- (4 hrs)

Module “C”: Responsive Website Development

Introduction

You need to implement a client site development for a company called Nixon. The UI designer has designed the interfaces for you to make use of. You can find the design in the media files supplied.

We want you to follow the design to implement the client site development by using HTML and CSS. The sections should match all the provided designs when scaling the browser window.

There is an interactive photo slider - it is based on canvas and JavaScript. You have been provided with the JavaScript for the interaction required.

Grid system

You should implement your own grid system for the client site development. You should not use any 3rd party CSS code in this project – all code needs to be developed by Competitors.

DESIGN cut-outs

You have been supplied with the design cut-outs as below.

- Main page with 1366pix
- Responsive -1 with 1024pix

Interactivity and Animations cut-outs

Animation effect folder is provided for various hover and animation effects. Developer should ensure it matches with these effects.

Notes

- Design should be responsive and to match each cut-out as per their resolution
- Animation and interactivity should be implemented
- The HTML is valid to HTML5 through the W3 validator.
- The CSS contains no syntax errors.
- The animation matches the provided motion design as much as possible.
- The visual styles, including color and gradients, matches the design provided.
- The web page sections matches the provided screenshot images.
- The typography and spacing matches the provided screenshots.
- All photos must be implemented by the img tag in order to be indexed by search engines.
- Photos in must be indexable by search engines with fallback images.
- All text is indexable by search engines.
- The text selection matches the provided design.
- The custom font typography is integrated to match the provided design.
- The CSS code should be grouped and coding style should be readable and easy to maintain.

Instructions to the Competitor

Save your files in your C:\ directory on the server called "Day3_Mod _E_XX" where XX is your FirstName+LastName.

You are required to submit the implemented website according to the requirements.

Please make sure you name the HTML file index.html.

Section – C

C. Marking Scheme

The Assessment is done by awarding points by adopting two methods, Objective and Subjective.

- Measurement – One which is measurable
- Judgmental - Based on Industry expectations / Standard

Aspects are criteria which are judged for assessment **marking Scheme**

Day	Module	Section Criterion	Marks
Day-1	A	Web Application Development	30
Day-2	B	Web Application Design	15
Day-2	C	Server Site Application Development	25
Day-3	D	Responsive Website Development	30

Module A: Web Application Development

Name of Candidate: _____

Aspect Type 0=Obj/J=Jud	Aspect Description	Max Marks	Obtain Marks
J	The application interface shows the areas requested in the task	2	J
J	Shown all the requested field elements	2	J
J	Look and feel of the application developed	2	J
O	Top 5 results are highlighted	2	O
O	Solar Magic identity has been retained	1	O
O	User can sort data High - Low	1	O
O	User can sort data Low-High	1	O
O	Alternative rows are colored	2	O
J	Ability to Search Data	2	J
J	Able to filter multiple Column	2	J

J	Page is Responsive	2	J
O	Chart shows city wise Revenue & Nos. of unit sold	2.5	O
O	Chart shows state wise Revenue & Nos. of unit sold	2.5	O
O	Chart shows over all Solar unit sold	1	O
J	JavaScript Coding is working without any errors	1	J
O	Java Script is commented	1	O
J	Overall functionality as per specs.	1	J
O	SQL Dump is submitted	1	O
O	DB-Diagram is submitted	1	O
TOTAL		30	

Module C: Server Site Development

Name of Candidate: _____

Aspect Type 0=Obj/J=Jud	Aspect Description	Max Marks	Obtain Marks
O	Hope page has Sign-in, login, & register	1	
O	Search is available in landing page and appealing	1	
O	Register Area has Name, Address, Contact Number, City, Country, Place an order, currency conversation fields	1.75	
O	Register page has submit button	0.25	
O	Design has request complain and feedback for registered users	1	
O	Admin has Add/delete/update products, orders, customers, complains, feedbacks, service requests	2	
J	Order tracking is screen design available and user friendly	1	
J	Design shows a good balance of Animation, images and text.	0.5	
J	Whitespace has been used to improve the clarity of the design.	0.5	
J	Designs are appealing to the defined target audience.	1	
O	Navigation is clearly visible in design	1	
O	Color char, palette, font type, font size has been submitted	0.5	

O	Logo file is submitted	0.5	
J	Logo design is creative and as per theme	1	
O	Logo has been incorporated on all the pages	1	
O	Logo has been incorporated on all the pages	1	
J	Over all flow is user-friendly	1	
Total		15	

Module C: Server Site Development

Name of Candidate: _____

Aspect Type 0=Obj/J=Jud	Aspect Description	Max Marks	Obtain Marks
O	Admin is able to login and log off with id 'Admin' and password 'Admin123'	1	
O	Visitor Registration is successful and updated in table	2	
O	Customer can request for Services	1	
O	Customer can give feedback/complain after login	1	
O	After log-out, sign in and login appear	1	
J	Gives appropriate feedback on submit (success & failure)	2	
J	Coding folder structure is well defined	1	
J	Database design is as per RDBMs standards	2	
O	Database has foreign key	1	
J	Database has appropriate primary key	1	
	Customer can check the status	1	
O	PHP has appropriate comments min 5	1	
J	Use of functions, methods and objects permit the reuse of the code.	1	
J	Project scope meets with the description of the project.	2	
	Admin can add/delete/update products, orders, customers, complains, feedbacks	4	
	Admin can see the estimated delivery dates for order placed.	1	
J	Application has same look and feel as design in module B	2	
J	Product has animation effects and as per design in module 'B'	1	
O	Admin can see the All users, feedbacks, queries and services reported	1	

J	Application is secured	1	
J	Over all Application Runs without error	2	
Total		30	

Module D: Responsive Website Development

Name of Candidate: _____

Aspect Type 0=Obj/J=Jud	Aspect Description	Max Marks	Obtain Marks
O	Logo has been included in all 3 pages	1.5	
O	Files and source files have been submitted in the correct file format.	1.5	
J	Logo is placed well as per the theme	1	
O	All 3 designs have been developed	1.5	
O	All 3 designs have red border of 4px	0.75	
O	Customer benefit has 3 sections	0.75	
O	Page includes social media 4 icons using provided images	1	
J	Design shows a good balance of Animation, Video, images and text.	1	
J	Whitespace has been used to improve the clarity of the design.	1	
J	Designs are appealing to the defined target audience.	2	
J	Quality of the designs and originality of elements used within the designs.	2	
O	Today's temperature, search, From country/state	1.5	
O	Search is implemented and has search button	0.5	
O	Sections has Travel, Explore and See -Do	1.5	
O	Sub Section has been shown	1.5	
O	Tour Packages has Deluxe and Standard Category	1.5	
O	Footer has been implemented with 3 title	2	
J	Main menu is well design in Tab and Mobile menu	2	
J	Tab view has product and verities includes title, text, image and buy now	1	
J	Tour Packages has attractive design	2	
J	Shown the additional animation effects in images	1.5	
J	Has shown the attractive discount feature	1	
Total		30	

Section - D

D. Infrastructure List

General Requirements

- Tables with partition for computers
- Tables for Jury
- Chairs for Competitors, Jury, Observers and Workshop team
- Lockers for Competitors
- Printing Paper A4/80g white std.
- Printing Paper A3/ 80g White std.
- Stapler
- Punch machine
- File/Folder
- Standard Set of Cleaning
- Markers
- A4 Bank pages
- Pens for Competitors and Jury
- Pencils & Pencil sharpener
- Eraser
- Ruler
- Post-It
- Plank card for competitor with photo
- Standard set of Audio Visual
- Cello-tape
- Standard Set of Health and Safety
- Small cabinmate

System Hardware Requirements

- "Intel® Core™ i5/i7
- Ethernet 10/100/1000 mbps
- 8 GB RAM DDR3 - 1333 MHz
- 2 x LCD Displays 22" LED Wide Screen (02 displays per CPU) (two monitor port)
- Video-card GB GDDR3
- HG 500 GB ,7200 RPM
- Optical mouse with 2 buttons, scroll
- International Keyboard
- USB 2.0(3.0)
- Head Phone

Software Requirements

- Fresh installed Windows 8 and above, with all security patches.
- Google Chrome 64 bit latest
- Firefox 64bit latest
- Internet Explorer – 64 bit
- Sublime text editor 3.0
- Notepad ++7.0/ EditPlus
- PHPStorm
- JQuery
- JQuery-mini
- JQuery-UI
- Adobe Creative Cloud 2017
- XAMPP 7.0

- MS office 2013 and above
- Acrobat reader
- FileZilla Client
- WinZip/WinRAR

Network Requirements

- All system may be connected to switches 100mbps
- Internet speed 1Mbps on internet system.

Backup System Requirements

- All system must be connected to UPS/power backup
- 2 extra system should be available in case of any competitor system fails.
- 2 systems for internet access for the competitor

Other Requirements

- Video Projector with 1920 resolution support
- Projector Screen with stand
- White Board
- Markers
- Stop Watch /Clock
- USB Pen Drives for Expert and Workshop manager
- Printer

Section – E

E. Instructions for candidates

General Rules

- Competitor should reach venue 15 minute before the entry time.
- Competitor should carry the id proof and birth date proof
- No Group work is permitted, it's individual competition.
- Module briefing will be done before the start of competition
- Module Briefing duration is 15 minutes
- Open communication / Q&A will be conducted after module briefings.
- Module related queries will not be entertained after the start of competition.

Internet Access Rules

- You will have access to internet per module 10 minute except design modules
- Access will be subject to availability of Internet System
- 10 minutes to be utilise at stretch.
- You cannot copy, write from internet machines to your workstation.
- You are not permitted to use any communication application e.g. Chat, Facebook, WhatsApp etc.

Module Rules

- When you have finished the current module, you can proceed to the requirements for the next module.
- Competition Test Project will be in English language

Infrastructure Rules

- Any hardware failure during the completion may get extra time subject to approval of Jury/Experts.
- Candidates should not carry any devices, cell phones, material at competition desk.

Rules of competition

- Competitor will be disqualifying for any misbehaviour.
- All the rights of the competition are reverved with State Skill Competition Committee.

Section – F

F. Health, Safety, and Environment

- All accredited participants, and supporting volunteers will abide by rules and regulations with regards to Health, Safety, and Environment of the Competition venue.
- All participants, technicians and supporting staff will wear the appropriate / required protective Personnel clothing.
- All participants will assume liability for all risks of injury and damage to property, loss of property, which might be associated with or result from participation in the event. The organizers will not be liable for any damage, however in case of Injury the competitor will immediately inform the immediate organizer for medical attention.
- For any electrical or technical support contact the expert/supervision staff.
- Do not plugin/plugin out any eclectic & electronics connections, seek for assistance.
- Be careful while working on workstation so that feet should not strike to electric board or CPU system.