

Serious games with kids: cows on magic field



V. A. Trapeznikov Institute
of Control Sciences

The model

Simplified utility function $u_i = (S - X)x_i$,

i - index of player,

S – size of field (12 for three players),

X – total number of cows on field,

x_i -number of cows for player i .

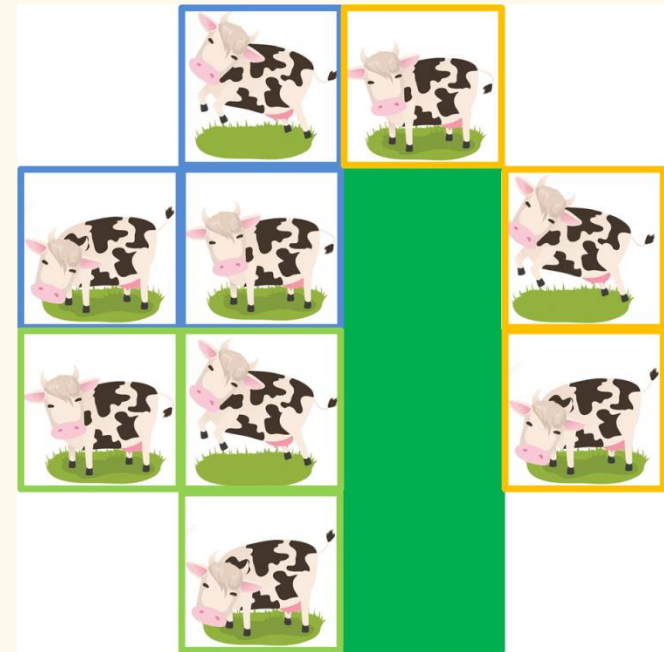
Incentives in game were realized via fruit marmalade

Training games 1-3

Control games with payments:

3 groups of three players – two games

All participants with maximal total outcome from one field represent one player in final game



Results



Results of first sessions (7 games) shows that kids can:

- solve simple optimization problems - utility maximization
- understand problem of interaction between them

Exhibit different behavioral models:

- *cooperative behaviour* - maximizing utility of whole group
- *individual rational behaviour* - utilizing best response strategies
- *altruistic behaviour* - playing zero cows in order to transfer all utility to other members
- *complex reflexive behaviour* - forecasting behaviour models of other players

Имя игрока:	Исмаил Кома		
Цвет игрока:	ОРАНЖЕВЫЙ		
Поле:	Зеленая поляна		
игра	коровки	свободное место	мармелад
N 1	3	3	9
N 2	3	3	9
N 3	3	3	9
N 4	2	5	10
C1	2	6	12
C2	2	6	12
			24

