ODD For Bahria cafe model V3

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1 Purpose

The purpose of this model is to design the student cafeteria for Bahria university students where both the male and females come in cafeteria; where there are some rules for students 1. That they come in cafeteria. 2. Sit on the chairs. 3. Both the male and female should not be on same sides sitting. 4. Order eating items 5. Leave after random time. In this model the student behavior is checked if they follow the rules or not so we can understand the behavior of students etc.

2 State variables and scales

The different agent-sets have been used in this model as below

S.no State variables and scale Description

1 turtles Different Turtles : male students female students ,waiters etc.

2 patches Used to create tables , chairs and counter service etc.

3 monitors Used to show total number of different gender of students and seating etc

4 sliders Use for initial number of turtles etc. to create.

3 Process overview and scheduling

As the setup button is clicked the model run. Cafeteria for students is created with number of tables and seats and two counter services. Both male and female students come and in cafeteria. Students are directed to follow some rules, they move to tables and sit on different tables. No same gender sits on the same side of tables. They order food items, eat and after random amount of time they leave.

4 Design Concepts

4.1 Emergence

The students form an emergent behavior when they comes and sit on same side of the table and then move again to different sides as they are not allowed to sit on the same side.

4.2 Adaptation

The male and female students improve their understanding by their same gender for sitting on the different sides of tables

4.3 Fitness

The fitness of the model to implement is that by which we can understand the student behavior with different gender act in cafeteria.

4.4 Prediction

The students predict their seating plan in the cafeteria where they should sit in.

4.5 Sense

The students sense the different gender that are not same and make decision to sit on another side of the table.

4.6 Interaction

The students with different genders interact with each other while sitting on the same tables, they also interact with waiters for ordering food items.

4.7 Stochasticty

Successful sitting of different gender students on same side respectively, order food and leave after random time.

4.8 Collectives

The different number of male and females student comes in cafeteria and they order food item to eat and then leave.

4.9 Observation

In this model different data is analyzed by running the simulation , and observe different average serving time, average waiting time and distribution of different genders.

5 Initialization

Fists I created cafeteria table chairs and counter services etc. then created students with different genders and then give command instructions for each agents what to do.

6 Input:

For this model no external data is input. Different inputs and command are given inside model to move towards tables , not to sit on same side of table etc.

7 Sub models

7.1 Order food item:

Different students order food item.

7.2 Leaving:

after eating food item student leave.