Unity, Network Code and You

Overview, tips and tricks on all things networking in Unity
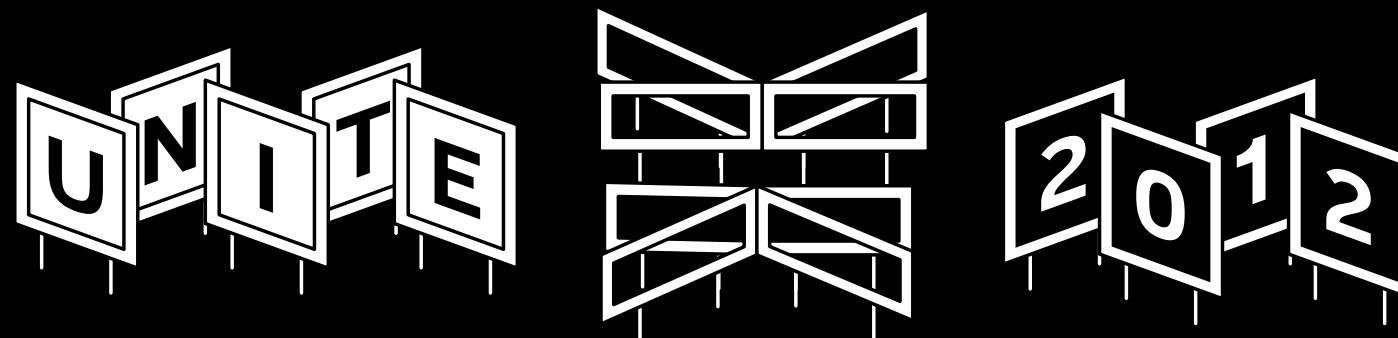
Emil "AngryAnt" Johansen

All things networking?

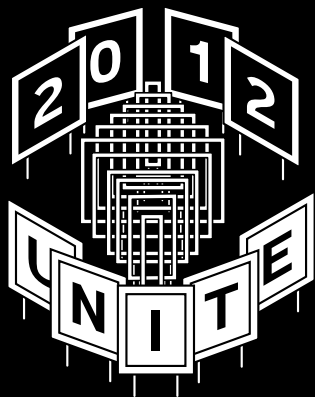# All things networking?

- Built-in networking
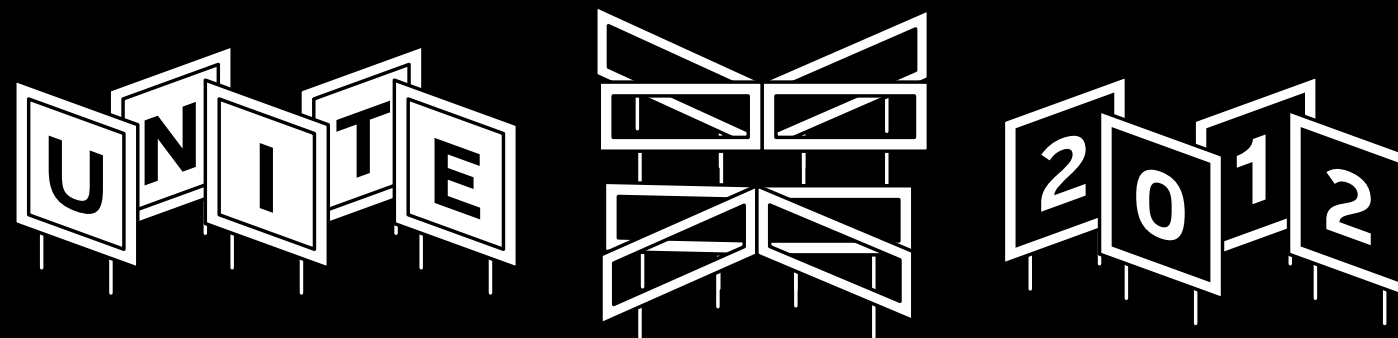
- Sockets

- WWW/Form

- Browser communication

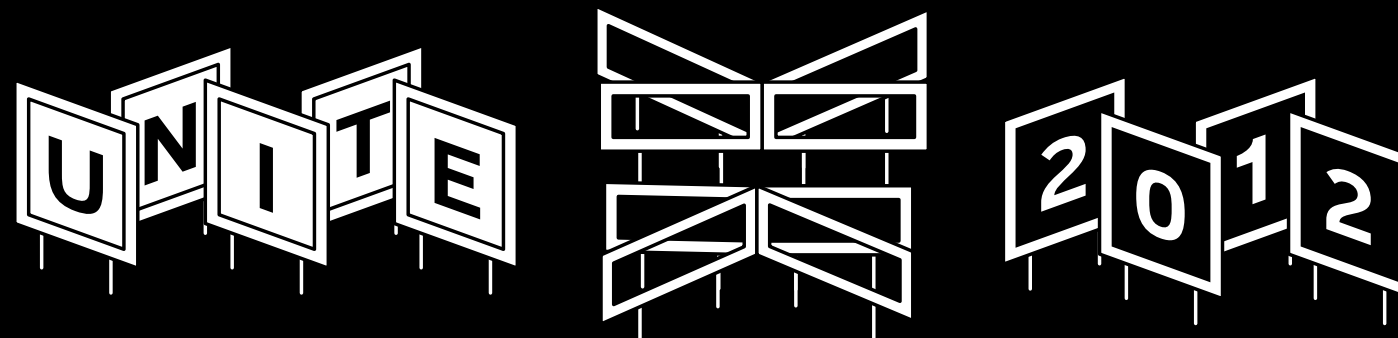UNITE 2012

Built-in networking

Structure

- Client / server

  - Network views and their owners

  - Instantiate

- MasterServer

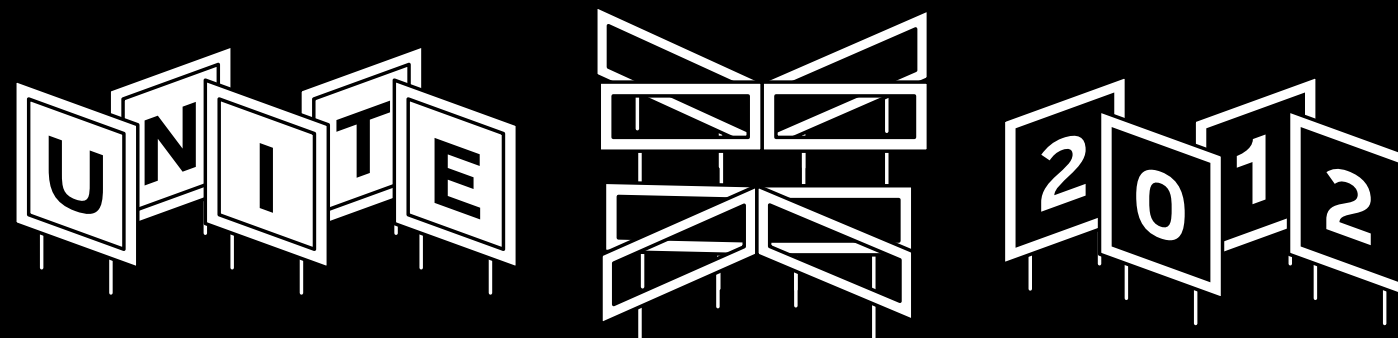 - Listing

  - Providing additional data

Synchronization

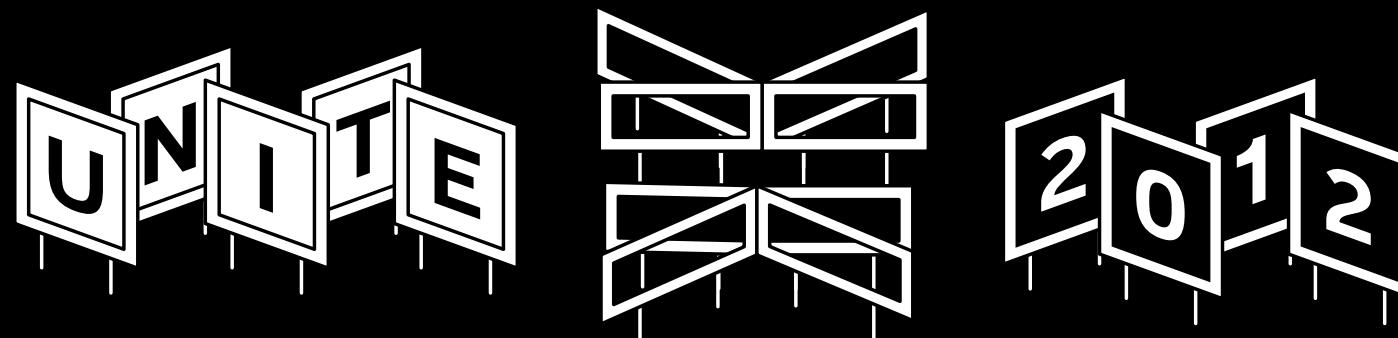- OnSerializeNetworkView

- More complex types

- Prediction

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RPCs

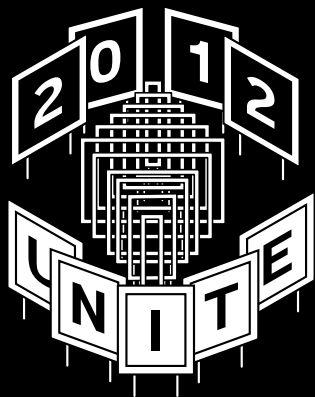- Remote SendMessage

- Directed

- Buffered

Phases

- ## Pre and post-game

  - Request / accept join + general state

- ## Level loading

  - Clear level relative RPC buffer
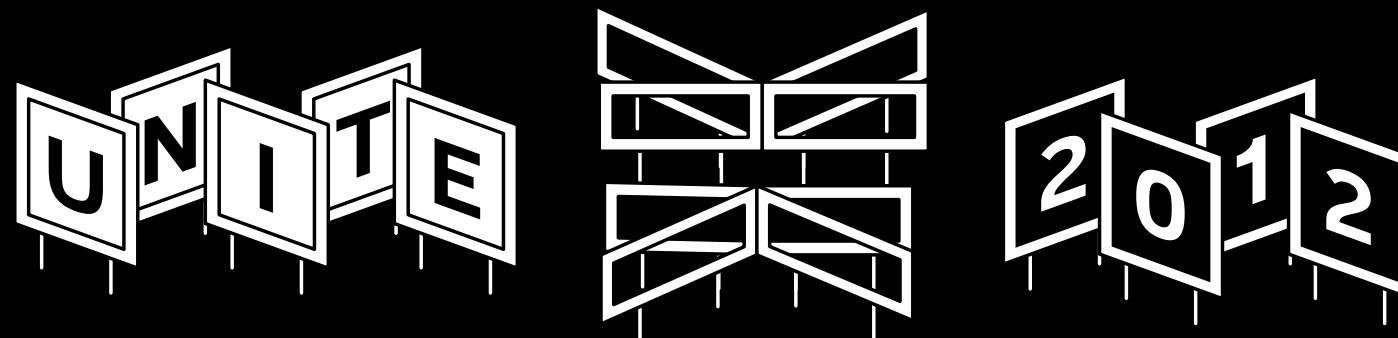
  - Disable sending & queue

  - Set increased prefix

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Example

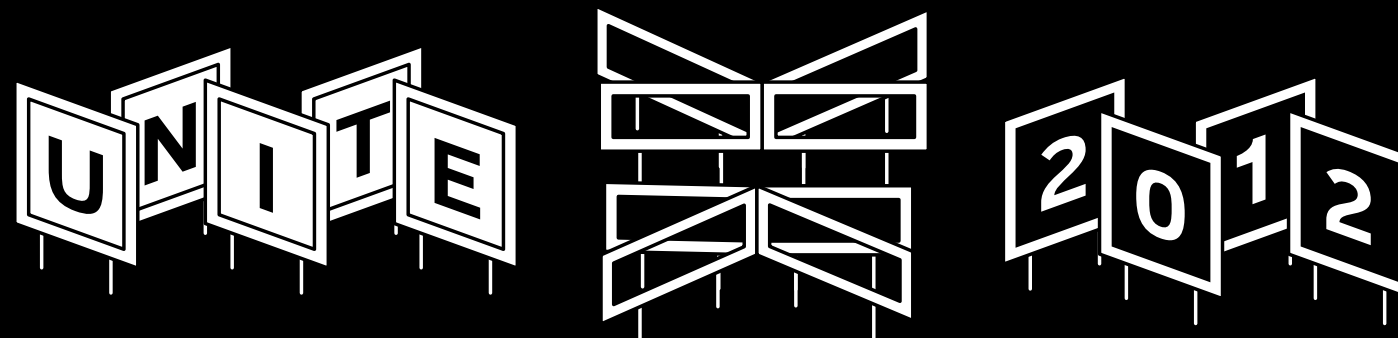# Sockets

Connection

- **Host**

  - Bind

  - Listen

  - Accept

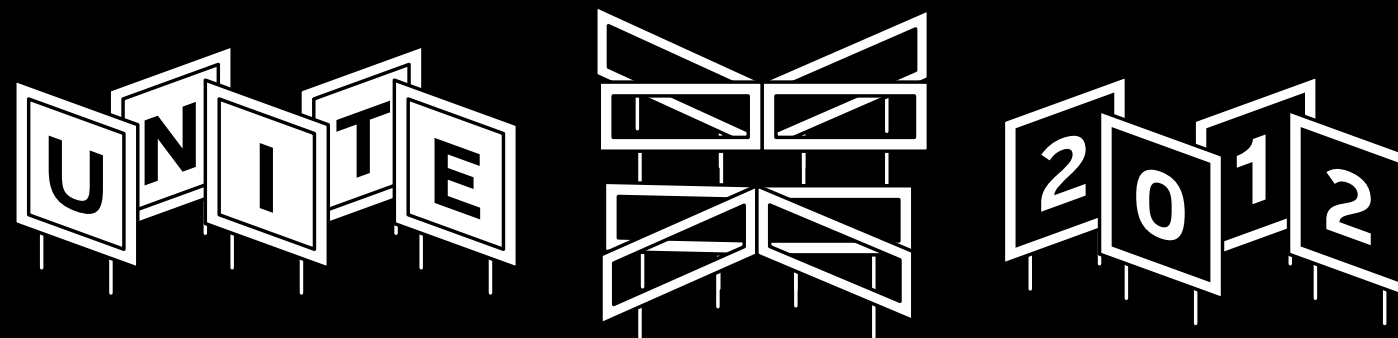- **Client**

  - Connect

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Transmission

- Async operations for comms

- Useful for custom streaming

WebPlayer security

- No port listening in WebPlayers

- Cross-domain policy needed for outgoing sockets on different domain

- Built-in networking exempted

- docs.unity3d.com/Documentation/Manual/SecuritySandbox.html

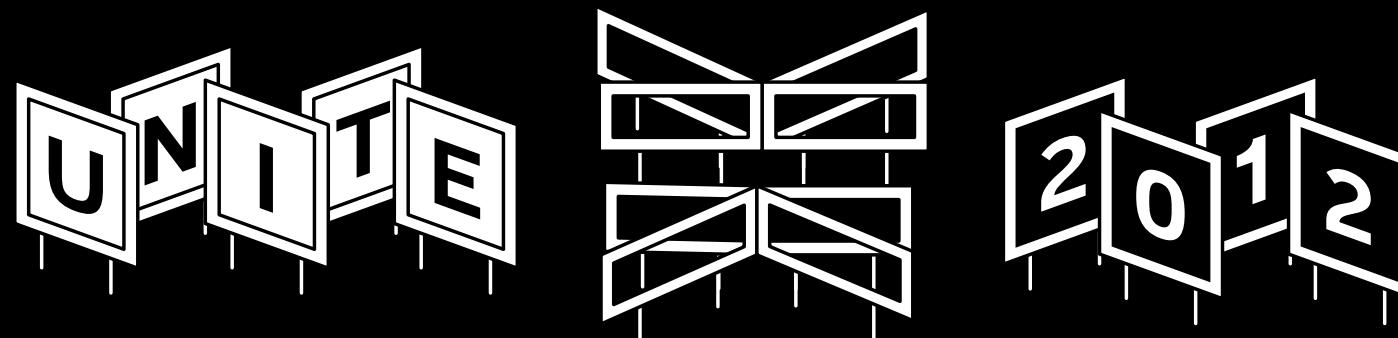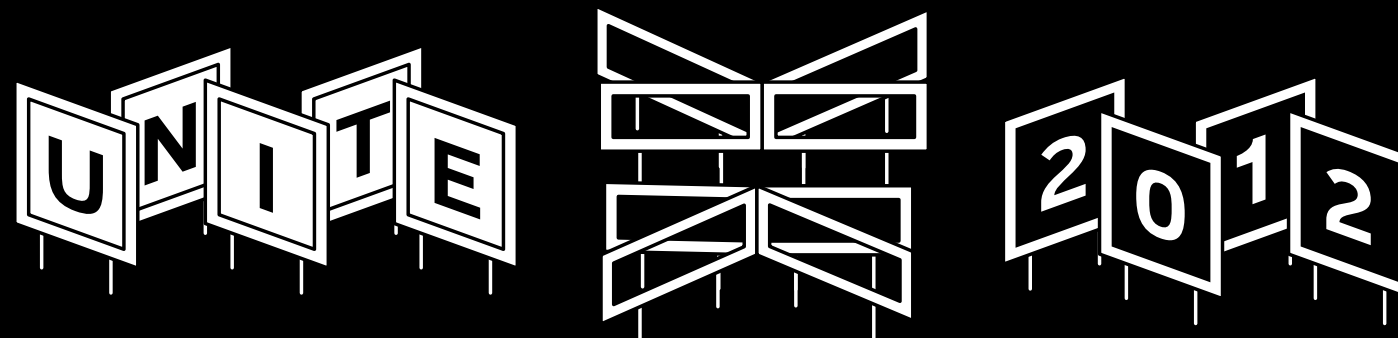UNITE 2012

Example

WWW/Form

WebPlayer security

- Cross-domain policy file needed for http requests on different domains

- Common standard

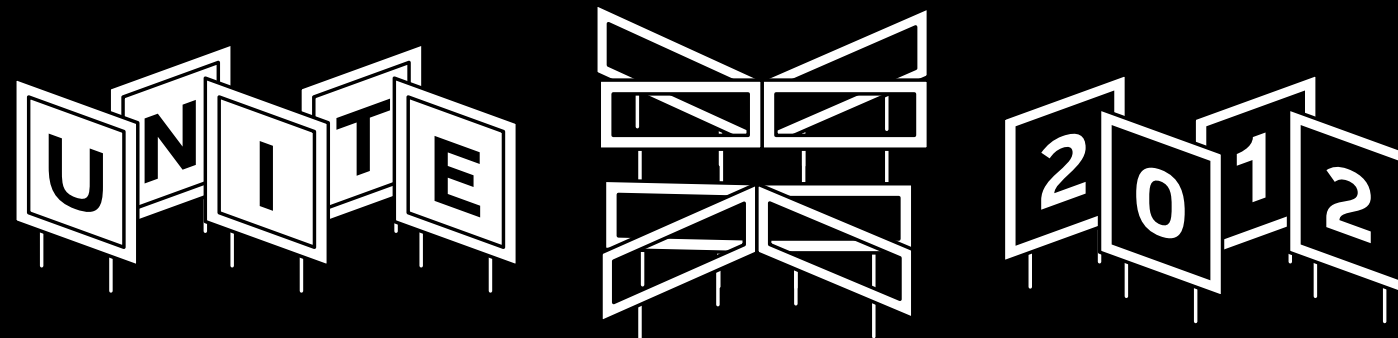- docs.unity3d.com/Documentation/Manual/SecuritySandbox.html

Loading via WWW

- HTTP
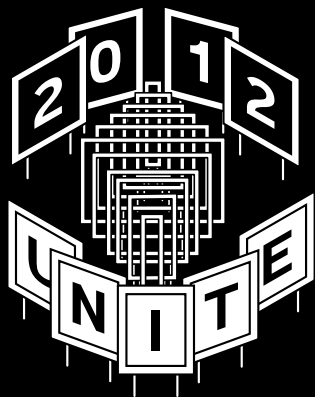
- Images

- A/V streaming

- Asset bundles

- Assembly?

Posting via WWWForm
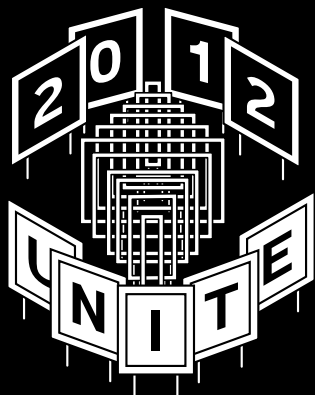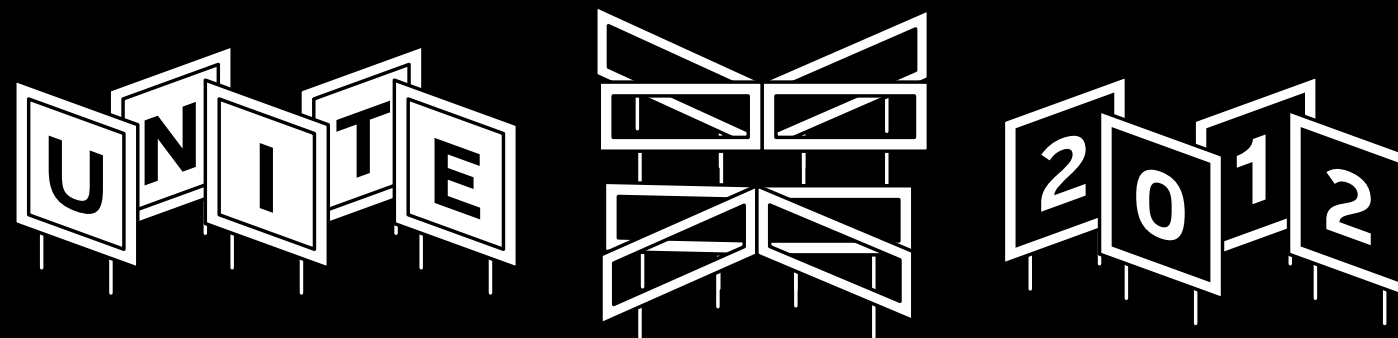
- Simple form data
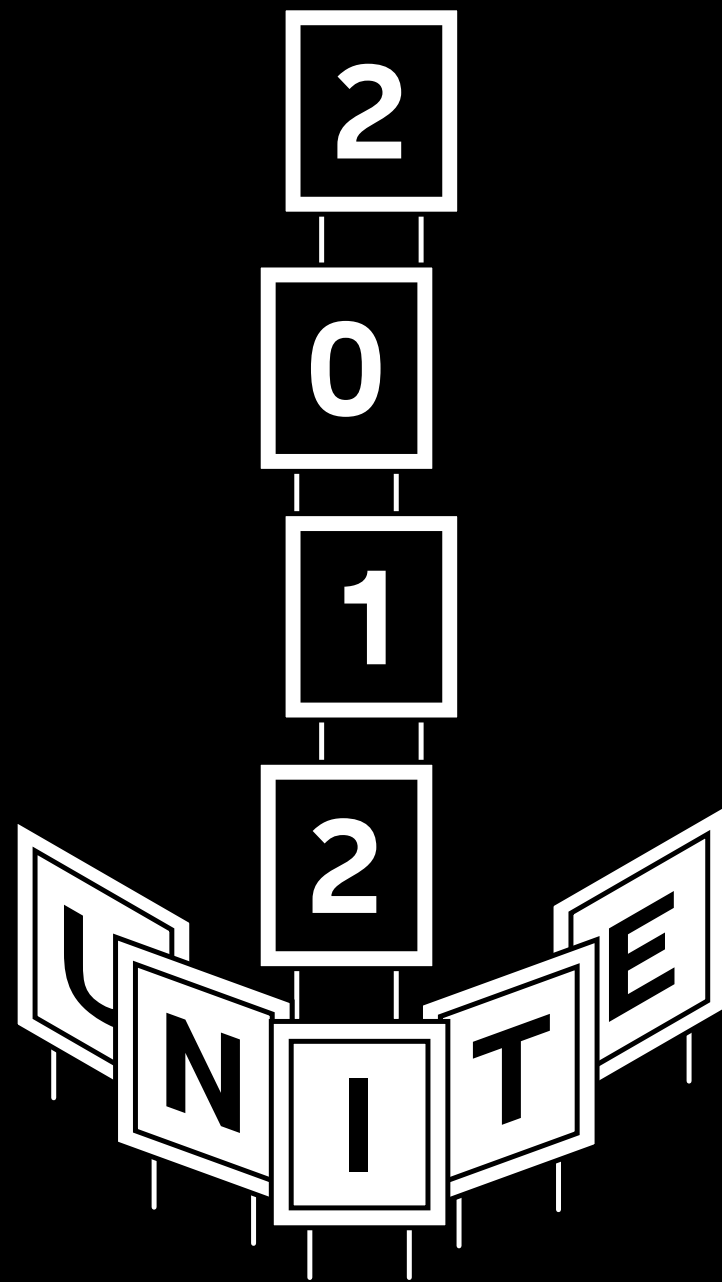
- Encode binary data

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Example

External JS

API

- Application.

  - ExternalCall

  - ExternalEval

- JS sending messages

- Similar API available on iOS and android

Example

Questions?

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Unity3D.com