

Class StatBar

java.lang.Object

greenfoot.Actor

StatBar

```
public class StatBar
extends greenfoot.Actor
```

New and Improved Stat Bar (Formerly Health Bar). This stat bar can be set to follow an Actor or stay in one place (see constructors). This stat bar may have customized colors, can hide when at full, and can have a customized border. This class aims to be as flexible as possible, allowing it to be simple to use for beginners (easy 0 or 2 parameter constructor) while also highly flexible for those who want to provide more specific parameters (multiple bars in custom colours and sizes with custom offsets and borders).

Implementation - If using multiple bars, all arrays must be the same size. To optimize the appearance choose a height such that:

(height - (borderThickness * 2)) % numBars == 0

In other words, after factoring out the border, the size should be evenly divisible by the number of bars, so that all bars end up the same size.

Version Notes:

- Now has a boolean to determine whether it will hide itself when Val is full.
- Now has a set of constructors to allow simple and complex implementation.
- 2.1.0 --> Added a border feature, allows customization of thickness and colour

Version:

2.1.0 - 2020 rewrite

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Constructor Summary

Constructors

Constructor	Description
StatBar()	Main constructor - A basic constructor that sets default values.
StatBar(int[] maxVal, int[] currVal,	

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<code>StatBar(int maxVal, int currVal, greenfoot.Actor owner, int width, int height, int offset)</code>	A simple constructor for a somewhat customized stat bar.
<code>StatBar(int maxVal, int currVal, greenfoot.Actor owner, int width, int height, int offset, greenfoot.Color filledColor, greenfoot.Color missingColor)</code>	Similar to above, but with the ability to customize colors
<code>StatBar(int maxVal, int currVal, greenfoot.Actor owner, int width, int height, int offset, greenfoot.Color filledColor, greenfoot.Color missingColor, boolean hideAtMax)</code>	Similar to above, but with the ability to have the bar hide when full - for example if you don't want full health bars shown.
<code>StatBar(int maxVal, int currVal, greenfoot.Actor owner, int width, int height, int offset, greenfoot.Color filledColor, greenfoot.Color missingColor, boolean hideAtMax, greenfoot.Color borderColor, int borderThickness)</code>	The most detailed constructor! Can specify a border including thickness and color.
<code>StatBar(int maxVal, greenfoot.Actor owner)</code>	A simple constructor - specify a single value (which will be treated as both current and max for the stat) as well as an owner to follow.

Method Summary

All Methods Instance Methods Concrete Methods

Modifier and Type	Method	Description
void	<code>act()</code>	The only purpose of the act method is to follow the target Actor.
void	<code>moveMe()</code>	For projects where efficiency is more important, DELETE THE ACT METHOD and call this directly instead.
void	<code>setMaxVal(int[] maxVal)</code>	
void	<code>update(int newCurrVal)</code>	
void	<code>update(int[] newCurrVal)</code>	update Method: Expects new current Val Returns true if Val has

```

addedToWorld, getImage, getIntersectingObjects, getNeighbours, getObjectsAtOffset,
getObjectsInRange, getOneIntersectingObject, getOneObjectAtOffset, getRotation,
getWorld, getWorldOfType, getX, getY, intersects, isAtEdge, isTouching, move,
removeTouching, setImage, setLocation, setRotation, turn, turnTowards

```

Methods inherited from class `java.lang.Object`

```

clone, equals, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait

```

Constructor Detail

StatBar

```
public StatBar()
```

Main constructor - A basic constructor that sets default values. Easy to use, not very flexible.

StatBar

```
public StatBar(int maxVal,
               greenfoot.Actor owner)
```

A simple constructor - specify a single value (which will be treated as both current and max for the stat) as well as an owner to follow. If you do not want this to follow an Actor, use null for the second parameter.

Parameters:

`maxVal` - The maximum value for this stat, which will also be the starting value for this stat

`owner` - The Actor to follow around. If you do not want to associate this with an Actor, provide null instead.

StatBar

```
public StatBar(int maxVal,
               int currVal,
```

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A simple constructor for a somewhat customized stat bar. If owner is null, just position this object where you want it and it won't move. If owner is not null, this object will follow the owner.

Parameters:

maxVal - the maximum value for this stat

currVal - the starting value for this stat

owner - the Actor that this stat bar will follow (null for DONT FOLLOW). Can be changed to just an Actor if needed

width - the width of the stat bar

height - the height of the stat bar

offset - the y-offset for positioning this bar in relation to its owner

StatBar

```
public StatBar(int maxVal,
               int currVal,
               greenfoot.Actor owner,
               int width,
               int height,
               int offset,
               greenfoot.Color filledColor,
               greenfoot.Color missingColor)
```

Similar to above, but with the ability to customize colors

Parameters:

maxVal - the maximum value for this stat

currVal - the starting value for this stat

owner - the Actor that this stat bar will follow (null for DONT FOLLOW). Can be changed to just an Actor if needed

width - the width of the stat bar

height - the height of the stat bar

offset - the y-offset for positioning this bar in relation to its owner

filledColor - the color to be used to represent the current value

missingColor - the color to be used to represent the missing value

```

        greenfoot.Actor owner,
        int width,
        int height,
        int offset,
        greenfoot.Color filledColor,
        greenfoot.Color missingColor,
        boolean hideAtMax)

```

Similar to above, but with the ability to have the bar hide when full - for example if you don't want full health bars shown.

Parameters:

maxVal - the maximum value for this stat

currVal - the starting value for this stat

owner - the Actor that this stat bar will follow (null for DONT FOLLOW). Can be changed to just an Actor if needed

width - the width of the stat bar

height - the height of the stat bar

offset - the y-offset for positioning this bar in relation to it's owner

filledColor - the color to be used to represent the current value

missingColor - the color to be used to represent the missing value

hideAtMax - set to true to have this statBar hide itself when currVal == maxVal

StatBar

```

public StatBar(int maxVal,
               int currVal,
               greenfoot.Actor owner,
               int width,
               int height,
               int offset,
               greenfoot.Color filledColor,
               greenfoot.Color missingColor,
               boolean hideAtMax,
               greenfoot.Color borderColor,
               int borderThickness)

```

The most detailed constructor! Can specify a border including thickness and color.

Parameters:

width - the width of the stat bar

height - the height of the stat bar

offset - the y-offset for positioning this bar in relation to it's owner

filledColor - the color to be used to represent the current value

missingColor - the color to be used to represent the missing value

hideAtMax - set to true to have this statBar hide itself when currVal == maxVal

borderColor - the Color of the border

borderThickness - the thickness of the border. This value should be at least 1.

StatBar

```

public StatBar(int[] maxVal,
               int[] currVal,
               greenfoot.Actor owner,
               int width,
               int height,
               int offset,
               greenfoot.Color[] filledColor,
               greenfoot.Color[] missingColor,
               boolean hideAtMax,
               greenfoot.Color borderColor,
               int borderThickness)

```

The king of all StatBar constructors! Takes details for an array of bars, otherwise the same as above. Note that all arrays must be the same length.

Parameters:

maxVal - [] the maximum values for each stat

currVal - [] the starting values for each stat

owner - the Actor that this stat bar will follow (null for DONT FOLLOW). Can be changed to just an Actor if needed

width - the width of the stat bar

height - the height of the stat bar

offset - the y-offset for positioning this bar in relation to it's owner

filledColor - [] the colors to be used to represent the current values

missingColor - [] the colors to be used to represent the missing values

Method Detail

act

```
public void act()
```

The only purpose of the act method is to follow the target Actor. If you'd rather control this yourself, delete this act() method and call moveMe() directly whenever your Actor moves.

Overrides:

act in class `greenfoot.Actor`

moveMe

```
public void moveMe()
```

For projects where efficiency is more important, DELETE THE ACT METHOD and call this directly instead. This allows the statBar object to be reactive, only moving when told, rather than acting each act(). For most projects, and especially for beginners, the act method is easier to manage.

update

```
public void update(int newCurrVal)
```

update

```
public void update(int[] newCurrVal)
```

update Method: Expects new current Val Returns true if Val has changed (needs an update) Returns false if Val has not changed (to avoid excessive processing)

ALL CLASSES

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