# Goals of the project

## Patterns

Understand agents' behavior

## Segregation

Interesting phenomenon, understand how it can arise

## Physical barriers

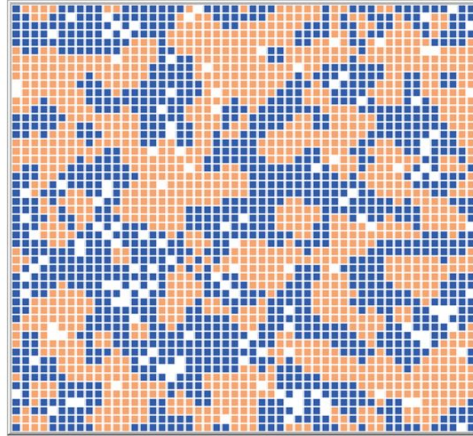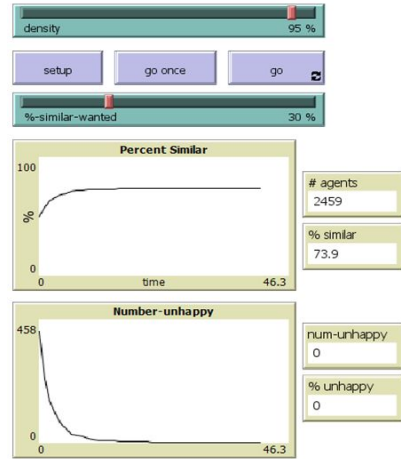Add to model physical obstacles and see how it influences model

## Size

Add agents with different size

# Main features - agents

**Agents**
People living in community
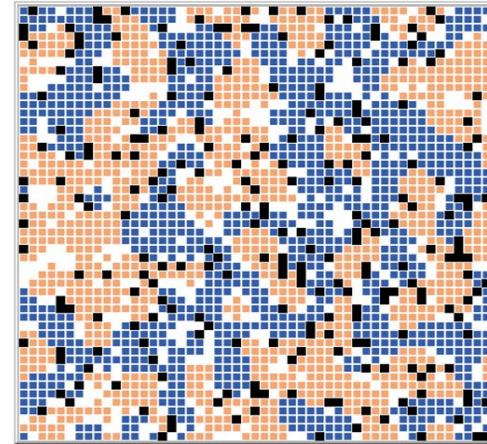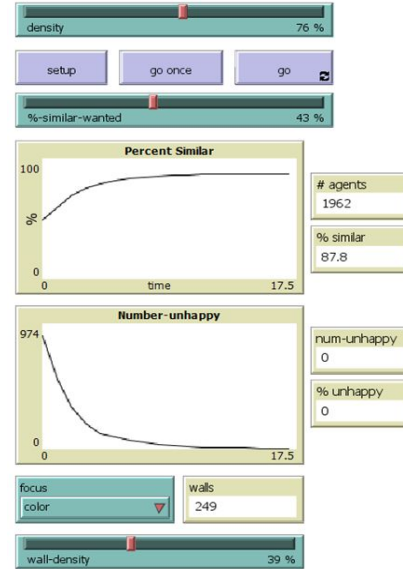
**Representiation**
Agent could represent gender, age, color...

**Output**
Agents could be happy or unhappy

**Parameters**
Density, % of similar wanted

**Barriers**
Agents must consider physical barriers

**Choosing agent**
Color or size

# Interface



**Before**

**After**
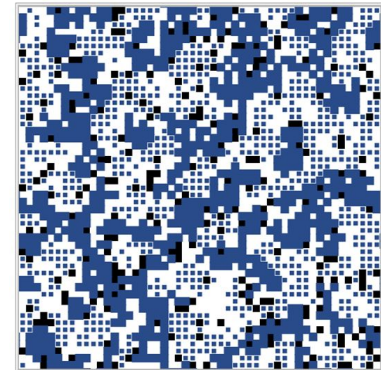
# Flowcharts

*What is going on in model?*



**Left flowchart:**

Start → If all agents are happy? — Yes → End of simulation

If all agents are happy? — No → Find randomly chosen patch → If the patch are occupied? — Yes → Find randomly chosen patch

If the patch are occupied? — No → Move the agent to the patch → (back to If all agents are happy?)

**Right flowchart:**

Start → If agents are based on size or color? — Size / Color → If all agents are happy?

If all agents are happy? — Yes → End of simulation

If all agents are happy? — No → Find randomly chosen patch → If the patch is physical barrier? — Yes → Find randomly chosen patch

If the patch is physical barrier? — No → If the patch are occupied by agent? — Yes → Find randomly chosen patch

If the patch are occupied by agent? — No → Move the agent to the patch → (back to If all agents are happy?)

# Process of modification



**Size**

Add another type of agent

**Walls**

Add walls to the model

**Patch**

Agent must choose patch that is not occupied by another agents or wall

**Wall density**

Add and measure wall-density parameter
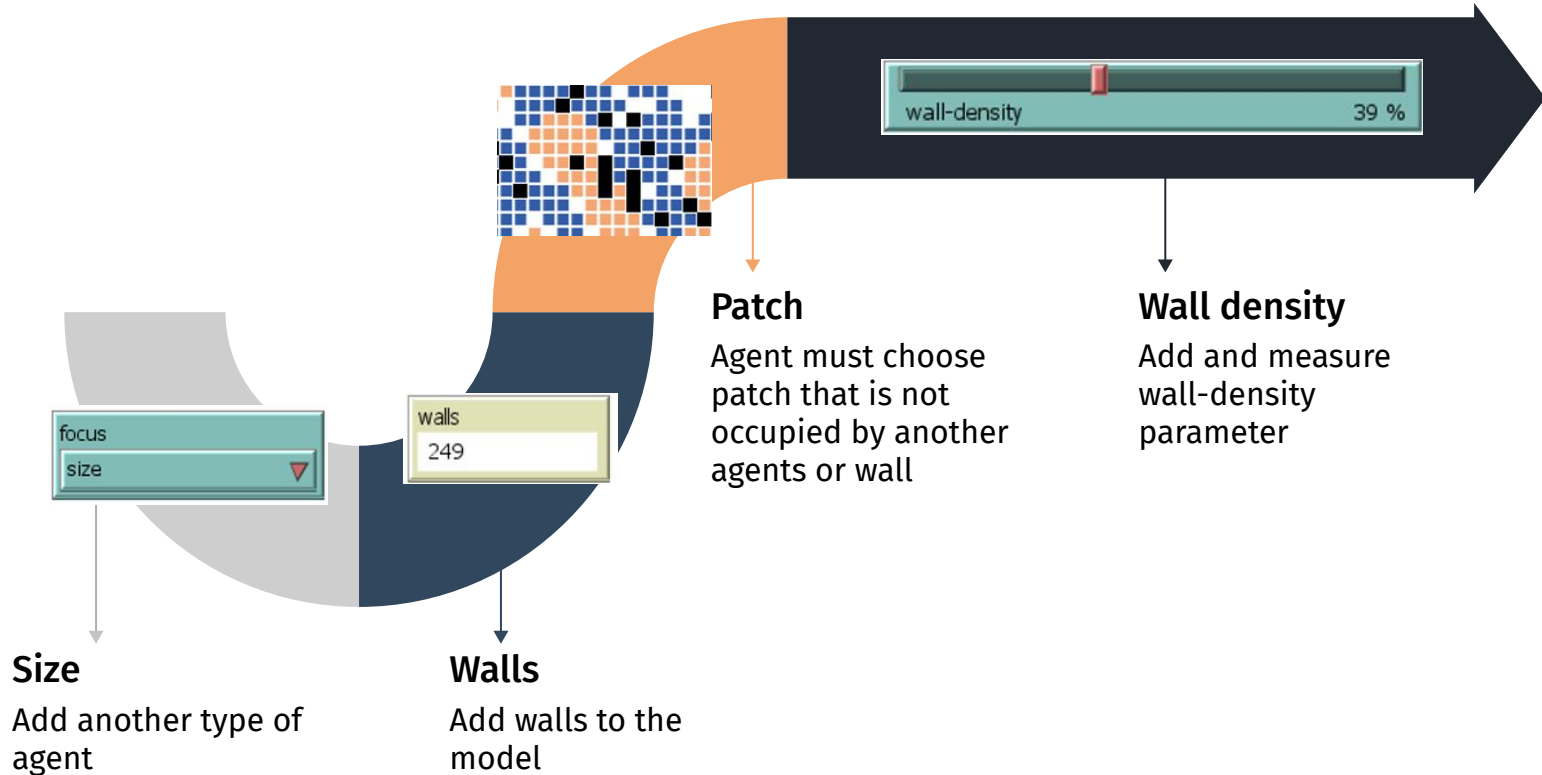
# Experiment
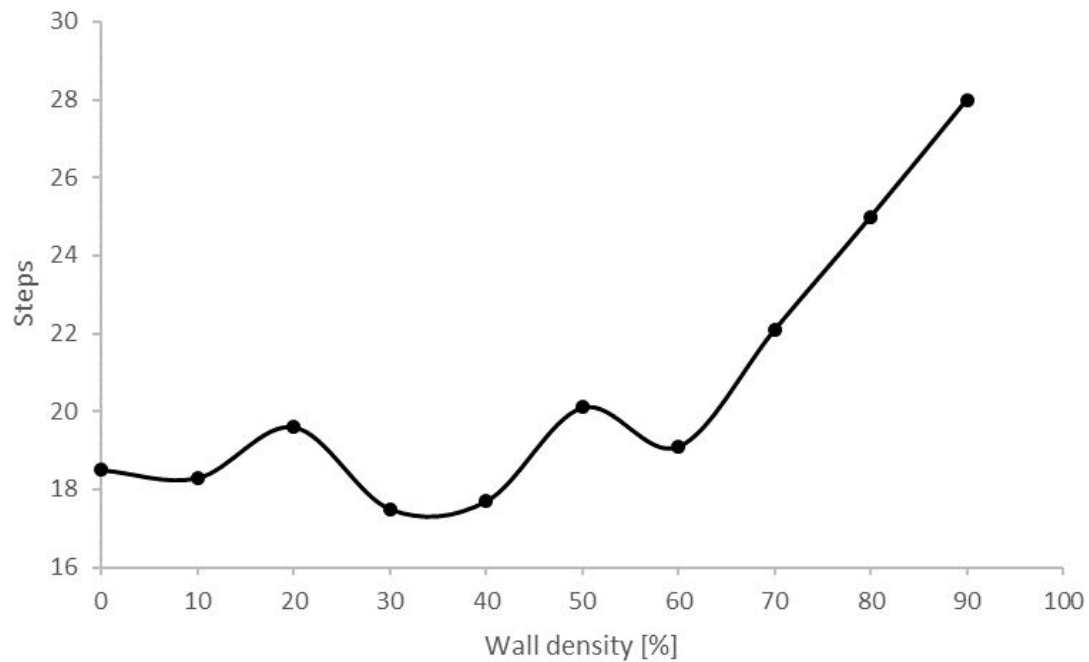
# Conclusions



**Time**
Walls in the simulation increase simulation time.

**Infinite way**
Higher wall density can lead to infinite simulations and difficulties in agent segregation.

**Either size or color**
Regardless of size or color, walls slow down the simulation and impede agent separation.

**Segregation**
The number of walls directly affects the speed of agent segregation.