Plan:

- Recap Procedural Elements
- Recap last lecture: Games / Tags / Fun
  As a way of getting towards project 1

- PI partners if survey
- assignment
- readings
  javascript readings / pragmatics

Simulation Basics
Flocking Ideas (Distributed AI)
Experiences

Objects that create them

Game (vs. what is a good game)
Toy (vs. what is a good toy)

Fun / Play

Game Design: the art of getting people to do stuff that isn’t required
Engineered Experience – where the experience is what is trying to be achieved
where the participant is actively involved + safety

Toy = participant makes their own fun using the toy

Relate to Project 1

META: Designer

Set of Experiences I want you to have = by doing
A formal system set up to cause you to have those experiences

But = Lack of safety (real consequence)

As a Toy –
Tinkering is part of game programming
Tinkering with a simulator is fun
⇒ it’s a toy ⇒ change stuff, see what happens
Simulator is a toy (fun to watch, turn dials, …)
Simulator project is a toy (for me)

How do I get you to experience that?
Why this?
- great thing to tinker with
- simple pieces, do surprisingly cool things
- really does get used (simple, A-Z)
- gets at some basic issues
  scalability, simulation,...

What is this? State Model
  (see flocking) State Updates

Simulation / Model
Physics (?) (in 2D plane, fully damped)

Time Continuous → bird, plane, fish, triangle
  where does "particle" go

Computers: time is discrete
World: time is continuous - close eyes, world
  keeps going

sim time →
clock time →
frames: 1 1 1 1 1
sim steps: 1 1 1 1 1 1 1 1

fancy games: decouple frames / sim steps
asynchronous
NAIVE STEP MODEL
- assume velocity is constant over step

BAD IF:
  Non Linear
  - what direction should I go to go around circle
  Events During Step
  - hit wall

Not so BAD IF:
  Small Steps
  Corrective Actions (know outcome)
  Deal w/ Problems

Penalty Methods
  Fix Problems AFTER they happen
  Stiff spring pushes things back
  Impulse = move, not adjust velocity

Back to Floching
Q1. Rules  (formal system)
Q2. Variable and Quantifiable Outcomes
Q3. Valorization  (care)
Q4. Player Effort  (interactive)  (meaningful choices)
Q5. Player Attached to Outcome
Q6. Negotiable  (safety)

Schell Questions
Q1. Games are entered willfully.
Q2. Games have goals.
Q3. Games have conflict.
Q4. Games have rules.
Q5. Games can be won and lost.
Q6. Games are interactive.
Q7. Games have challenge.
Q8. Games can create their own internal value.
Q9. Games engage players.
Q10. Games are closed, formal systems.

Schell Definitions:
• Fun is pleasure with surprises.
• Play is manipulation that satisfies curiosity.
• A toy is an object you play with.
• A good toy is an object that is fun to play with.
• A game is a problem-solving activity, approached with a playful attitude.