Twich plays RC car: An analysis and comparison with Twitch plays pokemon.

Abstract: Social experiments on crowd-controlled gaming have been done on video games which are without any physical obstructions/limitations. The best example is *Twich Plays Pokemon* where players from all over the world played Pokemon Red by inputting commands (A, B, up, down, left, right, start, select) on chat while watching the live stream. This paper shows a detailed analysis of varying number of players(1, 4, 8) on physical wheeled robot and its comparison with video game(pokemon red). The infinite monkey theorem states that a monkey hitting keys at random on a typewriter keyboard for an infinite amount of time will almost surely type any given text, such as the complete works of William Shakespeare. This situation is quite like the theorem. The only and the most important difference is that instead of random hitting of keys, multiple intelligent entities are trying to solve a problem with a specific goal.

Keywords: Twitch, Pokemon, Nintendo

Introduction: Twich is a gamer’s live streaming platform where this crowd-controlled game experiment was first tested on a Nintendo GameBoy Colour Pokemon Red. This game was started on an emulator and live streamed on twitch.tv so that players form all over the world were able to see the character. In the game the character must travel across the map in search of pokemons and collect badges from in-game bosses. After collecting 8 badges the character can compete Elite 4 and become the pokemon champion by defeating them. Among these tasks there are a few errands that the character runs to open new places on the map. There are a few tasks where the player has to decide between two routes e.g. you can reach Fuschia city by going south of Lavender town or by the bike path. Each player has different approach to control the character and to choose between alternatives. This is where the conflict among the many players kick in.

//about crowd behavior

//difference in approach

In an RC car there are some physical hindrances such as friction and motor backlash. This change is addressed in this paper by using a physical robot as a character. Players completing the task remain the same as they are playing real-time. Here the players have to complete tasks with varying difficulty so that analysis of varying amount of time and number of commands inputs used to complete different tasks could be made. Also in Twitch plays pokemon the commands were executed 2 seconds after they were input but in this experiment there will be no noticeable difference between input and execution.

Literature and work done:

A Crude Analysis of Twitch Plays Pokemon

Twitch Plays Pokemon: A Case Study in Big G Games

The dynamics of collective social behavior in a crowd controlled game

Description of Robot:

Designing of the robot for the experiment included 3 parts:

1. Physical body of the robot
2. Processor to take inputs from the players and give commands to body
3. Server to connect the players to the robot

Physical Body: The chassis used is Yahboom Raspberry Pi 4WD Robotic Car Kit1. The dimensions of the final robot are 10’’\*7’’\*4’’.

Processor: The Raspberry Pi is like a connection between the body and server.

Server: To take commands from the players over the internet,Facebook Messenger is used with a python library fbchat. The players message the client on the chat window with one of the WASD commands for forward, left, back, right. The same and every command will be executed on the robot.

Observation:

graphs

Conclusion: