



LKSS SMK

26

6 - 12 MEI 2018 • MATARAM • NUSA TENGGARA BARAT

SOAL BIDANG LOMBA

WEB DESIGN



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Ketua Komite LKS

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1. Pendahuluan

1.1. Nama dan Deskripsi Lomba

1.1.1. Nama Lomba

Web Design and Development

1.1.2. Deskripsi Lomba

Web Design and Development mencakup berbagai keterampilan dan disiplin dalam produksi dan pemeliharaan situs web. Keterampilan yang dibutuhkan developer web sangat beragam, seringkali sulit bagi developer untuk unggul dalam semua aspek. Akibatnya, tim dapat mengikuti proses desain web, dengan setiap anggota tim memiliki kekuatan, spesialisasi, dan peran masing-masing dalam proses pengembangan.

Web Design melibatkan penerapan solusi spesifik yang mengikuti aturan dan tujuan bisnis yang dideskripsikan oleh klien. Web Designer mengembangkan hubungan profesional dengan klien mereka, berinteraksi untuk mengembangkan pemahaman mendalam tentang persyaratan, dan mengubahnya menjadi spesifikasi situs web. Desain dan kemampuan komunikasi yang kuat, ditambah dengan teknik penelitian dan pemahaman khalayak target, pasar dan tren, akan memastikan kepuasan dan kredibilitas klien awal untuk Web Designer.

Setelah menyelesaikan perencanaan dan perancangan situs web, Web Designer kemudian mengintegrasikan situs web dengan alat dan platform pihak ketiga. Selama proses pengembangan web designermenerapkan desain, menggunakan keterampilan pemrograman mereka untuk menciptakan fungsionalitas dinamis, tes, dan debug situs web dengan menggunakan berbagai perangkat. Tren saat ini adalah untuk juga mengintegrasikan situs web dengan media sosial untuk memanfaatkan platform pemasaran online yang ada.

Semua keterampilan ini mungkin berlaku sama untuk desain ulang atau upgrade dari situs web yang ada.

Perancang Web memiliki banyak kesempatan kerja. Ini bisa berkisar dari menjadi freelancer atau pengusaha, dipekerjakan oleh biro iklan dan perusahaan pengembangan web serta berbagai jenis organisasi lainnya. Posisi Web Designer mungkin luas dalam lingkup atau spesialisasi di bidang seperti desain grafis untuk Web, desain antarmuka pengguna, desain pengalaman pengguna digital, pengembangan front end, pengembangan back end, pengembang sistem manajemen konten serta manajemen klien dan proyek. Peran apa pun yang dipilih oleh Perancang Web untuk mengambil spesialisasi di dalamnya, mereka memerlukan akses ke fasilitas TIK, perpustakaan sumber terbuka, dan kerangka kerja.

Perancang Web berperforma tinggi mungkin memiliki keahlian web-related yang luas atau khusus. Mereka harus memahami nilai artistik, memiliki kemampuan mendesain antarmuka pengguna yang solid, keterampilan pemrograman, dan bertanggung jawab secara pribadi karena selalu berada di garis depan tren dan teknologi web. Mereka juga harus responsif terhadap klien dan memiliki kemampuan untuk bekerja dalam tim dan kelompok terstruktur dan tidak terstruktur. Kualitas ini memungkinkan Web Designer untuk berkontribusi dan memanfaatkan aspek teknologi komunikasi modern yang berkembang pesat ini.

1.2. Isi Deskripsi Teknis

Dokumen ini berisi informasi tentang standar yang dibutuhkan untuk bersaing dalam kompetisi keterampilan ini, dan prinsip penilaian, metode, dan prosedur yang mengatur persaingan. Setiap ahli dan kompetitor harus mengetahui dan memahami Deskripsi Teknis ini.

1.3. Dokumen Terkait

Dokumen ini hanya berisi informasi tentang aspek teknis keterampilan, dokumen lain yang juga harus dipelajari adalah:

- Kisi – Kisi Soal
- Soal Lomba
- Format Penilaian
- Daftar Kebutuhan Alat
- Daftar Kebutuhan Bahan
- Layout Lomba
- Daftar Kebutuhan Penunjang

2. Spesifikasi Kompetensi LKS-SMK

2.1. Ketentuan Umum

Spesifikasi Kompetensi adalah rumusan target kompetensi yang akan dilombakan. Target kompetensi dirumuskan berdasarkan situasi dunia kerja atau industri dengan tetap memperhatikan kurikulum SMK.

LKS mengukur pengetahuan dan pemahaman melalui penampilan/unjuk kerja.

Proyek uji, skema penilaian dan bobot masing-masing modul proyek uji dikembangkan berdasarkan spesifikasi kompetensi LKS-SMK.

2.2. Spesifikasi Kompetensi LKS-SMK

Section	%-tasi
1. Manajemen dan Organisasi Kerja	6
Mengetahui dan memahami: <ul style="list-style-type: none">• Prinsip dan praktik yang memungkinkan kerja tim produktif• Prinsip dan perilaku sistem• Aspek sistem yang berkontribusi terhadap produk, strategi	

	<p>yang berkelanjutan dan praktik</p> <ul style="list-style-type: none"> • Bagaimana cara berinisiatif dan giat untuk mengidentifikasi, menganalisa dan mengevaluasi informasi dari berbagai sumber • Identifikasi beberapa solusi untuk masalah dan menawarkan opsi terhadap waktu, anggaran, dan kendala lainnya. <p>Dapat melaksanakan:</p> <ul style="list-style-type: none"> • Troubleshoot masalah desain dan pengembangan web secara umum • Membatasi waktu dan tenggat waktu • Debug dan Error handling • Menggunakan komputer atau perangkat dan berbagai paket perangkat lunak • Terapkan teknik dan keterampilan penelitian untuk selalu mengikuti perkembangan terbaru berdasarkan pedoman industri • Rencanakan jadwal produksi setiap hari sesuai waktu yang tersedia • Menyertakan gambar terkait, font, file asli dan format file produksi saat pengarsipan • Menggunakan sistem version control 	
2.	Komunikasi dan Keterampilan Interpersonal	6
	<p>Mengetahui dan memahami:</p> <ul style="list-style-type: none"> • Bagaimana mengatasi masalah komunikasi termasuk mengidentifikasi masalah, penelitian, analisis, pembuatan solusi, prototyping, user pengujian dan evaluasi hasil • Konsep dan teknik desain termasuk wire framing, storyboard, dan membuat flowchart • Konsep dan teknik perancangan perangkat lunak termasuk flowchart dan ERdiagram <p>Dapat melaksanakan:</p> <ul style="list-style-type: none"> • Membuat, menganalisa, dan mengembangkan respon visual terhadap komunikasi masalah, termasuk pengertian hierarki, tipografi, estetika, dan komposisi • Membuat, manipulasi dan optimalkan gambar untuk internet • Identifikasi target pasar dan buat konsep untuk desain • Buat desain responsif yang berfungsi dengan benar pada beberapa layar resolusi dan / atau perangkat • Mengubah ide menjadi desain yang estetis dan kreatif • Konsep konsep kritik, pilihan warna dan tipografi 	
3.	Desain Website	22
	<p>Mengetahui dan memahami:</p> <ul style="list-style-type: none"> • Cara mengikuti prinsip dan pola desain agar bisa memproduksidesain yang estetis dan kreatif • Isu yang berkaitan dengan kognitif, sosial, budaya, teknologi dan konteks ekonomi untuk desain • Cara membuat dan mengadaptasi grafis untuk web • Target pasar yang berbeda dan elemen desain yang memuaskan pasar • Protokol untuk menjaga identitas korporat, brand dan gaya • Keterbatasan perangkat dan resolusi layar Internet <p>Dapat melaksanakan:</p> <ul style="list-style-type: none"> • Membuat, menganalisa, dan mengembangkan respon visual terhadap komunikasi masalah, termasuk pengertian hierarki, tipografi, estetika, dan komposisi • Buat, manipulasi dan optimalkan gambar untuk internet • Identifikasi target market dan buat konsep untuk desain • Buat desain responsif yang berfungsi dengan benar pada 	

	<p>beberapa layarresolusi dan / atau perangkat</p> <ul style="list-style-type: none"> • Mengubah ide menjadi desain yang estetis dan kreatif • Konsep konsep kritik, pilihan warna dan tipografi 	
4.	<p>Layout Website</p> <p>Mengetahui dan memahami:</p> <ul style="list-style-type: none"> • Standar World Wide Web Consortium (W3C) untuk HTML dan CSS • Metode penentuan posisi dan tata letak • Usability dan desain interaksi • Aksesibilitas dan komunikasi bagi pengguna dengan kebutuhan khusus • Cross browser kompatibilitas • Search Engine Optimization (SEO) • Cara menanamkan dan mengintegrasikan animasi, audio dan video bila dibutuhkan <p>Dapat melaksanakan:</p> <ul style="list-style-type: none"> • Buat kode yang sesuai dan validasikan dengan standar W3C • Buat situs web yang dapat diakses dan bermanfaat untuk berbagai perangkat dan layarresolusi • Gunakan CSS atau file eksternal lainnya untuk memodifikasi tampilan website • Gunakan CSS pre / post-processors • Buat dan perbarui situs web untuk pengalaman pengguna dan untuk membantu pencariankinerja mesin 	22
5.	<p>Client Side Development</p> <p>Mengetahui dan memahami:</p> <ul style="list-style-type: none"> • JavaScript • Bagaimana mengintegrasikan perpustakaan, kerangka kerja dan sistem atau fitur lainnya dengan JavaScript <p>Dapat melaksanakan:</p> <ul style="list-style-type: none"> • Membuat animasi dan fungsionalitas situs web untuk membantu dalam konteks • penjelasan dan menambahkan daya tarik visual • Membuat dan memperbarui kode JavaScript untuk meningkatkan fungsionalitas situs web, • kegunaan dan estetika • Memanipulasi data dan media khusus dengan JavaScript • Membuat kode JavaScript modular dan dapat digunakan kembali 	22
6.	<p>Server Side Development</p> <p>Mengetahui dan memahami:</p> <ul style="list-style-type: none"> • PHP berorientasi objek • Open source libraries dan framework • Bagaimana merancang dan mengimplementasikan database dengan MySQL • FTP (File Transfer Protocol) hubungan server dan klien dan perangkat lunakpaket. • Bagaimana mengelola pertukaran data antara server dan sistem client • Pola perancangan perangkat lunak (misal: MVC (Model View Controller)) • Keamanan aplikasi web <p>Dapat melaksanakan:</p> <ul style="list-style-type: none"> • Memanipulasi data dengan memanfaatkan keterampilan pemrograman • Melindungi website dari eksploitasi keamanan • Integrasikan dengan kode yang ada dengan API (Application ProgrammingAntarmuka), perpustakaan dan 	14

	kerangka kerja	
7.	Content Management Systems	8
	<p>Mengetahui dan memahami:</p> <ul style="list-style-type: none"> • Manfaat dan keterbatasan Sistem Manajemen Konten open source • Cara mencari, memilih dan menerapkan plugin / modul yang sesuai • Bagaimana menerapkan fungsi sisi klien ke situs web CMS • Pahami kebutuhan akan perawatan dan update plugin CMS dan modul untuk keamanan <p>Dapat melaksanakan:</p> <ul style="list-style-type: none"> • Instal, mengkonfigurasi dan perbarui CMS • Instal, mengkonfigurasi dan update plugin / modul CMS • Buat tema / template khusus untuk CMS • Buat plugin / modul khusus 	
	Jumlah	100%

3. Strategi Asesmen dan Spesifikasi

3.1. Petunjuk Umum

Penilaian LKS-SMK menggunakan ketentuan yang telah ditetapkan panitia.

Penilaian LKS-SMK menggunakan dua jenis, yaitu *judgement* dan *measurement*.

Penilaian *judgement* dilakukan dengan cara pengamatan proses maupun hasil. Untuk memudahkan justifikasi disediakan kriteria penilaian. Sedangkan penilaian *measurement* didasarkan pada pengukuran kriteria.

4. Skema Penilaian

4.1. Petunjuk Umum

Skema penilaian menjelaskan tentang aturan dan bagian yang akan dinilai dalam lomba melalui proyek uji yang dikerjakan peserta serta proses penilaian.

Skema penilaian dalam LKS-SMK dipergunakan untuk mengukur keterampilan peserta dalam mengerjakan proyek uji. Aspek penilaian dikembangkan berdasarkan spesifikasi kompetensi LKS-SMK dan pembobotan yang telah ditetapkan.

4.2. Kriteria Penilaian

Kriteria penilaian adalah hal utama dalam skema penilaian yang ditentukan berdasarkan proyek uji. Bobot masing-masing kriteria penilaian menyesuaikan dengan spesifikasi kompetensi LKS yang ditetapkan.

4.3. Sub Kriteria

Sub kriteria adalah uraian lebih lengkap tentang aspek yang akan dinilai terkait dengan proyek uji.

4.4. Aspek

Setiap Aspek mendefinisikan, secara rinci, satu item untuk dinilai bersamaan dengan tanda, atau petunjuk bagaimana tanda tersebut diberikan. Aspek dinilai baik dengan pengukuran atau penilaian, dan muncul pada bentuk aspek yang sesuai.

Form marking berbentuk daftar, secara rinci, setiap Aspek yang harus dinilai bersama dengan spesifikasi yang dideskripsikan dan menjadi referensi untuk bagian keterampilan sebagaimana tercantum dalam Spesifikasi Standar.

Jumlah tanda yang dialokasikan untuk masing-masing Aspek harus berada dalam kisaran penilaian yang ditentukan untuk bagian keterampilan di Spesifikasi Standar.

4.5. Penilaian Judgment

Penilaian judgment dilakukan untuk proses kerja dan hasil kerja yang berdasarkan pengamatan atau jastifikasi juri. Penilaian judgment memerlukan kriteria (rubrik) untuk membantu proses penilaian.

Skala justifikasi:

- 0: Hasil tidak memenuhi standar industri
- 1: Hasil memenuhi standar industri
- 2: Hasil memenuhi dan di beberapa bagian melebihi standar industri
- 3: Hasil secara keseluruhan melebihi standar industri

4.6. Penilaian Measurement

Penilaian measurement dilakukan oleh minimal tiga juri. Penilaian hanya memberikan angka 1 bila sesuai ukuran dan toleransi dan 0 bila tidak sesuai, ataupun pengurangan nilai berdasarkan deskripsi yang tertera pada form penilaian.

4.7. Komposisi Penilaian Judgement dan Measurement

Keputusan mengenai pemilihan kriteria dan metode penilaian akan dilakukan selama desain dari kompetisi melalui Marking Scheme and Test Project.

4.8. Keseluruhan Asesmen Keterampilan

Pesaing akan diberikan semua materi yang diperlukan sebelum dimulainya setiap modul. Kriteria untuk pengukuran marking. Ada empat jenis kriteria pengukuran yang berbeda dalam Test Project.

Jenis	Contoh	Nilai maksimal	Benar	Salah
Nilai penuh atau nol	Site Map terhubung dengan menu secara dinamis	0.50	0.50	0
Pengurangan dari nilai maksimal	Kode berhasil divalidasi sesuai dengan HTML1.0 Strict [pengurangan 0.5 untuk setiap error]	2.00	2.00	0 – 1.5
Penambahan dari nilai 0	Dokumentasi CSS (0.5) Dokumentasi HTML (0.5)	1.0	1.0	0 – 0.5
Nilai kecepatan	Dihitung berdasarkan secepat apa competitor menyelesaikan sebuah pekerjaan			

4.9. Prosedur Asesmen Keterampilan

Setiap juri akan menilai hasil modul dari proyek akhir kompetitor.

5. Proyek Uji LKS

5.1. Ketentuan Umum

Tujuan dari Proyek Uji adalah untuk memberikan kesempatan penuh dan seimbang untuk penilaian dan menandai seluruh Standar Spesifikasi, dalam hubungannya dengan Skema Marking. Hubungan antara Proyek Uji, Menandai Skema dan Standar Spesifikasi akan menjadi indikator kunci dari kualitas.

Uji Proyek tidak akan menutupi area luar Standar Spesifikasi, atau mempengaruhi keseimbangan tanda dalam Spesifikasi Standar selain dalam keadaan yang ditunjukkan oleh Bagian 2.

Test Project akan memungkinkan pengetahuan dan pemahaman yang akan dinilai hanya melalui mereka aplikasi dalam kerja praktik. Uji Proyek tidak akan menilai pengetahuan tentang aturan dan peraturan WorldSkills.

Deskripsi Teknis ini akan mencatat setiap masalah yang mempengaruhi kapasitas Test Project untuk mendukung penuh berbagai penilaian relatif terhadap Standar Spesifikasi. Bagian 0 mengacu Format dan Struktur Proyek Uji.

Modul proyek uji berjumlah tiga test project yang berlangsung selama tiga hari.

5.2. Persyaratan Proyek Uji

a. Content Management System

- Membuat desain website yang responsif dengan menggunakan Adobe Photoshop CS6 / CC.
- Membuat icon atau asset-asset yang dibutuhkan dengan menggunakan Adobe Photoshop CS6 / CC atau Adobe Illustrator CS6 / CC.
- Membuat halaman website dengan menggunakan HTML5 dan CSS3 sesuai dengan standar W3C yang dapat diverifikasi lewat validator milik w3.org.
- Membuat desain halaman website yang responsif dengan menggunakan grid system dan CSS3.
- Membuat animasi dengan menggunakan CSS3 dan Javascript.
- Membuat website interaktif dengan menggunakan Javascript dan JQuery.
- Melakukan instalasi dan konfigurasi Wordpress sebagai basis Content Management System.
- Menggunakan, membuat dan memodifikasi themes untuk mengubah tampilan standar Wordpress.
- Menggunakan, membuat dan memodifikasi plugins untuk menambahkan fitur-fitur dari Wordpress.

b. Client Side

- Membuat game dengan menggunakan fitur canvas di HTML5.
- Mendeteksi input melalui keyboard dan pointer mouse dengan menggunakan Javascript.
- Menampilkan dan menganimasikan gambar maupun sprite dalam canvas HTML5 menggunakan Javascript.
- Mendeteksi tabrakan yang terjadi antar objek dalam canvas.
- Memainkan suara musik latar maupun efek suara dengan menggunakan Javascript.
- Mengirim dan menampilkan data ke API yang sudah disiapkan menggunakan fitur AJAX pada javascript.

c. Server Side

- Membuat backend API sebuah website menggunakan salah satu dari framework PHP berikut: Laravel atau Yii
- Membuat API sesuai dengan input dan format yang diberikan.
- Menggunakan Postman untuk melakukan pengecekan terhadap API yang dibuat.
- Membuat Frontend yang menerima dan mengirim data ke API dengan menggunakan salah satu JS Framework berikut: ReactJS, AngularJS atau VueJS
- Menghubungkan Backend API dengan beberapa komponen HTML5 di Frontend seperti Canvas, Form dan Komponen Halaman Website lainnya.

5.3. Pengembangan Proyek Uji

Pengembangan proyek uji dikoordinasi oleh Dit. PSMK.

5.3.1. Pengembang Proyek Uji

Proyek uji dikembangkan oleh Tim yang dibentuk oleh Dit. PSM.

5.3.2. Tempat Pengembangan Proyek Uji

Tempat pengembangan proyek uji adalah lembaga yang ditunjuk oleh Dit. PSMK.

5.3.3. Jadwal Pengembangan

Jadwal pengembangan proyek uji

Waktu	Kegiatan
8 bulan	Penyusunan draft
6 bulan	Validasi dan Uji Coba
4 bulan	Penyempurnaan
3 bulan	Penetapan

5.4. Validasi Proyek Uji

Modul test project akan divalidasi ulang oleh tim expert agar sesuai dengan standar berikut:

- Modul diberikan lengkap dengan material dan media files yang dibutuhkan, kecuali disebutkan di soal bahwa aset-aset yang digunakan harus dibuat sendiri.
- Modul dapat diselesaikan dalam waktu yang sudah ditentukan.
- Skema penilaian sudah mencakup hal-hal yang dikerjakan di soal.
- Test project yang dibuat mencakup sebagian besar materi yang akan dilombakan di World Skills

5.5. Penetatan Proyek Uji

Penetapan proyek uji dilakukan oleh Komite LKS-SMK yang dibentuk oleh Dit. SMK.

5.6. Distribusi Proyek Uji

Distribusi proyek uji dilakukan oleh Dit. SMK.

5.7. Koordinasi Proyek Uji

Koordinasi Proyek Uji akan dilakukan oleh Ketua Juri. Ketua Juri akan menunjuk Anggota Juri dalam melakukan tugas selama lomba

5.8. Perubahan Proyek Uji

Minimal 50% perubahan proyek uji pada hari lomba.

5.9. Bahan dan Perakitan

Alat dan bahan yang diperlukan oleh peserta dalam menyelesaikan Proyek Uji akan disediakan Dit. SMK dan terdapat pada list daftar sarana dan prasarana pada poin 6.2.

6. Keterampilan Manajemen dan Komunikasi

6.1. Forum Diskusi

Diskusi terkait pelaksanaan lomba dilaksanakan melalui kegiatan:

1. Koordinasi Kepala Dinas Pendidikan Kabupaten/Kota
2. *Technical meeting* pembimbing dan peserta sebelum pelaksanaan lomba.

6.2. Informasi bagi Peserta

Semua peserta mendapatkan informasi terkait dengan lomba yang meliputi:

- Kisi – Kisi Soal
- Soal Lomba
- Format Penilaian
- Daftar Kebutuhan Alat
- Daftar Kebutuhan Bahan
- Layout Lomba
- Daftar Kebutuhan Penunjang
- Daftar Kebutuhan Juri & Usulan Juri

7. Persyaratan Keamanan

Dalam rangka menjaga kehormatan profesionalisme, keselamatan dan kemanan kerja merupakan bagian dari materi lomba yang diberikan penilaian.

8. Daftar Alat yang dibawa Peserta

Alat dan bahan yang dipersiapkan oleh peserta meliputi:

No.	Nama Alat/Bahan	Spesifikasi	Jumlah
1.	Keyboard (opsional)	No memory, no wireless	1
2.	Mouse (opsional)	No memory, no wireless	1
3.	Headset	No wireless	1

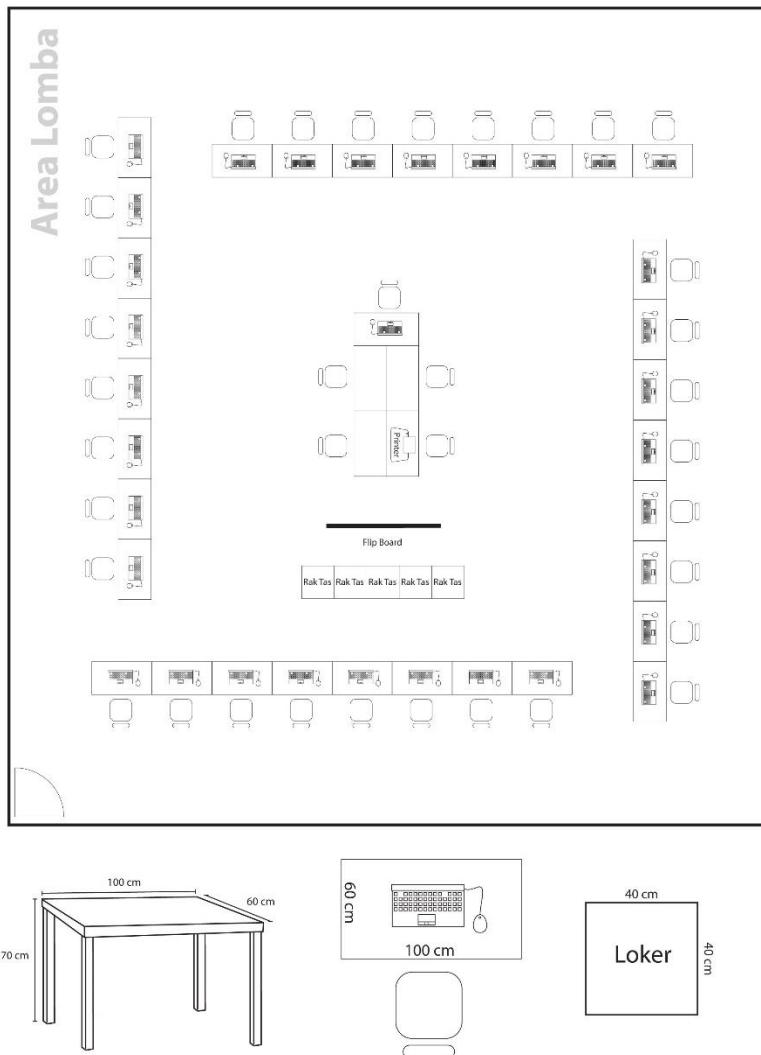
8.1. Alat yang dilarang digunakan

Alat dan bahan yang tidak boleh dipergunakan dalam arena lomba meliputi:

- USB Stick milik peserta / pembimbing

9. Layout Lomba

Layout lomba adalah:



a. Opening Day

- Welcome Ceremony
- Technical Briefing
 1. Explanation of Competition rules
 2. Explanation of technical description
 3. Test Project Overview Explanation
 4. Marking Schema
 5. Competitor working place's arrangement
- Familiarization
 1. Hardware PC Client & PC SERVER checking
 2. Software checking
 3. Competition working place checking

Selama kegiatan Technical Briefing, semua pendamping akan mendampingi semua peserta untuk memahami aspek teknis lomba dan pengembangan yang akan dilakukan di periode berikutnya.

Sebelum memulai setiap modul, peserta akan dijelaskan tentang soal / case yang akan di kerjakan. Semua pertanyaan akan terbuka bisa di dengar semua peserta dan semua jawaban juga akan di dengar semua peserta. Ketika waktu mengerjakan di mulai, pertanyaan terkait soal tidak akan dijawab oleh dewan juri untuk memastikan perlombaan yang adil bagi semua peserta lomba.

10. Jadwal Lomba

Skenario

perlomba akan diatur sebagai berikut:

b. Lomba Hari 1

No	Schedule	Activity
1.	08:30 – 09.00	Case Explanation
2.	09:00 – 11:30	CMS Pre
3.	11:30 – 12:30	Break and Submission
4.	12:30 –13:00	Case Explanation
5.	13:00 – 15:30	CMS Post

c. Lomba Hari 2

No	Schedule	Activity
1.	08:30 – 09.00	Case Explanation
2.	09:00 – 12:00	Server Side Pre
3.	12:00 – 13:00	Break and Submission
4.	13:00 – 13:30	Case Explanation
5.	13:30 – 16:30	Server Side Post

d. Lomba Hari3

No	Schedule	Activity
1.	08:30 – 09.00	Case Explanation
2.	09:00 – 11:30	Client Side Pre
3.	11:30 – 12:30	Break and Submission
4.	12:30 – 13:00	Case Explanation
5.	13:00 – 15:30	Client Side Post

- Peserta yang mengalami kesulitan atau ada kebutuhan khusus (seperti toilet, mengambil makanan) tidak akan mendapatkan waktu tambahan
- Peserta yang mengalami masalah dengan peralatan akan di perhitungkan oleh Juri dan mendapatkan waktu tambahan.
- Peserta yang terlambat tidak akan mendapatkan waktu tambahan untuk briefing soal maupun untuk penggerjaan.

11. Pengunjung dan Media yang disediakan

Dalam rangka memberikan informasi kepada pengunjung, yang perlu dipersiapkan di arena lomba adalah:

- Deskripsi Lomba,
- Hasil karya Proyek Uji

12. Keberlanjutan/Sustainability

Dalam rangka menjaga kelestarian lingkungan, hal yang diperhatikan dalam proyek uji adalah:

- Tidak menggunakan bahan yang bersifat 3B.
- Penggunaan bahan yang beracun harus ditangani secara khusus.
- Menggunakan bahan-bahan yang ramah lingkungan
- Pemakaian Proyek Uji setelah kompetisi

LKS SMK
Tingkat Nasional Ke-XXVI
Tahun 2018



LKS SMK

Tingkat Nasional XXVI
2018

Soal

BIDANG LOMBA

Web Design and Development



KEMENTERIAN PENDIDIKAN DAN KEBUDAYAAN

DIREKTORAT JENDERAL PENDIDIKAN MENENGAH
DIREKTORAT PEMBINAAN SEKOLAH MENENGAH KEJURUAN

Kompleks Kemdiknas Gedung E Lantai 12-13
Jalan Jenderal Sudirman Senayan Jakarta 10270
Telepon (021) 5725477 (hunting), 5725466-69, 5725471-75
Fax. 5725467, 5725469, 5725049
Site: www.ditpsmk.net

CMS

Introduction

GLOBAL FASHION 2017 IS A BRAND NEW FASHION EVENT THAT IS TO BE HELD IN ABU DHABI. THE COMPANY RUNNING THIS EVENT NEEDS HELP IN DESIGNING A NEW AND VIBRANT WEBSITE IN ORDER TO MARKET THE EVENT AND SELL TICKETS.

Description of project and tasks

THIS MODULE INVOLVES KNOWLEDGE ABOUT WEBSITE DESIGN, WEBSITE LAYOUT TECHNIQUES, CLIENT-SIDE SCRIPTING, AND SERVER-SIDE SCRIPTING, ALL COMBINED IN ONE CMS PROJECT. YOU WILL BE USING MOST POPULAR CMS, WORDPRESS. YOU WILL DEVELOP YOUR THEME AS A CHILD-THEME FOR THE BLANKSLATE WORDPRESS THEME, CALLED *BLANKSLATE_CHILD_WORLDFASHION*. FOR THE FULLY FUNCTIONAL WEBSITE YOU WILL NEED TO ADD SOME OF THE PROVIDED OR SELF-DEVELOPED PLUGINS.

The company wants the possibility to create pages to show information about current, former and future events. They also want to publish news items. Make proper use of the provided plugins like SEO, social media support and security.

The website design needs to be classy and modern to fit with the target audience for Global Fashion 2017: Mainly female owners of fashion web shops.

Website Design Details

Create a design for a responsive front page for the fashion event 'Global Fashion 2017'.

Make a design for how the website will look like at the following resolutions:

Desktop: 1330px,

Tablet: 768px,

Mobile: 320px.

Add the designs to a mockup to present your website.

The website consists of 2 page templates. A main page template for the upcoming events, and another page template for former events. You only need to design the main page.

The main page template:

The main page template includes

- Page title
- Header video gallery
- Event description (placeholder text)
- Countdown timer (October, 19th 18.00)
- News posts
- Book tickets button
- Maps location (Screenshot)
- Tab to open the hidden sidebar
- Footer with copyrights and social media links

The page template for the former events

- Page title
- Header video
- Image gallery
- Event description (placeholder text)
- Maps location (Screenshot)
- Tab to open the hidden sidebar
- Footer with copyrights and social media links

The sidebar is added to all pages. The sidebar is hidden and just has a small tab. When clicking the tab, the sidebar slides or fades in.

The sidebar needs to support adding search widget, images of sponsors and a calendar widget. The footer is added to all pages. The footer contains copyrights and links to at least three social media platforms.

The header section of the main page shows all videos in a gallery –instead of one video:

The video for the 2017 event will cover the header section of the main page. Other videos about former events are displayed smaller. The small videos contain year and place as title.

At the video gallery, when hovering small videos, the hovered video will be played and the large video will be paused. With mouse-out the small video stops and the large video continues.

The video gallery is the eye catcher of the main page. The design must be very appealing, but without loosing the classy and modern look and feel.

The main page shows an accurate countdown timer to the start of the event (October,19th 18.00).

Posts will be displayed in the main page with category icons. You should produce the icons for:

- Fashion catwalk (catwalk show related news items),
- Pop-up stores (news items related to available stores at the venue),
- Brand parade (news items related to the big parade where all famous brands participate)
- Posts will have a short message with 'read more' option and optional there can be an image.

Readability and attraction is very import for the design of the post.

The UI of the slider should have a minimal and elegant design for leading all the attention to the images.

Style guide Details

Necessary elements for the style guide including colors, sizes and fonts

- Buttons
 - Backgrounds
 - Main title
 - Subpage title
 - Section title
 - Paragraphs
 - Navigation
 - News category Icons.
-
- Add comments to the style guide to specify how to use the logo and the interactive elements.

The designs should be saved as: Desktop_WorldFashion.* , Tablet_WorldFashion.* and Mobile_WorldFashion.* .

The designs should be saved as *.png and .psd or .ai.

Add your designs to one of the provided mockups and save it as:

Mockup_WorldFashion.png

In addition to the website design you need to design a style guide for future development of the website. You have to use one of the two provided logos, but you are allowed to make changes to the color of the logo.

Save your design, style guide and mockup files in this location:

http://competitorYY.wsad.local/XX_cms_module/design

XX is your country code. YY is workstation number.

TECHNIQUE

The website layout should be developed with the ability to add menu items (up to 5 items each maximum 15 characters) and content without damaging the design. For future use widgets will be placed in the sidebar. Make sure the content of the sidebar can easily be changed without damaging the design.

The layout of the website needs to be identical to your designs, but also needs to scale without damaging the design when scaling the browser window between 320px and 1330px. Make use of HTML and CSS by the W3C standards for proper SEO support.

Clicking at menu and post items should not cause a page refresh, but post content will be loaded asynchronous from the server.

CMS Details

For safety reasons two user profiles needs to be created:

- The Admin user - access to the complete WordPress main dashboard.
 - Username: adMinX
 - Password: Never4get!
- The Client user - access to the main WordPress dashboard showing only pages, posts, media and relevant plugins (image sliders, video gallery, security, seo).
 - Username: 4Clients
 - Password: Never4get2

The Wordpress login page should have the logo of GlobalFashion.

Pages

In the Wordpress dashboard for each page there are fields to fill for:

- Title
- Place
- Start date (yyyy, mm, dd), end date (yyyy, mm, dd)
- Description of the event
- Location (maps) image
- Video

Posts

In the Wordpress dashboard each posts contains:

- Title,
- Date,
- Message,
- Category-icon,

*Images are optional.

Create Image slider (plugin)

Create an image slider plugin that appears directly in the main dashboard menu as a plugin. By using the plugin in the main dashboard menu, clients can create multiple sliders with at least three images. The sliders can be implemented on the pages by adding shortcodes. The slider can be paused by mouse-over, continued by mouse-out and individual images can be shown large by clicking at the corresponding thumbnail or button.

Header video gallery (plugin)

Create a plugin that adds a video gallery to the header of the main page. The video gallery contains a large video for the current event and small videos for the past events.

- For all videos year and place of the corresponding event can be described.
- Videos can be uploaded.
- Videos can be removed.
- Videos can be arranged by year (automatically or manual).

*It is allowed to add the code for the video gallery directly into the post page.

SERVER SIDE

INTRODUCTION

“Bani Yas” is a local startup company. They would like to create a website that could help users to get itinerary of public transportation to reach their destination place by schedule. They will provide the coordinate for train and bus station and a map of Abu Dhabi. The user can set their start and end place/station, then the system will find the fastest route(s) between the two given stations depending on the vehicles/lines running. The routes may include transfers between multiple vehicles/lines. You can use your own algorithm to solve the problem. The system should help the user to decide which route is faster based on the public transportation schedule.

The system should be separated by client and server architecture. The customer is asking for a web service architecture. Development phase should be separated into two phases. The **first phase** is creating the **backend web service** and the **second phase** is creating the **front end**. “Bani Yas” has made an initial design of the website to be used for the front-end development phase. You can use and enhance the design that is given with a client side framework to communicate with the services.

Glossary:

Schedule: is a moving from one station/place to the next station/place at specific times.

Line: consists of the multiple schedules and run by a vehicle (for example the any color of the line).

Route: is the trip for a passenger from departure/source to destination/target.

Description of project and tasks

The description for the first phase of the project is listed below. The first task is to create a restful web service API that can be used by the front end to communicate the data.

I. Web Service

“Bani Yas” will provide the list of web services that need to be created. Web service specification will contain the URL path of web service, request method, requested parameter on URL, requested parameter on body request, response result and response status. Request and response on web service should only contain JSON.

There are three roles/types of users: public, authenticated user and admin.

These are the list of web service that requested by the company:

1. Authentication

a. Login (*v1/auth/login*)

Description: For client to get login token via username and password

Request method: **POST**

Header: header authorization basic

Requested parameter:

- Body:
 - o Username
 - o password

Response result:

- If success,
 - o header: response status: 200

- o body:
 - token`: authorization token (to be valid until logout). Token will be generated by the system from logged in username with md5 encryption method
 - Role (ADMIN / USER)
 - If username/password not correct or empty,
 - o header: response status: 401
 - o body: message: invalid login
- b. Logout (*v1/auth/logout?token={AUTHORIZATION_TOKEN}*)

Description: For server to invalid the user's token

Request method: **GET**

Header: header authorization basic

Response result:

 - If success,
 - o header: response status: 200
 - o body:
 - message: logout success
 - If unauthorized user access it, data:
 - o Message: Unauthorized user
 - o Response status: 401

2. Place

- a. All Places (*v1/place?token={AUTHORIZATION_TOKEN}*)

Description: For client to list all places in the database (include user's search history indexed based on the frequency)

Request method: **GET**

Header: header authorization basic

Response result:

body:

 - o All data on array; consists of id, name, latitude, longitude, x, y, image_path, description.
 - o Response status: 200
 - If unauthorized user access it, data:
 - o Message: Unauthorized user
 - o Response status: 401
- b. Find Place (*v1/place/{ID}?token={AUTHORIZATION_TOKEN}*)

Description: For client to fetch one place object via place ID.

Request method: **GET**

Header: header authorization basic

Response result:

 - body:
 - o object; property consists of id, name, latitude, longitude, x, y, image_path, description.
 - o Response status: 200
- c. Create place (*v1/place?token={AUTHORIZATION_TOKEN}*), only admin can access this API

Description: For client to create a new place object. Image file from client should be uploaded to server. You can use form data to upload an image.

Request method: **POST**

Header: header authorization basic

Request parameter:

 - Body:

- name
- latitude
- longitude
- x
- y
- image
- [description]

Response result:

- If success, body:
 - Message: create success
 - Response status: 200
- If failed, body:
 - Message: Data cannot be processed
 - Response status: 422
- If unauthorized user access it, body:
 - Message: Unauthorized user
 - Response status: 401

- d. Delete place (`v1/place/{ID}?token={AUTHORIZATION_TOKEN}`), only admin can access this API

Description: A request to delete a place object via given place ID.

Request method: **DELETE**

Header: header authorization basic

Response result:

- If success, body:
 - Message: delete success
 - Response status: 200
- If failed, body:
 - Message: Data cannot be deleted
 - Response status: 400
- If unauthorized user access it, data:
 - Message: Unauthorized user
 - Response status: 401

- e. Update place (`v1/place/{ID}?token={AUTHORIZATION_TOKEN}`), only admin can access this API

Description: For client to update an existing place object via given place ID. If an image file is provided, it should be uploaded to server.

Request method: **POST**

Header: header authorization basic

Request parameter:

- Body:
 - [name]
 - [latitude]
 - [longitude]
 - [x]
 - [y]
 - [image]
 - [description]

Response result:

- If success, body:
 - Message: update success
 - Response status: 200

- If failed, body:
 - o Message: Data cannot be updated
 - o Response status: 400
- If unauthorized user access it, body:
 - o Message: Unauthorized user
 - o Response status: 401

3. Schedule

- Create schedule (`v1/schedule?token={AUTHORIZATION_TOKEN}`), only admin can access this API

Description: For client to create a schedule in database. A schedule describes when and where a bus/train departs from one stop and arrive at the next stop.

Request method: **POST**

Header: header authorization basic

Request parameter:

- Body:
 - o Object: consisting of type (bus or train), line , from_place_id, to_place_id, departure_time, arrival_time, distance, speed

Response result:

- If success,
 - o header: response status: 200
 - o body: message: create success
- If failed,
 - o header: response status: 422
 - o body: message: Data cannot be processed
- If unauthorized user access it,
 - o header: response status: 401
 - o body: message: Unauthorized user

- Delete schedule (`v1/schedule/{ID}?token={AUTHORIZATION_TOKEN}`), only admin can access this API

Description: A request to delete an existing schedule via given schedule ID.

Request method: **DELETE**

Header: header authorization basic

Response result:

- If success,
 - o header: response status: 200
 - o body: message: delete success
- If unauthorized user access it,
 - o header: response status: 401
 - o body: message: Unauthorized user

4. Route

- Route Search

(`v1/route/search/{FROM_PLACE_ID}/{TO_PLACE_ID}/{DEPARTURE_TIME}?token={AUTHORIZATION_TOKEN}`)

Description: A request to fetch multiple route suggestions to depart from a given stop (departure/source) and arrive at another stop (destination/target). By default, the search uses current server time. It also allows an optional departure time to override the default server time.

The search should search the routes that depart from the given place at specific time and arrive the destination place, sorting by the earliest arrival time and limited to 5 routes result.

The route allows transfer to different bus/train at the same station. All transfer happens at the same stop. There is no walk and no minimum transfer time required.

Request method: **GET**

Header: header authorization basic

Response result:

- If success, data:
 - o Array of routes. Each route contains :
 - Number of history selection of this route.
 - Array of schedules:
 - id
 - type
 - line
 - departure_time
 - arrival_time
 - travel_time
 - from_place; consist of id, name, longitude, latitude, x, y, description, image_path
 - to_place; consist of id, name, longitude, latitude, x, y, description, image_path
 - o Response status: 200
- If failed, data:
 - o Message: Unauthorized user
 - o Response status: 401

- b. Store Route Selection History (*v1/route/selection?token=[AUTHORIZATION_TOKEN]*)

Description: For client to save a user selected route into the system.

Request method: **POST**

Header: header authorization basic

Request parameter:

- Body:
 - o from_place_id
 - o to_place_id
 - o schedule_id, array of schedule_id for the route

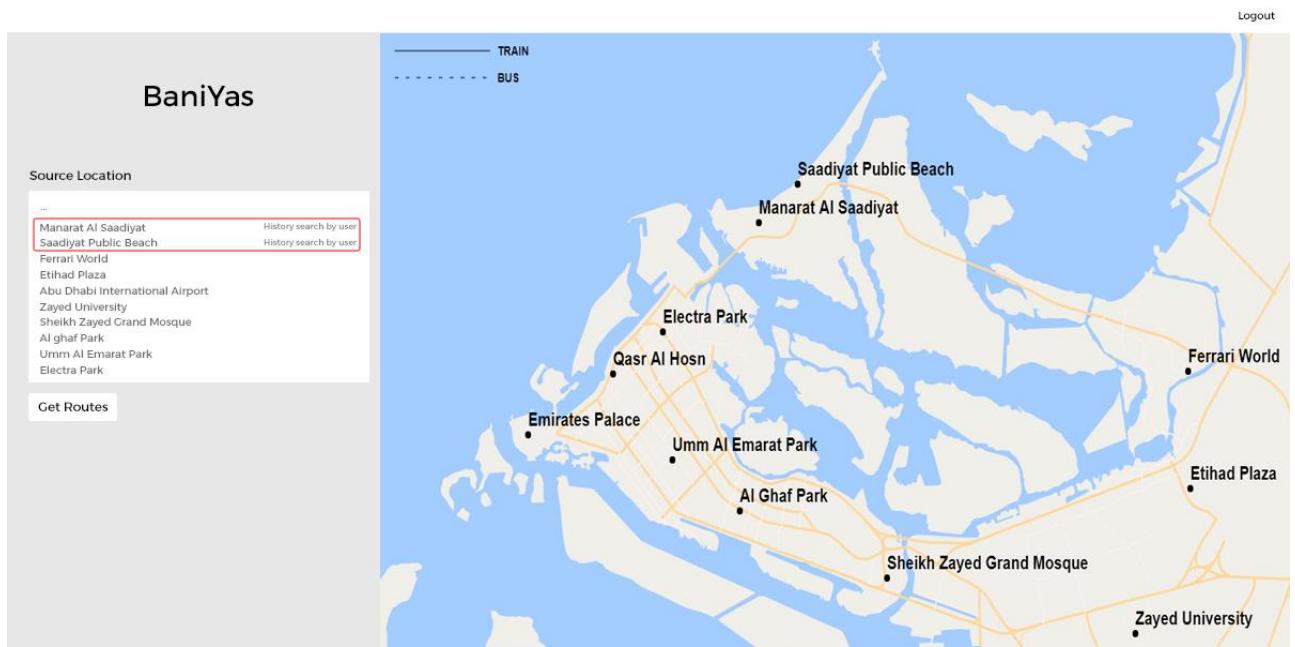
Response result:

- If success, body:
 - o Message: create success
 - o Response status: 200
- If failed, body:
 - o Message: Data cannot be processed
 - o Response status: 422

II. Front End

On the front-end there will be some functionality that is required by “**Bani Yas**”.

Create a front-end website for this company. Create all the functionalities for the page with communication with the backend web services API.



Website components that have been provided are:

1. Search Route

Functionalities:

- Selecting *from* place and *to* place
 - Fetch the list of places from the service. Sorted alphabetically by default. Places used by this user (if logged in) will be at top of list (based on frequency).
 - Selection with using auto complete (from database, not from browser history) for the *from* (*source*) and *to* (*target*) place. Auto complete will be filled based on user's history, every time user use this application then the system will save the data (*from/source* and *to/target*).
- Input departure time
 - Contain hour and minute. This is an optional field, doesn't required to be filled.
- Searching routes
 - Search the routes by using the *departure time (optional)*, *from (source)* and *to (target)* input.

2. Routes List

After a user search the routes, then this component will show:

Search results on the left, schedules for this route will appear. By default, the search uses the current server time if user didn't fill in *departure time* before. If the user fills in departure time, then the search uses the given *departure time*.

As same as the API specification describes: The search should search the routes that depart from the given place at specific time and arrive to the destination place, sorting by the earliest arrival time and limited to 5 routes result.

The route allows transfer to different bus/train at the same station. A transfer happens at the same stop. There is no walk and no minimum transfer time required.

The list of train or bus schedule from the result, consist of:

- Numbering.
- Time Schedule (**Departure time at from place, Arrival time at to place**).
- Total travel time
- Number of transfers/changes of line

- Number of selection on this routes by all users (more on that later in 4. Search history).
- This is the example scenario for search results, assuming from A to B that departs at 13:00:
 - A to B => departure time -> 13:00:00 arrival time -> 13:14:00, Bus Line 3, 14 minutes, 0 transfers.
 - A to B => departure time -> 13:02:00 arrival time -> 13:22:00, Bus Line 2, Train Line 4, 22 minutes, 1 transfer
 - A to B => departure time -> 13:01:00 arrival time -> 13:35:00, Bus Line 2, Bus Line 1, Bus Line 5, 36 minutes, 2 transfer

3. Map View

The right side of the layout will show the map. Place coordinate will contain:

- a. There will be dot and place's name on map for each place based on the database records.
- b. If user clicks one of the dot, a floating box will be appeared near the dot. On floating box there will be a picture of the place, name of place and the short description about it. The box will be dismissed if user clicks the other area.
- c. Show a clearly visible dot (different from the normal place) on map for departure (from) place and destination (to) place.
- d. If user clicks the route on the result list, the route is shown on the map. Solid line for train, dashed line for bus.
- e. Each bus/train line should have a different color when drawing on the map.
- f. Show the legend for each vehicle line: different color for each line, and solid line for train, dashed line for bus.

4. Route(s) selection history

The system stores all the routes that all user selected.

- a. Whenever a user clicks on the route in the result list, this route is stored in the database.
- b. The system stores all user's selection.
- c. When a route shows in the result list, the total number of selection on the same route shows. Same route means the same from place and to place, regardless of departure time.

5. User Authentication

Functionalities:

- a. Login and logout should happen on the same page without redirect.
- b. Login
 - Show the login modal, after user click login link.
 - On the login dialog there will be inputs for username and password.
 - After the user logged in, the login link will be changed to logout link and the current username will be displayed besides the logout link.
 - There will be role for the two types of authenticated user: if user is an admin the admin menu will be shown.
 - The username entered and token received, token will be kept on the client for further requests, also after page refresh.
- c. Logout
 - The display is reset: login link is shown, username and corresponding functionality disappear.

6. Admin Menu

Admin menu should only be shown after user login that has an admin role. Admin functionalities:

a. Place

- Create place
- Update place
- Delete place

Notes

- Competitors should implement a minimum of one of the server-side and client-side frameworks/libraries that are provided.
- The provided template design should be used, but it can be enhanced to get better functionality for your site.
- Show error/feedback messages based on response from API.
- The specified database tables need to be implemented. More tables may be added if needed. Provide a final SQL-dump and ERD screen as specified below.
All API should fulfill all requirements as stated in the description. All prefix, RESTful-URL and HTTP-Method from given API link should be implemented correctly and not be changed. If needed, you may add other API, besides all API that already mentioned in this document.
- Create the following users to login to the system:
 - Admin with username: `admin` and password: `adminpass`,
 - User1 with username: `user1` and password: `user1pass`,
 - User2 with username: `user2` and password: `user2pass`
- Changes made in the data on the back-end server need to be propagated to the frontend. The data should be dynamically shown.
- Monitor screen size should not affect any function on the client side. (working on 1440px, 768px and 320px width)

CLIENT SIDE

Introduction

In recent years, the internet has become an integral part of our daily lives, enabling the dissemination of information in an inexhaustible source of content and interaction. Every day the use of games has gained a prominent role in this universe, allowing millions of people to get access to fun and entertainment quickly and free.

Thinking about these concepts, you decided to develop a small game that works in the most common web browsers and that makes it possible to spread your talent in the skill of web design and development. The game will be called **Star Battle**.

You should design the game, develop the layout using HTML and CSS and develop client-side programming using JavaScript and its open source libraries. Some media files are available to you in a zip file. You can create more media and modify anything in the media if you want.

To be used in different resolutions your game needs to be developed in a tablet resolution with 960x600 pixels. But, if game is open in a big screen, the game must be in the center of the screen (horizontally and vertically).

Description of project and tasks

This is a module of 5 hours. Your first 2.5 hours must be used to create the design of the game in three PNG images and the initial layout using HTML/CSS. Your layout should follow the design that you created. The final 2.5 hours you will create the functionality of game using JavaScript that allows the game to work correctly in different web browsers, following the requirements described below.

Star Battle game uses elements described below:

1. Main spaceship: Element that is controlled by the player.
2. Planets in background: Elements that move from right to left to give the impression of movement of the spaceship in the space.
3. Enemy spaceships: Elements that player needs to destroy to get points.
4. Asteroids: Elements that player needs to destroy to get points.
5. Friendly spaceships: Elements that player shouldn't destroy or player will lose points.
6. Fuel icon: Elements that player needs to collect to increment the fuel level.
7. Fuel Counter: Element that shows how much fuel is available. It must be a number and a graphical element and it should be animated when the fuel is decreasing and when the user gets more fuel.
8. Score Counter: Elements that shows how many points the user got destroying asteroids and enemy's spaceships.
9. Timer: Element that shows how much time the spaceship is flying.
10. Font Size Buttons: Elements that increase and decrease the font size.
11. Pause/Continue button: Button to pause/continue the game.
12. Sensible areas to control the spaceship.
13. Logo: Add the provided logo in the game.
14. Shot: Shot by the ships.

FIRST 2.5 HOURS – DESIGN AND INITIAL LAYOUT:

- 1. Deliver at least 3 PNG image files that present:**
 - 1.1. Game Instructions: The first screen of the game presents the instructions to the user and the “Start Game” button. The instructions for the game are included in the media files.
 - 1.2. Game board layout: This design must present all 15 elements described above in the game screen.
 - 1.3. Ranking Table presentation: This design must present the logo of game and ranking with the following columns: position, name, score and time in this order, with the table is presented the “Start Game” button.
2. Develop the initial markup (HTML + CSS) of your game application. The game is presented to the user with the game instructions and the button “Start Game”. The instructions must be presented in an animated way.
3. “Start Game” buttons must have active and hover effects. The background of the buttons in hover state must be: #f19e0d. The active state must follow the example called ripple which is provided in the media files.
4. You should draw the elements described below to be included in your design. Create the elements that represent the same visual style.
 - 4.1. Main spaceship (controlled by player)
 - 4.2. Timer Icon
 - 4.3. Font size buttons
 - 4.4. Pause/continue button
 - 4.5. Fuel counter
 - 4.6. Fuel icon
5. The HTML and CSS code must be valid in the W3C standards for HTML 5 and CSS 3 rules.

FINAL 2.5 HOURS – GAME FUNCTIONALITIES:

1. Pressing the “Start Game” button in the initial screen, starts the game. The planets should be animated and move from right to left to give the impression of movement of the spaceship in the space. The timer starts from zero and displays the time in seconds that the spaceship is in movement. The fuel counter starts to decrease, one point per second. When the game starts, there are 15 points of fuel (15 seconds). The max capacity of fuel is 30 points (30 seconds of flight). The score starts with zero points.
2. The spaceship fires when the user presses space bar, the user cannot keep pressing the space bar to fire many times sequentially, i.e. only one shoot for each space bar pressing.

3. The shot of the main spaceship can destroy just one target. The shot cannot pass through one target and hit other elements.
4. The user can move the spaceship in the screen using sensible areas that you include in the interface. As a videogame controller, these areas are activated in mouse hover and deactivate in mouse leave actions. The areas must be drawing in cross distribution. The up area moves the main spaceship up. The down area moves the main spaceship down. The left area moves the main spaceship to the left and the right area moves the main spaceship to the right. It is not possible fly the spaceship off the screen.
5. During flight, the spaceship needs to destroy the enemy spaceships and asteroids that are presented in space. If the spaceship collides with an asteroid element or a spaceship element, that element is destroyed and the fuel must decrease by 15 points.
6. The spaceships and asteroids needs to be presented in random position and in an animated way, flying from right to left.
7. The enemy spaceships must shoot (from right to left). The player must dodge these shots; otherwise, if the player is hit by a shot, the fuel counter should decrease by 15 points.
8. The enemy spaceships are destroyed by one shot. Each enemy spaceship destroyed increases the score counter by 5 points. If the user destroys a friendly spaceship the score counter is decreased by 10 points.
9. The game permits negative scores.
10. The asteroids must be destroyed with two shots. Destroying each asteroid, the score is increased by 10 points.
11. During the flight, the main spaceship needs to collect fuel icons by flying into them. Fuel icons should be dropped in an animated way from the top of the screen in random horizontal position. For each fuel icon collected, the fuel counter is increased by 15 points. One point gives 1 second of flight time.
12. During the flight, the user can pause the game clicking the pause button, or by pressing the letter "p" on the keyboard. When the game is paused, all interactions and sounds must be stopped. If the user clicks the pause button again, or presses the letter "p" again, the game continues from the moment that it was paused.
13. The planets in background need to present an animation to give the sensation of movement. The planets must move with different speed, the bigger planets must move faster than the smaller planets, creating a parallax effect. Include at least 5 different size planets in the background.

14. If the fuel counter reaches zero, the game is over.
15. When the game is over, the animations, sounds, interactions and the timer counter stops, the game will collect the name of the user in a form field "Name". The user fills the "Name" field and clicks the button "Continue". The "Continue" button should be disabled until the user fills in the "Name" field.
16. The game presents the user ranking to the user with the button "Start Game" that permits restarting the game. Clicking in the "Start Game" button the game instructions are presented to the user again.
17. The ranking needs to be ordered by the score and for time elapsed in decreasing order. If more than one user has the same score and the same time, they receive the same position in the ranking. The JSON data returned by the server is not ordered, it is your task to order the data correctly to present to the user on the client side.
18. Use your talent to increase the usability of the game as much as possible to permit a better experience for the user.
19. To improve the accessibility of the game you must have options to increase/decrease the font size in the screen for timer and score counter.
20. Your game should work without JavaScript errors or messages shown in the browser console.
21. Maintain your HTML/CSS and JavaScript code organized and clean to facilitate future maintenance. Use correct indentation and comments. Use meaningful variable names and document your code as much as possible so another developer would be able to modify your work in the future
22. The game needs to work correctly in two browsers, Google Chrome and Mozilla Firefox. The game requirements will be checked in Google Chrome and compatibility will be checked in Mozilla Firefox.