

TTT COMPENDIUM

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1 CD content

The cd contain the softwares to do a TTT experimental session and analyze the data in output.

- *Doc/*: is the help and the draft of the book (mainly in italian)
- *Nemik/*: software to analyze the TTT data
- *Paper/*: some CEEL working papers
- *SampleData/*: data from the session Unitn3
- *TTT/*: server and client software, instruction for the experiment TTT
- *TTTArtificial/*: the TTT experiment played with an artifical player
- *TTTSolo/*: the TTT experiment where the subject plays the two roles
- *TTTTransform/*: software to transform the output file of TTT in order to analyze with Nemik
- *Utility/*: some examples of elaborations with Excel

2 The TTT game

To read an introduction of the game TTT and its rules please read the papers in the folder *Paper/*.

2.1 Software setup

The software is composed of two parts: the server software and the client software. The server software is used to pairs the players, the client software is used by the players to play the game. The softwares works on Windows systems.

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2.1.1 Server setup

1. Create a folder named TTT in $c : \backslash$
2. Copy the files from the folder $cdrom : \backslash TTT \backslash Server$ into the folder $c : \backslash TTT$
3. Modify the file referee.ini with a text editor (eg: notepad) Change the value in the field $ShoeFileName=.....$ Insert the file name of the hands (Game422.sho o Game442.sho)

2.1.2 Client setup

1. Each participant will use a computer. For each computer create a folder TTT in c:
2. Copy all the files from the folder $cdrom : \backslash TTT \backslash Player$ into the folder $c : \backslash TTT$
3. Modify the file $c : \backslash TTT \backslash HLWS.ini$ with a text editor (eg: notepad). Insert the Ip address of the server in the field SERVERADDRESS, insert the Ip address of the client in the field MYADDRESS
4. Copy the modified file from $c : \backslash TTT \backslash HLWS.ini$ into $c : \backslash WINNT$

2.1.3 An experimental session

The Instructions for the participant of the experiment are in the folder $cdrom : \backslash TTT \backslash Istrunction$

First the students read the instruction, then you have to show with a beamer the layout of the game, the restriction of the tqo roles, the moves that each player can do and the drag and drop mechanism used to move card.

First you have to start on the server computer the software $c : \backslash TTT \backslash Referee.exe$. Then you have to launch the program $c : \backslash TTT \backslash TTT.exe$ on each computer for each players.

Now every player has to insert his/her name and code and press the button, on the server appears several box representing the players.

Now on the server computer we can begin the mechanism to pair the players. Select a box representing a player (it changes color), then select another box and press the menu Pairs. When a pair is created you can continue with the next pair.

At the end of the experiment we can soministrate the questionnaire. It is in the folder $cdrom : \backslash TTT \backslash Instruction$

2.2 Transform the data

Each TTT client software generate an output file in the directory $c : \backslash TTT$. It is an ASCII file and its name is CKnumber or NKnumber.

The file is in an extensive format, so we can compact the informations in order to analyse the data.

The software *cdrom* : `\TTTTTransform\Transform.exe` transform the data in the following syntax:

- C : the player exchanges his/her card with the one at the right of Colorkeeper
- N : the player exchanges his/her card with the one at the right of Numberkeeper;
- T : the player exchanges his/her card with the one in Target
- U : the player exchanges his/her card with the one in Up, the card between C and N;
- P : Pass, no card is exchanged;

Before you have to start the software *cdrom* : `\TTTTTransform\Transform.exe` and then press the menu File → Open in order to select the output files. In order to select more than one file, press CTRL while you click on the name of the files. Remember to select only the CK files otherwise you have the data doubled.

You can save the data with the command in the menu File → Save.

We show as an example a game with 3 hands and two pairs.

3H 2C 2H 4C 4H 3C

TUUT

TNPCNNUCUCTNNTUTCCUP

3C 2C 4H 4C 2H 3H

TNCT

TNCT

3H 3C 2H 2C 4C 4H

CUCT

PUPT

2.3 The analysis of the data with Nemik

With the software *nemik* we can do a series of analysis on the data of a TTT experimental session.

2.3.1 TASK 1: Observe how participant played

1. With File → Open load the raw data

2. The data are shown on the right part of the window
 - (a) under the letter N we find the number of the current hand;
 - (b) to the right there is the card layout of the board:
 - i. C: card to the right of Colorkeeper
 - ii. CK: Colorkeeper card
 - iii. UP: Card between C and N, to the right of Target
 - iv. T: goal position, the 2H must be placed here
 - v. N: card to the right Numberkeeper
 - vi. NK: Numberkeeper Card

Questa disposizione delle carte è osservabile anche nella parte sinistra del software, osservando direttamente le carte
 - (c) in the box we find how pair played, each line represents a single pair
3. To change hand, press the blue button.

2.3.2 TASK 2: Observe how a pair played a single hand

1. Doubleclick on the desired pair on the right of the window
2. The moves will appear on the bottom left of the windows, this means that we are analyzing that moves
3. Press the button avanti (next) and the card is surrounded with a blue line and we go to the next move

2.3.3 TASK 3: Classify the hands

The hands could be classified with the style 422 or 442.

1. With File → Open load the raw data
2. With Analysis → Classifier all the hands are classified and the file output is Amik.doc
3. You can load Amik.doc in Excel. With the xls file you can count the hands played with a style, make some graphs of the distribution of a particular style and so on.

2.3.4 TASK 4: Play the hands with Automa

1. Load the hands you want to play with the menu File → Open
2. With File → Rules load the rules of the artificial player
 - (a) Select the files of the rules for Ck and Nk
 - (b) Press Ok button when finished

3. Press the button Artificial Player to play a single hand with the rules loaded
4. Press Analysis → Artificial to play all the hands
 - (a) Insert how many times the computer plays each hand
 - (b) The output is saved in the file Automa.txt
 - (c) Load in Excel Automa.txt in order to analyze the data

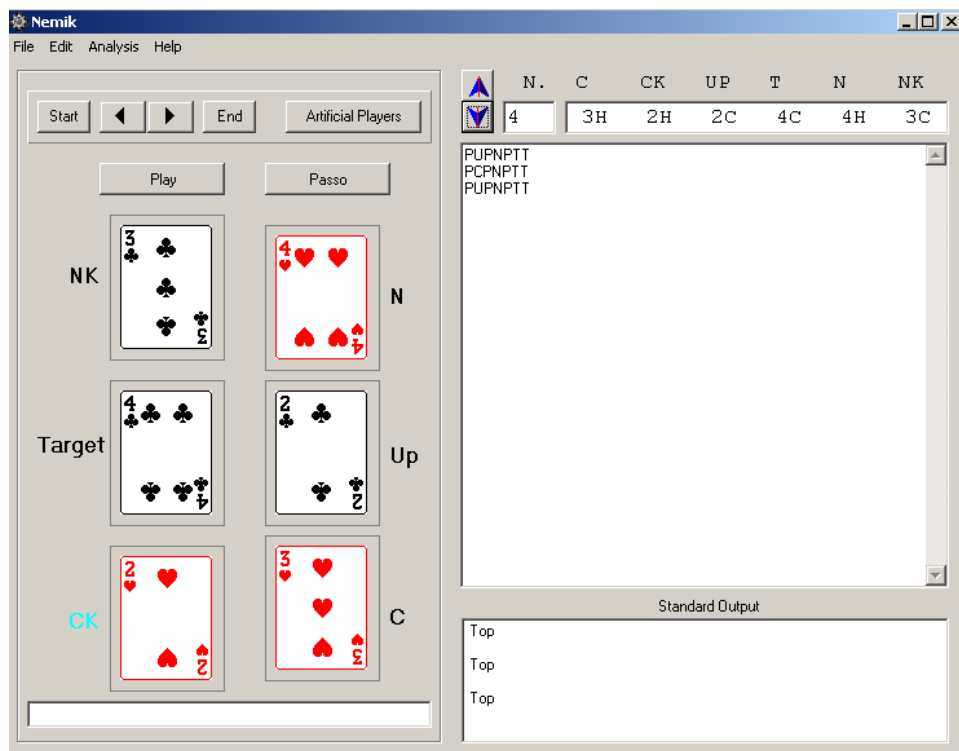


Figura 1: Il programma Nemik.

3 Other versions of TTT game

In this cd there are also 2 version where the game TTT could be played alone.

3.1 TTT with artificial player

TTT with artificial player is played by a human subject and by the computer as partner.

1. Create a folder $c : \backslash TTT$ on each computer
2. Copy the files from $cdrom : \backslash TTT \backslash TTTArtificial$ to $c : \backslash TTT$
3. Modify the file TTT.ini, change the parameter ShoeFileName and insert the file name of the board (game422.sho o game442.sho)

4. Artificial player use the rules that are written in the file regole.txt
5. The output file is the same of the original TTT

3.2 TTT with one player

In the version called solo, the player plays the two roles. First plays as colorkeeper and the as numberkeeper an so on.

1. Create a folder *c* : \TTT on each computer
2. Copy the files from *cdrom* : \TTT\TTTSolo to *c* : \TTT
3. Modify the file TTT.ini, change the parameter ShoeFileName and insert the file name of the board (game422.sho o game442.sho)
4. The shoe file has at the end of each line a parameter that shows which role begins
5. The file *cdrom* : \TTT\TTTSolo\TTTSoloRoveschio.exe switch the layout of the board
6. The output file is the same of the original TTT

4 Sample Data

In the folder *cdrom* : \TTT\SampleData there are the files of the experiment Unitn3. It was 2 sessions with 30 pairs eachone, and one group is with ShowFile 422 and the other 442. The data are ready to use with the software Nemik.r le analisi col programma Nemik.

5 Working Papers

In the folder *cdrom* : \TTT\Paper there are the following working papers:

Massimo Egidi, (2003) Decomposition patterns in problem solving. CEEL Working Paper 3-03.

Massimo Egidi , (2002) Biases in human behavior. CEEL Working Paper 5-02.

Massimo Egidi and Luigi Marengo, (2002) Cognition, institutions, near decomposability: rethinking Herbert Simon's contribution. CEEL Working Paper 6-02.

Massimo Egidi , (2002) Rethinking bounded rationality. CEEL Working Paper 12-02.

Nicolao Bonini and Massimo Egidi, (1999) Cognitive traps in individual and organizational behavior: some empirical evidence. CEEL Working Paper 4-99.

Massimo Egidi, (1995) Routines, Hierarchies of Problems, Procedural Behaviour: Some Evidence from Experiments. CEEL Working Paper 3-95

6 Utility

In the folder *cdrom* : $\backslash TTT \backslash Utility$ there are some Excel files that can be used as example of analisys of a experimental session.

Indice

1	CD content	1
2	The TTT game	1
2.1	Software setup	1
2.1.1	Server setup	2
2.1.2	Client setup	2
2.1.3	An experimental session	2
2.2	Transform the data	2
2.3	The analysis of the data with Nemik	3
2.3.1	TASK 1: Observe how participant played	3
2.3.2	TASK 2: Observe how a pair played a single hand	4
2.3.3	TASK 3: Classify the hands	4
2.3.4	TASK 4: Play the hands with Automa	4
3	Other versions of TTT game	5
3.1	TTT with artificial player	5
3.2	TTT with one player	6
4	Sample Data	6
5	Working Papers	6
6	Utility	7