

# Fighting Game with Online Play

Research Poster

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## Introduction

Designed for real-time competition, the game includes a peer-to-peer online system with a dedicated lobby where players can seamlessly connect and challenge one another, with access to an embedded replay system to view their own games.

## Technologies

The main technology used will be the Godot Engine, a lightweight game engine which utilizes GDScript, its own tightly integrated language similar to Python.

## How will Online Play work?

Players will be able to challenge other players via an online lobby. The basic authentication and lobby is handled via Steamworks or specifically a set of tools intertwined with both Godot & Steam, GodotSteam.

Once connected to the lobby, you will be able to challenge other opponents. Once accepted, a P2P session is opened between both peers where they can play as long as they wish.

Specific to how the peers connect, they will be making use of the SteamMultiplayerPeer object available in GodotSteam, which provides the high level multiplayer API to handle connection, latency and the previously mentioned lobby system.



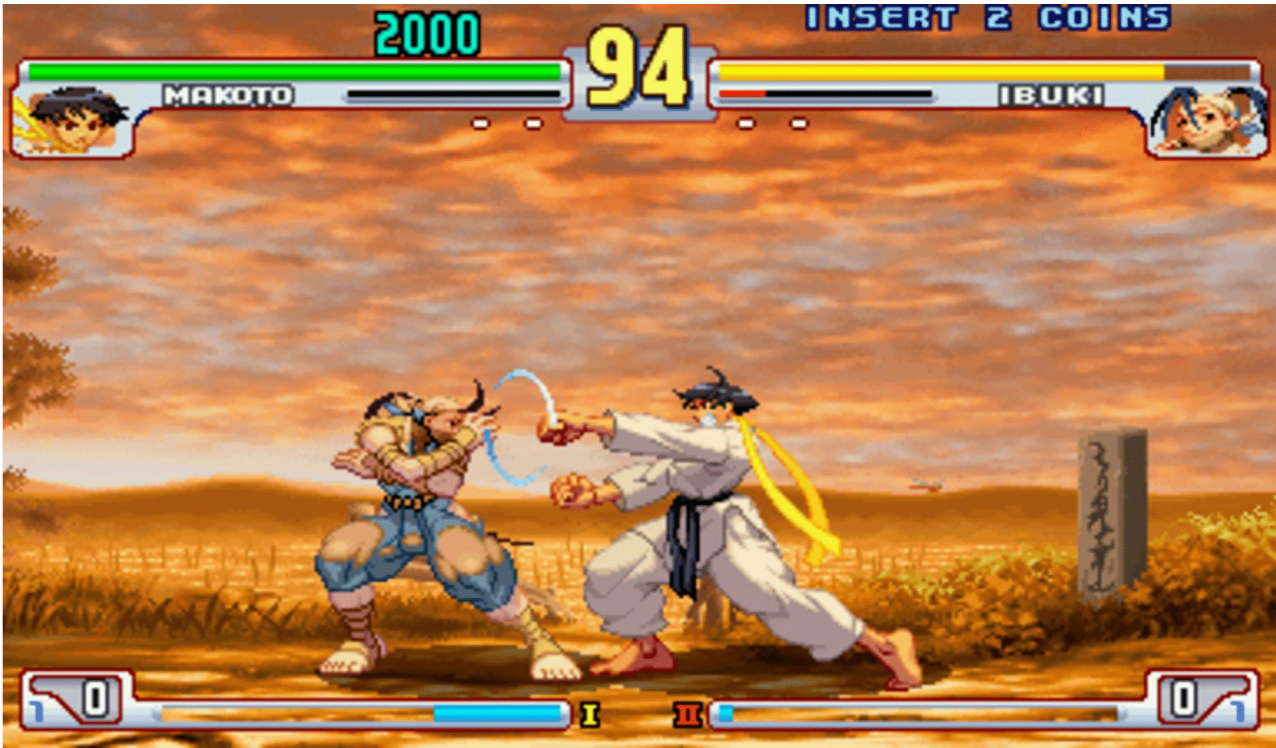
GodotSteam

## How will Replays work?

Players can view their previous games via a replay system on the main menu. Replays record both players' inputs and stores them in a local file, as well as other details like what character they were using, the stage, etc. When a replay is selected, the game state is recreated and you can view your previous match.

The replay system is emulative to how DOOM (1993) did its replays via LMP format, recording a game session that is played back via the game engine. It only internally records the inputs during each frame. An abstract explanation is as follows:

- Store and log/timestamp every piece of nondeterministic input (user input)
- Make sure that everything that isn't logged is deterministic. (Any random number generation should be seeded to be able to reproduce the same sequence)



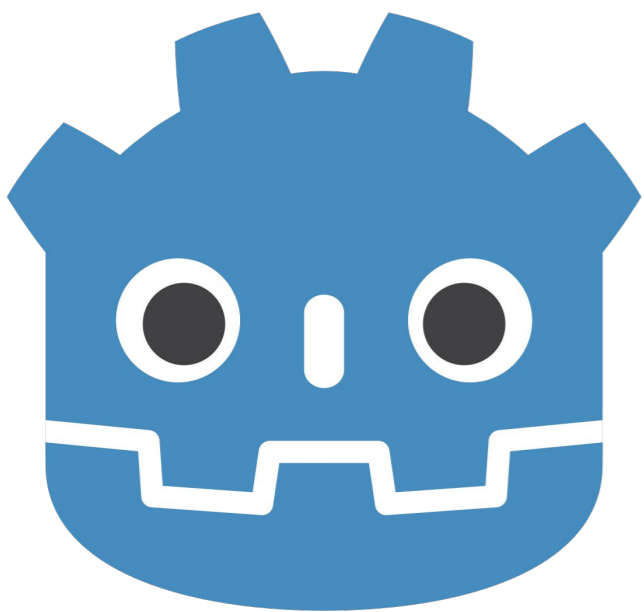
Street Fighter 3: Third Strike (1999)



Guilty Gear (1998)

## Further Information

1. Godot Engine - <https://godotengine.org/>
2. GodotSteam - <https://godotsteam.com/>
3. Unofficial LMP format doc - <http://web.archive.org/web/20071211231114/http://demospecs.planetquake.gamespy.com/lmp/lmp.html>



Godot Engine