



AgentBase



A Simple Model



Implementation



Questions



AgentBase: Agent Based Modeling in the Browser

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Share Models Library Docu

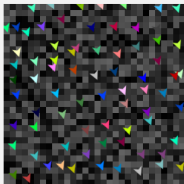
AgentBase

Agent Based Modeling (ABM) in the browser

AgentBase

AgentBase.org allows you to do Agent Based Modeling (ABM) in the browser. You can edit, save, and share models without installing any software. Models are written in Coffeescript and use the AgentBase library.

Two models running in the browser.



Models

These models have been created and shared by people like you.

[Template - AgentBase examples](#)

[Advanced Template - AgentBase examples](#)

Documentation AgentBase on GitHub

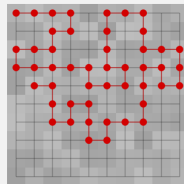
AgentBase

Agent Based Modeling (ABM) in the browser

[Login with GitHub]

Agent Based Modeling (ABM) in the browser. You can edit, save, and share models without installing any software. Models are written in Coffeescript and use the AgentBase library.

Two models running in the browser.



Created by people like you.



AgentBase

Allows you to easily share ABMs

- No software or plugins to install
- Runs directly in the browser
 - all major browsers (IE, FF, Chrome, ...)

Models written in

- CoffeeScript (or Javascript)

You can edit models

- As you run them
 - from the same screen



AgentBase: Edit Screen

Share Models Library Documentation AgentBase on GitHub

Model on GitHub [Login with GitHub]

```

1 # AgentBase is Free Software, available under GPL v3 or any later version.
2 # Original AgentScript code © 2011, 2014 Owen Simons and Ralfbierkawa LLC.
3 # AgentBase (C) 2014, Wybo Wiersma.
4
5 # This model shows the basic structure of a model and is a good
6 # place to get started when you want to try building your own.
7
8 # To build your own model, extend class ABM.Model applying the
9 # two built in methods 'setup' and 'step'.
10
11 # 'wigo' signifies a variable or method that is part of the Model
12 # class.
13
14 # Note how this example uses CoffeeScript directly within the
15 # browser via [text/coffeescript tags](http://coffeescript.org/scripts):
16
17 w = ABM.Util # shortcut for ABM.Util, some tools
18
19 log = (arg) -> console.log arg # log to the browser console
20
21 class ABM.TemplateModel extends ABM.Model
22   # Initialize our model via the 'setup' method. This model simply
23   # creates a population of agents with arbitrary shapes on a grid
24   # of patches colored in random shades of gray.
25   setup: -> # called by Model constructor
26     # when agents move, they will wiggle. This sets the
27     # degrees/returns to wiggle, which is used further below.
28     @wobble = u.degreesToRadians(10)
29
30   for patch in @patches.create()
31     patch.color = u.randomGray()
32
33   for agent in @agents.create 25
34     agent.size = 3
35     agent.shape = u.shapes.names().sample()
36
37 # Update, or run our model for one step, via the second built in
38 # method, 'step'.
39
40 # The agents wiggle, and move forward.
41
42

```

Snippet



Save as New Save Run Model Code! Step Pause/Resume Restart

The AgentBase library is Free Software (GPL).
AgentBase.org is by Wybo Wiersma.

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A Simple Model

Models only need to implement two methods

- `setup()`
- `step()`

Models are written in CoffeeScript

- which you can use directly in an html page with

```
<html><head>  
  <script src="agentscript.js"></script>  
  <script src="coffee-script.js"></script>  
  <script type="text/coffeescript">  
    ...  
  </script>
```



A Simple Model

```
class MyModel extends ABM.Model
  setup: ->
    @patches.create()

    for agent in @agents.create 25
      agent.shape = u.shapes.names().sample()

  step: ->
    for agent in @agents
      agent.forward()

new MyModel(div: "model").start()
```

Implementation

Uses

- HTML canvas
 - sprites, etc
- CoffeeScript library
 - for in-browser compilation of CoffeeScript
- ACE editor
 - for code editing
- GitHub gists, mini-repositories
 - for storage of models
- NodeJS + Mongo
 - for keeping a list of models

Questions

Any **questions** / comments?

Site: <http://AgentBase.org>

