A Study Of Playing Video Game On Computer With Keyboard Control

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Abstract -*Playing video games is debated from last 40 years, Video games is great educational potential, and same popular in every age of group, this study is trying to evaluation of play Video Game on computer with keyboard control, Tetris Puzzle game is selected for experiment and one user who don't have any experience in past was requested to play this game with keyboard control at-least 50 time. Power Law of Practice is use to predict learning curve of the new Tetris game.*

Key Words: Power Law of Practice, Learning Curve, Video Game, Tetris Game, Keyboard Control.

1.INTRODUCTION

Playing Video Game is very popular in both generations elder and children., video games are for fun and stimulating, Tetris is a tile Matching puzzle video game, Playing Tetris Game on computer is very popular. Tetris is Available almost all electronics format. It's mainly play with left, right with the arrow keys or buttons and need to move tetrominoes to get them together. In this game seven type of tetrominoes and need to use the action to rotate the block to fit holes. May Users prefer to use keyboard control for playing game.

2. OBJECTIVE

There is multiple way to measure how people learn an interface or task by doing a Learning Experiments. In this study we invite one player/user and asked to play a video game, we tries to estimate how long a player can spend in one session given his number of trials. We play Tetris Game Puzzle Game for experiment our study.

3. RELATED WORK

In the 1980s, Allen Newell, a famous Carnegie Mellon cognitive scientist, analyzed reaction times for a variety of tasks reported in learning experiments and he noted that the learning curves obtained in all these studies had a very similar shape: that of a so-called power law[1] Accot, J. and Zhai, S Beyond Fitts' law: models for trajectory-based HCI tasks [2], Balakrishnan, R. and Hinckley, K. The role of kinesthetic reference frames in two-handed input performance[3], Barnert, W.C. A Comparison of One-Handed and Two-Handed Direct and Indirect Computer Interaction[4], Muhammad Suhaib, Sr. Full Stack Developer, Study of the learning curve of the Japanese keyboard on smartphone, A Study of Playing Tetris Game on Computer with Keyboard Contro[5][6].

4. METHODOLOGY

New User with no experience to play Tetris Puzzle game with keyboard control were asked to play this game 50 times table show the number of seconds the player last during each trial. Each time the player play the game we records record the finishing time of each trial. We use power law of practice logarithm of the reaction time for analysis of trials.

Chart -1: Data and Analysis

No of Trial	Finished Time	No of Trial	Finished Time	No of Trial	Finished Time	No of Trial	Finished Time
1	75	16	351	31	434	46	426
2	77	17	364	32	495	47	516
3	194	18	347	33	545	48	542
4	250	19	402	34	430	49	605
5	200	20	610	35	456	50	576
6	330	21	552	36	486		
7	185	22	360	37	545		

8	240	23	367	38	486
9	258	24	560	39	575
10	182	25	611	40	610
11	280	26	657	41	475
12	376	27	538	42	661
13	560	28	537	43	585
14	495	29	420	44	486
15	366	30	552	45	542

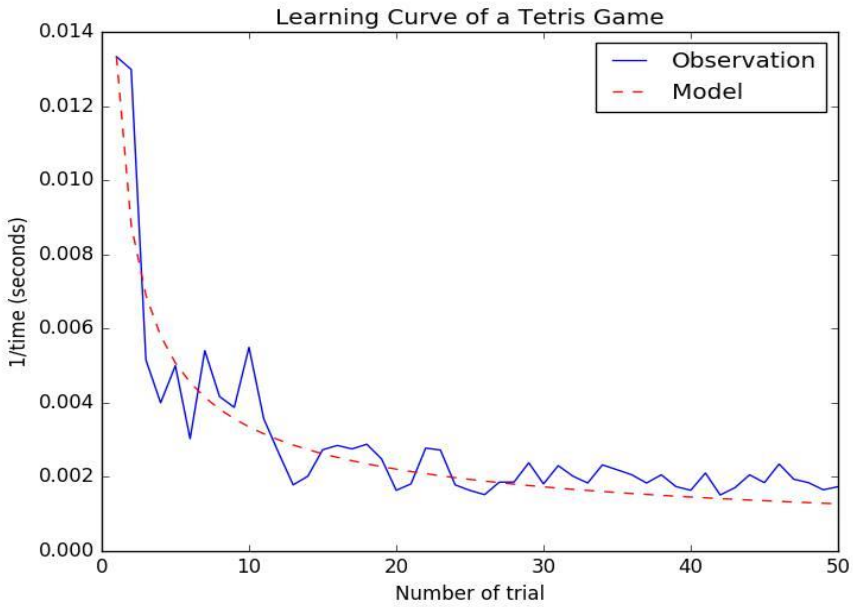

Fig -1: Learning Curve

The figure use the inverse of the time spend by the player during one session its depicts the learning curve of the Tetris game by the user.

3. MODEL

The Model use the Power Law of Practice and it fit the inverse of the time player spend during each playing session

$Tn = T_1 n^{-a} = (1/75). n^{(-0.6)}$

$r^2 = st - sr / st$

1109906.17999-0.00022

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1109906.17999

R^2=0.99

3. CONCLUSION

Playing video game on computer with keyboard control is highly in practice, this study seems to be very good at predicting the performance of a user at the Tetris game. This Study has some limitation worth: we only use one user for the experiment and it may be pretentious generalize this model to all player.

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