

**Hong Kong Institute of Vocational Education**

**Department of Information of Technology**

**Higher Diploma in Data Science and Analytics (IT114116)**

**ITE3006 Information Technology Essentials - Web**

**End-of-Module Assessment**

**Report**

Class: 1B

Group: 3

Member list:

Name	SID	Contribution to the project (%)
Tang Ching Him	200116417	60
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## 1. Topic

We have chosen “Vocaloid fanclub” to be the topic for this assignment.

Vocaloid is a singing voice synthesizer software product. It enables users to synthesize "singing" by typing in lyrics and melody and also "speech" by typing in the script.

In this assignment, we aim to promote Vocaloid (virtual singers) and attract newcomers for the fanclub.

## 2. Site Map

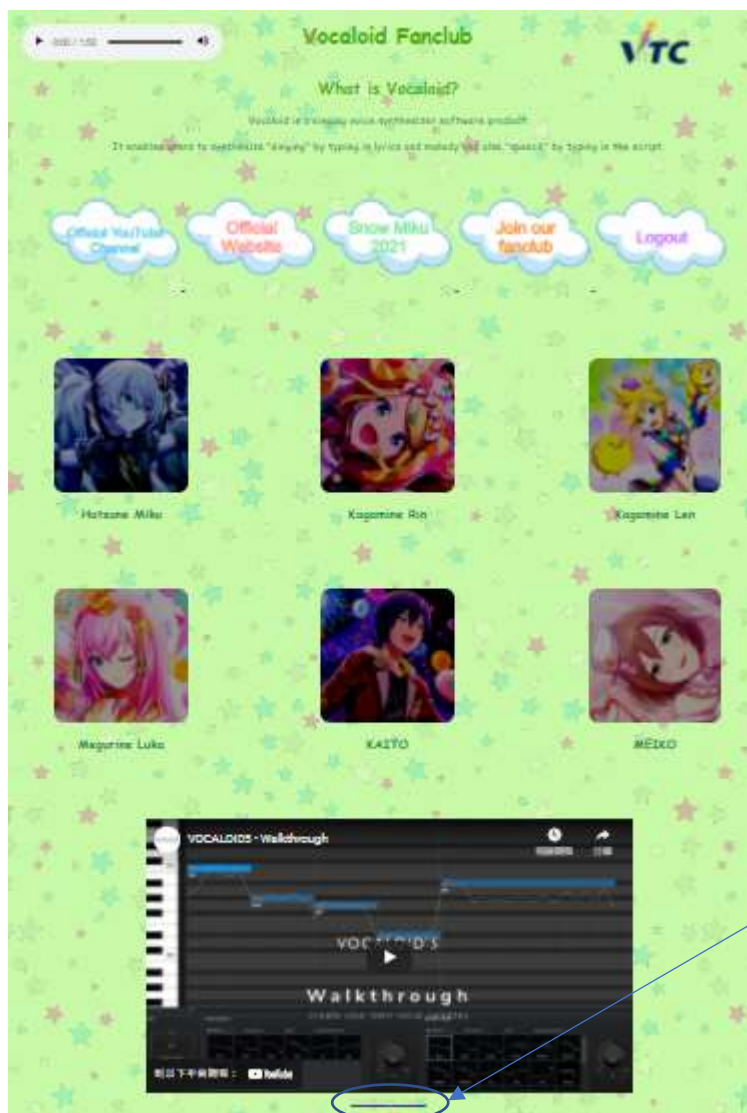


## 3. Appearance of Webpages

### (1) Login Page



## (2) Main Menu



### (3) Character Introduction: Hatsune Miku

#### Hatsune Miku

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Her name comes from merging the Japanese words for first (hatsu), sound (ne), and future (miku), thus meaning "the first sound of the future", referring to her position as the first of Crypton's "Character Vocal Series".

- Initial Release: 31 August 2007
- Age: 16
- Height: 158 cm
- Weight: 42 kg
- Suggested tempo range: 70 - 150 BPM
- Suggested vocal range: A3 - E5
- Famous songs: [Tell Your World](#) [Mikakore](#) [Ghost City Tokyo](#)



到以下平台观看: [YouTube](#)

Rate for  
Hatsune Miku \OwO/

★★★★★

### (4) Character Introduction: Kagamine Rin

#### Kagamine Rin

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The names of Kagamines are derived from the concept of 'left' and 'right', like in stereophonic sound. Their surnames came from the Japanese words for "mirror" (kagami) and "sound" (ne) as they are each other's mirror image.

- Initial Release: 28 December 2007
- Age: 14
- Height: 152 cm
- Weight: 43 kg
- Suggested tempo range: 90 - 175 BPM
- Suggested vocal range: F#3 - C#5
- Famous songs: [Kokoro](#) [Meltdown](#) [ROKI](#)



到以下平台观看: [YouTube](#)


Rate for  
Kagamine Rin \OwO/

★★★★★

## (5) Character Introduction: Kagamine Len


### Kagamine Len

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The names of Kagamines are derived from the concept of "left" and "right", like in stereophonic sound. Their surnames come from the Japanese words for "mirror" (kagami) and "sound" (ne) as they are each other's mirror image.

- Initial release: 27 December 2007
- Age: 16
- Height: 155 cm
- Weight: 47 kg
- Suggested tempo range: 95 - 170 BPM
- Suggested vocal range: A3 - G5
- Favorite songs: [Servant of Evil](#) [Dream Eating Monochrome](#) [Baku Fire Flower](#)




Rate for  
Kagamine Len \OwO/

★ ★ ★ ★ ★

## (6) Character Introduction: Megurine Luka


### Megurine Luka

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Megurine Luka is a humanoid anime-style character persona voiced by a singing synthesizer application developed by Crypton Future Media.

- Initial release: 30 January 2009
- Age: 17
- Height: 162 cm
- Weight: 45 kg
- Suggested tempo range: 95 - 145 BPM
- Suggested vocal range: B3 - G5
- Favorite songs: [Double Lariat](#) [RIP+RELEASE](#) [Just Be Friends](#)




Rate for  
Megurine Luka \OwO/

★ ★ ★ ★ ★



## (7) Character Introduction: KAITO

**KAITO**  
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KAITO's name was invited to be chosen by the public, and "Kaito" was selected from among the applicants, which was Vocaloid producer Shu-1P's offered idea. One of the reasons why his name "Kaito" was selected was because it would be easy for non-Japanese speakers to pronounce, and it looked fitting with the name "Meiko" when they were put next to one another.

- Initial release: 14 February 2006
- Suggested tempo range: 90 - 200 BPM
- Suggested vocal range: B1 - C3
- Famous songs: [Thousand Year Solo](#), [Judgement of Corruption](#), [DoctorFunkBeat](#)

【練習レン・KAITO】お住ま住【オリジナル曲】


ねえ しゅーり捕まえて

到以下平台觀看: [YouTube](#)

Rate for  
KAITO \OwO/  
★★★★★

## (8) Character Introduction: MEIKO

**MEIKO**  
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MEIKO's voice was created by taking vocal samples from singer Meiko Haigō at a controlled pitch and tone. Her name comes directly from her voice provider's name.

- Initial release: 5 November 2004
- Suggested tempo range: 90 - 200 BPM
- Suggested vocal range: B2 - F4
- Famous songs: [Nostalgic](#), [Newly Edgy Idols](#), [Mellow Yellow](#)

25時・ナイトコードで。 - アイデスマイル (IDSMI) -

MEIKO

アイデスマイル

到以下平台觀看: [YouTube](#)

Rate for  
MEIKO \OwO/  
★★★★★

(9) Easter Egg



## (10) Member Registration

# Sign Up

Gender: ☒ Male ☐ Female

Please verify contact email(s)

☒ University Email ☒ Suggesting New ☒ Suggesting Low  
☒ Magazine Link ☒ E&T TO ☒ ME385

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## 4. Application of CSS

### (1) Customized cursor



```
* {  
  cursor: url(cursor.png), default;  
}  
  
.cursor {  
  position: fixed;  
  width: 50px;  
  height: 50px;  
  border: 2px solid #56a1fc;  
  border-radius: 50%;  
  left: 0;  
  top: 0;  
  pointer-events: none;  
  transform: translate(-17.5%, -20%);  
  transition: 0.5s;  
}  
  
.cursor2 {  
  position: fixed;  
  width: 8px;  
  height: 8px;  
  background-color: #e5eb34;  
  border-radius: 50%;  
  left: 0;  
  top: 0;  
  pointer-events: none;  
  transform: translate(-17.5%, -20%);  
  transition: 0.15s;  
}  
  
.f1:hover ~ .cursor {  
  transform: translate(-17.5%, -20%) scale(1.5);  
  border: 2px solid #56a1fc;  
  background-color: #82af44;  
  opacity: 0.5;  
}  
  
.f1:hover ~ .cursor2 {  
  opacity: 0;  
}
```

When newcomers visit this website, the cursor would be changed to an image (cursor.png). Besides, there is a circle around to the image and a yellow dot near the image for the sake of clearer pointing.



(2) Font style, background colour, background image, and structure arrangement



```
body {  
  margin: 0;  
  padding: 0;  
  font-family: Comic Sans MS, Comic Sans, cursive;  
  background: #c7f9a6;  
  background-image: url(star.png);  
}
```

```
@media only screen and (max-width: 800px) {  
  body {  
    background: #add8e6;  
    background-image: url(confetti.png);  
  }  
  table, td, tr {  
    display: block;  
  }  
  .f1, .f10 {  
    top: 100%;  
  }  
  .miku p, .rin p, .len p, .luke p, .kaito p, .meiko p, .miku ul, .rin ul, .len ul, .luke ul, .kaito ul, .meiko ul {  
    float: left;  
  }  
  .miku img, .rin img, .len img, .luke img, .kaito img, .meiko img {  
    clear: both;  
  }  
}  
@media only screen and (max-width: 580px) {  
  body {  
    background: #ffcc99;  
    background-image: url(flower.png);  
  }  
  .f1, .f10 {  
    top: 200%;  
  }  
}
```

A lovely font style (cursive Comic Sans) is used to match the theme. Media queries are also applied to improve visitors' experience. The background colour, the background image and the structure arrangement would be changed when the size of the window is changed.

### (3) Form design and customized properties of HTML attributes

```
.f1, .f10 {
    width: 500px;
    padding: 40px;
    position: absolute;
    top: 50%;
    left: 50%;
    transform: translate(-50%, -50%);
    background: #48b302;
    text-align: center;
}

.f1 h1, .f10 h1, .rating h1, .rating form header {
    color: #acf377;
}

input[type="text"], input[type="password"], input[type="email"] {
    border: 2px solid #acf377;
    background: none;
    display: block;
    margin: 20px auto;
    text-align: center;
    padding: 14px 10px;
    width: 200px;
    outline: none;
    color: white;
    border-radius: 24px;
    transition: 0.25s;
}

input[type="text"]:focus, input[type="password"]:focus, input[type="email"]:focus {
    width: 250px;
    border-color: white;
}

small, span, label, .f10 p {
    color: #acf377;
}
```

```
input[type="submit"], button {
    border: 2px solid #acf377;
    background: none;
    display: block;
    margin: 20px auto;
    text-align: center;
    padding: 14px 40px;
    outline: none;
    color: white;
    border-radius: 24px;
    transition: 0.25s;
    cursor: pointer;
}

input[type="submit"]:hover, button:hover {
    background: #acf377;
    font-size: 14pt;
}

.f1 h1 {
    color: #acf377;
    font-weight: 500px;
}

.b2 h1 {
    color: #48b302;
    font-weight: 500px;
}

.b2 h2 {
    color: #48b302;
    font-weight: 400px;
}

.b2 td {
    text-align: center;
    color: #008c49;
}
```

```

.rating {
  width: 400px;
  background: #0cad32;
  padding: 20px 30px;
  border: 1px solid white;
  border-radius: 5px;
  display: flex;
  align-items: center;
  justify-content: center;
  flex-direction: column;
}
.rating .star input {
  display: none;
}
.star label {
  font-size: 40px;
  color: #444;
  padding: 10px;
  float: right;
  transition: all 0.2s ease;
}
.rating input:not(:checked) ~ label:hover, .rating input:not(:checked) ~ label:hover ~ label {
  color: #fd4;
}
.rating input:checked ~ label {
  color: #fd4;
}
.rating input#rate-5:checked ~ label {
  color: #fe7;
  text-shadow: 0 0 20px #952;
}
.rating form {
  display: none;
}

```

```

.rating input:checked ~ form {
  display: block;
}
.rating form header {
  width: 100%;
  font-size: 25px;
  font-weight: 500;
  margin: 5px 0 20px 0;
  transition: all 0.2s ease;
}
.rating form textarea {
  height: 100px;
  width: 100%;
  overflow: hidden;
  outline: none;
  border: 1px solid #333;
  background: #b3f4fc;
  padding: 10px;
  font-size: 17px;
  color: #008a29;
  resize: none;
}
.rating input#rate-1:checked ~ form header:before {
  content: "Boring. (ಒಁಁಁ) ";
}
.rating input#rate-2:checked ~ form header:before {
  content: "Not really attractive. XwX";
}
.rating input#rate-3:checked ~ form header:before {
  content: "Good. (´OwO`)";
}
.rating input#rate-4:checked ~ form header:before {
  content: "Fairly awesome. (´V`)";
}

```

```
.rating input#rate-5:checked ~ form header:before {  
    content: "Extremely amazing!!! >w<";  
}
```

```
.miku h1, .rin h1, .len h1, .luka h1, .kaito h1, .meiko h1 {  
    text-align: center;  
}  
.miku, .miku p {  
    color: #52c7ad;  
}  
.rin, .rin p {  
    color: #ffa500;  
}  
.len, .len p {  
    color: #d6d600;  
}  
.luka, .luka p {  
    color: #ffaadd;  
}  
.kaito, .kaito p {  
    color: blue;  
}  
.meiko, .meiko p {  
    color: red;  
}
```

Numerous CSS code is used for structure arrangement of the website, including alignment, text colour, size, margin, border, and so on.

#### (4) Image effects

```
.b2 img:hover, .back img:hover {  
    transform: scale(1.2);  
}  
.b2 .vs1 img, .b2 .vs2 img {  
    border-radius: 15px;  
}
```

```
.vs_full img {  
    border-radius: 30px;  
}  
.vs_full img:hover {  
    opacity: 1;  
    box-shadow: 0 0 20px #952;  
}
```

```
#easter-egg {  
    position: static;  
    top: 50%;  
    left: 50%;  
    font-size: 32px;  
    animation: jump 1.2s infinite;  
}  
@keyframes jump {  
    0% { transform: translate(-20%, -20%) scale(1.25, 0.75); }  
    50% { transform: translate(-20%, -60%) scale(1, 1); }  
    55% { transform: translate(-20%, -60%) rotate(15deg); }  
    60% { transform: translate(-20%, -60%) rotate(-15deg); }  
    65% { transform: translate(-20%, -60%) rotate(15deg); }  
    70% { transform: translate(-20%, -60%) rotate(-15deg); }  
    100% { transform: translate(-20%, -20%) scale(1.25, 0.75); }  
}
```

Most of the images on the website would be enlarged when they are hovered. Also, the images in character introduction pages are round-angled and shadow effects are applied when the images are hovered. Bouncing animation effects are applied to the images in the Easter Egg page.



## 5. Application of JavaScript

### (1) Login validation

這個網頁顯示

Login successfully. Welcome, kenneth!

確定

這個網頁顯示

Login successfully as superuser. Welcome, hklee!

確定

這個網頁顯示

Login successfully as guest. Welcome!

確定

這個網頁顯示

Login failed. Please try again.

確定

```
function loginValidation() {  
    var username = document.getElementById("username").value;  
    var pwd = document.getElementById("pwd").value;  
    if (((username == "kenneth") && (pwd == "200116417"))  
        || ((username == "kelvin") && (pwd == "200423362"))) {  
        alert("Login successfully. Welcome, " + username + "!");  
        return true;  
    } else if ((username == "hklee") && (pwd == "cmuser")) {  
        alert("Login successfully as superuser. Welcome, " + username + "!");  
        return true;  
    } else if ((username == "guest") && (pwd == "guest")) {  
        alert("Login successfully as guest. Welcome!");  
    } else {  
        alert("Login failed. Please try again.");  
        return false;  
    }  
}
```

Visitors may login as normal users, super users, or guests. A message will be prompted when a valid combination of username and password is not given.

## (2) Image hovering effects



```
function MM_preloadImages() {  
    if (document.images) {  
        if (!document.MM_p){  
            document.MM_p = new Array();  
        }  
        var i, j = document.MM_p.length, a = MM_preloadImages.arguments;  
        for (i = 0; i < a.length; i++) {  
            if (a[i].indexOf("#") != 0) {  
                document.MM_p[j] = new Image;  
                document.MM_p[j++].src = a[i];  
            }  
        }  
    }  
}  
  
function MM_swapImgRestore() {  
    var i, x, a = document.MM_sr;  
    for (i = 0; a && i < a.length && (x = a[i]) && x.oSrc; i++) {  
        x.src = x.oSrc;  
    }  
}
```

```
function MM_findObj(n, d) {  
    var p, i, x;  
    if (!d) {  
        d = document;  
    }  
    if ((p = n.indexOf("?")) > 0 && parent.frames.length) {  
        d = parent.frames[n.substring(p + 1)].document;  
        n = n.substring(0, p);  
    }  
    if (!(x = d[n]) && d.all) {  
        x = d.all[n];  
    }  
    for (i = 0; !x && i < d.forms.length; i++) {  
        x = d.forms[i][n];  
    }  
    for (i = 0; !x && d.layers && i < d.layers.length; i++) {  
        x = MM_findObj(n, d.layers[i].document);  
    }  
    if (!x && d.getElementById) {  
        x = d.getElementById(n);  
    }  
    return x;  
}
```

```
function MM_swapImage() {
    var i, j = 0, x, a = MM_swapImage.arguments;
    document.MM_sr = new Array;
    for(i = 0; i < a.length - 2; i += 3) {
        if ((x = MM_findObj(a[i])) != null) {
            document.MM_sr[j++] = x;
            if (!x.oSrc) {
                x.oSrc = x.src;
            }
            x.src = a[i + 2];
        }
    }
}
```

Character images in Main Menu page will be lightened up when they are hovered. A number of JavaScript functions is used for this hovering effect.

### (3) Registration form validation

這個網頁顯示

You are already a member of our fanclub.

確定

這個網頁顯示

Registration submitted. OwOb

確定

```
function submitSignUpForm() {
    var name = document.getElementById("name").value;
    if (name == "kenneth" || name == "kelvin" || name == "hklee") {
        alert("You are already a member of our fanclub.");
        return false;
    } else if (name == "guest") {
        alert("Invalid name.");
        return false;
    } else {
        alert("Registration submitted. OwOb");
        return true;
    }
}
```

A corresponding responsive message will be prompted when the visitors submit the registration form with and without specific names respectively.

(4) Resetting the form when it is submitted

這個網頁顯示

Thanks for rating! d(^·∀·)b

確定

```
function submitRating() {  
    alert("Thanks for rating! d(^·∀·)b");  
    document.getElementById("rating-form").reset();  
}
```

A simple JavaScript function is used for resetting the content of a rating form once it is submitted.

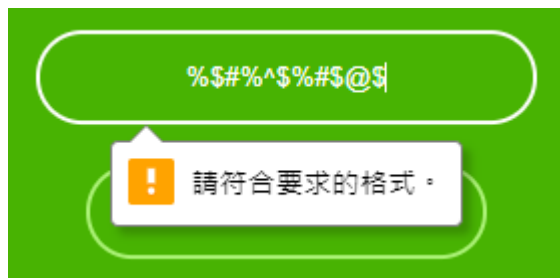
(5) Cursor animation effect

```
function cursorAnimation() {  
    var cursor = document.querySelector(".cursor");  
    var cursor2 = document.querySelector(".cursor2");  
    document.addEventListener("mousemove", function(x) {  
        cursor.style.cssText = cursor2.style.cssText = "left: " + x.clientX + "px; top: " + x.clientY + "px;";  
    });  
}
```

A JavaScript function including an event listener is used for creating cursor animation effect.

## 6. Validation and Processing of Form Data using HTML

### (1) Login validation



```
<input type="text" name="username" id="username" placeholder="Username" pattern="[a-z]+$" required="required">
<input type="password" name="password" id="pwd" placeholder="Password" required="required" />
```

Username and password are required before submitting the login form.

Besides, the username should contain alphabetical letters in lower case only.

### (2) Registration form validation


```
<input type="text" name="name" id="name" placeholder="Name" pattern="[a-z ]+$" required="required" />
<span>Gender: </span>
<input type="radio" name="gender" id="male" value="M" required="required" />
<label for="male">Male</label>
<input type="radio" name="gender" id="female" value="F" />
<label for="female">Female</label>
<input type="text" name="course_code" id="course_code" placeholder="Course Code" pattern="[A-Z]{2}[0-9]{6}"
required="required" />
<input type="email" name="email" id="email" placeholder="Email" required="required" />
```

Name, gender, course code, and email address are required before submitting the registration form. In addition, the name should contain alphabetical letters in lower case and spaces only as well as the course code should start with two alphabetical letters in upper case and be followed by six digits. Furthermore, only email address with proper format will be accepted for the “Email” field.



## 7. Reference

- (1) Vocaloid. In Wikipedia. <https://en.wikipedia.org/wiki/Vocaloid>
- (2) Hatsune Miku. In Wikipedia. [https://en.wikipedia.org/wiki/Hatsune\\_Miku](https://en.wikipedia.org/wiki/Hatsune_Miku)
- (3) Kagamine Rin & Len. In Wikipedia.  
[https://en.wikipedia.org/wiki/Kagamine\\_Rin/Len](https://en.wikipedia.org/wiki/Kagamine_Rin/Len)
- (4) Megurine Luka. In Wikipedia. [https://en.wikipedia.org/wiki/Megurine\\_Luka](https://en.wikipedia.org/wiki/Megurine_Luka)
- (5) KAITO. In Wikipedia. [https://en.wikipedia.org/wiki/Kaito\\_\(software\)](https://en.wikipedia.org/wiki/Kaito_(software))
- (6) MEIKO. In Wikipedia. [https://en.wikipedia.org/wiki/Meiko\\_\(software\)](https://en.wikipedia.org/wiki/Meiko_(software))