**The ODD Protocol for Model v2:**

**Overview:**

1. **Purpose**

This model is designed to demonstrate the real-time university cafeteria environment. So that we can examine the actual situation and handle expected issues.

1. **Entities, state variables and scales**

Agents:
 Males

Females

Servers

1. **Process overview and scheduling**

Students including males and females will enter cafe and sit down on available and selected table by walking between tables. No male and female will be seated together. They will be seated in opposite direction on the table. The students will leave the cafe after random interval of time.

Students will give orders at counter and then come back to their sitting positions. Then Students will go back for picking up their orders after an estimated time. Average serving time by counter is adjustable through slider. The value of gender ordering slider will determine what percentage of Males and Females will give orders.

**Design Concepts:**

1. **Emergence**

The arrival of students, their seating around tables by passing through specific area and their departure will generate amazing Emergent Patterns.

The phenomena of giving orders and then again picking by students from counters will also generate Emerging behaviour and will depends upon values of “Average Serving Time” and “Gender Ordering” sliders.

1. **Adaptation/Adaptive Traits?**

Fitness of agents will depend upon their performance as per decided rules within model.

1. **Prediction**

Agents will predict results of their decisions by learning.

1. **Sensing**

Agents are assumed to know their location while taking decisions.

1. **Interaction**

Agents (Students including Males and Females) will cooperate with each other while sitting on the Same Table as they must sit in an opposite direction.

Agents (Servers) will cooperate with Students by taking orders and delivering them the right dishes.

1. **Stochasticity**

The movement and sitting of agents will be randomly decided and they will be seated for a random time.

1. **Collectives**

Groups of same nature or different nature will be formed depending upon their natural linking.

1. **Observation**

Date will be collected through behaviour space of multiple executions of the model for analysis.

**Details:**

1. **Initialization**

Initially

* 50 Males and 50 Females will be ready to enter Cafeteria at t=0.
* Average waiting time will be 10 minutes.
* Average serving time will be 5 minutes.
* The value of gender order slider will be 50%.
1. **Input Data**

Number of Males and Females along with value of 3 other sliders can be inputted by user.

1. **Sub-models**

There is only One main model.