

# Twitch Plays Connect6

## Introduction

This project revolves around 2 things, Twitch (streaming platform with chat support) and Connect6 (game).

The idea here is simple: Allow multiple players to participate in a Connect 6 game at the same time.

Players would receive real-time game window feedback, allowing them to make decisions accordingly. The decisions, or commands are issued via chat server (IRC), which is one of the unique part.

## Terminology

Twitch (TV): a popular streaming platform, features IRC chat as their chat service

Connect6: a famous puzzle game invented by Prof. I-Chen Wu from NCTU. The one who gets six or more stones in a row (horizontally, vertically or diagonally) first wins the game.

## References

Twitch Plays Pokémon (2014)

Twitch Plays Pokémon is a social experiment and channel on the video streaming website Twitch, consisting of a crowdsourced attempt to play Game Freak's and Nintendo's Pokémon video games by parsing commands sent by users through the channel's chat room.

([http://en.wikipedia.org/wiki/Twitch\\_Plays\\_Pok%C3%A9mon](http://en.wikipedia.org/wiki/Twitch_Plays_Pok%C3%A9mon))

FingRRR (2014~2015)

FingRRR is an extensible 2-D interaction framework structured on OpenCV v2.x written by Inishan (Me). The framework is extensible, thus allowing multiple input and other customization. (2015)

C++ Console IRC Client (2011~2014)

C++ Console IRC Client, as its name, is an IRC client written by Fredi Machado.

(<https://github.com/Fredi/IRCClient>)

## Techniques

### Multithreaded Programming

FingRRR itself uses 6 threads, each addresses main(keyboard input), animation, object interaction, finger and mouse input, renderer and user event, respectively.

TwitchPlaysAPI uses 2+ threads, 1 serves as a listener to receive IRC messages and others are used for network programming.

### Network Programming

I didn't touch too much on this part, but I did modify the IRC Client quite a bit (fixed some bugs, too) to fit my needs.

### Artificial Intelligence

Algorithms including Iterative Deepening and Heuristic Search.

## Advantages / Uniqueness

Allows massive players to participate in a single game simultaneously.

Highly cooperative and fun

The interaction method itself is pretty unique

The interaction method can potentially be useful in other areas. For instance, education and enterprises.

I wrote most of the parts on my own !

FingRRR: ~1500 lines.

TwitchPlaysAPI: ~300 lines

Connect6 AI: ~300 lines.

## Contribution

0113110 陳柏翰 – handles all parts of this term project.