

# Final Project Overview

## Goal

The goal of the project is to design, implement, and evaluate a substantial agent-based model of an emergent phenomenon that is of interest to you.

## What's Due

- Completed NetLogo model/s
- A final paper/report
- A set of slides for your final presentation (aim for 2.5 minutes, no longer than 3).
- A poster for the poster fair

## Details

### The Model

1. The code should be readable (e.g., well structured, well written, and well commented) and close-to-understandable by a person who is becoming familiar with NetLogo.
2. The Info tab should include all the main parts in the NetLogo library models. It should succinctly and accurately describe the phenomenon being modeled. A reader who does not have any background in the subject should be able to at least garner some understanding of what is going on.
3. The interface should be *intuitive* and it should be possible to use the model (at least tinker with it) without having to refer to the Info tab immediately.

### Additional Programming Requirement for 400 level students

400 level students must also choose one of the following:

1. Create a **HubNet** activity that complements the NetLogo model
2. Create additional **related, but distinct models**
3. Incorporate some other **advanced** NetLogo feature (such as interfacing with hardware or using the LevelSpace extension) into a complementary model
4. Design and implement an **extension** for NetLogo (written in Java or Scala using the extension API)

### Final Paper/Report (Minimum 10 pages, double-spaced)

This is the final "evolution" of the document that starts as your Final Project Design Proposal which we will discuss in detail next week. The final report should include all of the same information that the proposal contains (big picture overview, description of what can be learned, motivation/rationale for the project, description of rules/model implementation), but it should be polished and also contain substantial sections describing your results and analysis of the model.

There are three major forms your analysis can take. Choose what seems most applicable:

- **Exploration of parameter space and possible regimes**
  - BehaviorSpace and/or other tools may be used for this.
- **Comparison with real world data / reference pattern**
- **Empirical analysis**
  - Report on an actual case of someone (or some group) actually using your model. This is the preferred method of analysis for HubNet models.

**Note:** 400-level student papers are expected to be both more grounded in the relevant academic literature and more rigorous/extensive in the model analysis, at a standard that could put it on a trajectory towards publication.