

# TEACHING FOR THE FUTURE

*a way to prepare kids in an early stage  
for the automative work environment*

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I'm excited!

It reduces  
social  
interaction...

How do you feel  
about *automation*  
in a *professional*  
environment?

Can't  
understand it,  
so it scares  
me...

Scared about  
losing my  
job...

A machine  
can't work  
like human  
could...

It makes my  
work more  
efficient!

# Problem

People are afraid of automation  
/  
aren't using it at it's full potential.

And we are not yet acting strong enough  
*to change this fact in the future.*

# *Our Solution*

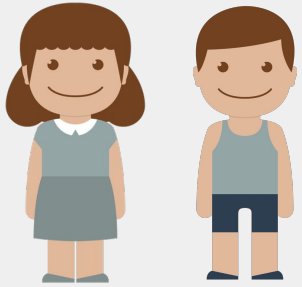
...is to educate kids for automation



By creating a new school *subject*

= *Future Technique*

# Target Group



6-10 yrs

Why?

To make automation  
equally *reachable* and  
*understandable* for  
everyone in the future.



# Goals?

1. to be creative with technology
2. to teach computational thinking
3. to teach basic informatics
4. to teach environmental awareness

*How?*

Project based learning plan

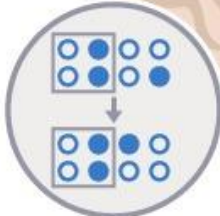
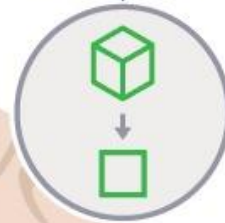


# Computational thinking

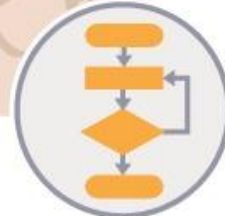
Decomposition



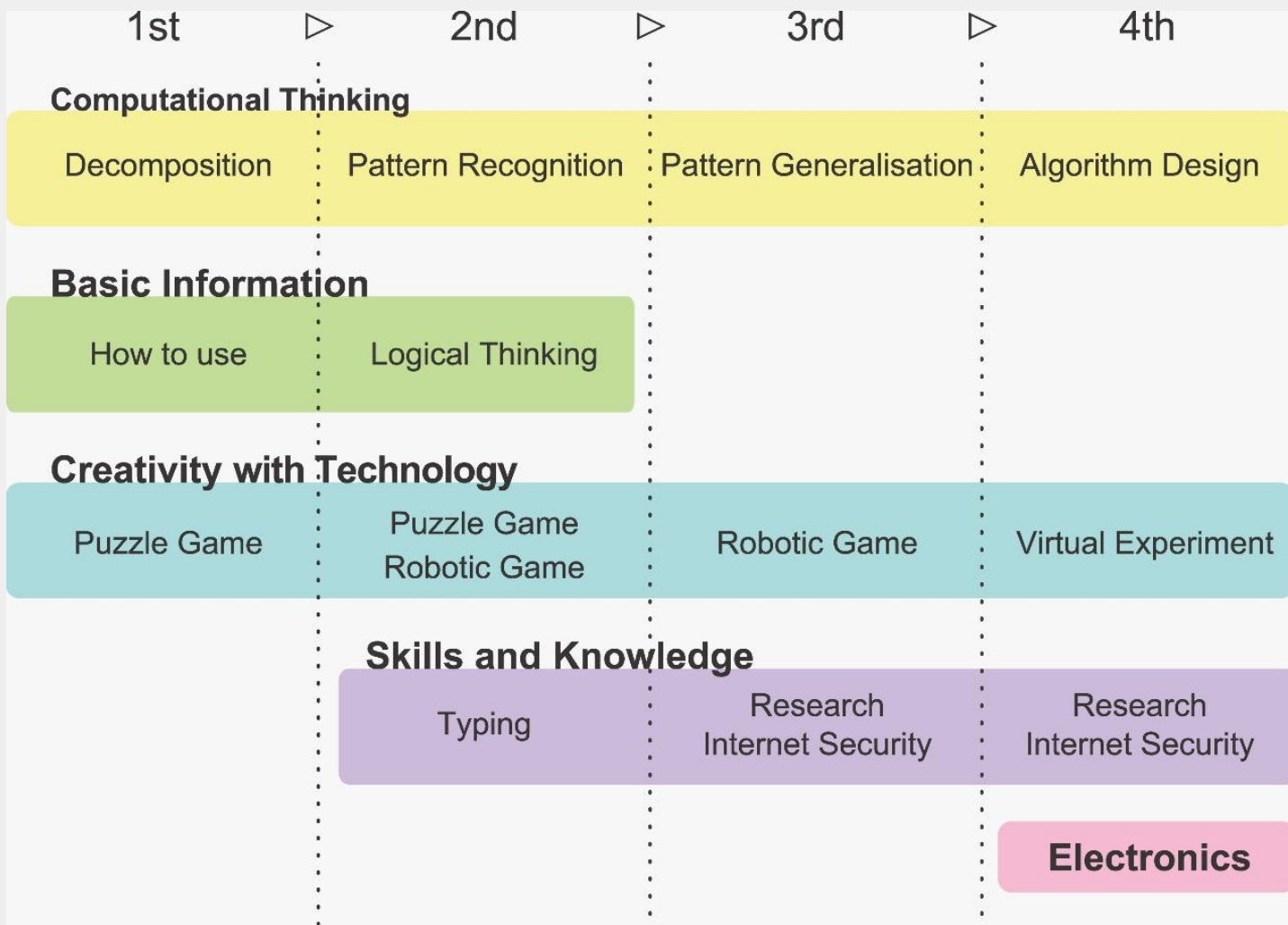
Abstraction



Pattern recognition



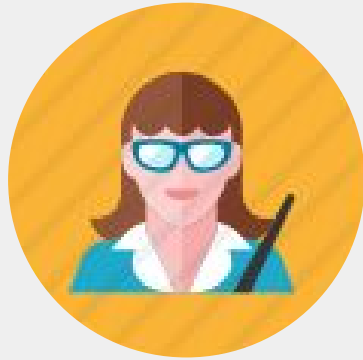
Algorithms



# Resources...

1. People
2. Capital
3. Material goods

# People



# Capital



Bundesministerium  
für Bildung  
und Forschung



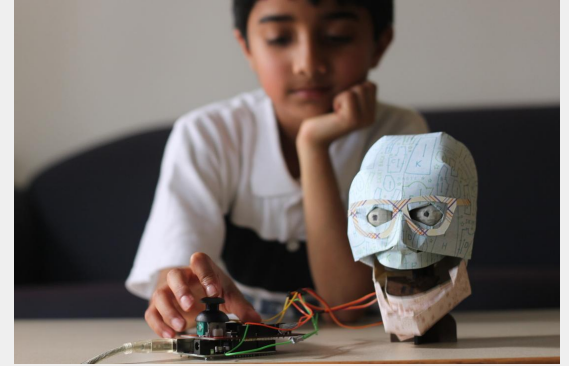
*Material Goods*



# Infrastructure



# Equipment

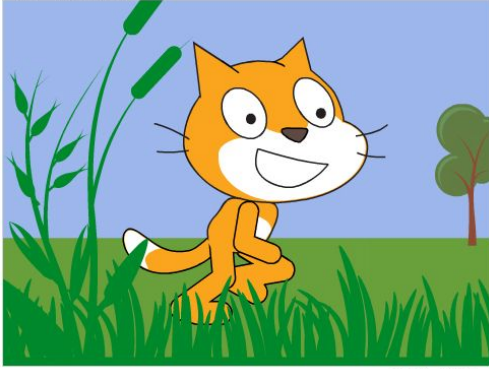


# Tools

The image displays the Scratch Jr interface. At the top left is the "SCRATCHJR" logo and a home icon. Below this is a character selection panel with "Cat", "Shani", and "Flowers" options, and a plus sign for more. The main stage shows a scene with a cat, a person, trees, and a house. On the right, a storyboard shows four scenes labeled 1, 2, 3, and 4. At the bottom, a toolbar contains icons for home, navigation, character, sound, camera, speech, and various movement and control blocks. Below the toolbar is a script editor with a cat icon and a sequence of five blocks: a yellow home block, a pink character block, an orange movement block, a blue control block with a loop icon, and a blue control block with a loop icon. The blocks are numbered 5, 4, 2, 1, and 3 from left to right.

Scratch File Edit Tips Sign In to save Sign In

Full 16 Frame Scratch Cat Walk Cycle by griffpatch



x: 240 y: -180

Sprites New sprite: [Scratch Cat] [Tree\_3] [Glass-Tal...] [Glass-Tal...] [grass3]

New backdrop: [grass2] [Tree\_2]

Scripts Costumes Sounds

- Motion
- Looks
- Sound
- Pen
- Data
- Events
- Control
- Sensing
- Operators
- More Blocks

when clicked

when space key pressed

when this sprite clicked

when backdrop switches to backdrop

when loudness > 10

when I receive message1

broadcast message1

broadcast message1 and wait

when clicked

forever

- wait 0.02 secs
- next costume

when this sprite clicked

- set size to 50 %
- go to x: 195 y: -123
- clear
- switch costume to Walk1
- repeat 1
  - stamp
  - change x by 55
  - next costume
- set size to 120 %
- go to x: 0 y: 53

Remix See project page

x: 5 y: 1








Code.org - Flappy Bird #1 x

studio.code.org/flappy/6

C O  
D E  
STUDIO

Flappy Code ○○○○○ 6 ○○○○ 10 I've finished my Hour of Code Sign in



Click Run to Start the Game

Run

See if you can still score a point after making Flappy flap either a smaller or larger amount.

Blocks

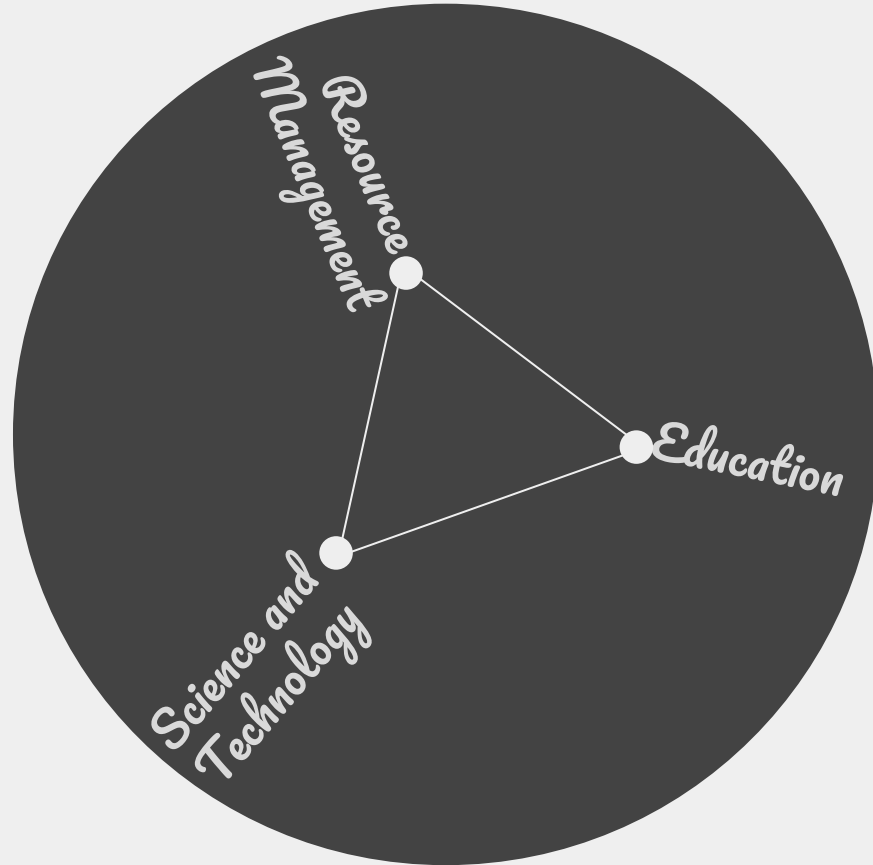
- flap a normal amount
- end game
- score a point
- play wing sound
- set speed normal

Assemble your blocks here:

- when run
  - set speed normal
- when pass obstacle
  - score a point
  - play point sound
- when click
  - flap a small amount
  - play wing sound



# Interdisciplinary Relation?



# Bibliography

<http://www.hepgjournals.org/doi/abs/10.17763/haer.84.4.34j1g68140382063?code=hepg-site> (Erica Rosenfeld Halverson and Kimberly Sheridan (2014) The Maker Movement in Education. Harvard Educational Review: December 2014, Vol. 84, No. 4, pp. 495-504.)

<https://www.cs.cmu.edu/~CompThink/resources/TheLinkWing.pdf> (Jeannette M. Wing 17 November 2010)

[https://s3.amazonaws.com/academia.edu.documents/4810740/ar\\_edu.pdf?AWSAccessKeyId=AKIAIWOWYYGZ2Y53UL3A&Expires=1512058636&Signature=Pdt3G0Rhxc6s2q13rl6WrVH9d4%3D&response-content-disposition=inline%3B%20filename%3DAugmented\\_reality\\_in\\_education.pdf](https://s3.amazonaws.com/academia.edu.documents/4810740/ar_edu.pdf?AWSAccessKeyId=AKIAIWOWYYGZ2Y53UL3A&Expires=1512058636&Signature=Pdt3G0Rhxc6s2q13rl6WrVH9d4%3D&response-content-disposition=inline%3B%20filename%3DAugmented_reality_in_education.pdf) (© December 2002 New Horizons for Learning P O Box 31876 Seattle WA 98103 USA)

[http://aladdin.unimi.it/materiali/pubbl/2011\\_kang\\_issep.pdf](http://aladdin.unimi.it/materiali/pubbl/2011_kang_issep.pdf) (Università degli Studi di Milano, Dipartimento di Informatica e Comunicazione, Via Comelico 39, 20135 Milano, Italy)

<https://www.derivative.ca/wiki088/index.php?title=File:Vive.png> (Snaut Talk 21 April 2016)

<https://code.org/about> (© Code.org, 2017. Code.org®, the CODE logo and Hour of Code® are trademarks of Code.org.)

<https://www.amd.com/de> (©2017 Advanced Micro Devices, Inc)

# Pictures

BRAINS: <https://cdn.thetinyhouse.net/wp-content/uploads/2014/12/Illustration-Thinking.png> (latest checked 15.50, 30.11.2017)

SCRATCH: [http://news.mit.edu/sites/mit.edu.newsoffice/files/images/2013/20130514110054-1\\_0\\_0.jpg](http://news.mit.edu/sites/mit.edu.newsoffice/files/images/2013/20130514110054-1_0_0.jpg)

SCRATCH JR: [https://lh4.ggpht.com/8\\_soyjBCCIY0IX3lv-izO1eGzfTVr\\_ACY4jIDDTqu8w8KEh09idufMjNTqYvQxiZ\\_YCp=h900](https://lh4.ggpht.com/8_soyjBCCIY0IX3lv-izO1eGzfTVr_ACY4jIDDTqu8w8KEh09idufMjNTqYvQxiZ_YCp=h900)

GIRL: [https://cdn2.iconfinder.com/data/icons/little-girl/512/little\\_girl\\_grey.png](https://cdn2.iconfinder.com/data/icons/little-girl/512/little_girl_grey.png)

BOY: [https://cdn4.iconfinder.com/data/icons/little-boy/1067/Little\\_Boy\\_Grey.png](https://cdn4.iconfinder.com/data/icons/little-boy/1067/Little_Boy_Grey.png)

TEACHER:

BEE BOT: [https://www.terrapiinlogo.com/media/catalog/product/cache/1/image/650x/040ec09b1e35df139433887a97daa66f/b/e/beebot\\_1.png](https://www.terrapiinlogo.com/media/catalog/product/cache/1/image/650x/040ec09b1e35df139433887a97daa66f/b/e/beebot_1.png)

FLAPPY CODE: <https://i.ytimg.com/vi/3lzRWvxAAB4/maxresdefault.jpg>

HTC VIVE: <https://www.derivative.ca/wiki088/index.php?title=File:Vive.png>

BMBF LOGO: [https://upload.wikimedia.org/wikipedia/commons/thumb/5/5c/BMBF\\_Logo.svg/2000px-BMBF\\_Logo.svg.png](https://upload.wikimedia.org/wikipedia/commons/thumb/5/5c/BMBF_Logo.svg/2000px-BMBF_Logo.svg.png)

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