Guide to interactive applications

Code with Ava

Games with coding on the interactive floor

Designer: LavaVision

Code with Ava is Motioncube application package designed for interactive floors, personal computers, and interactive whiteboards. The applications are controlled by **interactive pens.**

Number of applications in the package: 54
Application control method: interactive pens
Design, graphics, software: LavaVision
Package release date: 2020-09-01

Motioncube is an interactive software that combines motion and fun in the innovative technology of the interactive floor. Motioncube applications are designed for entertainment, education, revalidation, rehabilitation. Dozens of games controlled by motion, touch, interactive pens, robots, as well as for PCs and interactive boards. Along with example lesson or activity plans. Quick and easy selection of games collections with delivery straight to the interactive device. Create the interactive space tailored to your needs with Motioncube.
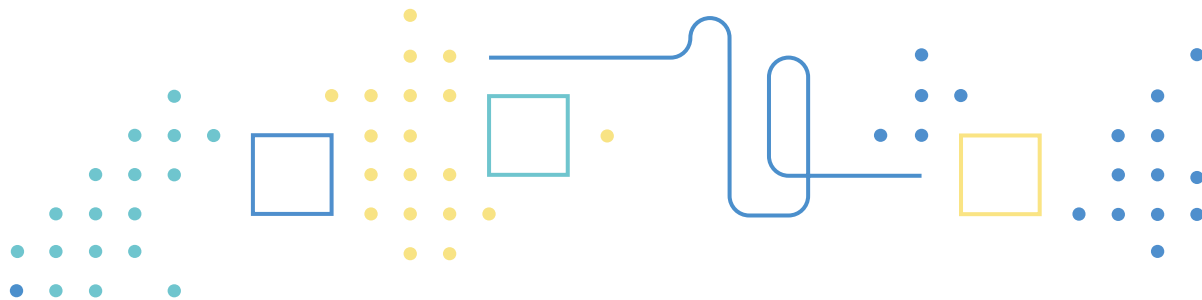
LavaVision

www.lavavision.eu

contact@lavavision.eu

Meet Ava

Hi, I'm Ava. I invite you to explore with me the planets of the Funn Galaxy. Ava, traveling between the planets of the Funn Galaxy, carries out many missions to ensure the peaceful lives of its inhabitants. Accompanying Ava is a lot of fun! However, the time spent with Ava is not only fun, it is also an opportunity to stimulate visual perception, spatial orientation, logical and algorithmic thinking. Code with Ava is a great way to start your coding adventure.
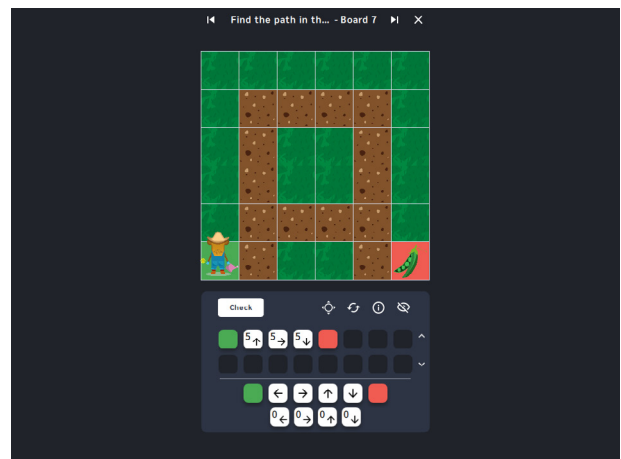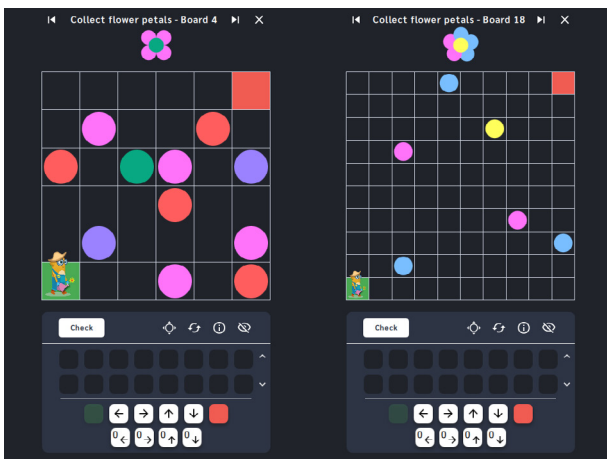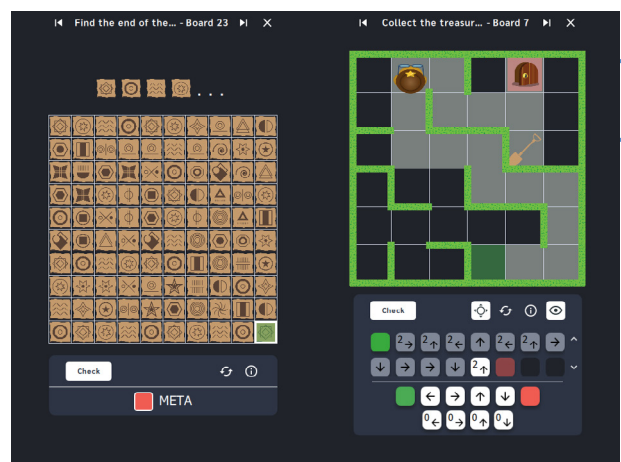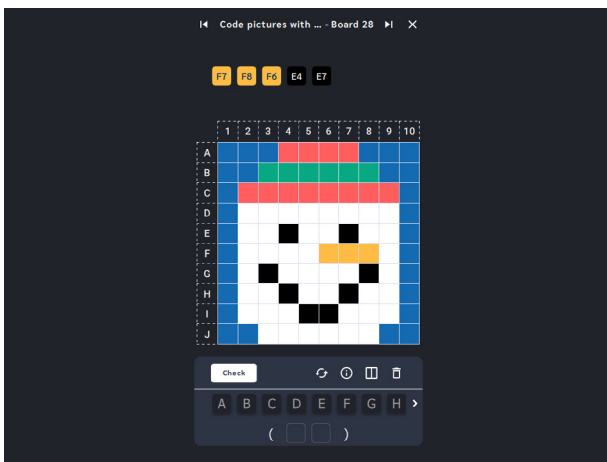
Who is it for?

Code with Ava applications can complement everyday educational activities for children in kindergarten, early school, or school age, as well as corrective, compensatory, and revalidation classes. They can also be a great alternative to traditional coding learning in front of the computer screen, by making the time spent by children of all ages more attractive and energetic in educational institutions, community centers, and at home.

This app collection is dedicated, in particular, to coding classes for children.
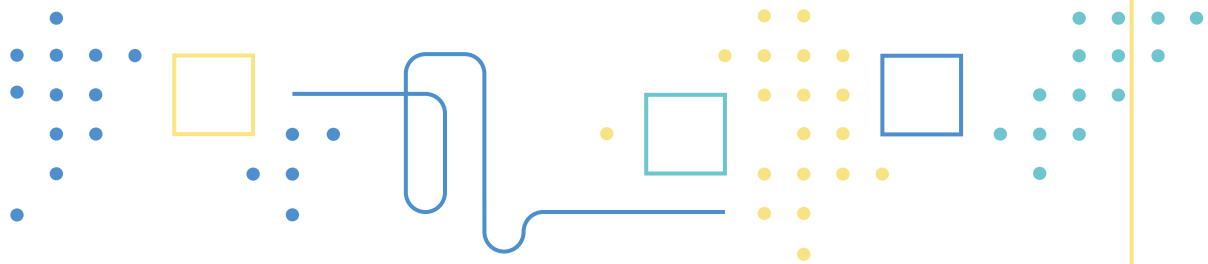
What are the objectives of these activities?

Fictionalized applications create a play collection full of adventures and interesting missions to perform. These games stimulate visual perception, spatial orientation, logical and algorithmic thinking. The aim of the work of the specialists creating these applications was to create a tool that, through the use of boards with an adjustable grid of fields (from 3x3 to 10x10), will enable the development of programming skills in early childhood education.

Children can practice sequencing, using loops, reading coordinates, and graphical patterns recognition. The ability to track the sequence being executed on the board makes it easier to understand and detect possible mistakes in the code. The apps support the development of math skills such as addition, subtraction, division, and multiplication. Depending on the game, students can practice finding the right solution or solving the problem creatively. Sometimes they may observe and repeat the sequence of symbols, other times they may create the route or graphical pattern by themselves. This is a powerful tool supporting the education of the basics of coding. The authors of the Code with Ava applications tried to respond to the developmental needs of preschool and school children, focusing primarily on supporting motor and sensory skills during organized and safe activities.
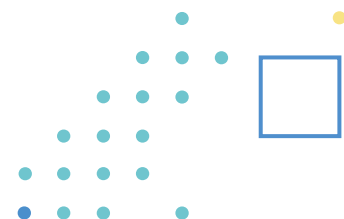
What is inside?

7 thematic sections - 54 applications - 1633 interactive coding boards

Code with Ava is a coding course with fifty-four applications grouped into seven thematic adventures: Graphical coding, Encrypted routes, Escapes from mazes, Garden paths, Word coding, Numbered paths, Alchemists coordinates. Each group is a kind of a mini coding course placed in a different context.

Each application is a set of properly designed interactive coding boards. The board consists of a grid of fields and a toolbox with which the student solves the task by e.g. designing with arrows the route for Ava, creating colourful pictures by applying colours on the grid, specifying the location of objects using coordinate selection, or by marking the path directly on the grid.

In applications, the difficulty level can be adjusted by varying the size of the boards used, the length of the mapped routes, the complexity of the formulas used, the scope of the mathematical operations entered, the number of items to be collected or avoided on the boards. It is a comprehensive tool that supports coding learning in early childhood education.

The main character of the course is Ava, a brave traveler who visits the planets in the Funn Galaxy. She carries out many missions to care for the peaceful life of its inhabitants. Ava has seven planets to visit: Planet of Artists, Explorers, Alchemists, Gardeners, Planet of the Wild West, Librarians, and Scientists. Each of them has a lot of different tasks to perform that introduce students to the basics of coding and programming step by step.

Child development support

The applications included in the package have been developed in cooperation with teachers and psychologists. Interactive games and exercises can perfectly enrich group class scenarios as well as individual exercises.

Active impact on child's skills development:

- visual perception;
- spatial orientation;
- eye-hand coordination;
- ability to concentrate attention;
- classification of items;
- patterns recognition;
- creation sequences of commands to control objects;
- reading and marking the position of objects in the coordinate system;
- understanding concepts such as: instruction, algorithm, sequence, loop, events;
- reading skills, systematic familiarization with letters;
- the ability to recognize popular species of plants and animals;
- the ability to understand basic mathematical concepts and operations.
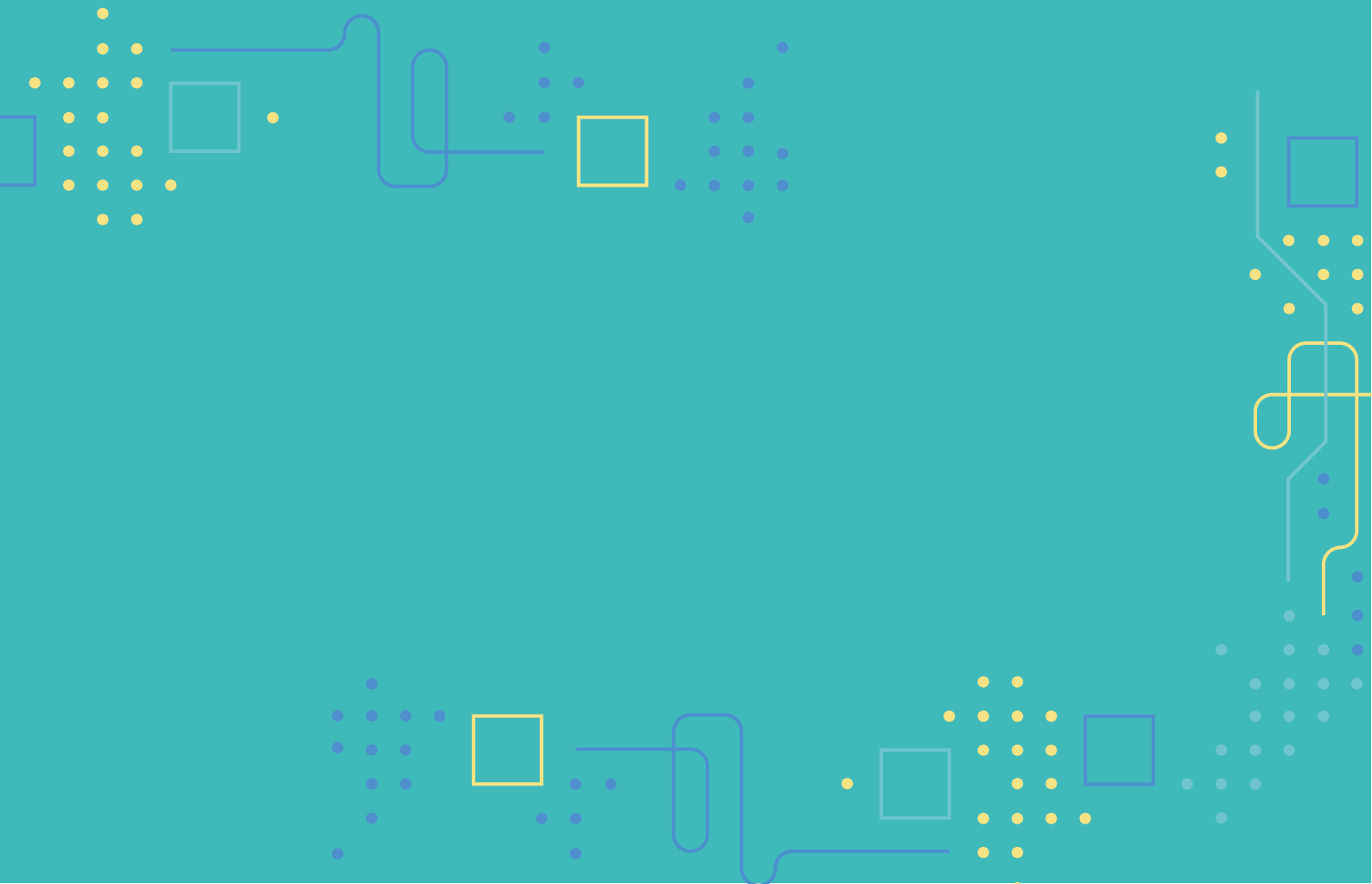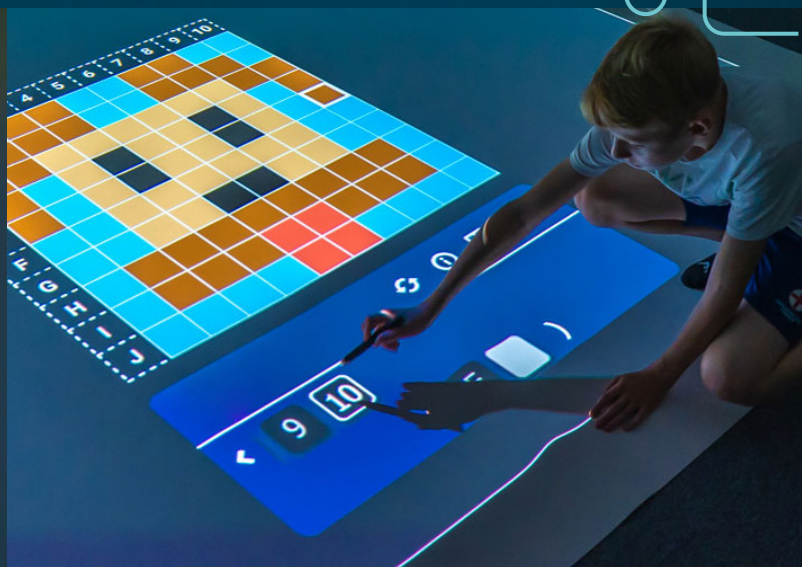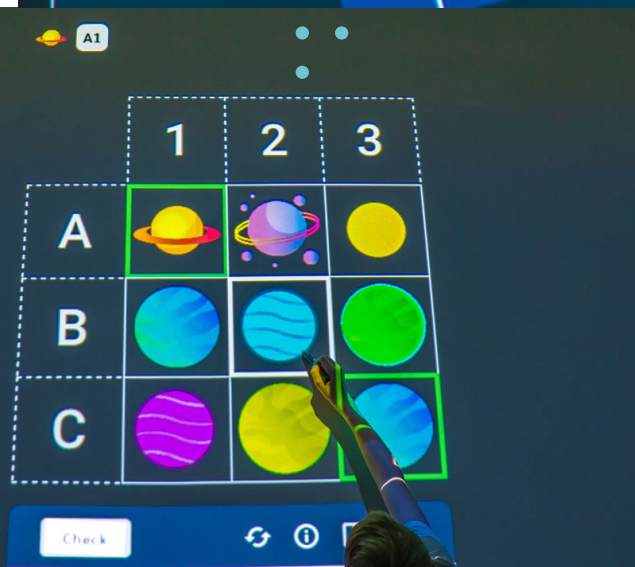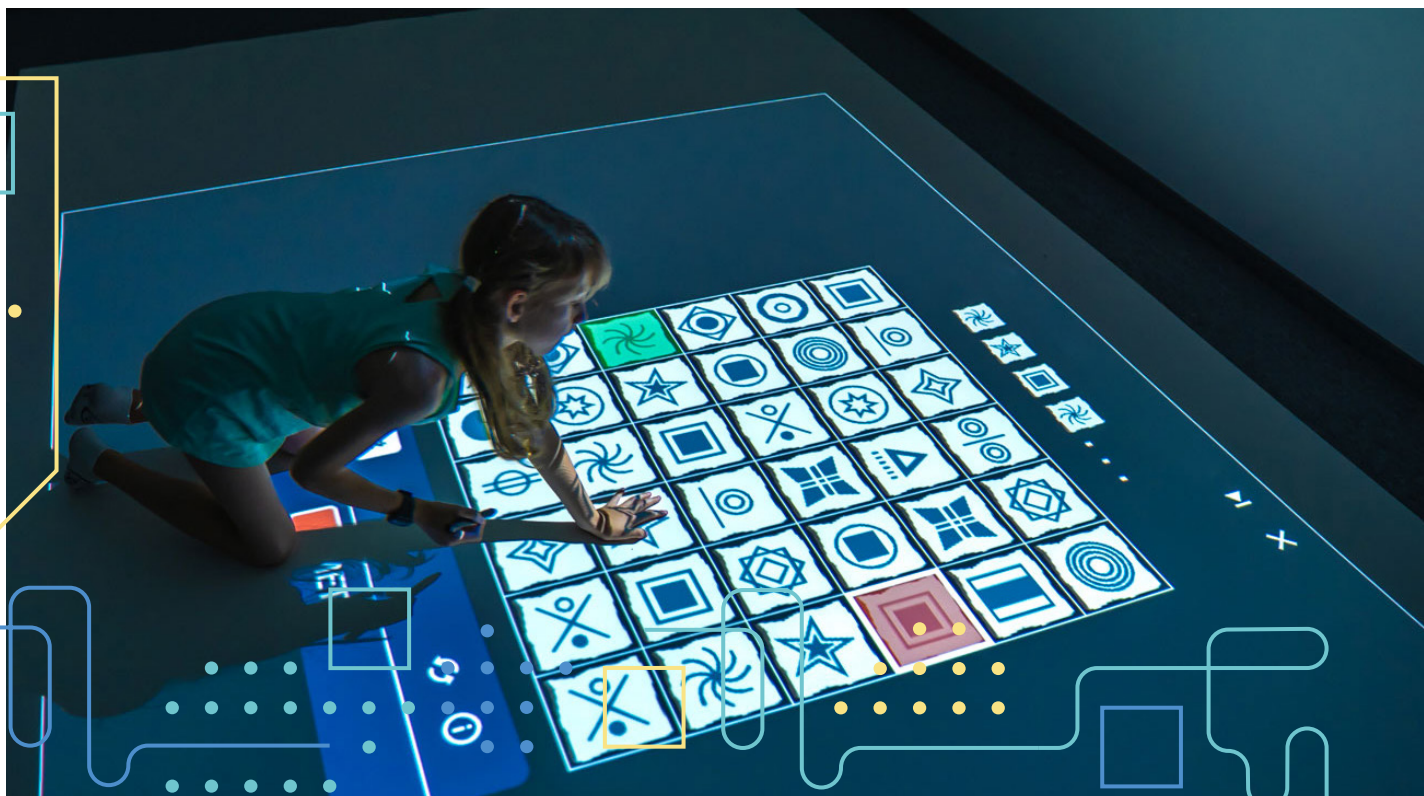
Fun with the Code with Ava on the Motioncube interactive floor

- You can run the Code with Ava games on the interactive floor with Motioncube
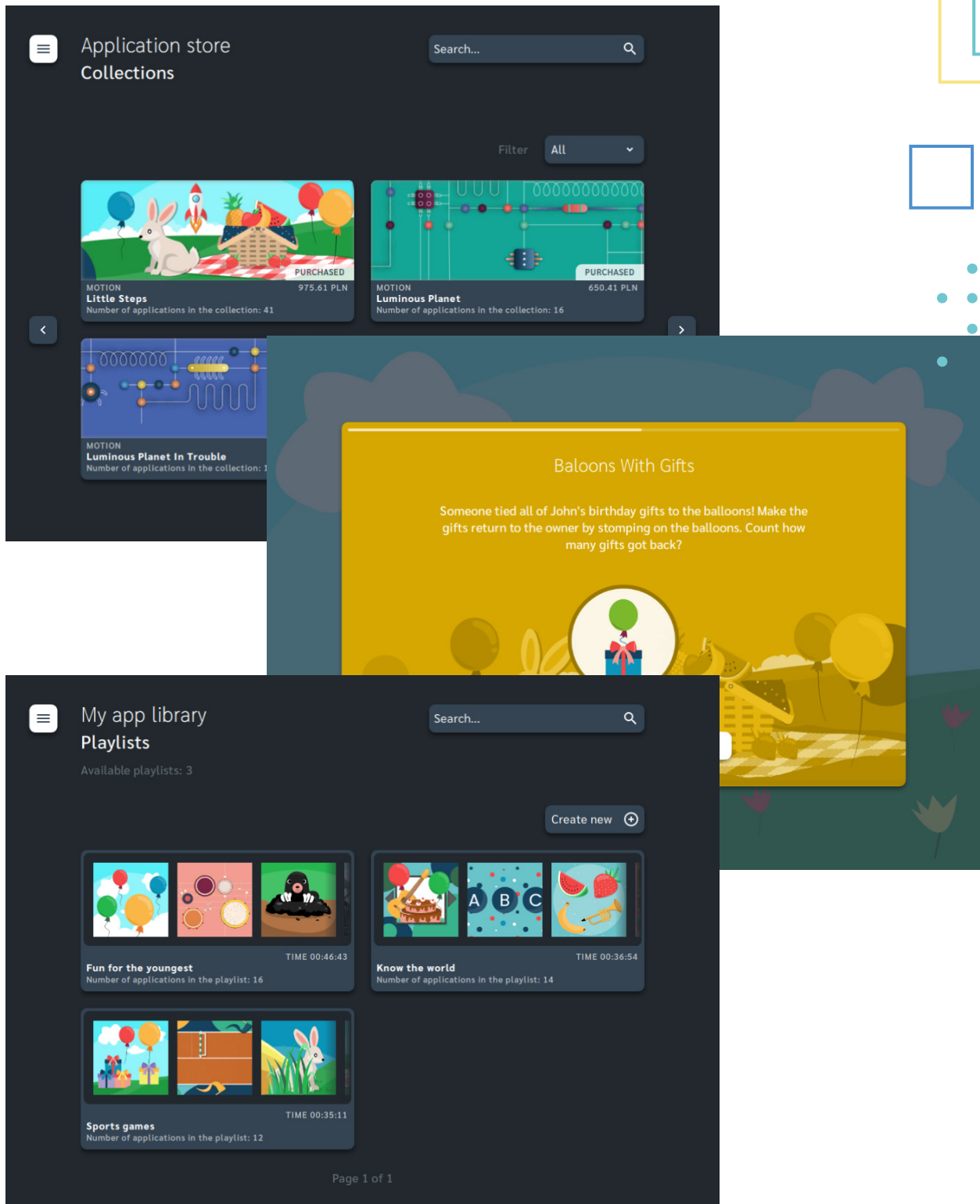- Player available on   **www.motioncube.io**

m. See video ▶

Motioncube Player

With Motioncube Player, you can easily manage your App Library, update your app collections, run playlists, and access a wide offer of educational interactive games.

Why choose Code with Ava course?

- Powerfull didactic tool for algorithmic thinking and coding learning;
- Great alternative for sitting in front of computer screens;
- Support analytical skills in an attractive and interactive way;
- Tested by children and teachers;
- Ergonomic interface, simple to use;
- Travel and learn in the Funn Galaxy with Ava!

Let me be your Avatar in the Funn Galaxy.

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Code With Ava course consists of 54 applications divided into 7 thematic sections.

Section I - Graphical coding

Work is in full swing on the Planet of Artists. That is where the Funn Galaxies get paintings, mosaics and patterned fabrics that decorate their cozy little houses. Create colorful pictures with Ava! Thanks to the Domain with Ava, you will create visual perception, orient hand-eye coordination, orientation spatial orientation.

Number of applications: 6

Section II - Encrypted routes

The travelers who traversed the lands of the Planet of Explorers in the past have left their maps behind. Help Avie recreate blurred paths and forge new paths. Thanks to this, you will improve visual perception and logical thinking, as well as develop the ability to classify objects, create patterns and patterns.

Number of applications: 5

Section III - Escapes from mazes

On the planet of the Wild West, Ava acts as the sheriff. Take on the challenges facing the law enforcement officer and help Ava get out of the mazes. By defining directions, by locating items on the board, you will support the development of spatial orientation and the ability to create a sequence of commands.

Number of applications: 9

Section IV - Garden paths

The inhabitants of Planet Ogrodników cultivate plants. Help Ava collect flowers, vegetables and fruits so that nobody's tummy rumbles all winter long! By arranging the route from blocks, you will shape the ability to create algorithms and command sequences. You can also develop the ability to recognize plants and animals.

Number of applications: 12

Section V - Word coding

Planet Librarians is famous for its great Archive, in which each word is assigned a code. Help Avie in this tedious job! By reading and recording the route with arrow blocks, synthesizing and auditory analysis of words, you will improve your spatial orientation and develop your reading skills.

**Number of applications: 4**

Section VI - Numbered paths

On the Scientist Planet, many paths have been encrypted. Help Avie to find routes encoded with numbers and math. By organizing the numbers and results of activities, arranging your route with arrow blocks, you will shape your ability to understand basic mathematical concepts and operations.

Number of applications: 12

Section VII – Alchemists coordinates

The Planet of the Alchemists produces medicines for all the inhabitants of the Funn Galaxy. Help Avie create them according to complex recipes. By marking points on the board, reading their position in a coordinate system, you will shape visual perception and develop spatial orientation.

Number of applications: 6
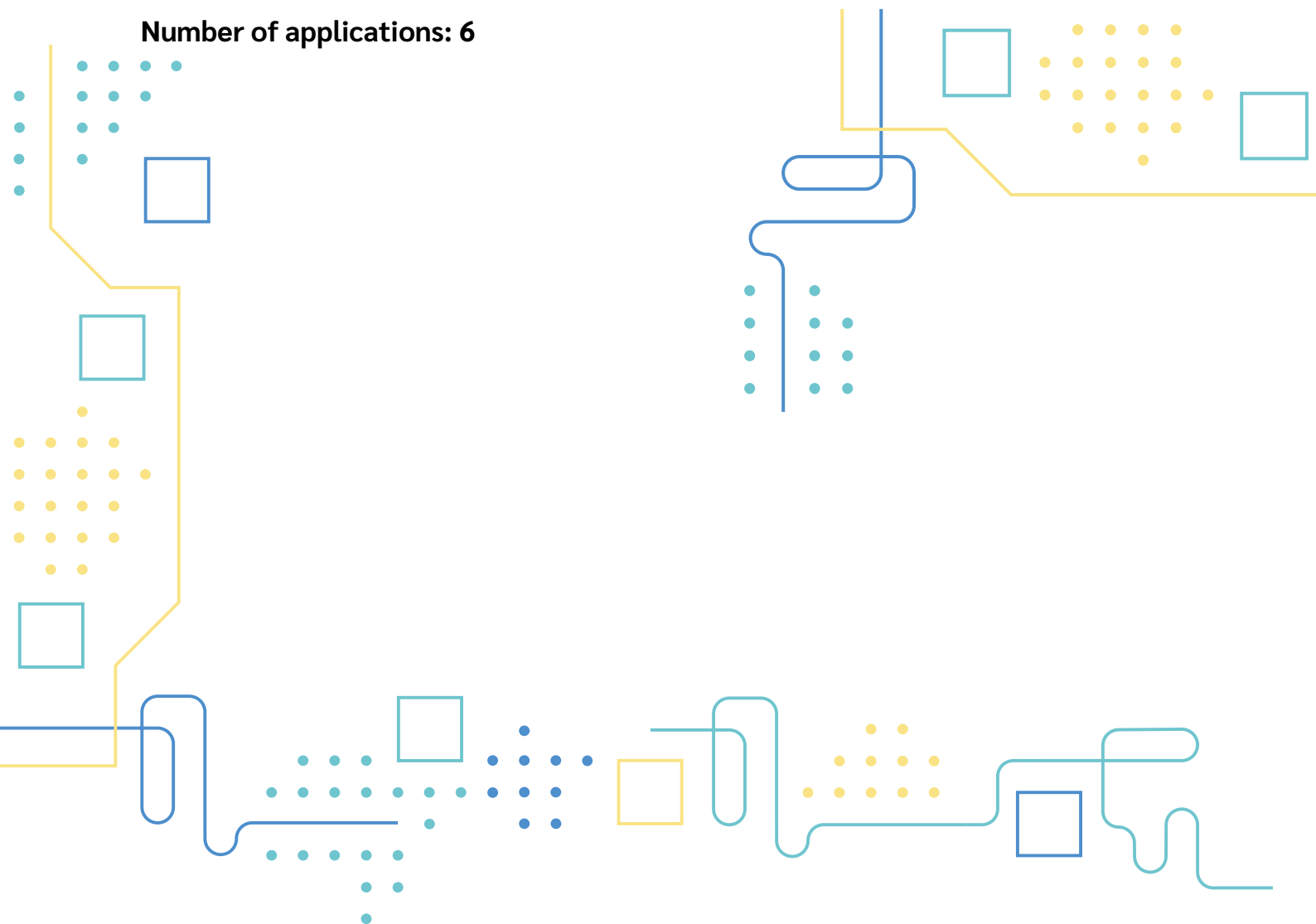
Section I - Graphical coding

Complete Symmetrical Pictures
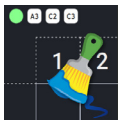Complete the pattern on the fabric following its mirror image.

Copy Pictures
Help Ava complete the colourful boards according to the given pattern.

Recognize Patterns On Pictures
Decipher the mosaic pattern and help Ava fill the blanks with colors.

Create pictures with coordinates
Create an image encoded with coordinates with Ava the Artist.

Create your own picture
Visit the Planet of Artists and create your own masterpiece!
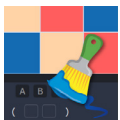
Code pictures with coordinates
Assign digits and letters for each box in the picture.

Section II - Encrypted routes

Find the end of the route
Follow the sequence of symbols and indicate where it leads.

Create your own route
Create new paths using the sequences of ancient symbols.
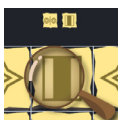
Arrange the route on the map
Recognize the sequence of symbols and arrange a route following the pattern.
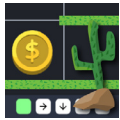
Arrange the route on the map - loops
Decrypt the ancient map and use blocks with loops to show Ava the way.

Find the end of the route
Follow the sequence of symbols and indicate where it leads.

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Section III - Escapes from mazes

Collect treasures
Go through all the fields with lost items.

Collect the treasures - Loops
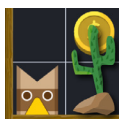Collect treasures by guiding Ava using loop blocks.

Avoid traps in the maze
Avoid obstacles on the way!

Avoid traps in the maze - loops
Use the loop blocks to show Ava the way.

Find the end of the route
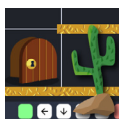Follow the sequence of symbols and indicate where it leads.

Collect treasures and avoid traps - loops
Use the loop blocks to show Ava the way in mazes.

Find the police station
Show Ava the finish line so she can end her daily patrol.

Get out of the maze
Create an exit instruction from the maze by creating a code from the arrows.
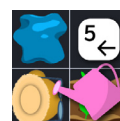
Get out of the maze - loops
Use the loop blocks to guide Ava through the maze.

Section IV - Garden paths
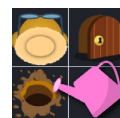
Avoid traps in the garden
Skip all things that are not ripe vegetables or fruit!

Avoid the traps in the gardens - loops
Use the loop blocks to guide Ava through the garden.

Gardening season
Gather the crops, avoid the obstacles!

Gardening season - loops
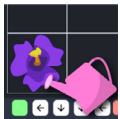Use the blocks with loops to show Ava the ways in gardens.

Gather specific crops
Make a route and gather all the flowers, fruit or vegetables!

Gather specific crops - loops
Use the loop blocks to guide Ava through the garden.

Reach the last plant
Design the way to lead Gardener Ava to her destination!

Reach the last plant - loops
Use the loop blocks to guide Ava through the garden.

Collect flower petals
Use the arrow blocks to collect the flower petals you need.

Collect crops
Make a path between the beds for Ava to collect all the crops.

Find the path in the garden maze - loops
Use the loop blocks to show Ava the way between the flower beds.
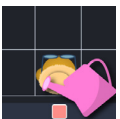
Where is the gate?
Analyze the code and help Ava find the exit from the garden.

Section V - Word coding

Find words
Find the word on the board.

Mark Letters
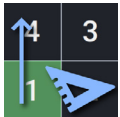Mark on the board with the letters the word highlighted on the empty board.

Decode words
Read the word coded with arrows.

Encode words
Use the arrows to code the words shown above the board.
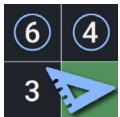
Section VI - Numbered paths

Numbers go up
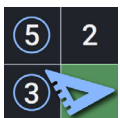Arrange the route from the smallest to the biggest number.

Numbers go down
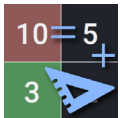Arrange a code that will lead Ava from the biggest to the smallest number.

Find even numbers
Design a route that that contains only even numbers.

Find odd numbers
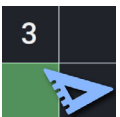Design a route that will follow odd numbers.

Add numbers
Guide Ava along the route adding the numbers.

Add or substract numbers
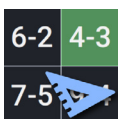Design a path by adding to or subtracting from subsequent results on the route.

Collect all numbers
Create a route with ordered numbers.

Find adding departments
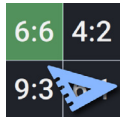Find the road in which the successive adding results will be in ascending order.

Find subtraction departments
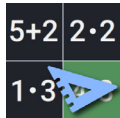Select the path in which the subtraction results are in ascending order.

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Find multiplication rooms
Choose the path in which the multiplication results will be in ascending order.

Find division offices
Design the route with the division results in ascending order.
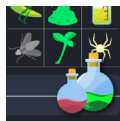

Find way to friends
Find the road in which the results of the math opeartions will be in ascending order.

Section VII - Alchemists coordinates

Create medicaments
Match ingredients with specific colours.

Collect medicament sources
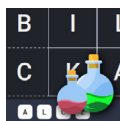Help Ava find the ingredients for medicaments.

Arrange medicaments
Read the given coordinates and put the ingredients of medicines on the board.

Read the planets positions
Read the positions of the planets and complete the description of the coordinates.

Decode spells
Find coordinates and discover words for spells.

Decode old recipes
Help Ava find the letters and assign them the correct coordinates.

Check

Check

	100	+2	+61	+17	-33	+27	-38	+48	
	+20			-52				+22	
	+67			+23				-51	
	-55	+30	-60	+49	-37	+28	-34	+62	
			+56					-47	
	-24	+16	-20				-22	+13	
	+29						+14		
	-18						+45		
	+22	-52	+3		-21	+6	-16		
			+60	20	+19				

Check
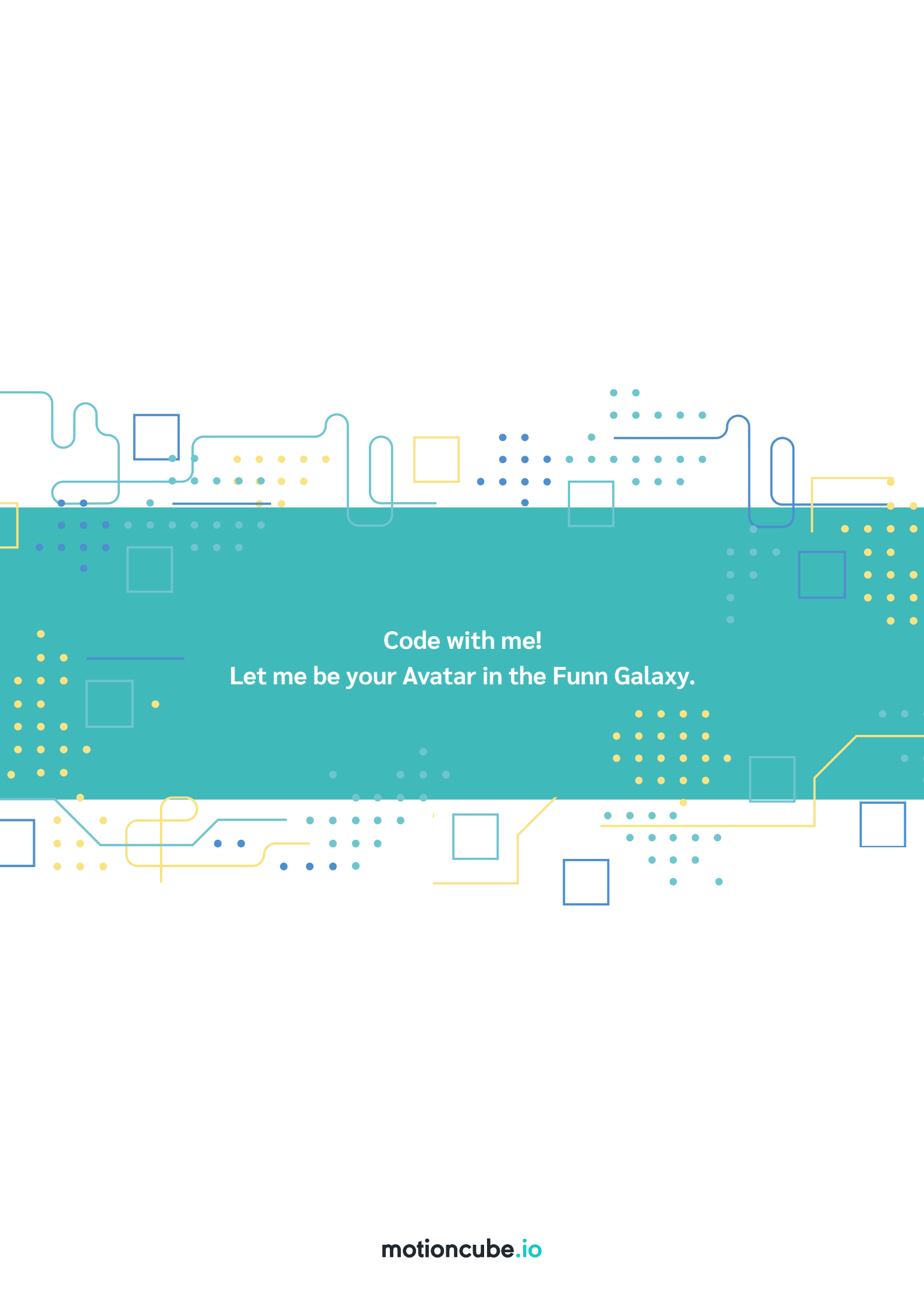
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Check

PENS
Find words
Click again to start the application.

PENS
Find words

+3 +6 -4 PENS
Add or substract numbers

+3 +6 -4 PENS
Add or substract numbers

PENS
Complete symmetrical pictures

PENS
Complete symmetrical pictures

A1 1 A PENS
Read the planets positions

A1 1 A PENS
Read the planets positions

N PENS
Mark Letters

N PENS
Mark Letters

B I C PENS
Decode spells

B I C PENS
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O PENS
Decode words

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Decode words

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Let me be your Avatar in the Funn Galaxy.
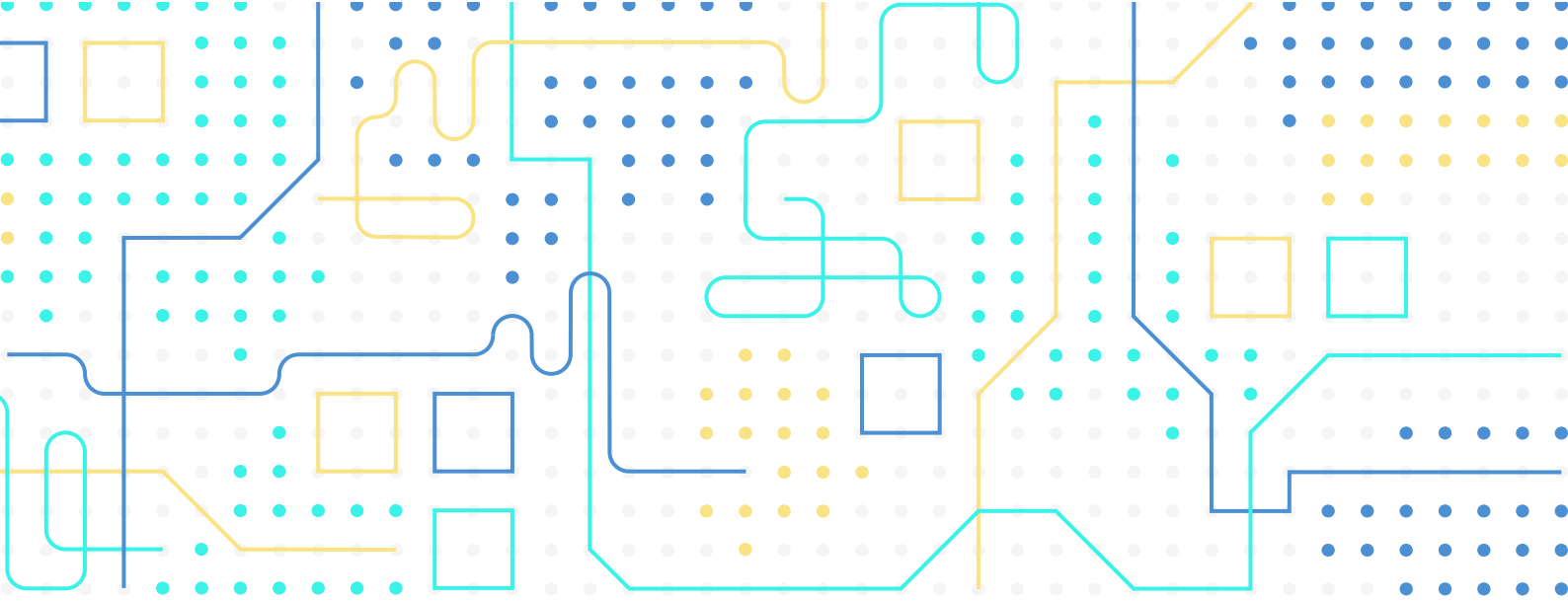
Check more on

www.motioncube.io