

EE 422C - Project5 Critters 2

This project provides a GUI for simulating the life of various critters in Java.

Getting Started

These instructions will get you a copy of the project up and running on your local machine for development and testing purposes.

Prerequisites

- [Java SE](#)
- [JavaFX](#)

Installing

Linux

1. Navigate to where you want the project
2. Clone repository: `git clone https://github.com/atchisonbrent/EE422C-Project5.git`
3. Move to source folder: `cd EE422C-Project5/src/`
4. Compile: `javac assignment5/*.java`
5. Run: `java assignment5.Main`

Class List

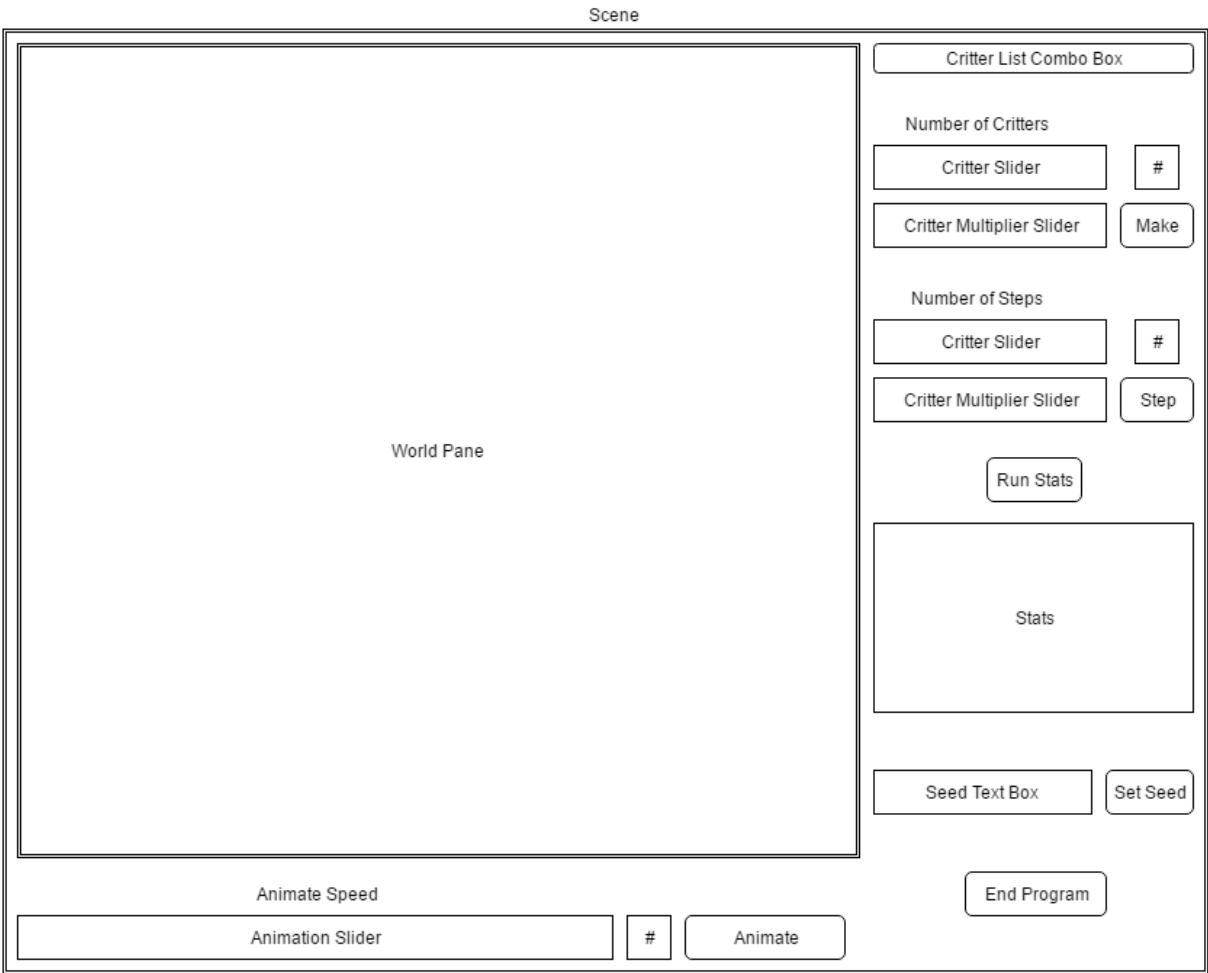
- Main.java
 - Sub-Classes:
 - AnimateTimer
 - timesteps : int
 - AnimateTimer(int)
 - handle(long) : void
 - Console
 - output : TextArea
 - Console(TextArea)
 - write(int) : void
 - TextField
 - replaceText(int, int, String) : void
 - replaceSelection(String) : void
 - ChangeListener
 - changed(ObservableValue<? extends Number>, Number, Number) : void
 - EventHandler
 - handle(ActionEvent) : void
 - Fields:
 - myPackage : String
 - scene : GridPane
 - world : GridPane
 - controls : VBox
 - screenSize : Dimension
 - critterList : ComboBox
 - timeline : Timeline
 - makeAmtLabel : Label
 - makeMultLabel : Label
 - makeAmtPane : GridPane
 - makeAmtSlider : Slider
 - makeAmtMult : Slider
 - makeAmtVal : Label
 - makeButton : Button
 - stepLabel : Label
 - stepMultLabel : Label
 - stepPane : GridPane
 - stepSlider : Slider
 - stepMult : Slider
 - stepVal : Label

- stepButton : Button
- aniLabel : Label
- aniPane : GridPane
- aniSlider : Slider
- aniVal : Label
- aniButton : Button
- anibool : boolean
- aTimer : AnimateTimer
- statsContainer : VBox
- statsButton : Button
- stats : TextArea
- ps : PrintStream
- seedLabel : Label
- seedPane : GridPane
- seedButton : Button
- seed : TextField
- exitBox : VBox
- exitButton : Button
- circle : Circle
- square : Polygon
- triangle : Polygon
- diamond : Polygon
- star : Polygon
- winWidth : double
- winHeight : double
- chkcombo : boolean
- Methods:
 - main(String[]) : void
 - start(Stage) : void
 - runInit() : void
 - sceneConfig() : void
 - worldConfig() : void
 - worldClear() : void
 - comboConfig() : void
 - makeAmtConfig() : void
 - stepConfig() : void
 - aniConfig() : void
 - statsConfig() : void
 - exitConfig() : void
 - handlerInit() : void
 - togglePane() : void
 - screenListener() : void
 - shapeConfig() : void
 - seedConfig() : void
 - listOfCrittters() : void
 - updateCanvas() : void
 - stats() : void
- Input.java
 - Fields:
 - myPackage : String
 - Methods:
 - takeInput(Scanner) : void
 - printError(String[]) : void
 - printInvalid(String[]) : void
- Critter.java
 - Fields:
 - myPackage : String
 - CritterShape { CIRCLE, SQUARE, TRIANGLE, DIAMOND, STAR } : enum
 - population : List
 - babies : List
 - a : int[]
 - rand : Random
 - energy : int

- x_coord : int
 - y_coord : int
 - hasMoved : boolean
 - fighting : boolean
- Methods:
 - viewColor() : Color
 - viewOutlineColor() : Color
 - viewFillColor() : Color
 - viewShape() : CritterShape
 - getX() : int
 - getY() : int
 - look(int, boolean) : String
 - getRandomInt(int) : int
 - setSeed(long) : void
 - toString() : String
 - getEnergy() : int
 - walk(int) : void
 - run(int) : void
 - move(int, int) : void
 - reproduce(Critter, int) : void
 - doTimeStep() : void
 - fight(String) : boolean
 - makeCritter(String) : void
 - getInstances(String) : List
 - runStats(List) : void
 - clearWorld() : void
 - worldTimeStep() : void
 - displayWorld() : void
- Critter1.java
 - Fields:
 - dir : int
 - Methods:
 - Critter1()
 - toString() : String
 - fight(String) : boolean
 - doTimeStep() : void
 - viewShape() : CritterShape
 - viewOutlineColor() : Color
- Critter2.java
 - Fields:
 - dir : int
 - Methods:
 - Critter2()
 - toString() : String
 - fight(String) : boolean
 - doTimeStep() : void
 - viewShape() : CritterShape
 - viewFillColor() : Color
 - viewOutlineColor() : Color
- Craig.java
 - Fields:
 - GENE_TOTAL : int
 - genes : int[]
 - dir : int
 - Methods:
 - toString() : String
 - Craig()
 - fight(String) : boolean
 - doTimeStep() : void
 - runStats(List) : void
 - viewShape()
 - viewOutlineColor()
- Algae.java
 - Methods:

- toString() : String
 - fight(String) : boolean
 - doTimeStep : void
 - viewShape()
 - viewColor()
- AlgaephobicCritter.java
 - Methods:
 - toString() : String
 - fight(String) : boolean
 - doTimeStep() : void
 - runStats2(List) : String
 - viewShape() : CritterShape
 - viewOutlineColor() : Color
- Params.java
 - Fields:
 - world_width : int
 - world_height : int
 - walk_energy_cost : int
 - run_energy_cost : int
 - rest_energy_cost : int
 - min_reproduce_energy : int
 - refresh_algae_count : int
 - photosynthesis_energy_amount : int
 - start_energy : int
 - look_energy_cost : int
- InvalidCritterException.java
 - Fields:
 - offending_class : String
 - Methods:
 - InvalidCritterException(String)
 - toString() : String

Graphics



Critter Object

- Fields:
 - population : ArrayList()

- babies : List
 - energy : int
 - x_coord : int
 - y_coord : int
 - hasMoved : boolean
 - fighting : boolean
- Methods:
 - viewColor()
 - viewOutlineColor()
 - viewFillColor()
 - viewShape()
 - getX()
 - getY()
 - getRandomInt(int) : int
 - setSeed(long) : void
 - toString() : String
 - getEnergy() : int
 - walk(int) : void
 - run(int) : void
 - move(int, int) : void
 - reproduce(Critter, int) : void
 - doTimeStep() : void
 - fight(String) : boolean
 - makeCritter(String) : void
 - getInstances(String) : List
 - runStats(List) : void

Authors

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