Date: 07-Feb-2022

voice output interface

version: 2.0.1

**1. OVERVIEW**

The Voice Output Interface converts text input from a user to voice and reads the text aloud. Under the hood, the component uses the [android.speech.tts](https://developer.android.com/reference/android/speech/tts/package-summary.html) and the [Apple Speech Synthesis](https://developer.apple.com/documentation/avfoundation/speech_synthesis) frameworks. The component supports both Mobile and Web platforms.

**A. Use case:**

* 1. You can customize the images on the component and use any language that is supported by the packages.
  2. You can use the component in scenarios where you want to convert any text input to voice, for example, in voice assistants, or to read content aloud.

**B. Features:**

1. Ready-to-use component.
2. Useful component for project analysis.
3. Easy to plug into your app.
4. Facility to modify the UI.

## C. Percentage of re-use:

## 80-90% (Data can be customizable)

**2. GETTING STSRTED**

This is a getting started section for the Voice Output Interface component. It contains information about setting up and running your component in an application.

For information about the Dynamic Usage, Properties, Events, and APIs of the component, visit the [Reference section](https://docs.kony.com/marketplace/VoiceOutputInterface/Content/Reference.htm).

**A.** [**Prerequisites**](javascript:void(0);)

Before you start using the Voice Output Interface component, make sure that you meet all the prerequisites.

* [HCL Foundry](https://manage.hclvoltmx.com/)
* Volt MX Iris

**B. Platforms Supported**

### Mobile

#### iOS

#### Android

### Tablets

### PWA

**C. Importing the Component to your project:**

You can import the Forge components only into the apps that are of the Reference Architecture type.

## To import the Voice Output component, do the following:

## Open your app project in Volt MX Iris.

## In the Project Explorer, click the Templates tab.

Graphical user interface, text, application

Description automatically generated

3. Right-click **Components**, and then select **Import Component**. The **Import Component** dialog box appears.

Graphical user interface, text, application, Teams

Description automatically generated

4. Click **Browse** to navigate to the location of the component, select the component, and then click **Import**. The component and its associated widgets and modules are added to your project.

Graphical user interface, text, application

Description automatically generated

Once you have imported a component to your project, you can easily add the component to a form. For more information, refer [Add a Component to a Form](https://opensource.hcltechsw.com/volt-mx-docs/docs/documentation/Iris/iris_user_guide/Content/C_UsingComponents.html#add-a-component-to-a-form).

# 3. REFERENCES

## A. Dynamic Usage

You can also add an **VoiceOutput** component dynamically. To do so:

1. In the **Project Explorer**, on the **Projects** tab, click **Controllers** section to access the respective **Form Controller**. Create a method and implement the code snippet similar to the sample code mentioned below.

In the code snippet, you can edit the properties of the component as per your requirement. For more information, see Setting Properties.

/\* Creating a component's Object \*/

createComponent: function()

{

/\* Creating the component's object \*/

var textToSpeech = new com.voltmxmp.texttospeech(

{

"clipBounds": true,

"height": "10%",

"width": "12%",

"id": "textToSpeech",

"isVisible": true,

"left": "0dp",

"top": "0dp"

}, {}, {});

/\* Setting the component's properties \*/

textToSpeech.speechOnIcon = "<Speech on icon name>";

textToSpeech.speechOnIconScaleMode = "<speech on Icon Scale Mode>";

textToSpeech.speechOffIcon = "<speech Off Icon name>";

textToSpeech.speechOffIconScaleMode = "<speech on Icon Scale Mode>";

textToSpeech.setRate = "0.3";

textToSpeech.setAndroidLanguage = "<language>";

textToSpeech.preUtteranceDelay = "<pre Utterance Delay>";

textToSpeech.postUtteranceDelay = "<post Utterance Delay >";

textToSpeech.pitchMultiplier = "<Multiplier>";

textToSpeech.setIphoneLanguage = "<language>";

textToSpeech.volume = "<volume>";

textToSpeech.stopSpeechApibehaviour = "<stop behaviour>";

textToSpeech.setWebLanguage = "<language>";

textToSpeech.setPitch = "<pitch>";

textToSpeech.setWebVolume = "<volume>";

/\* Defining the component's events \*/

textToSpeech.speechOn = function()

{

alert("Starting Speech.");

};

textToSpeech.speechOff = function()

{

alert("Stopping Speech.");

};

/\* Adding the component to the form \*/

this.view.add(textToSpeech);

}

1. **Save** the file.

## B. Properties

The properties provided on the **Component** tab allow you to customize the UI elements in the **VoiceOutput** component. You can set the properties directly on the **Component** tab or by writing a JavaScript.

**1. Speech On Icon**

|  |  |
| --- | --- |
| **Category:** | Pass Through |
| **Description:** | Specifies the source of the image that you want to display as the [Speech On icon](javascript:void(0);). |
| **Syntax**: | speechOnIcon |
| **Type:** | String |
| **Read/Write:** | Write |
| **Example:** | this.view.componentID.speechOnIcon = "speech\_on.png"; |

**2. Speech On Icon Scale Mode**

|  |  |
| --- | --- |
| **Category:** | Pass Through |
| **Description:** | Specifies the scaling mode of the image that you want to display as the [Speech On icon](javascript:void(0);). |
| **Syntax**: | speechOnIconScaleMode |
| **Type:** | * List Selector * String |
| **Read/Write:** | Write |
| **Example:** | this.view.componentID.speechOnIconScaleMode = "Maintain Aspect Ratio"; |

1. **Speech Off Icon**

|  |  |
| --- | --- |
| **Category:** | Pass Through |
| **Description:** | Specifies the source of the image that you want to display as the Speech Off icon. |
| **Syntax**: | speechOffIcon |
| **Type:** | String |
| **Read/Write:** | Write |
| **Example:** | this.view.componentID.speechOffIcon = "speech\_off.png"; |

1. **Speech Off Icon Scale Mode**

|  |  |
| --- | --- |
| **Category:** | Pass Through |
| **Description:** | Specifies the scaling mode of the image that you want to display as the Speech Off icon. |
| **Syntax**: | |  |  | | --- | --- | |  | speechOffIconScaleMode | |
| **Type:** | * List Selector * String |
| **Read/Write:** | Write |
| **Example:** | this.view.componentID.speechOffIconScaleMode = "Maintain Aspect Ratio"; |

1. **Speech Rate**

|  |  |
| --- | --- |
| **Category:** | Custom |
| **Description:** | Specifies the rate that you want to set for the speech. Low values correspond to slow speech, and high values correspond to fast speech. |
| **Syntax**: | |  |  | | --- | --- | |  | setRate | |
| **Type:** | String |
| **Read/Write:** | Write |
| **Example:** | this.view.componentID.setRate = "0.3"; |
| **Remarks:** | * The values are in the range of MinimumSpeechRate and MaximumSpeechRate. These values depend on the platform. * For more information on speech rates, you can refer to [android.speech.tts](https://developer.android.com/reference/android/speech/tts/package-summary.html) and [Apple AV Speech Utterance](https://developer.apple.com/documentation/avfoundation/avspeechutterance/1619708-rate). |

**Android**

**1. Language**

|  |  |
| --- | --- |
| **Category:** | Custom |
| **Description:** | Specifies the language that you want to use for the text to speech feature on the **Android** platform.  The text to speech engine picks the language that matches the specified locale. |
| **Syntax**: | |  |  |  | | --- | --- | --- | | |  |  | | --- | --- | |  | setAndroidLanguage | | |
| **Type:** | String |
| **Read/Write:** | Write |
| **Example:** | this.view.componentID.setAndroidLanguage = "UK"; |

**iOS**

**1.** **Pre Utterance Delay**

|  |  |
| --- | --- |
| **Category:** | Custom |
| **Description:** | Specifies the delay that you want to set before the component speaks an utterance. |
| **Syntax**: | |  | | --- | | preUtteranceDelay | |
| **Type:** | String |
| **Read/Write:** | Write |
| **Example:** | this.view.componentID.preUtteranceDelay = "0.0"; |

**2. Post Utterance Delay**

|  |  |
| --- | --- |
| **Category:** | Custom |
| **Description:** | Specifies the delay that you want to set after the component speaks an utterance and before it speaks the next utterance. |
| **Syntax**: | |  | | --- | | postUtteranceDelay | |
| **Type:** | String |
| **Read/Write:** | Write |
| **Example:** | this.view.componentID.postUtteranceDelay = "0.0"; |

**3. Pitch Multiplier**

|  |  |
| --- | --- |
| **Category:** | Custom |
| **Description:** | Specifies the baseline pitch that the component uses for speech on the **iOS** platform. |
| **Syntax**: | |  |  | | --- | --- | |  | pitchMultiplier | |
| **Type:** | String |
| **Read/Write:** | Write |
| **Example:** | this.view.componentID.pitchMultiplier = "1.0"; |

**4. Language**

|  |  |
| --- | --- |
| **Category:** | Custom |
| **Description:** | Specifies the language that you want to use for the text to speech feature on the **iOS** platform. |
| **Syntax**: | |  |  | | --- | --- | |  | setIphoneLanguage | |
| **Type:** | String |
| **Read/Write:** | Write |
| **Example:** | this.view.componentID.setIphoneLanguage = "en-us"; |

**5. Volume**

|  |  |
| --- | --- |
| **Category:** | Custom |
| **Description:** | Specifies the volume of the speech on the **iOS** platform. |
| **Syntax**: | |  | | --- | | volume | |
| **Type:** | String |
| **Read/Write:** | Write |
| **Example:** | this.view.componentID.volume = "0.5"; |

**6. stopSpeech API Behavior**

|  |  |
| --- | --- |
| **Category:** | Custom |
| **Description:** | Specifies the action that you want the component to perform when the **stopSpeech** API is called. |
| **Syntax**: | |  | | --- | | stopSpeechApibehaviour | |
| **Type:** | |  |  | | --- | --- | |  | * List Selector * String | |
| **Read/Write:** | Write |
| **Example:** | this.view.componentID.stopSpeechApibehaviour = "stop immediately"; |

**Desktop**

**1. Language**

|  |  |
| --- | --- |
| **Category:** | Custom |
| **Description:** | Specifies the language that you want to use for the speech to text feature on the **Desktop Web** platform. |
| **Syntax**: | |  | | --- | | setWebLanguage | |
| **Type:** | |  |  | | --- | --- | |  | String | |
| **Read/Write:** | Write |
| **Example:** | this.view.componentID.setWebLanguage = "en-US"; |

**2. Pitch**

|  |  |
| --- | --- |
| **Category:** | Custom |
| **Description:** | Specifies the baseline pitch that the component uses for speech on the **Desktop Web** platform. |
| **Syntax**: | |  | | --- | | setPitch | |
| **Type:** | |  |  | | --- | --- | |  | String | |
| **Read/Write:** | Write |
| **Example:** | this.view.componentID.setPitch = "1.0"; |

**3. Volume**

|  |  |
| --- | --- |
| **Category:** | Custom |
| **Description:** | Specifies the volume of the speech on the **Desktop Web** platform. |
| **Syntax**: | setWebVolume |
| **Type:** | |  |  | | --- | --- | |  | String | |
| **Read/Write:** | Write |
| **Example:** | this.view.componentID.setWebVolume = "0.5"; |

# C. Events

**1. speechOn**

|  |  |
| --- | --- |
| **Category:** | Custom |
| **Description:** | Invoked when the user clicks the component to start the speech. |
| **Syntax**: | speechOn |
| **Example:** | this.view.componentID.speechOn = function()  {  alert("Starting Speech.");  }.bind(this); |

**2. speechOff**

|  |  |
| --- | --- |
| **Category:** | Custom |
| **Description:** | Invoked when the user clicks the icon to stop the speech. |
| **Syntax**: | speechOff |
| **Example:** | this.view.componentID.speechOff = function()  {  alert("Stopping Speech.");  }.bind(this); |

# 

# D. APIs

The following APIs pertain to the Voice Output Interface component:

|  |  |
| --- | --- |
| **1. speakOut**  **Description:** Converts and speaks the given text. |  |

**Syntax:** speakOut()

|  |  |
| --- | --- |
|  |  |

**Parameters:**

*text [String]*:  
The text that you want to convert to speech.

**Return Value:**

None

**Sample Input Format:**

|  |
| --- |
| var text = "Convert this text to speech.";  this.view.componentID.speakOut(text); |

**2. stopSpeech**

**Description:** Stops the current speech.

**Syntax:** stopSpeech()

**Parameters**: None

**Return Value**: None

**Sample Input Format:** this.view.componentID.stopSpeech();

**E. Skins**

**1. Image Flex Skin**

|  |  |
| --- | --- |
| **Category:** | Pass Through |
| **Description:** | This skin links to the background of the component. |
| **Syntax**: | imageFlexSkin |
| **Widget Type:** | |  |  | | --- | --- | |  | FlexContainer | |

# 4. REVISION HISTORY

App version 2.0.1

1. **Known issues:**

No known issue.

1. **Limitations**

Following are the limitations in the Voice Output Interface component:

* For Ios, the text we enter needs to follow the sentence format. The beginning letter should be capitalized. Otherwise, the speech engine will not be recognized as a sentence. There will be no delay between sentences.
* For example, “**H**ow are you? **W**hat are you from?”. This will be identified as two sentences. But for this, “**h**ow are you? **w**hat are you from?”. The speech engine will think this is a sentence.