THM Content Design Document
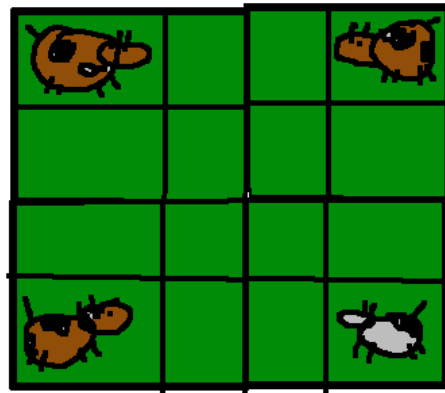
Title: Commons Simulator
Course: GEOG 2030
Due date:
Instructions Text: See an animation of the Tragedy of the Commons, then simulate 3 solutions.
Learning outcomes: Understand the idea behind the the Tragedy of the Commons
See how the original 2 solutions fix this problem (government coercion and private property)
See how Common property theory solves the issue.
Explore mode: Yes. See below.
Special Considerations: the video below quickly summarizes the ideas behind this demo
http://www.youtube.com/watch#!v=EZFkUeleHPY&feature=related
Professor sign-off: **Date:**

Title text block

You are fielding cows on an open access common ground. You and the others can increase the number of grazing cows, with an aim of maximizing your gain. Use the button and read along with the text box.

Control Panel

Ready

Increase # of Cows

TEXT BOX

Description: A field is present with 4 cows. 1 is white, the rest are brown. The field is a 4x4 grid.
There is a panel that has a button labelled "Increase # Cows".

The text box on the bottom will read the status of the game, as described below.

If the student clicks Increase # Cows, 1 white cow appears, in addition to 3 brown cows.
Just 1 cow can occupy each space.

The textbox has text that varies. It says if the students' profits are low, medium, or high.

If the number of white cows is 1, the text says "Your profits are low."
If the number of white cows is 2, the text says "Your profits are decent."
If the number of white cows is 3, the text says "Your profits are high."
If the number of white cows is 4, the text says "Your profits are very high! But wait…"

3 or 4 seconds after adding the 4th white cow, the cows all fade away, and the green spaces turn brown.

The textbox changes to "The resources have been exhausted. Click reset below to play again, or Ready on the right to move on."
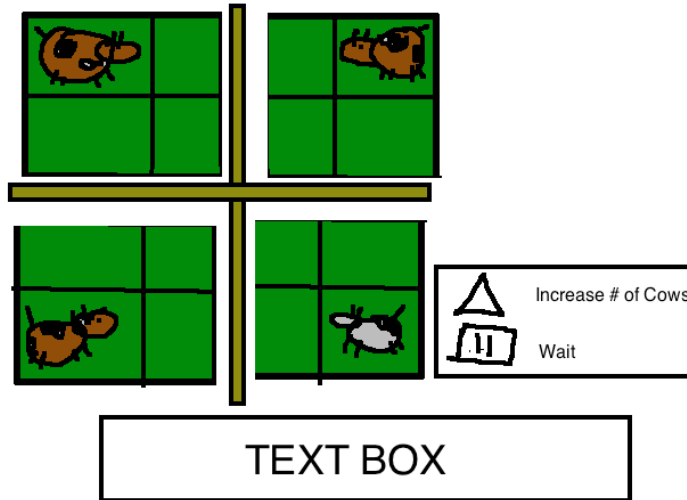
The student can now press Ready any time.

Progress Bar	Title text block

In this scenario, you and your neighbours have private property. Try to maximize your profits, but don't exhaust your resources! Press Submit when you have your fields set to the maximum sustainable profit.

Control Panel

Submit

Increase # of Cows

Wait

TEXT BOX

Description: This is the same scenario as last time, but there is a fence separating the fields. In this case, every time the student presses a button (increase), a brown cow appears in each of the 3 brown cow fields. When the student presses Increase # of Cows, 1 new white cow appears in the white cow field.

If the student clicks increase # of cows when they already have 3 cows in their white cow field, the 4th white cow appears, no brown cows appear, and then after 3 or 4 seconds, the white cows fade away and the student's corner of the field turns brown. The other corners do not. The textbox reads "The resources have been exhausted. Click reset below to play again."

If the student presses submit when the number of cows in the field is 3, they are correct. If the student clicks submit under any other conditions, they are incorrect.
Textbox still reads the profits.

Correct answer Animation: The text box reads "Good. Everyone is responsible for the sustainability of their own land."

Incorrect answer Animation: the text box reads "You could gain more profit by increasing the number of cows in your field."
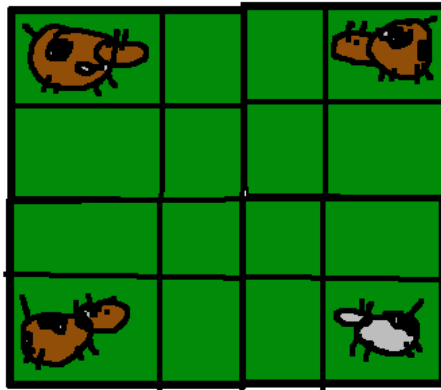
"Show Answer" animation: The number of cows sets to 4, and the textbox reads "Everyone is responsible for the sustainability of their own land."

Progress Bar	Title text block

The Tragedy of the commons can also be averted by Government Coercion. This involves a forced maximum use of resources for each user. Once again, try to maximize your profits, then submit.

3 Cows Max!

Control Panel

Submit

Increase # of Cows

TEXT BOX

Description: This is the same as the explore mode, except for the following –

The student can add cows until there are 3 white cows, then they cannot click the increase button anymore.
There is a poster on the top right that says "3 Cows Max!"

The student is correct if they press submit when they have 3 cows.
Textbox still reads the profits.

Correct answer Animation: The text box reads "Good. The government has limited the amount of resource use."

Incorrect answer Animation: The text box reads "You could gain more profit by increasing the number of cows in your field."

"Show Answer" animation: The number of cows sets to 9 brown and 3 white cows. The text box reads "The government has limited the amount of resource use."

Question # 3   out of 3

Title text block

There is another solution available, predicted by Common Property Theory. It states that resource users can self regulate, as long as they can communicate. Try to increase your profits, without exhausting your resources.

Control Panel

SPEECH
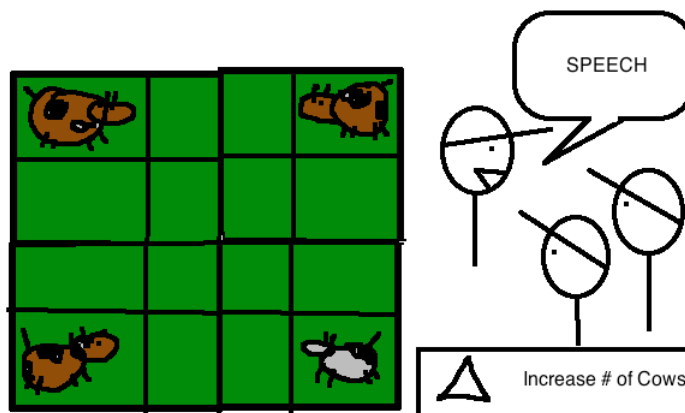
Submit

Increase # of Cows

TEXT BOX

Description: This is the same as the explore mode, with some small changes.

If the student clicks increase number of cows when there are 3 cows already on the field, a 4th appears, but no Brown cows appear.

A picture of 3 people, with one speaking is speaking in the top right corner. The speech differs depending on how many white cows are in the field. Textbox still reads the profits.

When there is 1 white cow, the person says "Hi Neighbour. We have plenty of space for our cows!"
When there are 2 white cows, the person says "Hmm, there's still space left, but we don't want to overdo it."
When there are 3 white cows, the person says "We won't add cows if you don't! Let's agree to have 3 each."
When there are 4 white cows, the person looks angry and says "You're being irresponsible. Click here and we'll help you remove a cow."

If the student clicks on the speech bubble, it goes back to 3 cows each. The student can't add

more when there are 4 white cows.

The student is correct if they have 3 white cows out. They are incorrect if they have fewer than 3 white cows out. They cannot submit if they have 4 white cows out.

Correct answer Animation: The text box reads "Good. Through communication, the group is sustainable."

Incorrect answer Animation: The text box reads "You and the others could make more profit."

Incorrect submission hints:

"Show Answer" animation:

Quality Checklist:

OS and Browser Compatibility:

OS System	Firefox	Chrome	Safari
Windows			
Mac OSX			
Linux (Ubuntu)			N/A

NOTE: All demos must display each question properly for each OS/Browser combination.

Server Compatibility:

Description:	Checklist
SWF can run as a standalone file off the server with no errors.	
While in offline mode the submit button uses server simulation	
While on the server the SWF can and transmit and receive data	

Demo Controls:

Description:	Checklist
User can traverse back and forward through questions without glitches	
User can reset at any time and question state will revert back to beginning state	
No cases of wrong answers marked as right	
No cases of right answers marked as wrong	
When the user presses the answer button the answer animation plays	
While an answer animation is playing the curtain is visible	
(Microstep) User can traverse back and forward through microsteps without glitches	
(Microstep) Reset sets the microstep back to 1 and reverts back to beginning state	
(Explore mode) The user can return to explore mode at any time	
(Explore mode) The user can return back to the last question from explore mode	

Miscellaneous Checks

Description:	Checklist
All interaction objects have the mouse cursor change to a hand while over object	
All fonts are Times New Roman, Helvetica or Futura	
Instructions text is appropriate **and written**.	
Demo title is appropriate **and written**.	