Game Multimedia Engine

User Tutorial

Product Documentation

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This document helps you get started with Game Multimedia Engine (GME).

1. Basic GME Knowledge

- What services does GME provide? What are its main features?
- What advantages does GME have?
- What use cases can GME be applied to?

2. GME Billing Modes

GME currently provides multiple services, such as voice chat and voice messaging. For billing details, see Purchase Guide.

3. Free Demo

Before using GME, you can try it out first:
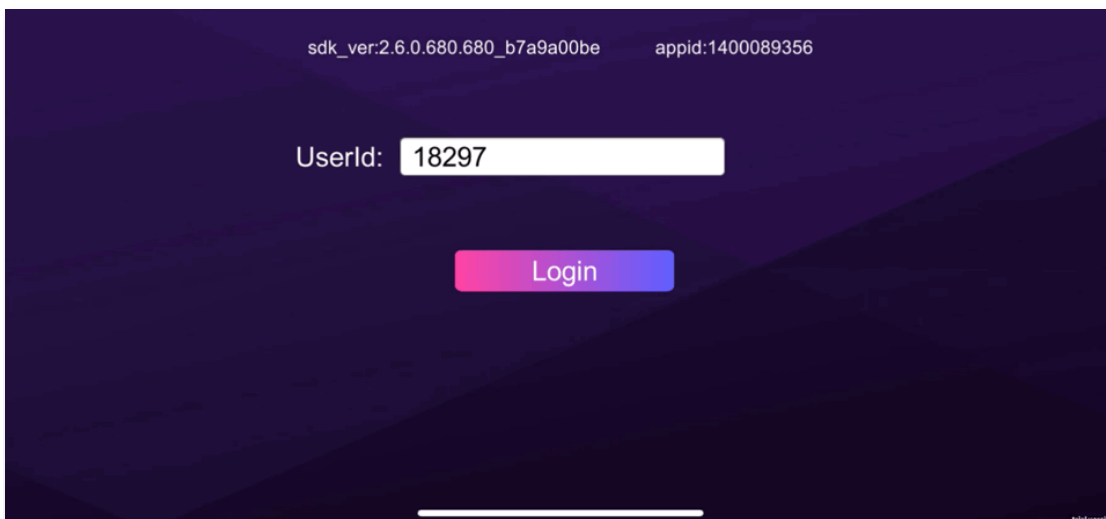
- Basic feature demo: Try out voice chat, voice messaging, speech–to–text, real–time 3D sound effect, and real–time basic voice changing features.
- Scenario–specific demo: Try out voice chat, 3D voice, range voice, and voice changing features in a simulated simple game scenario.
- Advanced voice changing demo: Try out the real–time advanced voice changing feature.

4. Service Activation

- Before using GME, you need to sign up for a Tencent Cloud account first.
- Activate the service in the GME console and enable features as needed. For more information, see

[Activating Services](#).

5. Integration Parameter Acquisition

5.1 Client access parameters

- In the [GME console](#), find the application you just created and click **Settings** in the **Operation** column to enter the application settings page.
- You can get the corresponding `AppID` and permission key on the page.
  - When you use the sample project, the `AppID` and permission key are required as parameters.
  - When you use the SDK, the initialization API `Init` requires the `AppID` as a parameter, and the local authentication generation API `QAVAuthBuffer.GenAuthBuffer` requires the permission key as a parameter.

5.2 TencentCloud API access parameters

If you use TencentCloud API, you need `SecretId` and `SecretKey`, which can be obtained on the [Manage API Key](#) page. We recommend that you manage the account access as instructed in [Security Best Practice](#).

6. Sample Project Run

GME provides SDKs and sample projects for different platforms. You can better understand how to integrate the GME SDK by running the sample project.

6.1 Download the sample project

You can download the sample project for the target platform as instructed in [SDK Download Guide](#).

6.2 Run the sample project

View corresponding documents for the platform you use: [Quick Run of Unreal Engine Sample Project](#)

7. Basic Feature Integration

7.1 Download the SDK

You can download the required SDK files for the target platform as instructed in [SDK Download Guide](#).

SDK v2.9.1 GA Download

OS/Engine	Update Time	SDK Download	Demo Download	Documents
Unity	April 12, 2022	Download	Download	Quick Integration of SDK for Unity
Unreal Engine	April 12, 2022	Download	Download	Quick Integration of SDK for Unreal Engine
Cocos2D	April 12, 2022	Download	Download	Getting Started
Windows	April 12, 2022	Download	Download	Native SDK Quick Access
iOS	April 12, 2022	Download	Download	Native SDK Quick Access
Android	April 12, 2022	Download	Download	Native SDK Quick Access
macOS	April 12, 2022	Download	Download	Native SDK Quick Access

7.2 Configure the project

Refer to the documentation for each platform to configure the project. Only after the configuration is completed can the APIs be called to use the GME service.

Platform	Configuration Guide
Unity	Integrating SDK
Unreal Engine	Integrating SDK
Cocos2d	Project Configuration
Windows	Project Configuration
Android	Integrating SDK
iOS	Integrating SDK
macOS	Project Configuration
HTML5 Applications	Project Configuration

7.3 Quickly integrate the SDK

The quick integration documents simplify the integration process for you to quickly try out features. The features described in such documents include voice chat and streaming speech-to-text.

Platform	Quick Integration Document
Unity	Quick Integration of SDK for Unity
Unreal Engine	Quick Integration of SDK for Unreal Engine
Windows, iOS, macOS, and Android	Quick Integration of Native SDK

7.4 Integrate basic features

Click here to find the corresponding document for the platform you use.

7.5 Integration help documentation

Help documentation:

Documentation	When to Use
Sound Quality	If it is difficult for you to choose a voice chat room type, refer to this document.
Authentication Key	If you want the authentication deployment related to the GME service of your application to be more secure, refer to this document.
SDK Version Upgrade Guide	If you upgrade from a previous GME version to a new version, you need to check this document to understand the API changes.
Error Codes	During the SDK access debugging process, if you find that APIs or callbacks return an error code, refer to this document for solutions.

8. Advanced Feature Integration

To	Read
Realize the range voice effect in voice chat (similar to "Team Only" and "Everyone" audio modes in PUBG)	Range Voice
Hear a stereo voice with a sense of direction from characters when characters move. The voice also gets weaker as the distance from the source increases, making the game voice more immersive.	3D Sound Effect
Implement room member management, mic-on/off, and muting. For example, the team leader wants to mute other players in the room, or the game host wants audience members to mic on.	Integrating GME Chat Room Management
Use GME to play the accompaniment in the voice chat room,	Accompaniment in Voice

adjust the EQ of the accompaniment, and play back local sound effects.	Chat, Real-time Sound Effect, and Real-Time Sound Equalizer
Perform voice changing during voice chat. Players can change their tone to that of a middle-aged man, little girl, etc.	Voice Changing
Make yourself heard only by members in your current team and hear the voices of other stranger players in the matched team in the voice chat room.	Audio Forwarding Routing

9. Console Operation Guide

For the usage data of voice chat, voice messaging, and other services, see Usage Querying.

10. FAQs

Features

- How much traffic does GME voice chat consume?

- What features does GME have?

- Is there a limit on the number of voice chat rooms and members in GME?

Development

- Is it OK for multiple users to use the same OpenID in GME?

- How do I use the downloaded sample project or demo?

- What should I do if the screen goes black when I try to open an application after integrating the GME SDK and exporting an APK file?

- What should I do if an error occurs during compilation when I try to export an executable file from Xcode after adding the GMESDK.framework library?

- When should the Poll function in the GME SDK be called?

11. Integration

If you encounter problems during integration, troubleshot as follows:

11.1 Determining the problem

You need to determine the type of the problem first and then check the corresponding documents:
Authentication, Sample Project Usage, Network, or Program Export.
You can also refer to the documents according to the service used:

Service Used	Document
Voice Chat Service	Room Entering Failed and Sound and Audio

Voice messaging	Speech-to-text Conversion
Speech-to-text	Speech-to-text Conversion

11.2 Error codes

If a call error occurs, you can check the cause and solution based on the error code.
For example, when you use the SDK, if the 3D sound effect API returns error 7003, you can check the error code document to know that the cause is that `InitSpatializer` has not been called. Then, check whether `InitSpatializer` is called in your code in the correct sequence.

11.3 Asking for help

If the problem cannot be solved through the documentation and error code, contact us for assistance as instructed in Troubleshooting Guide.

12. Feedback and Suggestions

If you have any doubts or suggestions when using Tencent Cloud GME products and services, you can submit your feedback through the following channels. Dedicated personnel will contact you to solve your problems.

- To report a problem with the product documentation, such as incorrect content, broken links, or API errors, click **Documentation Feedback** at the bottom of the page.
- If you encounter product-related problems, submit a ticket.