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EECS 372 – Uri Wilensky

Progress Report 2

This is a very rudimentary start to the model. I have people trying to get to an exit, sort of…

**Agent Behavior**

I pulled in the herding behavior from the Flocking model, which lets people move in groups if they cannot see the exit. I tried to prevent people from colliding by adding a simple check, but it causes people to get stuck a lot of the time. I tried to do a similar thing for walls, which doesn’t work perfectly either.

**System Behavior**

It’s nice to see people moving toward the exit or flocking if they cannot see it. It’s also cool to see actual blocking happening, although it doesn’t work very well. When large groups of people are exiting through the door, I’ve also noticed that people are forced to wait before they can make it through the door. So some elements of the model are sort of coming together, but there is a lot to fix.

**Questions**

* What’s a good way to deal with collision? I am currently using `any? other turtles-here`, but doesn’t that just check if there are other turtles on the same patch? I don’t think this prevents turtles from moving through each other. In addition, I couldn’t think of a reasonable response turtles should have in case they do collide. Maybe they should just continue attempting to move in the same direction, with some small probability of moving in a totally different direction?
* Right now, flocking groups who don’t see the exit sort of roam around and bounce off walls. I don’t think bouncing off walls makes much sense. Maybe once they see a wall they should sort of just follow along it instead of going all the way up to it?

**Next Steps**

* Fixing collision and tuning people behaviors
* Pathfinding has not been implemented, since for now, the building is just an open room. I was thinking maybe something like A\* search. With pathfinding, each person’s heading would also be more accurate. (Sometimes people get stuck in walls since they are trying to travel a straight-line distance to the door).
* Multiple building types

**Model Analysis**

Even though the model is super broken, there was still some interesting observable behavior. Occasionally, if people are not getting stuck on walls or each other, the crowding effect, especially around the door can be seen. This gives me some amount of confidence in the project, even if it’s not really working properly yet at this stage.