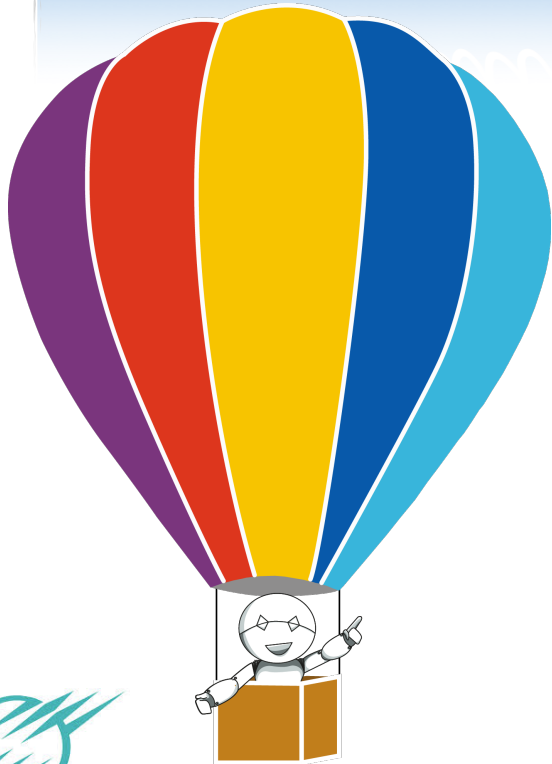


phratch *visual programming for grow up*



Jannik LAVAL
jannik@phratch.com

<http://www.phratch.com>

You know phratch !

The screenshot displays the Phratch programming interface. The top-left corner features the Phratch logo and the text "Based on Scratch from the MIT Media Lab". A menu bar includes "File", "Edit", and "Add". The left sidebar contains a palette of categories: Motion, Looks, Operators, Variables, Files, Ev3 brick, Ev3 motor, Ev3-exp, Control, Sensing, Pen, List, Colors, Ev3 sensor, and Ev3 UI. The main workspace shows a script for a sprite named "Ev3" with the following code blocks: "when green flag clicked", "move 10 steps", "ask 'What's your name?' and wait", and "say 'join hello and answer' for 2 secs". The stage area shows the Ev3 robot sprite at coordinates x:2157, y:-652. The bottom-right corner has a "New sprite:" section with three options: a pencil icon, a star icon, and a question mark icon. Below this is a "Stage" area with a preview of the Ev3 robot.

You know phratch !



You know phratch !

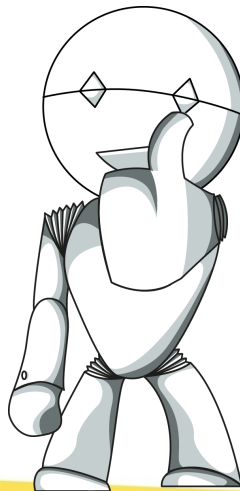


You know phratch !

SCRATCH

on top of
Pharo

<https://code.google.com/p/scat/>



phratch.com
sponsored by



What is new since ESUG 2013?

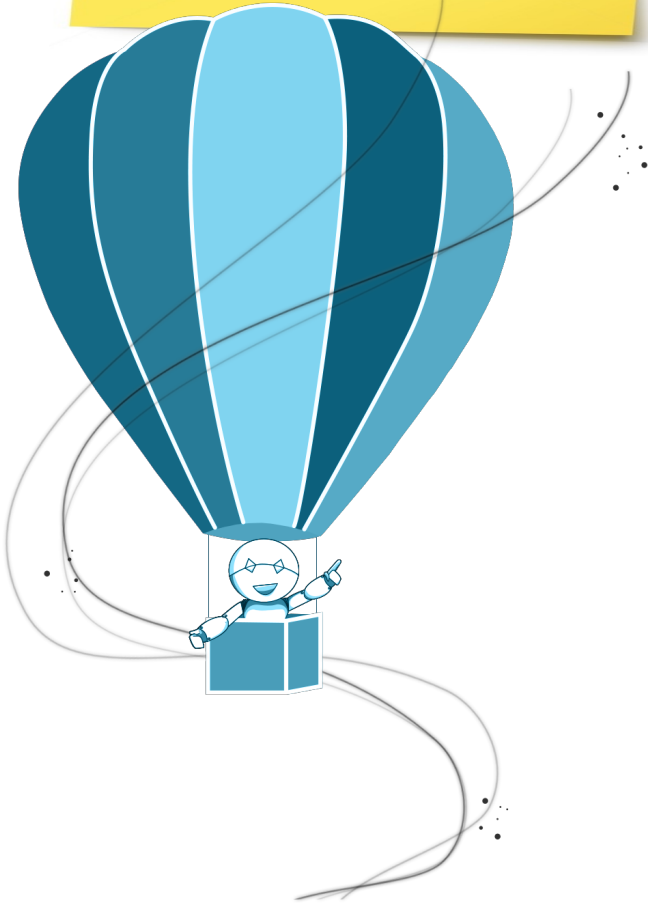
What is new since ESUG 2013?

phratch.com

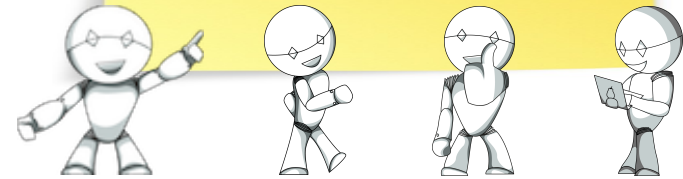


What is new since ESUG 2013?

phratch.com



smart icons

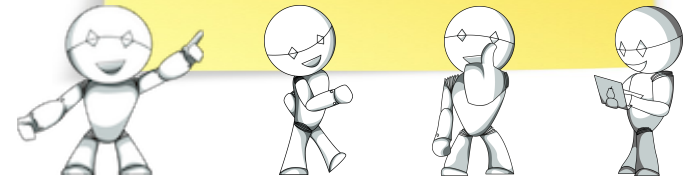


What is new since ESUG 2013?



phratch.com

smart icons



Jenkins

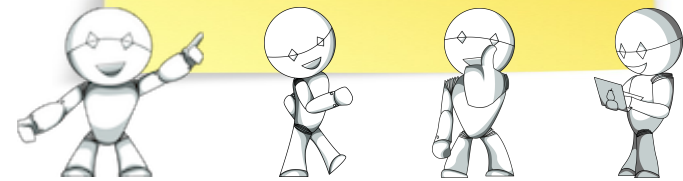
		Phratch-image
		Phratch-OneClick
		Phratch-OneClick-RPi

What is new since ESUG 2013?



phratch.com

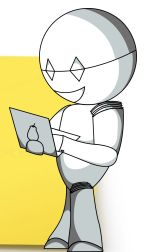
smart icons



Jenkins

		Phratch-image
		Phratch-OneClick
		Phratch-OneClick-RPi

Jetstorm -
robotics

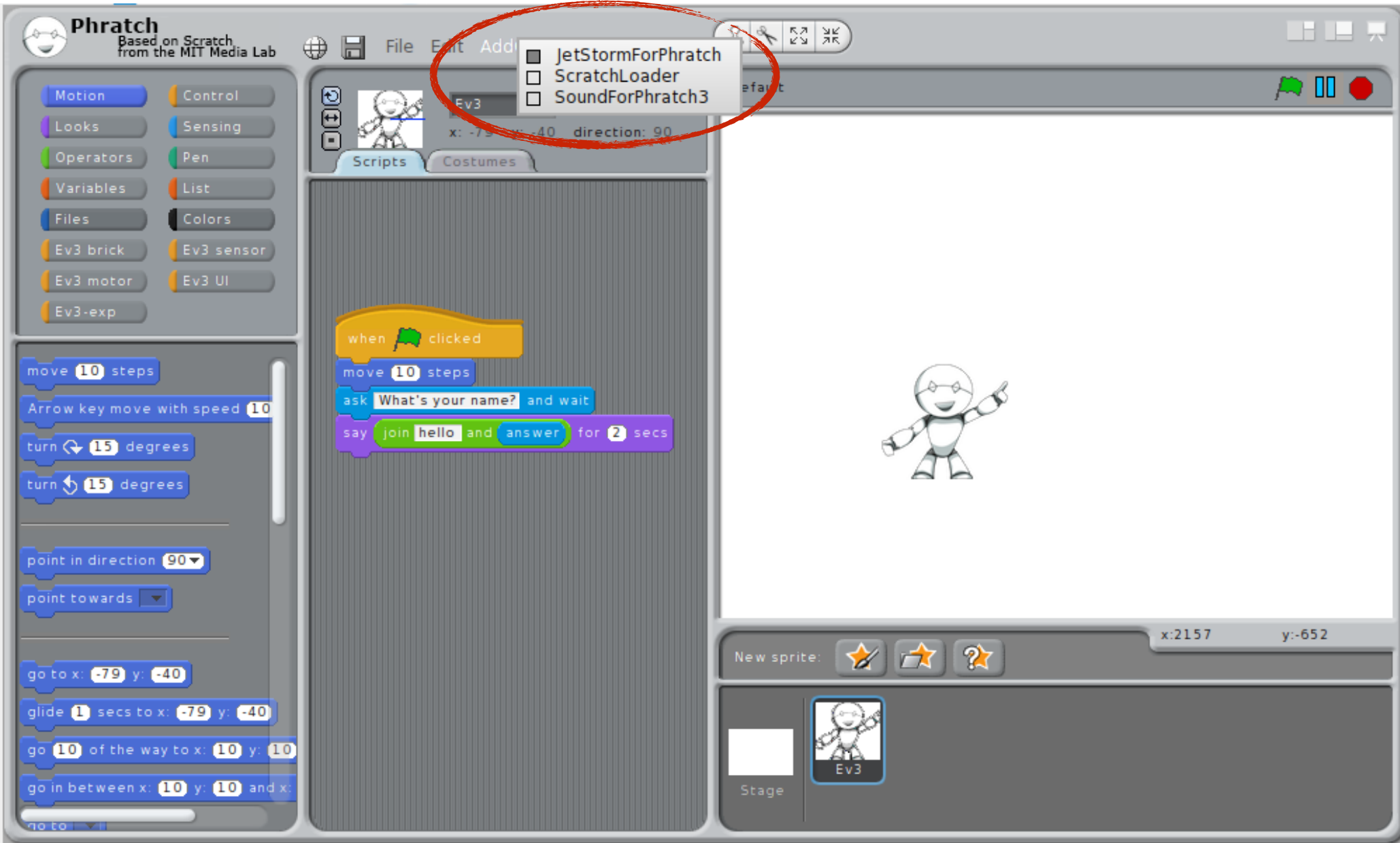


New features: Add-ons

New features: Add-ons

The screenshot displays the Phratch development environment. The top-left corner features the Phratch logo and the text "Based on Scratch from the MIT Media Lab". A menu bar includes "File", "Edit", and "Add...". A dropdown menu is open over the "Add..." menu, listing three add-ons: "JetStormForPhratch", "ScratchLoader", and "SoundForPhratch3", each with a checkbox. The left sidebar contains a category menu with buttons for Motion, Looks, Operators, Variables, Files, Ev3 brick, Ev3 motor, Ev3-exp, Control, Sensing, Pen, List, Colors, Ev3 sensor, and Ev3 UI. The main workspace shows a script for a sprite named "Ev3" with the following code blocks: "when green flag clicked", "move 10 steps", "ask 'What's your name?' and wait", and "say 'join hello and ' + answer for 2 secs". The stage area shows the "Ev3" robot sprite at coordinates x:2157, y:-652. The bottom-right corner has a "New sprite:" section with three icons (a pencil, a star, and a question mark) and a "Stage" area with a "Ev3" sprite icon.

New features: Add-ons



New features: documentation

The screenshot displays the Phratch software interface, which is based on Scratch from the MIT Media Lab. The interface includes a top menu bar with options like File, Edit, AddOns, and Help. A dropdown menu is open, listing the following documentation resources:

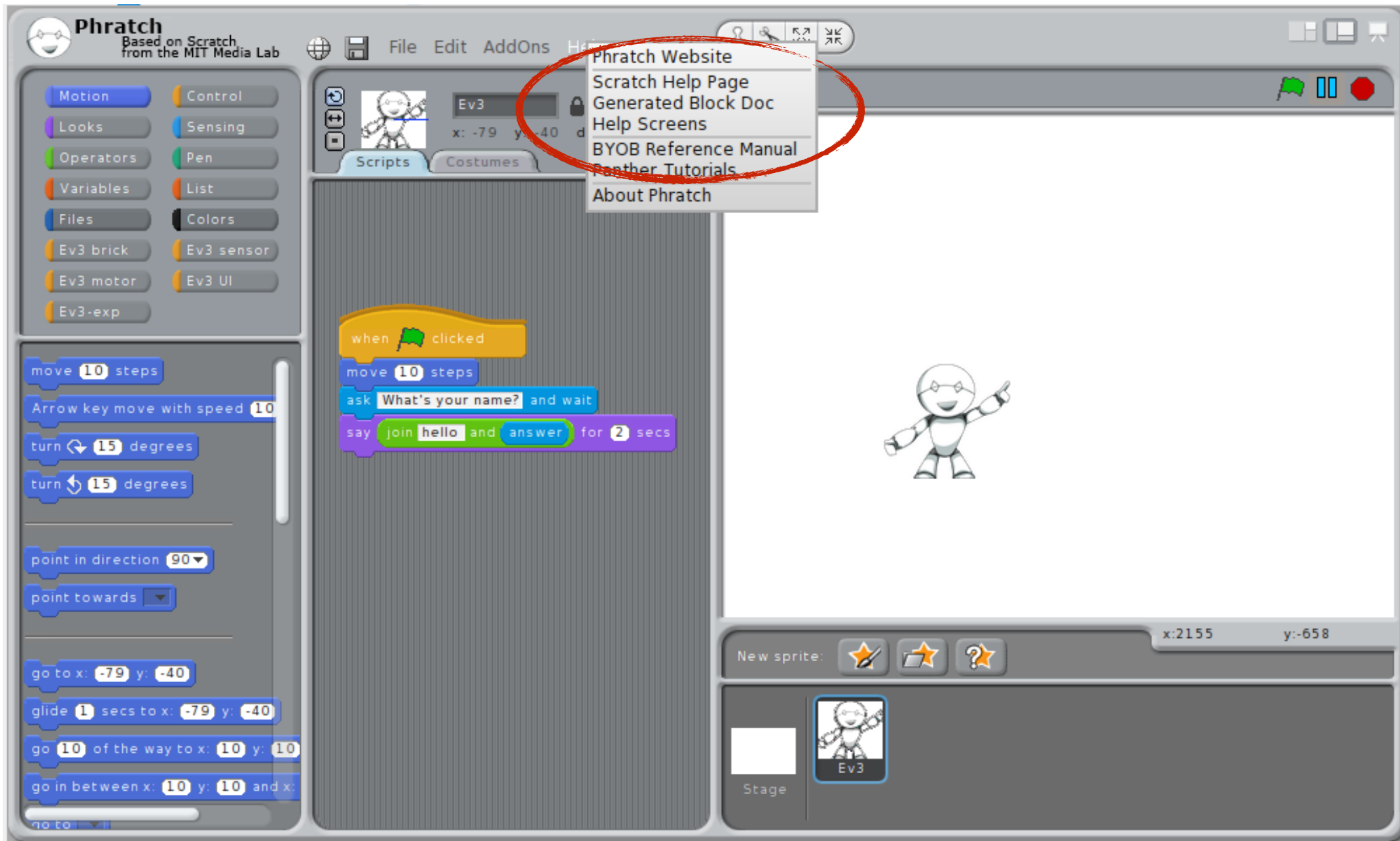
- Phratch Website
- Scratch Help Page
- Generated Block Doc
- Help Screens
- BYOB Reference Manual
- Panther Tutorials
- About Phratch

The main workspace shows a robot sprite named 'Ev3' with a script containing the following blocks:

```
when clicked  
move 10 steps  
ask What's your name? and wait  
say join hello and answer for 2 secs
```

The bottom right corner of the interface shows the 'New sprite' section with a 'Stage' area and a 'Ev3' sprite icon. The coordinates for the sprite are x:2155 and y:-658.

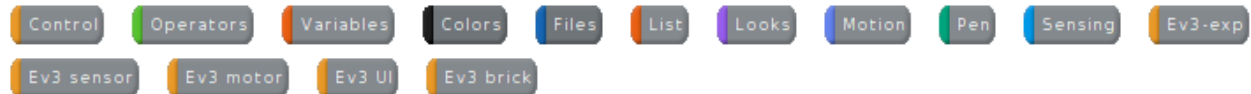
New features: documentation



New features: documentation

Blocks documentation

Categories



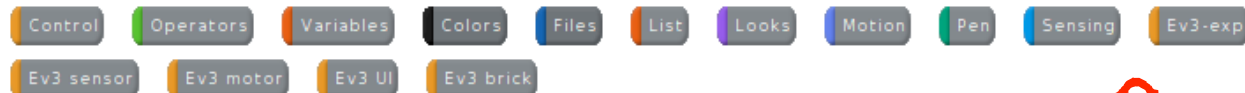
control

	Call the given block with the given args.
	Return the given block without executing it
	Run the given block with the given list of args.
	Return myself
	send a broadcast message and wait for all receivers finish their work.

New features: documentation

Blocks documentation

Categories



control

	Call the given block with the given args.
	Return the given block without executing it
	Run the given block with the given list of args.
	Return myself
	send a broadcast message and wait for all receivers finish their work.

*available on
phratch.com*

Code accessibility

The screenshot displays the Phratch programming environment. The top-left corner features the Phratch logo and the text "Based on Scratch from the MIT Media Lab". The top menu bar includes "File", "Edit", "AddOns", and "Help". The left sidebar contains a list of categories: Motion, Looks, Operators, Variables, Files, Ev3 brick, Ev3 motor, Ev3-exp, Control, Sensing, Pen, List, Colors, Ev3 sensor, and Ev3 UI. The main workspace shows a character named "Ev3" with coordinates x: -79, y: -40, and direction: 90. The script area contains the following code blocks: "when green flag clicked", "help", "move 10 steps", "ask What's your name?", "say join hello and answer for 2 secs", "duplicate", "delete", and "show algorithm". The stage area shows the character "Ev3" on a white background. The bottom-right corner displays the coordinates x:2164 and y:-669. The bottom-left corner shows the "New sprite" button and the "Stage" area with the "Ev3" character.

Code accessibility

The image shows the Phratch programming environment. The interface includes a top menu bar with 'File', 'Edit', 'AddOns', and 'Help'. On the left, there are category buttons for Motion, Looks, Operators, Variables, Files, Ev3 brick, Ev3 motor, Ev3-exp, Control, Sensing, Pen, List, Colors, Ev3 sensor, and Ev3 UI. The main workspace contains a script for a sprite named 'Ev3' with the following code blocks: 'when green flag clicked', 'move 10 steps', 'Arrow key move with speed 10', 'turn 15 degrees', 'turn 15 degrees', 'point in direction 90', 'point towards', 'go to x: -79 y: -40', 'glide 1 secs to x: -79 y: -40', 'go 10 of the way to x: 10 y: 10', and 'go in between x: 10 y: 10 and x:'. A context menu is open over the 'show algorithm' block, listing options: 'help', 'duplicate', 'delete', and 'show algorithm'. The 'show algorithm' option is circled in red. The stage area on the right shows the 'Ev3' sprite at coordinates (2164, -669). The bottom right corner shows the 'New sprite' menu with three options: a pencil icon, a star icon, and a question mark icon.

Code accessibility

The image shows the Phratch software interface, which is based on Scratch from the MIT Media Lab. The interface includes a menu bar (File, Edit, AddOns, Help), a toolbar, and a sidebar with various tool categories like Motion, Looks, Operators, Variables, Files, Ev3 brick, Ev3 motor, and Ev3-exp. The main workspace displays a character named 'Ev3' with its current position (x: -79, y: -40) and direction (90). An 'Algorithm viewer' dialog box is open, displaying the following code:

```
when green flag clicked
  move 10 steps
  ask "What's your name?" and wait
  say (join "hello " and (answer)) for 2 secs
end
```

The dialog box has an 'OK' button at the bottom. The background workspace shows a script area with several code blocks, including 'move 10 steps', 'Arrow key move with speed 10', 'turn 15 degrees', 'point in direction 90', 'point towards', 'go to x: -79 y: -40', 'glide 1 secs to x: -79 y: -40', 'go 10 of the way to x: 10 y: 10', and 'go in between x: 10 y: 10 and x:'. The stage area at the bottom right shows the 'Ev3' character and a 'Stage' label.

Code accessibility

The image shows the Phratch software interface, which is based on Scratch from the MIT Media Lab. The interface includes a menu bar (File, Edit, AddOns, Help), a toolbar, and a sidebar with various tool categories like Motion, Looks, Operators, Variables, Files, Ev3 brick, Ev3 motor, and Ev3-exp. The main workspace displays a character named 'Ev3' with coordinates (x: -79, y: -40) and a direction of 90. An 'Algorithm viewer' window is open in the center, displaying the following code:

```
when green flag clicked
  move 10 steps
  ask "What's your name?" and wait
  say (join "hello " and (answer)) for 2 secs
end
```

Handwritten in red text over the algorithm viewer is: "next step is to show generated source code".

The bottom of the interface shows a 'Stage' area with a 'Ev3' character icon and a 'Stage' label. The bottom right corner of the window displays coordinates 'x:2147' and 'y:-659'.

Code accessibility

The image shows the Phratch programming environment, which is based on Scratch from the MIT Media Lab. The interface includes a top menu bar with 'File', 'Edit', 'AddOns', and 'Help'. On the left, there are categorized blocks: Motion, Looks, Operators, Variables, Files, Ev3 brick, Ev3 motor, Ev3-exp, Control, Sensing, Pen, List, Colors, Ev3 sensor, and Ev3 UI. The main workspace is divided into a script area and a stage area. The script area contains a sequence of blocks: 'when green flag clicked', 'move 10 steps', 'ask What's your name?', and 'say join hello'. A context menu is open over the 'say' block, offering options: 'help', 'duplicate', 'show block', and 'edit block for developer'. The stage area shows a robot sprite named 'Ev3' with coordinates x:2161 and y:-658. The bottom of the interface features a 'New sprite' section with icons for creating a new sprite, a duplicate, or a question mark.

Code accessibility

The screenshot displays the Phratch programming environment. The interface includes a top menu bar with 'File', 'Edit', 'AddOns', and 'Help'. On the left, there are categorized blocks for Motion, Control, Looks, Sensing, Operators, Pen, Variables, List, Colors, and various Ev3 hardware components. The central workspace shows a script for a sprite named 'Ev3' with the following code blocks: 'when green flag clicked', 'move 10 steps', 'ask What's your name?', and 'say join the world for 2 secs'. A context menu is open over the 'say' block, listing options: 'help', 'duplicate', 'show block', and 'edit block for developer'. The 'show block' option is circled in red. The right side of the interface features a stage area with a robot sprite and a 'New sprite:' section with three icons (star, folder, question mark). The bottom right corner shows the sprite's coordinates: x:2161, y:-658.

Code accessibility

The screenshot shows the Phratch software interface. The title bar reads "Phratch Based on Scratch from the MIT Media Lab". The menu bar includes "File", "Edit", "AddOns", and "Help". On the left, there are several category buttons: Motion, Looks, Operators, Variables, Files, Ev3 brick, Ev3 motor, Ev3-exp, Control, Sensing, Pen, List, and Colors. The main workspace shows a character named "Ev3" with coordinates x: -79, y: -40, and direction: 90. An "Elements Editor" dialog box is open, displaying the following code:

```
forward: distance
  "Move the object forward (i.e., the direction of its heading) by
  the given distance."
  <phratchItem: 'move $Number$ steps' kind: #- category:
  'motion' defaultValues: #() subCategory: #a1 special: #()>
  | radians deltaP newPos newX newY |

  radians := self rotationDegrees degreesToRadians.
  deltaP := ((radians cos)@(radians sin)) * distance.
  newPos := self position + deltaP.
  newX := newPos x.
  newY := newPos y.
  newX isNaN ifTrue: [newX := 0].
  newX isInfinite ifTrue: [newX := newX sign * 10000].
  newY isNaN ifTrue: [newY := 0].
  newY isInfinite ifTrue: [newY := newY sign * 10000].
  self holdSubsprites.
  self position: newX @ newY.
```

The dialog box has an "OK" button at the bottom. The background workspace shows a script area with several blocks: "move 10 steps", "Arrow key move with speed 10", "turn 15 degrees", "turn 15 degrees", "point in direction 90", "point towards", "go to x: -79 y: -40", "glide 1 secs to x: -79 y: -40", "go 10 of the way to x: 10 y: 10", and "go in between x: 10 y: 10 and x:". The stage area at the bottom shows a "Stage" button and a character icon labeled "Ev3".

Code accessibility

The image shows the Phratch programming environment, which is based on Scratch from the MIT Media Lab. The interface includes a top menu bar with 'File', 'Edit', 'AddOns', and 'Help'. On the left, there are categorized blocks: Motion, Looks, Operators, Variables, Files, Ev3 brick, Ev3 motor, Ev3-exp, Control, Sensing, Pen, List, Colors, Ev3 sensor, and Ev3 UI. The main workspace is divided into a script area and a stage area. The script area contains a sequence of blocks: 'when green flag clicked', 'move 10 steps', 'ask What's your name?', and 'say join hello'. A context menu is open over the 'say' block, offering options: 'help', 'duplicate', 'show block', and 'edit block for developer'. The stage area shows a white background with a small robot sprite named 'Ev3' at coordinates (2161, -658). The bottom of the interface features a 'New sprite' section with icons for creating a new sprite, and a 'Stage' section with a preview of the 'Ev3' sprite.

Code accessibility

The image shows the Phratch software interface, which is based on Scratch from the MIT Media Lab. The interface is divided into several sections:

- Top Bar:** Contains the Phratch logo, the text "Based on Scratch from the MIT Media Lab", and a menu bar with "File", "Edit", "AddOns", and "Help".
- Left Panel:** A vertical sidebar with various category buttons: Motion, Looks, Operators, Variables, Files, Ev3 brick, Ev3 motor, Ev3-exp, Control, Sensing, Pen, List, Colors, Ev3 sensor, and Ev3 UI.
- Center Panel:** A workspace for the sprite. At the top, it shows the sprite "Ev3" with its current position (x: -79, y: -40) and direction (90). Below this are tabs for "Scripts" and "Costumes". A script block "when green flag clicked" is active, and a context menu is open over it. The menu options are: "help", "duplicate", "show block", and "edit block for developer". The "edit block for developer" option is circled in red.
- Right Panel:** A stage area labeled "default" showing a white background with a small robot sprite in the center.
- Bottom Panel:** A "New sprite:" section with three icons (a star, a folder, and a question mark). Below it is a "Stage" section with a small preview of the "Ev3" sprite.

Code accessibility

The screenshot shows a code editor window titled "PhratchSpriteMorph>>#forward:". The interface is divided into several panes:

- Left Pane:** A tree view showing the project structure. The "Objects" folder is expanded, and "PhratchSpriteMorph" is selected.
- Middle Pane:** A list of classes and methods. "PhratchSpriteMorph" is highlighted, and its methods are listed, including "forward:", "private", "right button menu", "sensing ops", "stepping", and various "ops" (handle, initialization, looks, motion, movie, nesting, panther actions, pen).
- Right Pane:** A list of methods for the selected class. "forward:" is highlighted, and its implementation is shown in the pane below.
- Bottom Pane:** The implementation of the "forward:" method. It includes a comment, a Smalltalk message, and several lines of code that calculate the new position based on the current position, rotation, and distance.

forward: distance
"Move the object forward (i.e., the direction of its heading) by the given distance."
<phratchItem: 'move \$Number\$ steps' kind: #- category: 'motion' defaultValues: #() subCategory: #a1 special: #()>
| radians deltaP newPos newX newY |

radians := self rotationDegrees degreesToRadians.
deltaP := ((radians cos)@(radians sin)) * distance.
newPos := self position + deltaP.
newX := newPos x.
newY := newPos y.
newX isNaN ifTrue: [newX := 0].
newX isInfinite ifTrue: [newX := newX sign * 10000].
newY isNaN ifTrue: [newY := 0].
newY isInfinite ifTrue: [newY := newY sign * 10000].
self holdSubsprites.
self position: newX @ newY.
self releaseSubsprites.
self keepOnScreen.

High extensibility !

The screenshot displays a software development environment with a class hierarchy on the left and a code editor on the right. The class hierarchy shows the following structure:

- PhratchList
- PhratchMedia
 - CameraMedia
 - ImageMedia
- PhratchTranslator
- ScriptablePhratchMorph
 - PhratchSpriteMorph (selected)
 - PhratchStageMorph

The code editor shows the implementation of the `forward:` method in the `PhratchSpriteMorph` class. The method signature is `forward: distance:`. The implementation is as follows:

```
"Move the object forward (i.e., the direction of its heading) by the given distance."  
<phratchitem: move: #Numberf: steps: kind: # category: 'motion' defaultValues: #() subCategory: #a1 special: #()>  
| radians deltaP newPos newX newY |  
  
radians := self rotationDegrees degreesToRadians.  
deltaP := ((radians cos)@(radians sin)) * distance.  
newPos := self position + deltaP.  
newX := newPos x.  
newY := newPos y.  
newX isNaN ifTrue: [newX := 0].  
newX isInfinite ifTrue: [newX := newX sign * 10000].  
newY isNaN ifTrue: [newY := 0].  
newY isInfinite ifTrue: [newY := newY sign * 10000].  
self holdSubsprites.  
self position: newX @ newY.  
self releaseSubsprites.  
self keepOnScreen.
```

High extensibility !

The screenshot displays a software development environment with a class hierarchy on the left and a code editor on the right. The class hierarchy shows 'PhratchSpriteMorph' selected. The code editor shows the 'forward:' method implementation, which is circled in red. The code includes comments and a block of Smalltalk-style code.

```
forward: distance
"Move the object forward (i.e., the direction of its heading) by the given distance."
<phratchItem: 'move $Number$ steps' kind: #- category: 'motion' defaultValues: #() subCategory: #a1 special: #()>
|radians deltaP newPos newX newY|

radians := self rotationDegrees degreesToRadians.
deltaP := ((radians cos)@(radians sin)) * distance.
newPos := self position + deltaP.
newX := newPos x.
newY := newPos y.
newX isNaN ifTrue: [newX := 0].
newX isInfinite ifTrue: [newX := newX sign * 10000].
newY isNaN ifTrue: [newY := 0].
newY isInfinite ifTrue: [newY := newY sign * 10000].
self holdSubsprites.
self position: newX @ newY.
self releaseSubsprites.
self keepOnScreen.
```

High extensibility !

PhratchSpriteMorph>>#forward:

Objects
Paint
Plugins
Tests
Type
UI-Dialogs
UI-Panes
UI-Support
UI-Watchers
PhratchColor
PhratchDebugger
PhratchFile
PhratchList
PhratchLooks
PhratchMotion

PhratchList
PhratchMedia
CameraMedia
ImageMedia
PhratchTranslator
ScriptablePhratchMorph
PhratchSpriteMorph
PhratchStageMorph

handle ops
initialization
looks ops
motion ops
movie ops
nesting
panther actions
pen ops
private
right button menu
sensing ops
stepping
*EV3Phratch
*PhratchColor
*PhratchLooks
*PhratchMotion

arrowMove:
betweenX:Y:X:Y:
bounceIfBoolean:
bounceOffEdge
changeXposBy:
changeYposBy:
distance:X:Y:
forward:
glideSecs:toX:y:elapsed:from
gotoSpriteOrMouse:
makeDrag
makeNoDrag
pointToX:y:
pointTowards:
randxypos

Groups Hierarchy Class side Comments History Navigator

forward: distance
"Move the object forward (i.e., the direction of its heading) by the given distance."
<phratchItem: 'move \$Number\$ steps' kind: #- category: 'motion' defaultValues: #() subCategory: #a1 special: #()>
radians := self radiansToDegrees degreesToRadians.
deltaP := ((radians cos)@(radians sin)) * distance.
newPos := self position + deltaP.
newX := newPos x.
newY := newPos y.
newX isNaN ifTrue: [newX := 0].
newX isInfinite ifTrue: [newX := newX sign * 10000].
newY isNaN ifTrue: [newY := 0].
newY isInfinite ifTrue: [newY := newY sign * 10000].
self holdSubsprites.
self position: newX @ newY.
self releaseSubsprites.
self keepOnScreen.

move 10 steps

496

High extensibility !

The screenshot displays a software development environment window titled "PhratchCategory class >> #label". The window is divided into several panes:

- Left Pane:** A tree view showing a project structure. The "Categories" folder is expanded, listing various categories like "DefaultArguments", "Error-Management", "Execution Engine", "Installation", "Object IO", "Objects", "Paint", "Plugins", "Tests", "Type", "UI-Dialogs", "UI-Panes", "UI-Support", "UI-Watchers", and several "Phratch" sub-categories (e.g., "PhratchColor", "PhratchDebugger", "PhratchFile", "PhratchList", "PhratchLooks", "PhratchMotion", "PhratchPen", "PhratchSensing").
- Class Hierarchy Pane:** A list of classes. At the top are "ProtoObject" and "Object". Below them is "PhratchCategory", which is highlighted. Under "PhratchCategory" is a long list of subclasses, each preceded by a red exclamation mark icon, indicating they inherit from "PhratchCategory". These subclasses include "PhratchCategoryColors", "PhratchCategoryControl", "PhratchCategoryCustom", "PhratchCategoryEv3Brick", "PhratchCategoryEv3More", "PhratchCategoryEv3Motor", "PhratchCategoryEv3Sensor", "PhratchCategoryEv3UI", "PhratchCategoryFiles", "PhratchCategoryList", "PhratchCategoryLooks", "PhratchCategoryMotion", "PhratchCategoryNone", "PhratchCategoryOperators", "PhratchCategoryOther", "PhratchCategoryPen", "PhratchCategorySensing", and "PhratchCategoryVariables".
- Method List Pane:** A list of methods for the selected class. It shows "-- all --", "accessing", and "drawing".
- Right Pane:** A list of instance variables for the selected class. It includes "blockColorFor:", "color", "initialize", "label" (highlighted), "objectInterface", "order", "viewerPageFor:", "visible", and "visible:".
- Bottom Pane:** A text editor showing the definition of the "label" variable: `label ^'Generic Category'`. The bottom right corner of this pane shows the page number "21".

Customization

The screenshot displays the Phratch software interface, which is based on Scratch from the MIT Media Lab. The interface is divided into several sections:

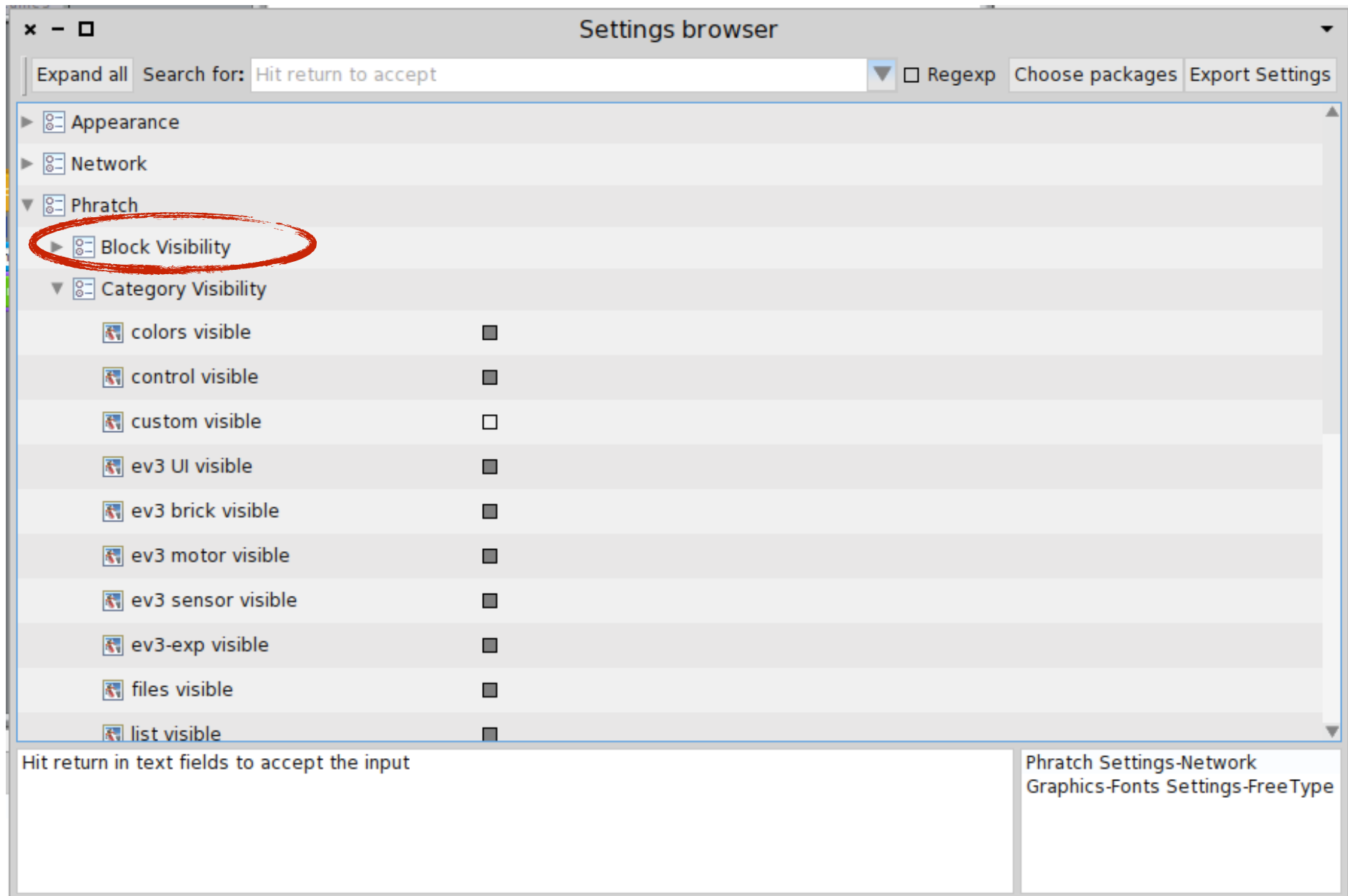
- Top Left:** The Phratch logo and the text "Based on Scratch from the MIT Media Lab".
- Left Panel:** A vertical menu of categories including Motion, Looks, Operators, Variables, Files, Ev3 brick, Ev3 motor, Ev3-exp, Control, Sensing, Pen, List, Colors, Ev3 sensor, and Ev3 UI.
- Scripts Panel:** A vertical list of script blocks such as "move 10 steps", "Arrow key move with speed 10", "turn 15 degrees", "point in direction 90", "point towards", "go to x: 0 y: 0", "glide 1 secs to x: 0 y: 0", "go 10 of the way to x: 10 y: 10", and "go in between x: 10 y: 10 and x:". A context menu is open over this panel, listing options: "Undelete", "Undo last drop", "Compress Images", "Unload unused blocks", "Clear all Variables", "Settings" (with sub-options: "Turbo", "Allow Sprites offstage", "Thread safe scripts").
- Stage:** A large white area where a robot sprite is positioned. The stage title is "default".
- Bottom Right:** A "New sprite:" section with three icons (a pencil, a folder, and a question mark). Below it, a "Stage" section shows a "Sprite1" icon.
- Bottom Right Corner:** Coordinates "x:303" and "y:-726" are displayed.

Customization

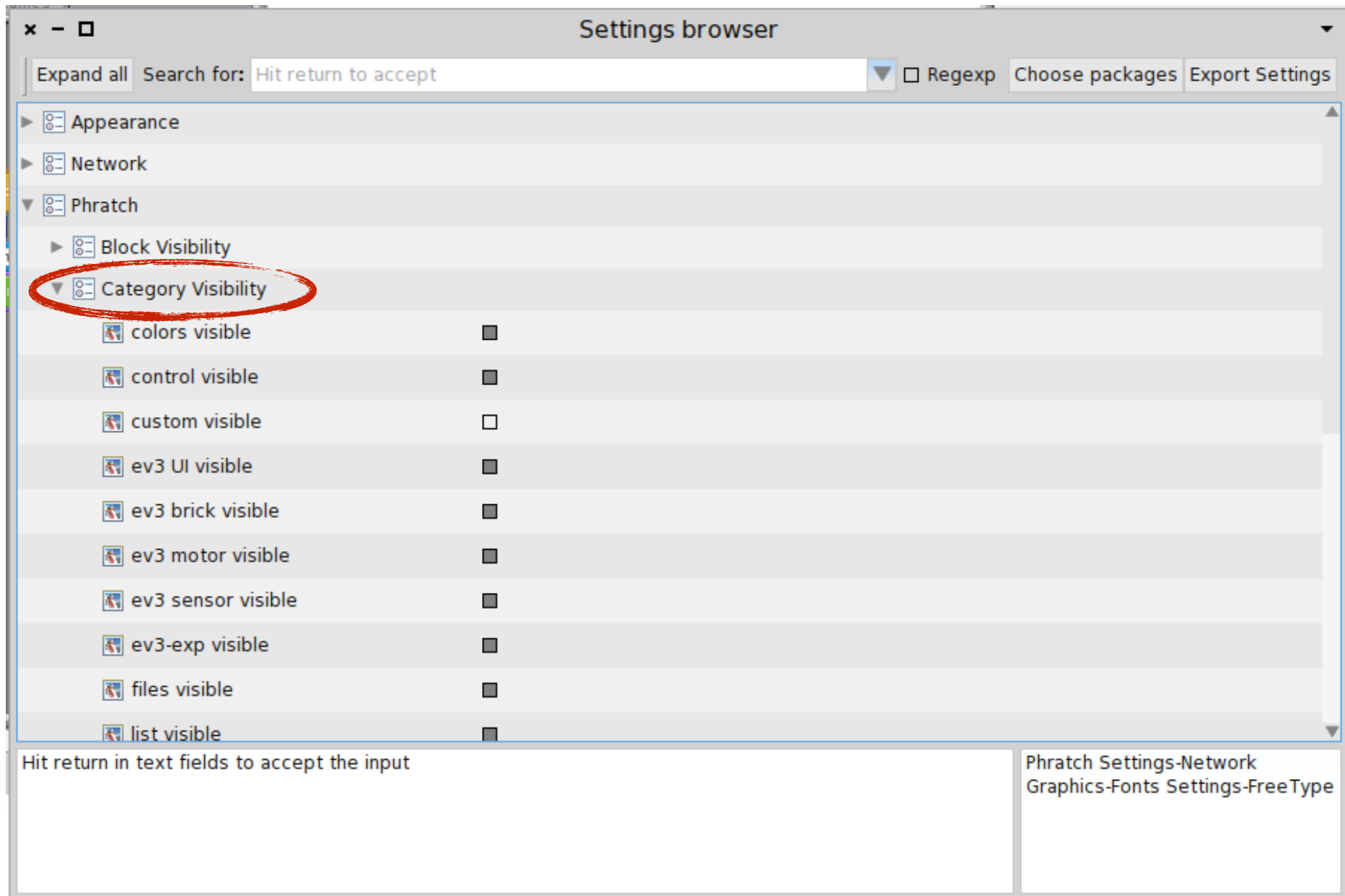
The image shows the Phratch software interface, which is based on Scratch from the MIT Media Lab. The interface is divided into several sections:

- Top Left:** The Phratch logo and the text "Based on Scratch from the MIT Media Lab".
- Left Panel:** A vertical menu of categories: Motion, Looks, Operators, Variables, Files, Ev3 brick, Ev3 motor, Ev3-exp, Control, Sensing, Pen, List, Colors, Ev3 sensor, and Ev3 UI.
- Scripts Panel:** A list of script blocks including "move 10 steps", "Arrow key move with speed 10", "turn 15 degrees" (left and right), "point in direction 90", "point towards", "go to x: 0 y: 0", "glide 1 secs to x: 0 y: 0", "go 10 of the way to x: 10 y: 10", and "go in between x: 10 y: 10 and x:". The "Scripts" category is selected, and a context menu is open over it.
- Context Menu:** A menu with the following options: "Undelete", "Undo last drop", "Compress Images", "Unload unused blocks", "Clear all Variables", "Settings" (circled in red), "Turbo", "Allow Sprites offstage", and "Thread safe scripts".
- Stage:** A large white area with a robot sprite in the center. The stage is titled "default" and has a toolbar with a green flag, a blue bar, and a red circle. The coordinates "x:303" and "y:-726" are displayed at the bottom right of the stage.
- Bottom Panel:** A "New sprite:" section with three icons (a pencil, a folder, and a question mark). Below it, a "Stage" section shows a small thumbnail of the robot sprite labeled "Sprite1".

Customization



Customization



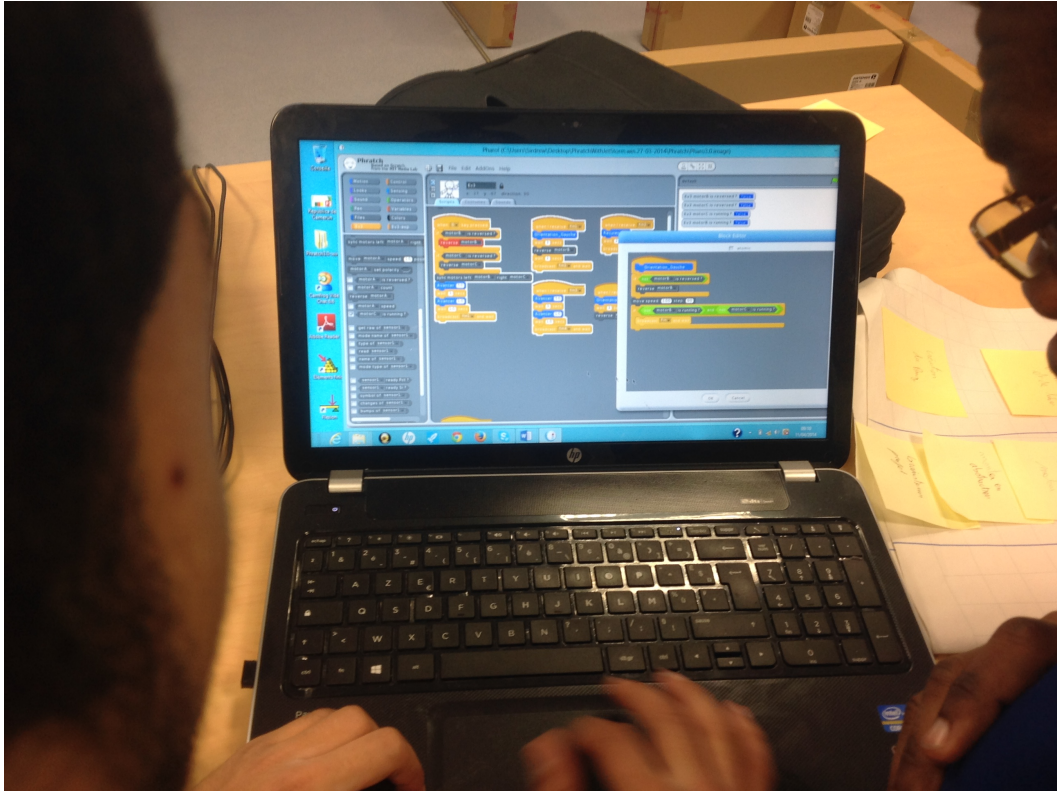
Customization

The screenshot displays the Phratch software interface, which is based on Scratch from the MIT Media Lab. The interface is divided into several sections:

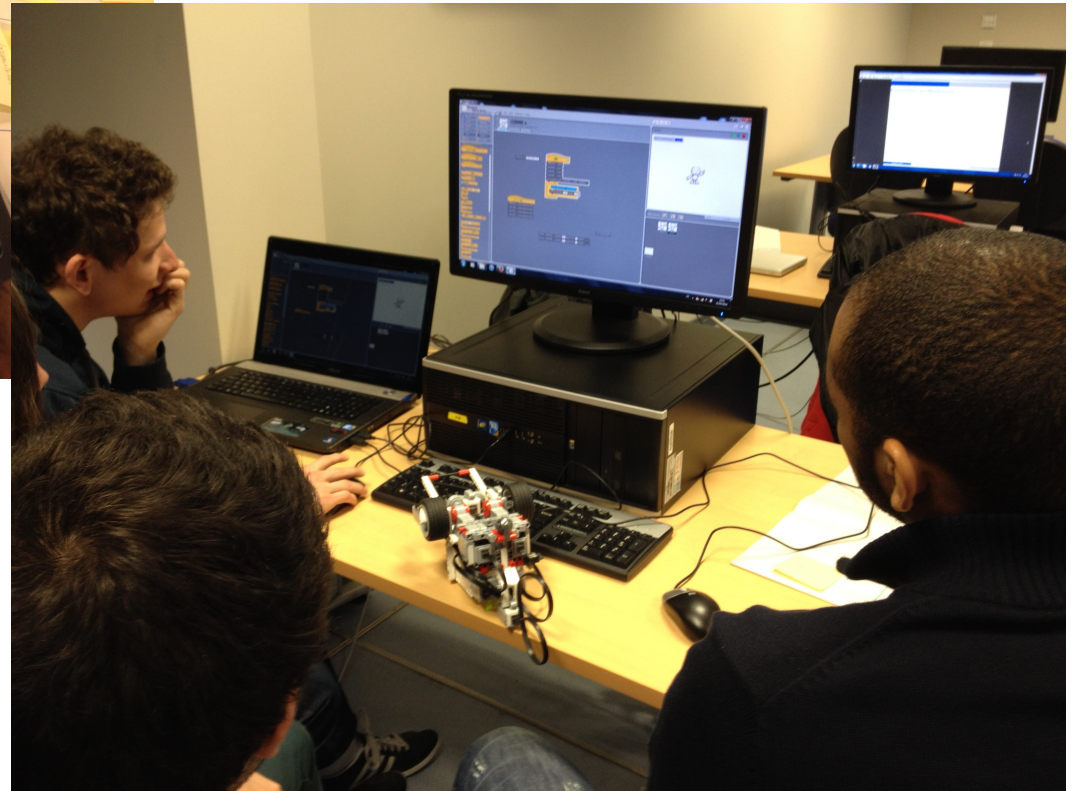
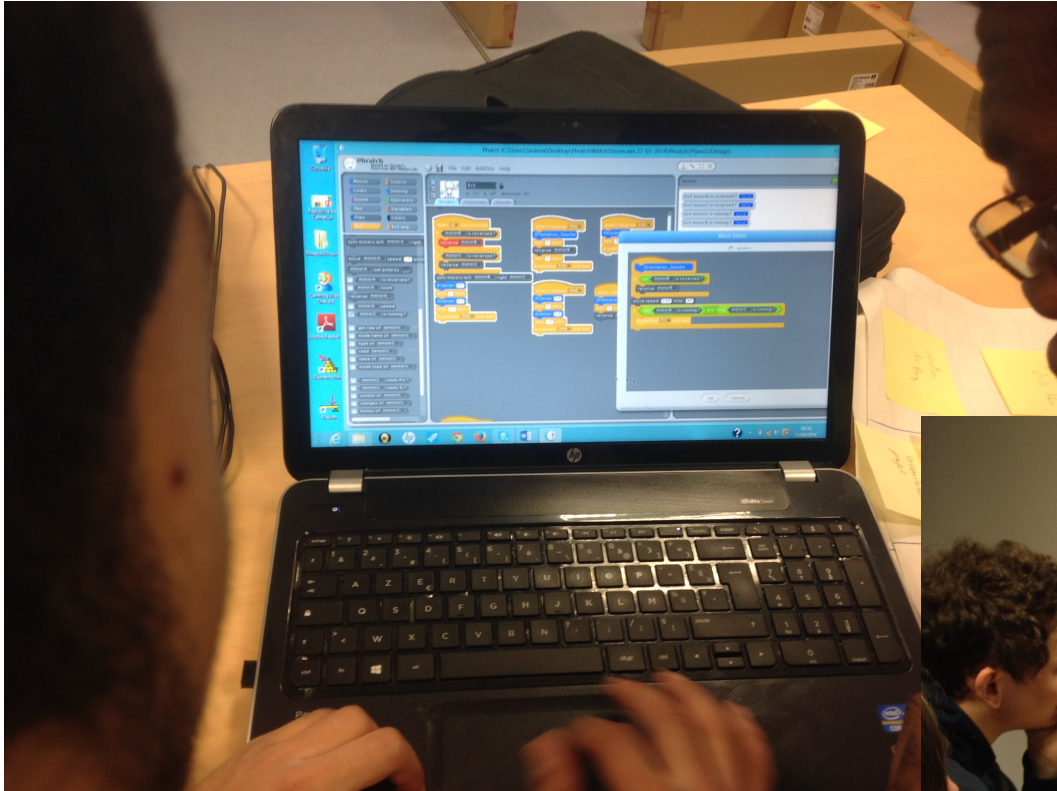
- Top Bar:** Includes the Phratch logo, the text "Based on Scratch from the MIT Media Lab", and a menu with "File", "Edit", "AddOns", and "Help".
- Left Panel (Customization):** Contains a grid of buttons for customizing the Ev3 brick. A red circle highlights the "Ev3 brick" button, along with "Sensing", "Operators", "Variables", "Ev3 sensor", "Ev3 UI", "Ev3 motor", and "Ev3-exp". Below this grid are various control blocks such as "Connect Ev3", "get firmware number", "is connected?", "clean all existing connections", "disconnect", "connect to 192.168.1.3", "list files from / length 10", "stop current program", and "start program .../prjs/BrkProg_SAV".
- Center Panel (Scripts):** Shows the "Scripts" tab for the selected "Ev3" brick. It displays the brick's name, a lock icon, and its current position and direction: "x: 0 y: 0 direction: 90".
- Right Panel (Stage):** Shows the "default" stage with a white background. A small robot sprite is positioned on the stage. The coordinates "x:293 y:-717" are visible at the bottom right of the stage.
- Bottom Panel (Sprite List):** Shows a list of sprites on the stage, including "Stage", "Sprite1", and "Ev3". The "Ev3" sprite is highlighted with a blue border.

Used for real !

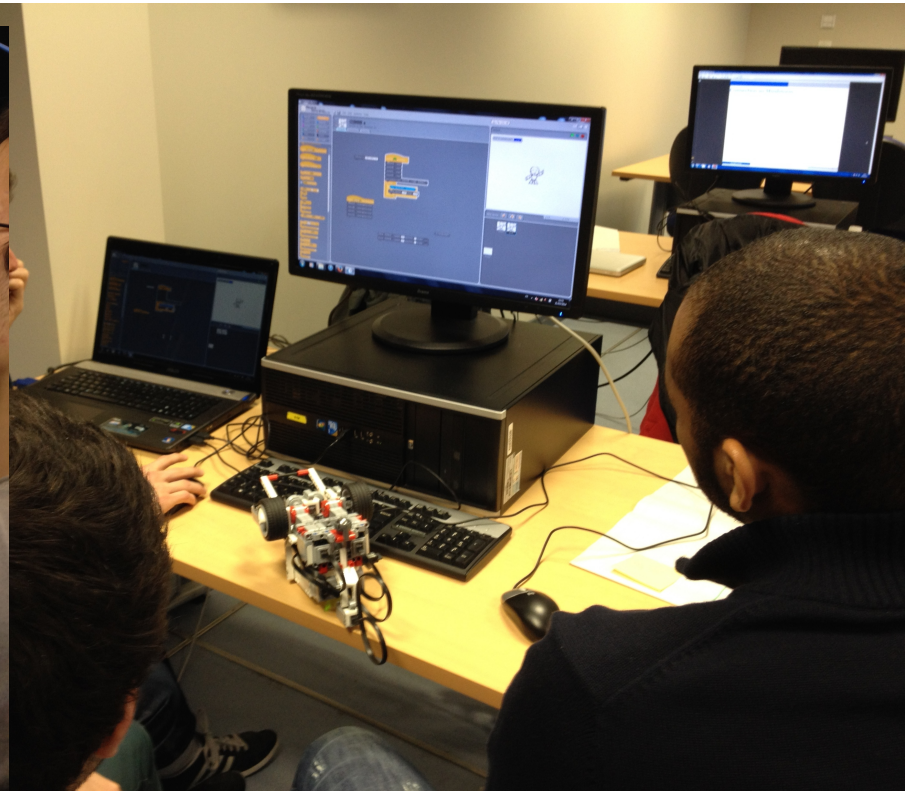
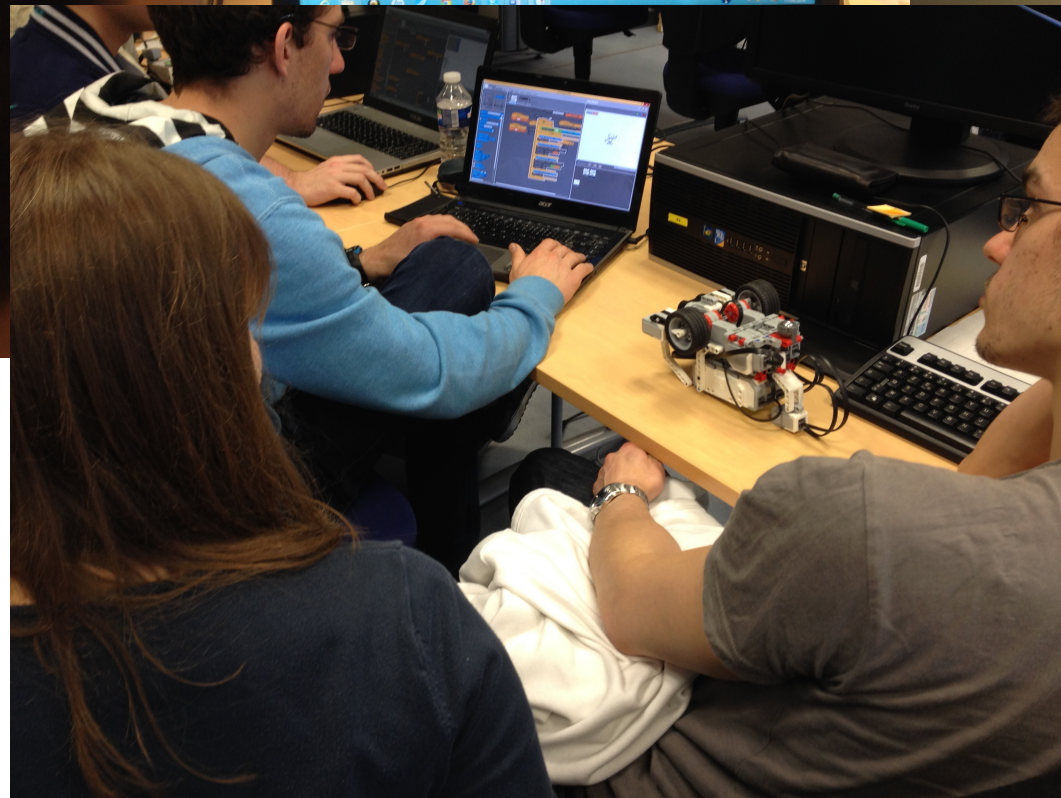
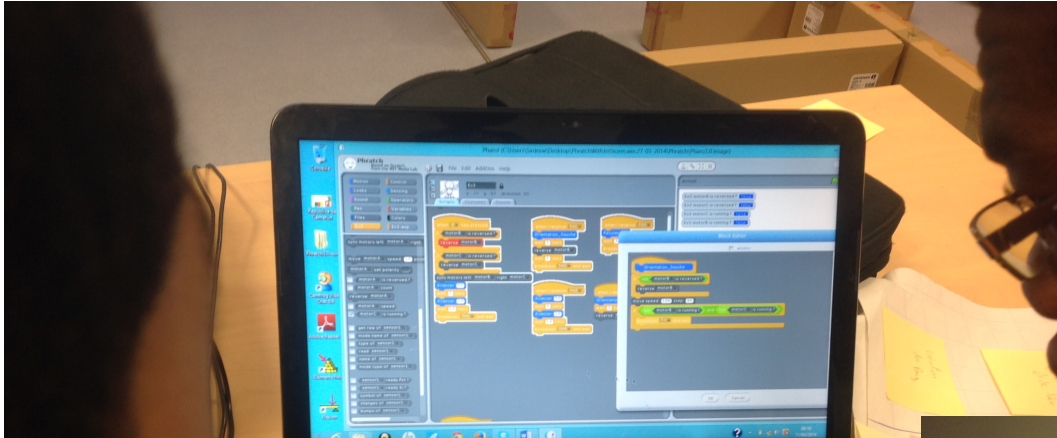
Used for real !



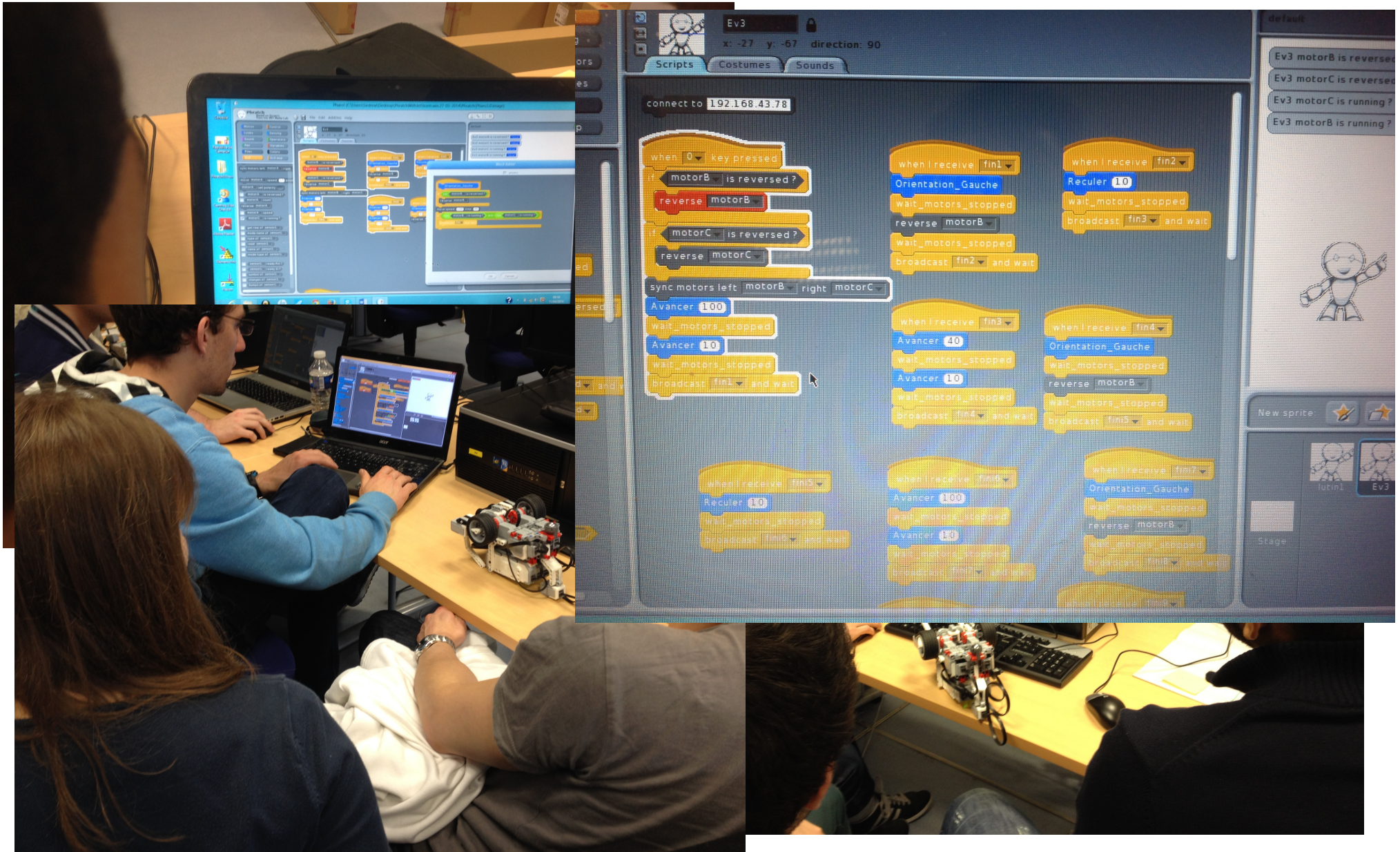
Used for real !



Used for real !



Used for real !



Next steps

Raspberry-Pi

Next steps

Raspberry-Pi

Arduíno

Next steps

Raspberry-Pi

Arduíno

Android



Next steps

Raspberry-Pi

Modularity

Arduíno

Android



Next steps

Raspberry-Pi

Modularity

Arduino

Integration
with Pharo

Android



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Web interface

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Robotics

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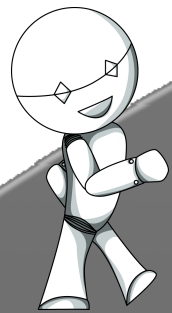
Android



Web interface

...

The road is long...

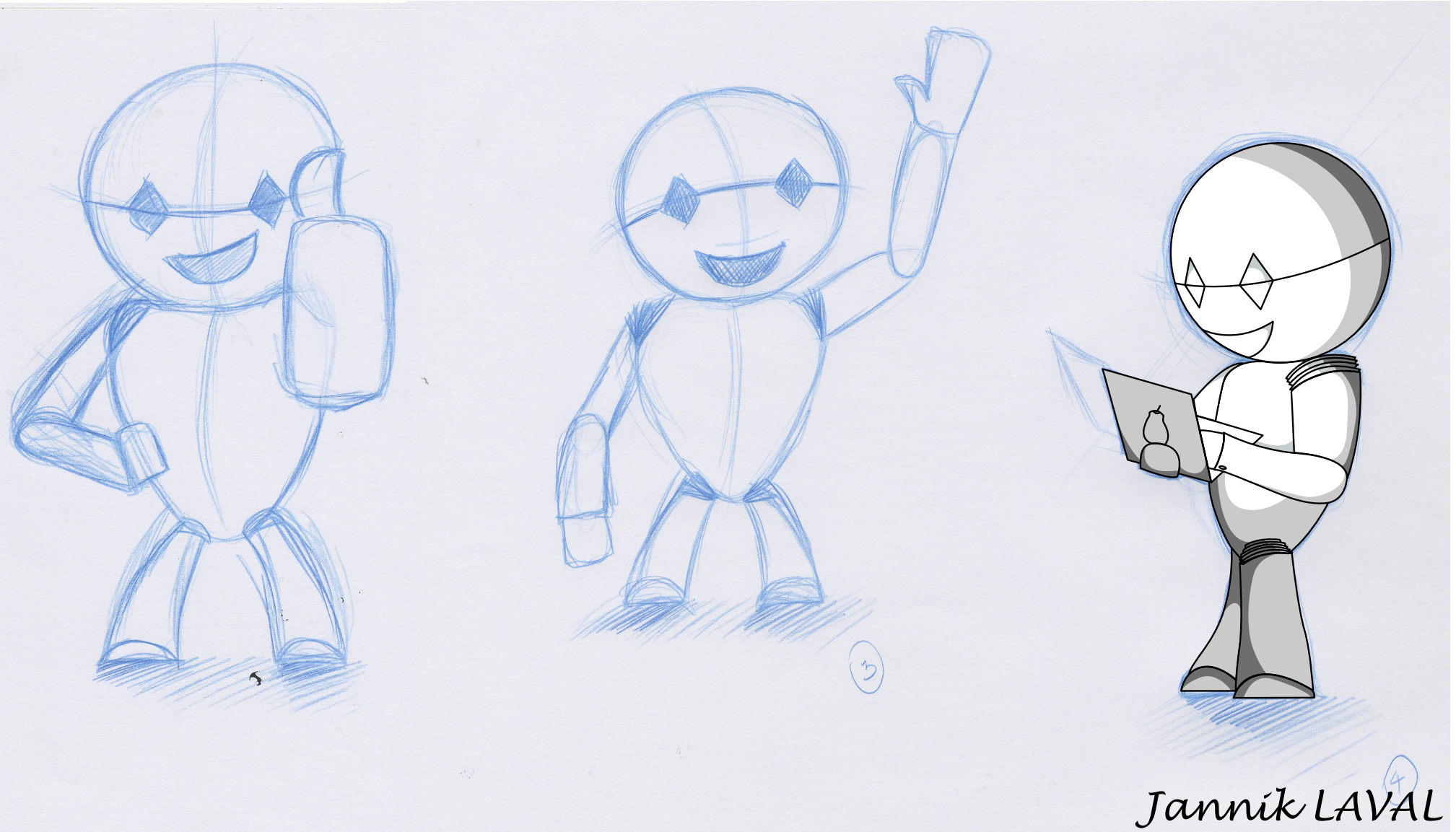


The road is long...



but we have the
lighthouse

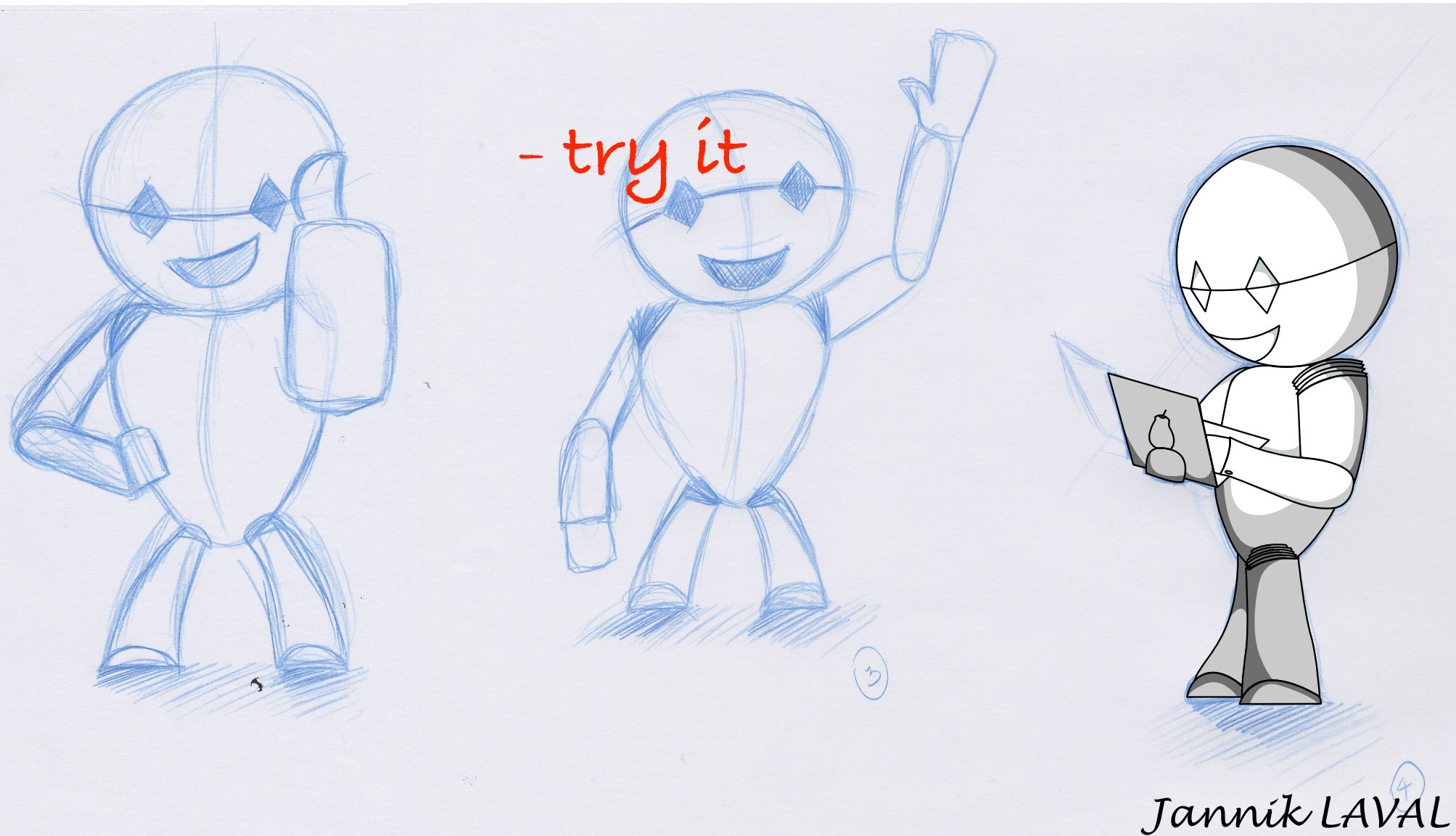
We need you



Jannik LAVAL

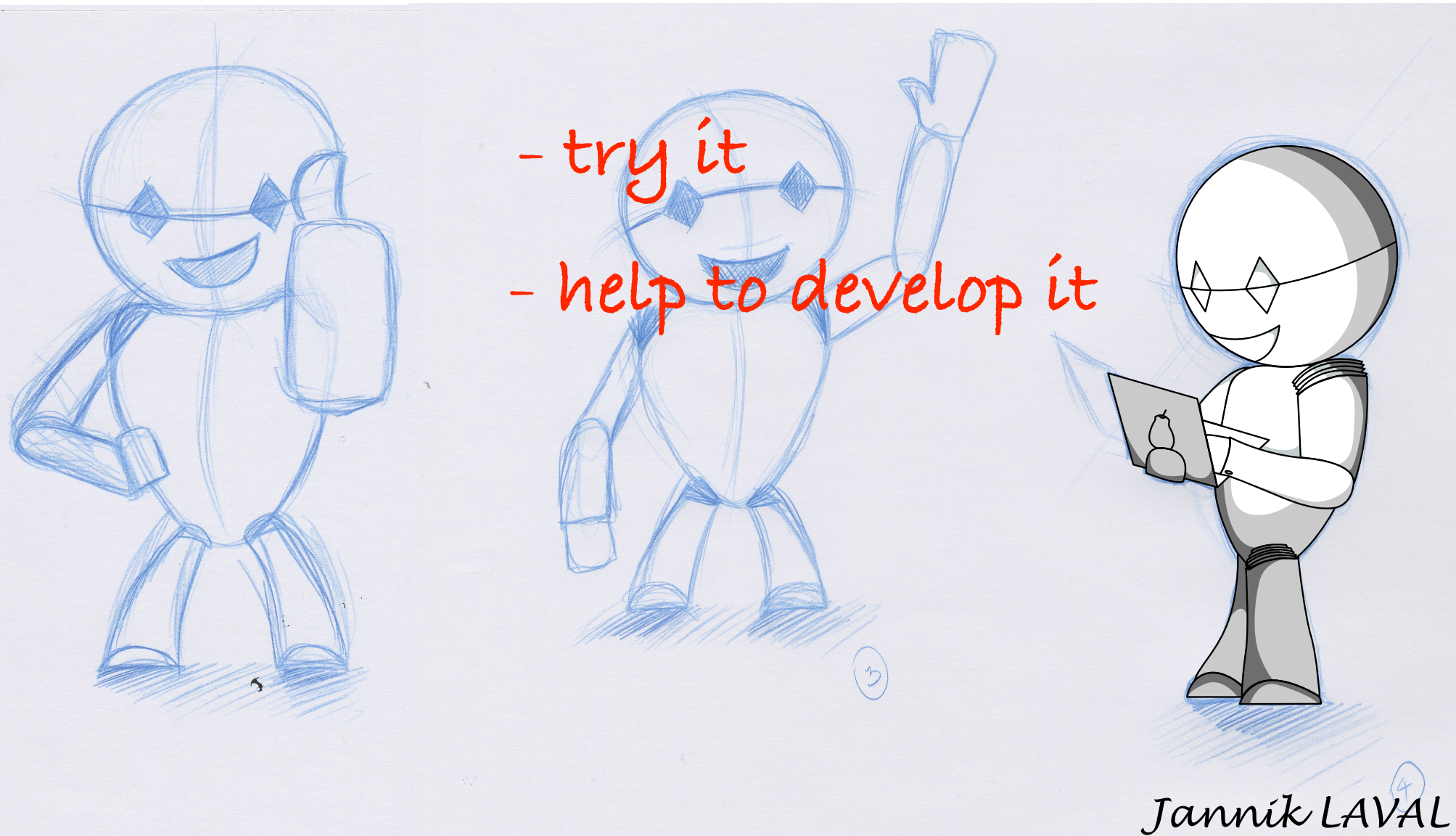
<http://www.phratch.com>

We need you



Jannik LAVAL
<http://www.phratch.com>

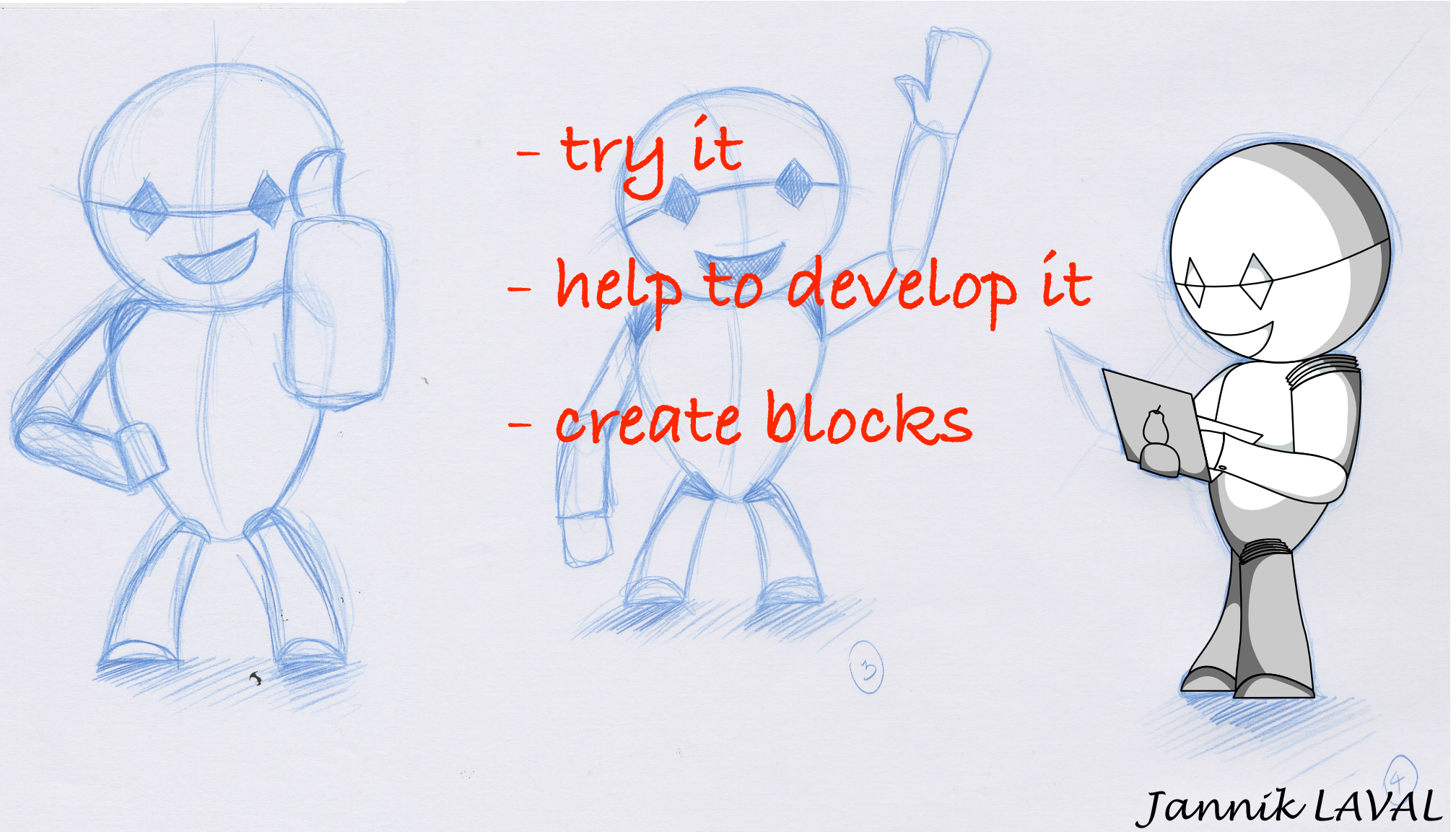
We need you



- try it
- help to develop it

Jannik LAVAL⁴
<http://www.phratch.com>

We need you



- try it
- help to develop it
- create blocks

Jannik LAVAL

<http://www.phratch.com>

We need you

- try it
- help to develop it
- create blocks
- make advertisement

make the sketch
become reality

Jannik LAVAL

<http://www.phratch.com>