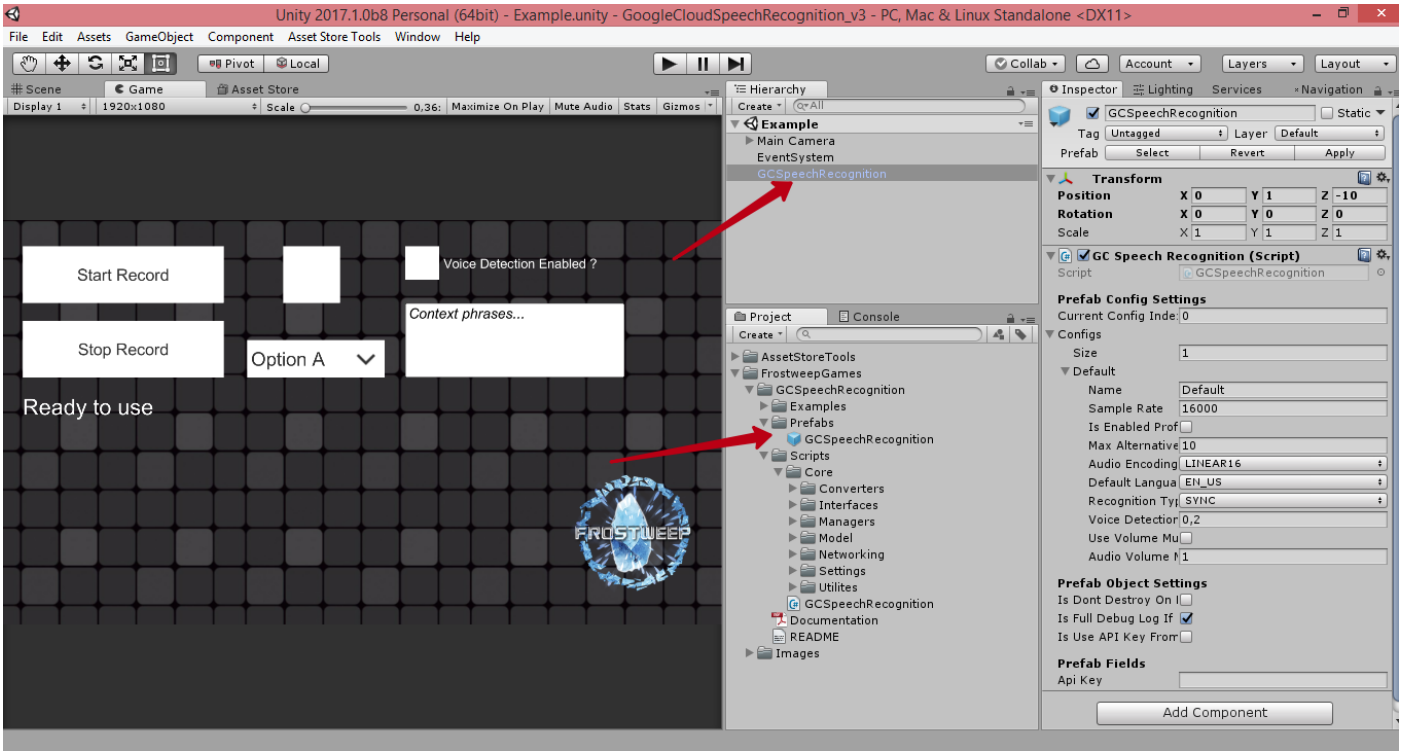
Google Cloud Speech Recognition

How to use

First of all, you need to add GCSpeechRecognition prefab from FrostweepGames->GCSpeechRecognition->Prefabs folder to your working scene.



Then you need to set your own API key of Google Cloud Speech Recognition into **Api Key** field and enable IsUseAPIKeyFromPrefab if you want to set api key in prefab, if not – will be used API Key from Constants.cs script.

If you don't have API Key, you can get it from https://cloud.google.com/speech/ , https://cloud.google.com/speech/docs/common/auth#restrictions

Then we need to create script with name Example and write base logic:
You can handle response of Speech Recognition in **SpeechRecognizedSuccessEventHandler**

```
2 references | 0 changes | 0 authors, 0 changes
private void SpeechRecognizedSuccessEventHandler(RecognitionResponse obj, long requestIndex)
{
    if (!_isRuntimeDetectionToggle.isOn)
    {
        _startRecordButton.interactable = true;
        _speechRecognitionState.color = Color.green;
    }

    if (obj != null && obj.results.Length > 0)
    {
        _speechRecognitionResult.text = "Speech Recognition succeeded! Detected Most useful: " + obj.results[0].alternatives[0].transcript;

        string other = "\nDetected alternative: ";

        foreach (var result in obj.results)
        {
            foreach (var alternative in result.alternatives)
            {
                if (obj.results[0].alternatives[0] != alternative)
                    other += alternative.transcript + ", ";
            }
        }

        _speechRecognitionResult.text += other;
    }
    else
    {
        _speechRecognitionResult.text = "Speech Recognition succeeded! Words are no detected.";
    }
}
```

To get result of the recognition you can use RecognitionResponse->results->alternatives->transcript path. Where RecognitionResponse is an instance of the RecognitionResponse object.

For the start recording you can call this method:

```
1 reference | 0 changes | 0 authors, 0 changes
private void StartRecordButtonOnClickHandler()
{
    _startRecordButton.interactable = false;
    _stopRecordButton.interactable = true;
    _speechRecognitionState.color = Color.red;
    _speechRecognitionResult.text = string.Empty;
    _speechRecognition.StartRecord(_isRuntimeDetectionToggle.isOn);
}
```

Include Boolean parameter for enabling runtime voice detection or not.
For the stop recording you can call this method:

```
1 reference | 0 changes | 0 authors, 0 changes
private void StopRecordButtonOnClickHandler()
{
    ApplySpeechContextPhrases();

    _stopRecordButton.interactable = false;
    _speechRecognitionState.color = Color.yellow;
    _speechRecognition.StopRecord();
}
```

For set the list of arrays of speech contexts you can call this method:

```
1 reference | 0 changes | 0 authors, 0 changes
private void ApplySpeechContextPhrases()
{
    string[] phrases = _contextPhrases.text.Trim().Split(","[0]);

    if (phrases.Length > 0)
        _speechRecognition.SetContext(new List<string[]>() { phrases });
}
```

_speechRecognition is an instance of GCSpeechRecognition class:

```
private void Start()
{
    _speechRecognition = GCSpeechRecognition.Instance;
    _speechRecognition.RecognitionSuccessEvent += SpeechRecognizedSuccessEventHandler;
    _speechRecognition.RecognitionFailedEvent += SpeechRecognizedFailedEventHandler;
```

If you want to set language you can call this method (where value is integer converted to LanguageCode enum):

```
1 reference | 0 changes | 0 authors, 0 changes
private void LanguageDropdownOnValueChanged(int value)
{
    _speechRecognition.SetLanguage((Enumerators.LanguageCode)value);
}
```

Example scene included to project:

FrostweepGames-> GCSpeechRecognition->Examples

Note

- Example script included in unitypackage!
- Working with il2cpp and mono
- Plugin Support Unity3D 5.3.x or above

* - Plugin doesn't support WebPlayer

Version Updates

• 3.0
- Updated API to the latest 1.0 version
- New code architecture (SOA)
- Added async networking (Unity Web Requests)
- Removed support of WebGL (will be added in future updates)
- Not Fully implemented Long Recognize API
- Improved Examples
- Improved Config Prefab
- Improved runtime voice detection service
- Improved media service
- Improved audio converter
- Added audio tools

• 2.1
- implemented new features
- updated and improved example
- removed 3rd party libraries

• 2.0
- UPDATED Speech Recognition API to the latest Google Cloud Speech API
- implemented new features
- implemented speech detection threshold
- changed namespaces
- fixed bugs

• 1.1
- Changed Code Namespace with FrostweepGames.SpeechRecognition on FrostweepGames.SpeechRecognition.Google
- Implemented Runtime Speech Detection Utility