

DESCRIPTION

METHOD FOR PROCESSING BLOCK CODING FOR PROGRAMMING EDUCATION

TECHNICAL FIELD

[0001] Embodiments below relate to a technique for processing block coding for programming education.

BACKGROUND ART

[0002] Recently, as software coding education has become compulsory in domestic elementary, middle, and high school curriculum, interest in coding education is rapidly increasing, and various coding teaching aids and toys are being developed according to the trend of the age subject to education is expanding to infants.

[0003] Especially in the case of young children, it is important to educate the children so that they can understand how a software program is developed in a logical flow rather than a programming language itself in educating software programs.

[0004] Various methods are being tried for this, and a way to understand a logic of software programs by arranging various cards and detecting the cards has been suggested.

[0005] However, a simple placement of cards not only makes it easy for a child to lose interest, but also makes it difficult to understand the software program deeply. In addition, in most case, learning is possible only with respect to performing specific functions in order, and thus there is a problem in that it is not easy to educate about performing a specific function and controlling such a

function.

DISCLOSURE OF THE INVENTION

TECHNICAL PROBLEM

[0006] Accordingly, there is an increasing demand for coding education that can increase an understanding of a logic of software programs while arousing interest of users.

TECHNICAL SOLUTION

[0007] According to an embodiment of the present invention, an object thereof is to provide a method for processing block coding for programming education of generating and displaying blocks in a window of a block selection screen, generating a script corresponding to a combination and placement of the blocks when block coding is performed through the blocks, and adding and registering a child object through the script.

[0008] The object of the present invention is not limited to the object mentioned above, and other objects not mentioned will be clearly understood from the description below.

[0009] According to an embodiment of the present invention, there is provided a method for processing block coding for programming education performed by a device installed with block coding software, the method including generating and displaying blocks in a window of a block selection screen using a block information table indexed so that a table configured by classifying blocks by name, classification, and function, generating a first script corresponding to a combination and placement of the blocks when a script generation button displayed on a part of the block selection screen is selected after block coding is performed through the blocks, and generating a first object through the first

script, adding the first object as a child object of a target object displayed on a window of an execution screen, and registering the child object.

[0010] The generating the first script may include generating, when the script generation button is selected, a state and information of blocks connected through the block coding as a first type of data, which is stored for block coding storage, using a parsing script provided by the block coding software, checking the first type of data and generating the first type of data as a second type of data, which is a string type, according to a syntax of a preset programming language, and generating the first script by converting the second type of data into a script of the programming language.

[0011] The generating and displaying blocks may include generating, using the block information table, a block GUI image, an element table, a block motion table, and a block function, a block production table that lists respective elements of the element table and processes the block to be visualized by linking the block function, controlling the block to be displayed on the block selection screen using the block production table, and in which the block information table is a basis for creating an annotation code by abbreviating block information on a block name, a category classification, a block color by category, a block border by category, and a block shape by function with a numeric code, the block GUI image is an image obtained through an image downloaded from an external server, the element table is generated using the block GUI image, and is a basis for creating an annotation code by abbreviating each element of a

non-writable text, a writable text, a conditional blank, and a drop-down menu with a symbol, the block motion table may include a mouse-related motion function by extracting a source code, the block function may include a function code to be actually implemented, a control unit of the block production table may generate and store a code for annotation in an internal script for each block, and according to a selection of the script generation button, a related script among the internal scripts stored for each block may operate to convert the annotation code into an actual code and generate the annotation code as a file, a control unit of the block selection screen may provide a screen in which the blocks are listed for each category through category tabs, using the block production table, and a control unit of the entire screen may include the block selection screen and the execution screen, prepare code generation by storing the blocks listed on the block selection screen in a table, and generate an operation function for an operation of each of block joining, block deletion, and total block list extraction in the block selection screen.

[0012] The generating and displaying the blocks may include generating and displaying each of a first block in charge of an effect field, a second block in charge of a visual field, a third block in charge of a sound field, a fourth block in charge of a physics field, a fifth block in charge of a network field, and a sixth block in charge of 3D field, and a seventh block in charge of a camera field, the generating the first script may include generating the first script corresponding to a combination and placement of the first block, the second block, the third block, the fourth block,

the fifth block, the sixth block, and the seventh block, and the first block is in charge of an effect on smoke, explosions, fires, and beams, and is provided with a goal of understanding a point in time when the effect occur and what effect should appear using causality of an event, the second block is provided with a goal of understanding that a screen expression varies depending on a range of light and a type of light by designing a screen according to the type of light, processing the screen to generate bloom and blur effects using post processing, and using a function for day and night expression, concentration expression using dark and bright portions, and post processing, the third block is provided with a goal of understanding a correlation between scientific facts and programming factors by distinguishing and setting fixed sounds heard from all directions and sounds from a specific region, setting chorus, echo, and reverb effect to be applicable, and using the effect that a voice reverberates when entering a cave or a sound gets louder as it gets closer to a source of the sound, the fourth block is provided with the goal of understanding the physics formula by setting effect related to gravity, friction, and collision, rotation speed, joint, and energy effect to be applicable and producing a physical code while changing factor values for the mass and gravitational acceleration applied to gravity, rather than implementing the physical code, the fifth block may provide a function of a project that is carried out by several people in other terminals by using chatting, Dialog, and Dialog Choice, and is provided with the goal of understanding the technology of expressing one's own story to others using Dialog, the sixth block is provided with the

goal of controlling information on Mesh and Texture used for representation of humanoid characters, cubes, spheres and cylinders, which are objects that are difficult to express in 2D, and experiencing an animation in which the position, rotation and size values are changed, rather than making the animation with a simple picture change, and the seventh block is provided with the goal of understanding the application of perspective to make a distant object appear smaller, with various viewpoint transformations possible, viewport and frustum settings possible and how to use and a photographing technique of a free-view camera, a top-down camera, and a TPS camera.

[0013] The generating and displaying the blocks may include checking a block coding history of a user, sorting and displaying the first block, the second block, the third block, the fourth block, the fifth block, the sixth block, and the seventh block in the order most frequently used, and highlighting, when the first block is selected, the second block that is used more than a reference value in connection with the second block and recommending the second block as a subsequent placement block of the first block, highlighting, when the second block is selected, the third block that is used more than a reference value in connection with the second block and recommending the third block as a subsequent placement block of the second block, and highlighting, when the sixth block is selected, the seventh block that is used more than a reference value in connection with the sixth block and recommending the seventh block as a subsequent placement block of the sixth block, and the registering the child object may include analyzing the first object and

checking a second operation to be necessarily performed after a first operation corresponding to the first object is performed, and automatically generating a second object corresponding to the second operation, adding the second object as a child object of the target object, and registering the child object.

ADVANTAGEOUS EFFECTS

[0014] According to an embodiment of the present invention, it is possible to provide coding education that can increase understanding of a logic of a software program while generating interest of a user by generating and displaying blocks in a window of a block selection screen, generating a script corresponding to a combination and placement of the blocks when block coding is performed through the blocks, and adding and registering a child object through the script.

[0015] Meanwhile, effect according to the embodiments are not limited to those mentioned above, and other effects not mentioned will be clearly understood by a person with ordinary skill in the art to which the invention pertains from the description below.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] FIG. 1 is a diagram illustrating a configuration of a device according to an embodiment of the present invention.

[0017] FIG. 2 is a flowchart illustrating a procedure of processing block coding for programming education according to an embodiment of the present invention.

[0018] FIG. 3 is a diagram for explaining a procedure of generating and displaying block coding according to an

embodiment of the present invention.

[0019] FIG. 4 is a diagram for explaining a procedure of performing block coding for programming education according to an embodiment of the present invention.

MODE FOR CARRYING OUT THE INVENTION

[0020] Hereinafter, embodiments will be described in detail with reference to the accompanying drawings. However, various changes can be made to the embodiments, and thus a scope of a patent application is not limited or restricted by these embodiments. It should be understood that all modifications, equivalents and alternatives for the embodiments are included within the scope of rights.

[0021] Specific structural or functional descriptions of the embodiments are disclosed for the purpose of illustration only, and can be changed and implemented in various forms. Accordingly, the embodiments are not limited to a specific disclosure form, and the scope of the present specification includes changes, equivalents, or alternatives included in the technical spirit.

[0022] Although terms such as first or second can be used to describe various constituent elements, these terms should be interpreted only for the purpose of distinguishing one constituent element from another constituent element. For example, a first constituent element can be referred to as a second constituent element, and similarly, the second constituent element can also be referred to as the first constituent element.

[0023] When a certain constituent element is described as being "connected" to another constituent element, the

constituent element may be directly connected or coupled to the other element, but it should be understood that another element may exist between the constituent elements.

[0024] The terms used in the embodiments are used for the purpose of description only, and should not be construed as limiting. A singular expression includes a plural expression unless the context clearly dictates otherwise. In this specification, terms such as "comprise" or "include" are intended to designate that a feature, number, step, operation, constituent element, part, or combination thereof described in the specification exists, and it should be understood that the terms does not preclude in advance the possibility of addition or existence of one or more other features or numbers, steps, operations, constituent elements, parts, or combinations thereof.

[0025] Unless defined otherwise, all terms used herein, including technical or scientific terms, have the same meaning as commonly understood by a person with ordinary skill in the art to which the invention pertains. Terms such as those defined in a commonly used dictionary should be construed as having a meaning consistent with the meaning in the context of the related art, and should not be construed in an ideal or excessively formal meaning unless explicitly defined in the present application.

[0026] In addition, in the description with reference to the accompanying drawings, the same constituent elements are assigned the same reference numerals regardless of the reference numerals, and the redundant description thereof will be omitted. In describing the embodiment, if it is determined that a detailed description of a related known

technology can unnecessarily obscure the gist of the embodiment, the detailed description thereof will be omitted.

[0027] FIG. 1 is a diagram illustrating the configuration of a device according to an embodiment of the present invention. A device 101 according to an embodiment includes a processor 102 and a memory 103. The processor 102 can perform at least one method described later with reference to FIGS. 2 to 4. The memory 103 can store information related to methods to be described later or a program in which methods to be described later are implemented. The memory 103 can be a volatile memory or a non-volatile memory.

[0028] The processor 102 can execute the program and control the device 101. Codes of the program executed by the processor 102 can be stored in the memory 103. The device 101 can be connected to an external device (e.g., a personal computer or a network) through an input and output device (not illustrated), and can exchange data through wired and wireless communication.

[0029] The device 101 can be used to train an artificial neural network. The memory 103 can include a trained artificial neural network. The processor 102 can execute an artificial neural network algorithm stored in the memory 103. The device 101 for training an artificial neural network and the device 101 for using the trained artificial neural network can be the same or can be separate.

[0030] FIG. 2 is a flowchart illustrating a procedure of processing block coding for programming education according to an embodiment of the present invention.

[0031] First, block coding software is installed in the device 101, and the block coding procedure can be started by

executing the block coding software.

[0032] According to an embodiment, when the block coding software is executed, the entire screen of the device 101 can be divided into a block selection screen and an execution screen and displayed, blocks to be used during block coding can be displayed on the block selection screen, and a target object to be controlled through the block coding can be displayed on the execution screen.

[0033] In step S201, the device 101 can check a block information table indexed so that a table configured by classifying blocks by name, classification, and function can be checked, and generate blocks using the block information table, and display the generated blocks in a window of the block selection screen. A detailed description of the content of generating blocks will be described later with reference to FIG. 3, and a detailed description of the content of displaying the blocks will be described later with reference to FIG. 4.

[0034] In step S202, when a script generation button displayed on a part of the block selection screen is selected after block coding is performed through the blocks, the device 101 can check a combination and placement of the blocks and generate a first script corresponding to the checked combination and placement of blocks.

[0035] When a procedure of generating the first script is described in detail, if a script generation button displayed on a part of the block selection screen is selected, the device 101 can generate state and information of blocks connected for block coding as a first type of data using a parsing script. The parsing script is a script provided by

block coding software installed in the device 101, and data can be generated in a first type, which is a simple form, using a preset parsing script, and the first type of data can be stored by being saved for block coding preservation.

[0036] The device 101 can check the first type of data and generate the first type of data as a second type of data, which is a string type, according to the syntax of a preset programming language. For example, the device 101 can check data in a simple form and generate string type of data according to the syntax of Lua.

[0037] The device 101 can generate the first script by converting the second type of data into a script of a programming language. For example, the device 101 can use and convert data of a string type into a script of Lua.

[0038] In step S203, the device 101 can generate a first object through the first script, and for this purpose, the block coding software installed in the device 101 can provide matching information between the script and the object

[0039] In step S204, the device 101 can add the first object as a child object of the target object displayed on a window of the execution screen and register the child object. That is, the codes designed through block coding can be operated only when the script generated through block coding is registered as the child object.

[0040] According to an embodiment, the device 101 can implement an operation of the target object by using the first object registered as the child object. For example, if the first object includes information on a right 180-degree rotation, the device 101 can perform an operation for rotating the target object 180 degrees to the right.

[0041] The device 101 can implement various operations of the target object by connecting the operations using a plurality of objects registered as child objects.

[0042] FIG. 3 is a diagram for explaining a procedure of generating and displaying block coding according to an embodiment of the present invention.

[0043] Referring to FIG. 3, the device 101 can generate a block production table 307 using a block information table 304, a block GUI image 302, an element table 303, a block motion table 305, and a block function 306.

[0044] The device 101 can control the block to be displayed on a block selection screen 308 using the block production table 307.

[0045] The block information table 304 can be a basis for creating an annotation code by abbreviating block information on a block name, a category classification, a block color by each category, a block border by category, and a block shape by function with a numeric code, and the device 101 can set the block name, the category classification, the block color by category, the block border by category, and the block shape by function by using the block information table 304.

[0046] The block GUI image 302 can be an image obtained through an image 301 downloaded from an external server.

[0047] According to an embodiment, an image generated by being produced by the device 101 is posted to an external server and the image can be downloaded from the external server through online when the program is played, and the block GUI image 302 can be obtained through the image 301 downloaded from the external server.

[0048] That is, when the image generated by being produced

by the device 101 is uploaded online by posting the image to the external server, the device 101 can download the uploaded image from the external server, and obtain the image 303 downloaded from the external server.

[0049] The element table 303 can be generated using the block GUI image 302, and can become a basis for creating an annotation code by abbreviating each element of a non-writable text, a writable text, a conditional blank, and a drop-down menu with a symbol, and the device 101 can set each element of the non-writable text, the writable text, the conditional blank, and the drop-down menu as a symbol by using the element table 303.

[0050] The block motion table 305 can include a mouse-related motion function by extracting a source code, and the device 101 can set a mouse-related motion by using the block motion table 305.

[0051] The block function 306 includes function codes to be actually implemented, and can be provided by block coding software installed in the device 101.

[0052] The block production table 307 can list respective elements of the element table 303 and process the blocks to be visualized by linking the block function 306.

[0053] Among control units included in the device 101, a control unit of the block production table 307 can generate and store a code for annotation in an internal script for each block, and according to a selection of the script generation button, a related script among the internal scripts stored for each block can operate to convert the annotation code into an actual code and generate annotation code as a file.

[0054] Among the control units included in the device 101, a control unit of the block selection screen 308 can provide a screen in which the blocks are listed by category through category tabs on the block selection screen 308, using the block production table 307.

[0055] Among the control units included in the device 101, a control unit of the entire screen 309 including the block selection screen 308 and the block execution screen can prepare code generation by storing the blocks listed on the block selection screen 308 in a table, and generate an operation function for each operation of block joining, block deletion, and total block list extraction in the block selection screen 308.

[0056] FIG. 4 is a diagram for explaining a procedure of performing block coding for programming education according to an embodiment of the present invention.

[0057] Referring to FIG. 4, the block selection screen 308 and then execution screen 401 can be displayed by being divided on the entire screen 309 of the device 101.

[0058] The target object 403 is displayed on the execution screen 401, and a plurality of blocks such as a first block 411, a second block 412, a third block 413, a fourth block 414, a fifth block 415, a sixth block 416, and a seventh block 417 can be displayed on the block selection screen 308.

[0059] The block selection screen 308 can include a block placement screen 402 in which a plurality of blocks are selected and placed.

[0060] On the block selection screen 308, a script generation button 404 for notifying, when blocks are listed on the block placement screen 402 and block coding is

completed, the completion can be further displayed.

[0061] In generating and displaying the plurality of blocks, the device 101 can generate each of the first block 411 in charge of an effect field, the second block 412 in charge of a visual field, the third block 413 in charge of a sound field, the fourth block 414 in charge of a physics field, the fifth block 415 in charge of a network field, the sixth block 416 in charge of a 3D field, and the seventh block 417 in charge of a camera field, and display the blocks on the block selection screen 308.

[0062] In generating the first script, the device 101 can generate the first script corresponding to the combination and placement of the first block, the second block, the third block, the fourth block, the fifth block, the sixth block, and the seventh block.

[0063] The first block 411, the second block 412, the third block 413, the fourth block 414, the fifth block 415, the sixth block 416, and the seventh block 417 can be generated and displayed to provide differentiated functions, and the function provided by each block will be described in detail.

[0064] The first block 411 may be in charge of an effect on smoke, explosions, fires, and beams, and may be provided with a goal of understanding a point in time when the effect occur and what effect should appear using causality of an event.

[0065] The second block 412 may be provided with a goal of understanding that a screen expression varies depending on a range of light and a type of light by designing a screen according to the type of light, processing the screen to generate bloom and blur effects using post processing, and using a function for day and night expression, concentration

expression using dark and bright portions, and post processing.

[0066] The third block 413 may be provided with a goal of understanding a correlation between scientific facts and programming factors by distinguishing and setting fixed sounds heard from all directions and sounds from a specific region, setting chorus, echo, and reverb effects to be applicable, and using the effect that a voice reverberates when entering a cave or a sound gets louder as it gets closer to a source of the sound.

[0067] The fourth block 414 may be provided with the goal of understanding the physics formula by setting effects related to gravity, friction, and collision, rotation speed, joint, and energy effects to be applicable and producing a physical code while changing factor values for the mass and gravitational acceleration applied to gravity, rather than implementing the physical code.

[0068] The fifth block 415 may provide a function of a project that can be carried out by several people in other terminals by using chatting, Dialog, and Dialog Choice, and is provided with the goal of understanding the technology of expressing one's own story to others using Dialog.

[0069] The sixth block 416 may be provided with the goal of controlling information on Mesh and Texture used for representation of humanoid characters, cubes, spheres and cylinders, which are objects that are difficult to express in 2D, and experiencing an animation in which the position, rotation and size values are changed, rather than making the animation with a simple picture change.

[0070] The seventh block 417 may be provided with the goal

of understanding the application of perspective to make a distant object appear smaller, with various viewpoint transformations possible, viewport and frustum settings possible and how to use and a photographing technique of a free-view camera, a top-down camera, and a TPS camera.

[0071] According to an embodiment, in generating and displaying the blocks, the device 101 can check a block coding history of a user, sort, and display the first block 411, the second block 412, the third block 413, the fourth block 414, the fifth block 415, the sixth block 416, and the seventh block 417 in the order most frequently used.

[0072] For example, when the device 101 checks the block coding history of the user, when it is checked that the third block 413, the second block 412, and the fourth block 414 are frequently used in this order, the device 101 can arrange the third block 413, the second block 412, and the fourth block 414 in this order to be displayed at the top.

[0073] Meanwhile, when the first block 411 is selected, the device 101 can highlight the second block 412 that is used more than a reference value in connection with the first block 411 and recommend the second block 412 as a subsequent placement block of the first block 411. That is, when the first block 411 in charge of the effect is selected, the second block 412 in charge of visibility can be recommended in connection therewith.

[0074] When the second block 412 is selected, the device 101 can highlight the third block 413 that is used more than the reference value in connection with the second block 412, and recommend the third block 413 as a subsequent placement block of the second block 412. That is, when the second block 412

in charge of visuality is selected, the third block 413 in charge of sound can be recommended in connection therewith.

[0075] When the sixth block 416 is selected, the device 101 can highlight the seventh block 417 that is used more than the reference value in connection with the sixth block 416, and recommend the seventh block 417 as a subsequent placement block of the sixth block 416. That is, when the sixth block 416 in charge of 3D is selected, the seventh block 417 in charge of the camera can be recommended in connection therewith.

[0076] According to an embodiment, in registering a child object, the device 101 can analyze the first object and check a second operation to be necessarily performed subsequently after the first operation corresponding to the first object is performed.

[0077] For example, when the device 101 intends to implement that the target object 403 is moving on an S-shaped road, if the first motion corresponding to the first object is checked as movement through the left turn, it is possible to determine that the second operation to be necessarily performed subsequently is movement through a right turn.

[0078] The device 101 can automatically generate a second object corresponding to the second operation, add the second object as a child object of the target object 403 and register the child object.

[0079] That is, after generating the first script through the block coding of the user and generating the first object through the first script, even if subsequent block coding of the user is not performed, the device 101 automatically generates the second object according to a situation, adds

the first object and the second object as child objects at once and registers the child objects, thereby increasing the convenience and effect of block coding.

[0080] The embodiments described above can be implemented by a hardware constituent element, a software constituent element, and/or a combination of a hardware constituent element and a software constituent element. For example, the devices, methods, and constituent elements described in the embodiments can be implemented using one or more general purpose computers or special purpose computers, such as, for example, a processor, a controller, an arithmetic logic unit (ALU), a digital signal processor, a microcomputer, a field programmable gate array (FPGA), a programmable logic unit (PLU), a microprocessor, or any other device capable of executing and responding to instructions. A processing device can execute an operating system (OS) and one or more software applications running on the operating system. The processing device can also access, store, manipulate, process, and generate data in response to execution of software. Although, for convenience of understanding, one processing device is sometimes described as being used, a person with ordinary skill in the art to which the invention pertains will recognize that the processing device can include a plurality of processing elements and/or a plurality of types of processing elements. For example, the processing device can include a plurality of processors or one processor and one controller. Other processing configurations, such as parallel processors, are also possible.

[0081] The method according to the embodiment can be implemented in the form of program's instructions that can be

executed through various computer means and recorded in a computer-readable medium. The computer-readable medium can contain program instructions, data files, data structures, etc., alone or in combination. The program instructions recorded on the medium can be specially designed and configured for the embodiment, or can be known and available to those skilled in the art of computer software. Examples of computer-readable recording media include a magnetic medium such as a hard disk, a floppy disk and a magnetic tape, an optical medium such as a CD-ROM and a DVD, a magneto-optical media, such as a floptical disk, and a hardware device specially configured to store and execute program instructions, such as a ROM, a RAM, a flash memory, etc. Examples of the program instructions include not only machine language codes such as those generated by a compiler, but also high-level language codes that can be executed by a computer using an interpreter, etc. A hardware device can be configured to operate as one or more software modules to perform the operations of the embodiments, and vice versa.

[0082] Software can include a computer program, codes, instructions, or a combination of one or more of these, and can configure a processing device to operate as desired, or independently or collectively instruct the processing device to operate as desired. Software and/or data can be permanently or temporarily embodied in any type of machine, constituent element, physical device, virtual equipment, computer storage medium or device, or a transmitted signal wave. Software can be stored or executed in a distributed manner by being distributed over computer systems connected through a network. Software and data can be stored in one or

more computer-readable recording media.

[0083] As described above, although the embodiments have been described with reference to the limited drawings, a person with ordinary skill in the art to which the invention pertains can apply various technical modifications and variations based on the embodiments. For example, even if the described techniques are performed in an order different from the described method, and/or the constituent elements of the described system, structure, apparatus, circuit, etc. are coupled or combined in a different form than the described method, or replaced or substituted by other constituent elements or equivalents, appropriate results can be achieved.

[0084] Therefore, other implementations, other embodiments, and equivalents to the claims are also within the scope of the following claims.

CLAIMS

1. A method for processing block coding for programming education performed by a device installed with block coding software, the method comprising:

generating and displaying blocks in a window of a block selection screen using a block information table indexed so that a table configured by classifying blocks by name, classification, and function;

generating a first script corresponding to a combination and placement of the blocks when a script generation button displayed on a part of the block selection screen is selected after block coding is performed through the blocks; and

generating a first object through the first script, adding the first object as a child object of a target object displayed on a window of an execution screen, and registering the child object.

2. The method of claim 1, wherein

the generating the first script includes

generating, when the script generation button is selected, a state and information of blocks connected through the block coding as a first type of data, which is stored for block coding storage, using a parsing script provided by the block coding software,

checking the first type of data and generating the first type of data as a second type of data, which is a string type, according to a syntax of a preset programming language, and

generating the first script by converting the second type of data into a script of the programming language.

3. The method of claim 1, wherein

the generating and displaying blocks includes

generating, using the block information table, a block GUI image, an element table, a block motion table, and a block function, a block production table that lists respective elements of the element table and processes the block to be visualized by linking the block function, and

controlling the block to be displayed on the block selection screen using the block production table, and

the block information table is a basis for creating an annotation code by abbreviating block information on a block name, a category classification, a block color by category, a block border by category, and a block shape by function with a numeric code,

the block GUI image is an image input through an external plug-in, the element table is generated using the block GUI image, and is a basis for creating an annotation code by abbreviating each element of a non-writable text, a writable text, a conditional blank, and a drop-down menu with a symbol,

the block motion table includes a mouse-related motion function by extracting a source code,

the block function includes a function code to be actually implemented,

a control unit of the block production table generates and stores a code for annotation in an internal script for each block, and according to a selection of the script

generation button, a related script among the internal scripts stored for each block operates to convert the annotation code into an actual code and generate the annotation code as a file,

a control unit of the block selection screen provides a screen in which the blocks are listed for each category through category tabs, using the block production table, and

a control unit of the entire screen includes the block selection screen and the execution screen, prepares code generation by storing the blocks listed on the block selection screen in a table, and generates an operation function for an operation of each of block joining, block deletion, and total block list extraction in the block selection screen.