Other systems

Andrea Sterbini – sterbini@di.uniroma1.it

Fancade: a 3D data-flow game building language

Data-flow computation

Typed links (Number, Boolean, Position, Rotation, Object, …)

NO text!

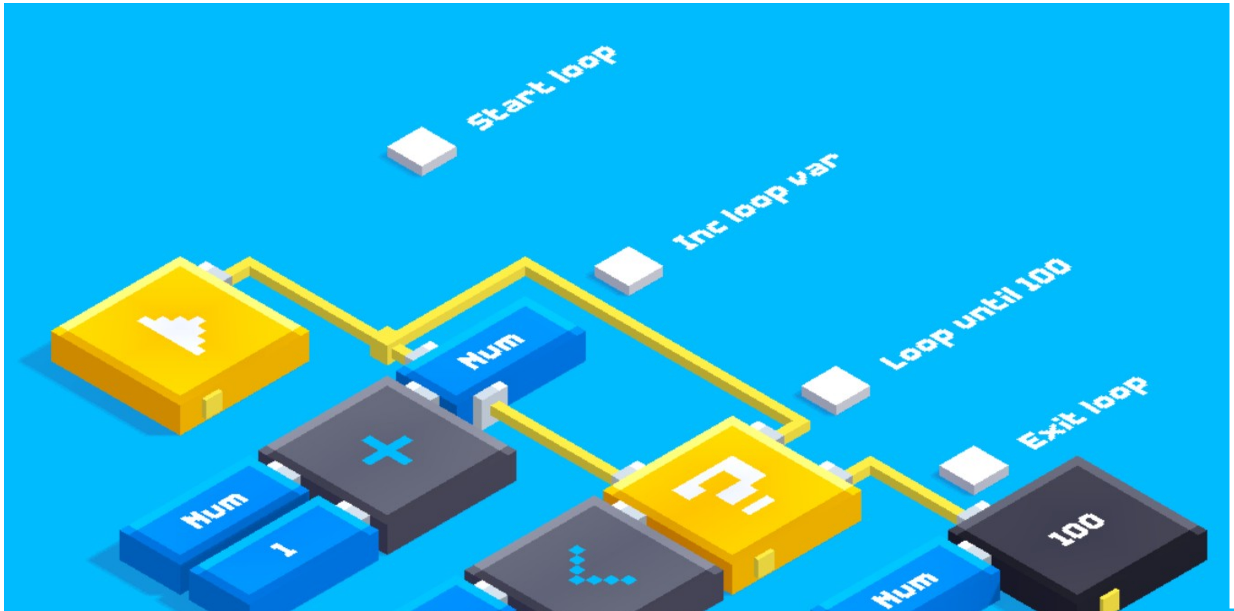
Executed 60 times for second (implicit forever loop)

Execution order: left-right and top-down

Explicit Variables (used also to reduce wires and increase fan-out)

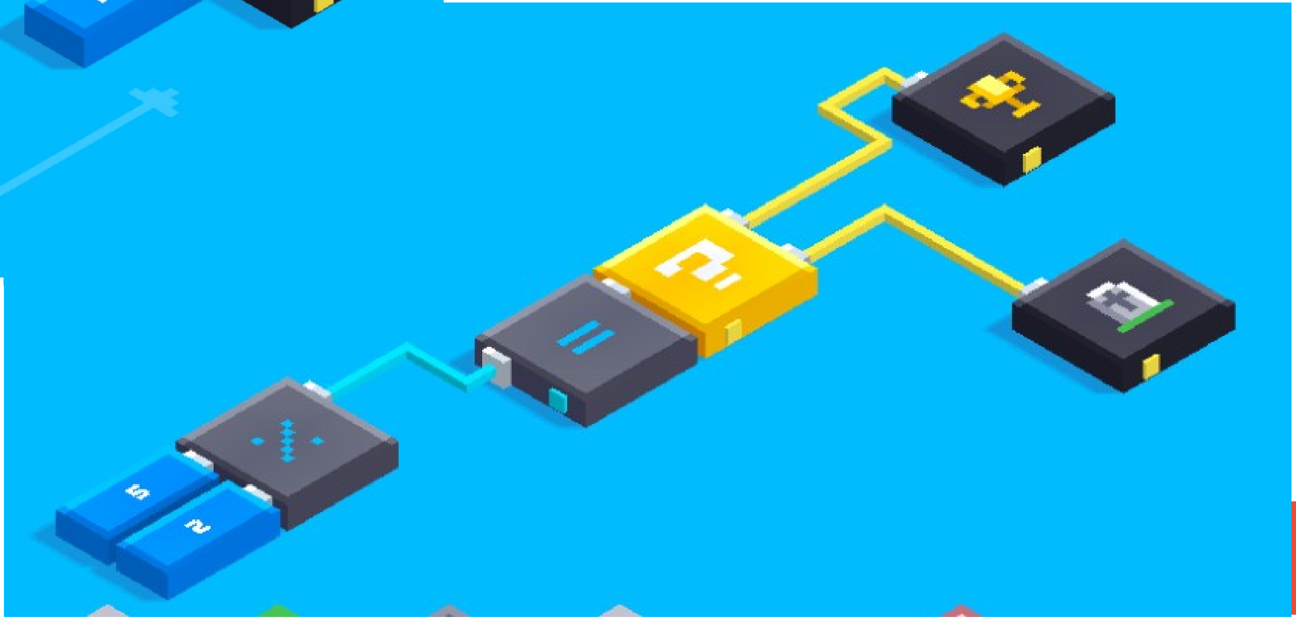
Code can read/write blocks properties

Explicit Control = before/after links



Loops

```
do:
  Num += 1
  while num<100
```



If-then-else

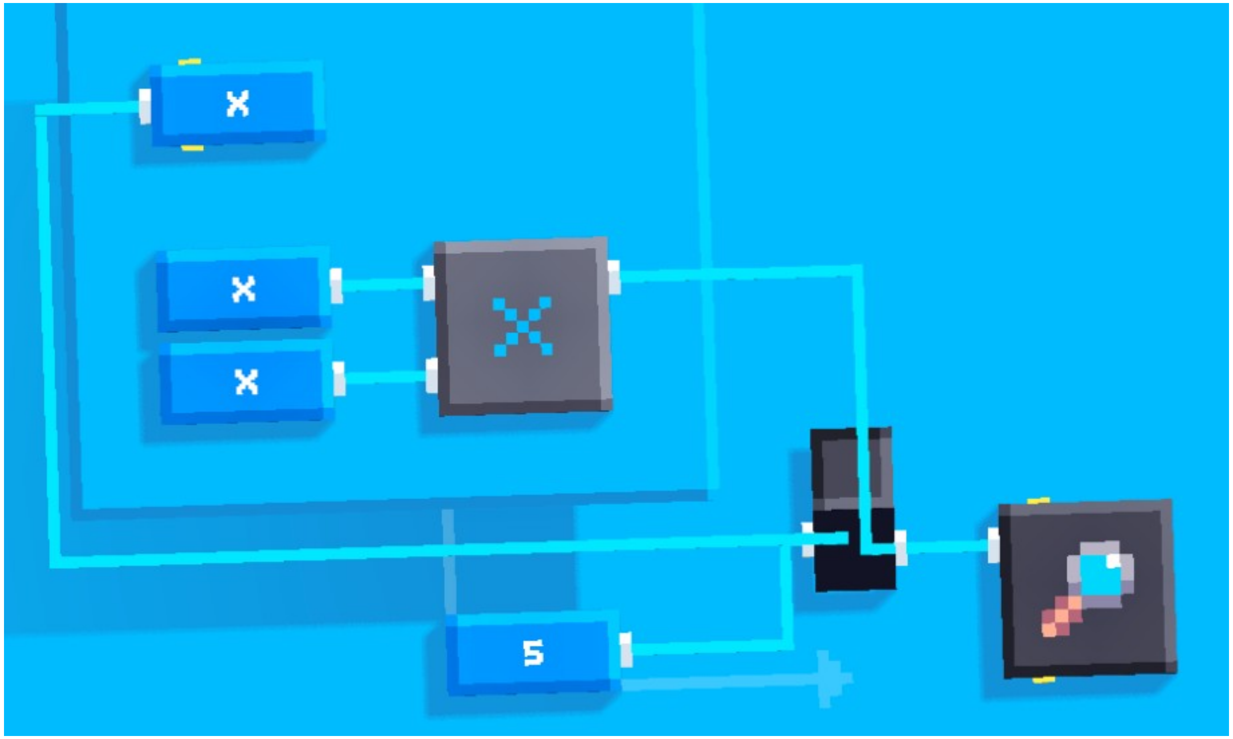
```
if 5%2==0:
  then: win else: lose
```

Functions: custom blocks

Functions? YES

def square(x): return x*x

Just put “code” inside a block, with external connectors



Modularization:

- custom blocks can be placed inside other blocks
- BUT: <u>NO recursion is allowed</u> (direct or indirect)

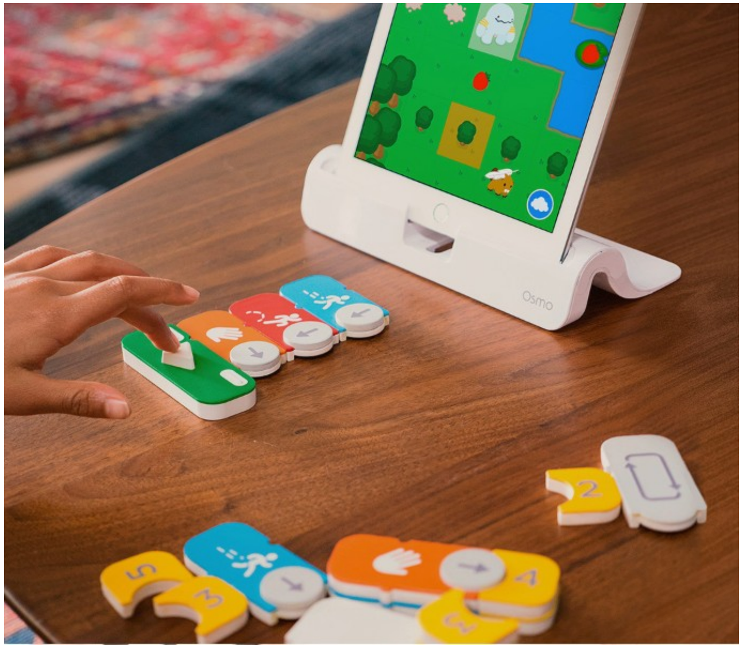
DEMO

PlayOsmo: tangible interaction for kids

Your iPad scan the table (with an attached mirror)

You play with tiles (instructions or tangram pieces or letters or draw)

It recognizes your “code” or words in the game

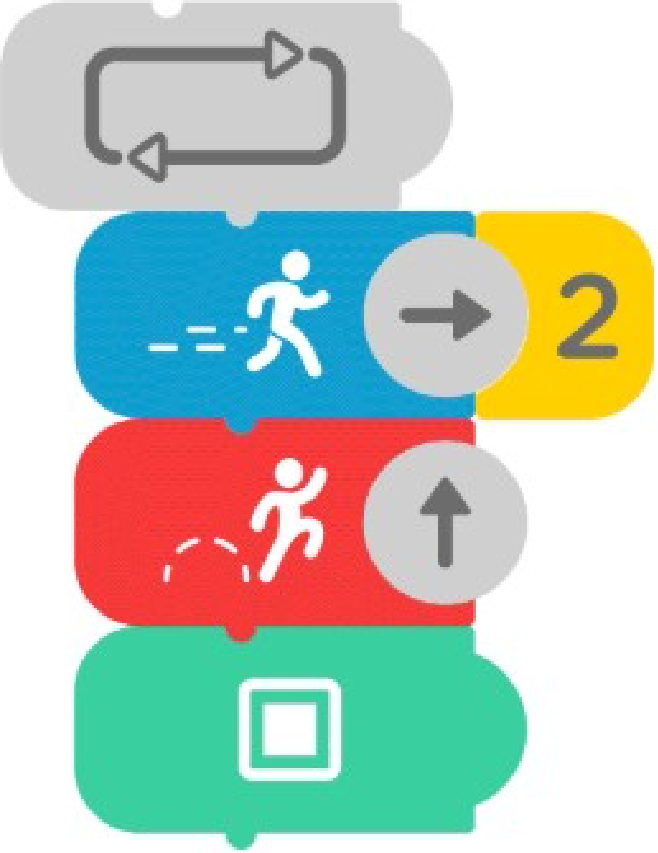


Loops and simple repetitions

Blocks represent action and direction

- modifier: number of repetitions

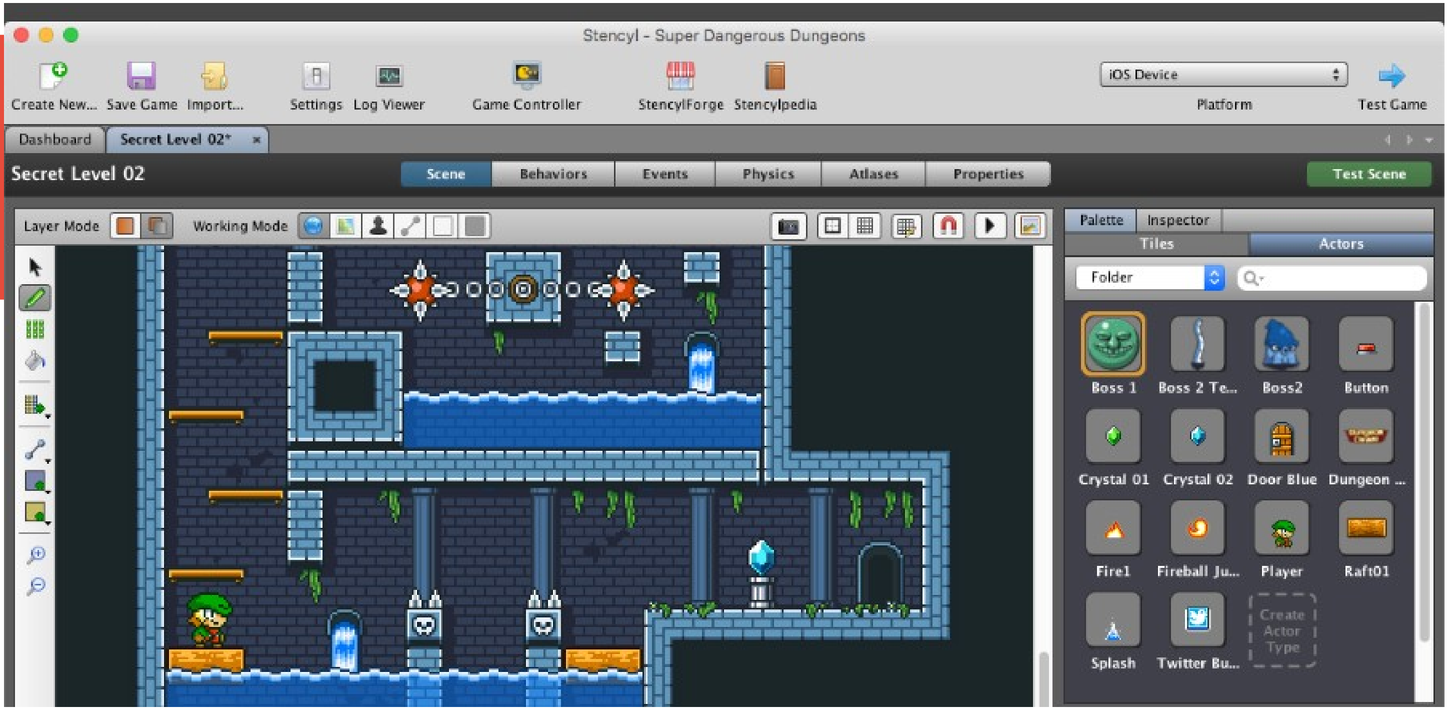
Loops

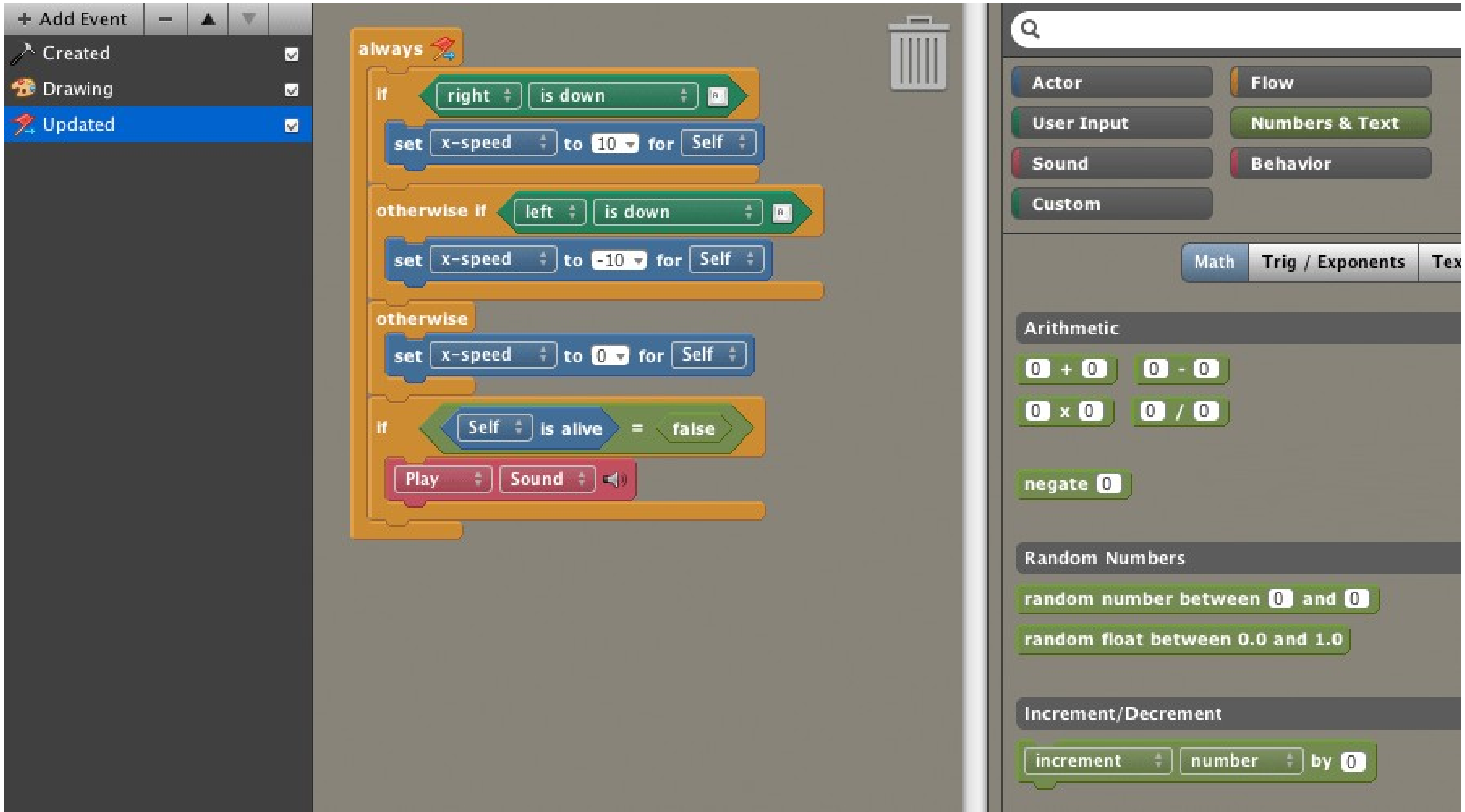


The instructions' meaning depends on the game

- Music playing game
- Monster in a labyrinth game

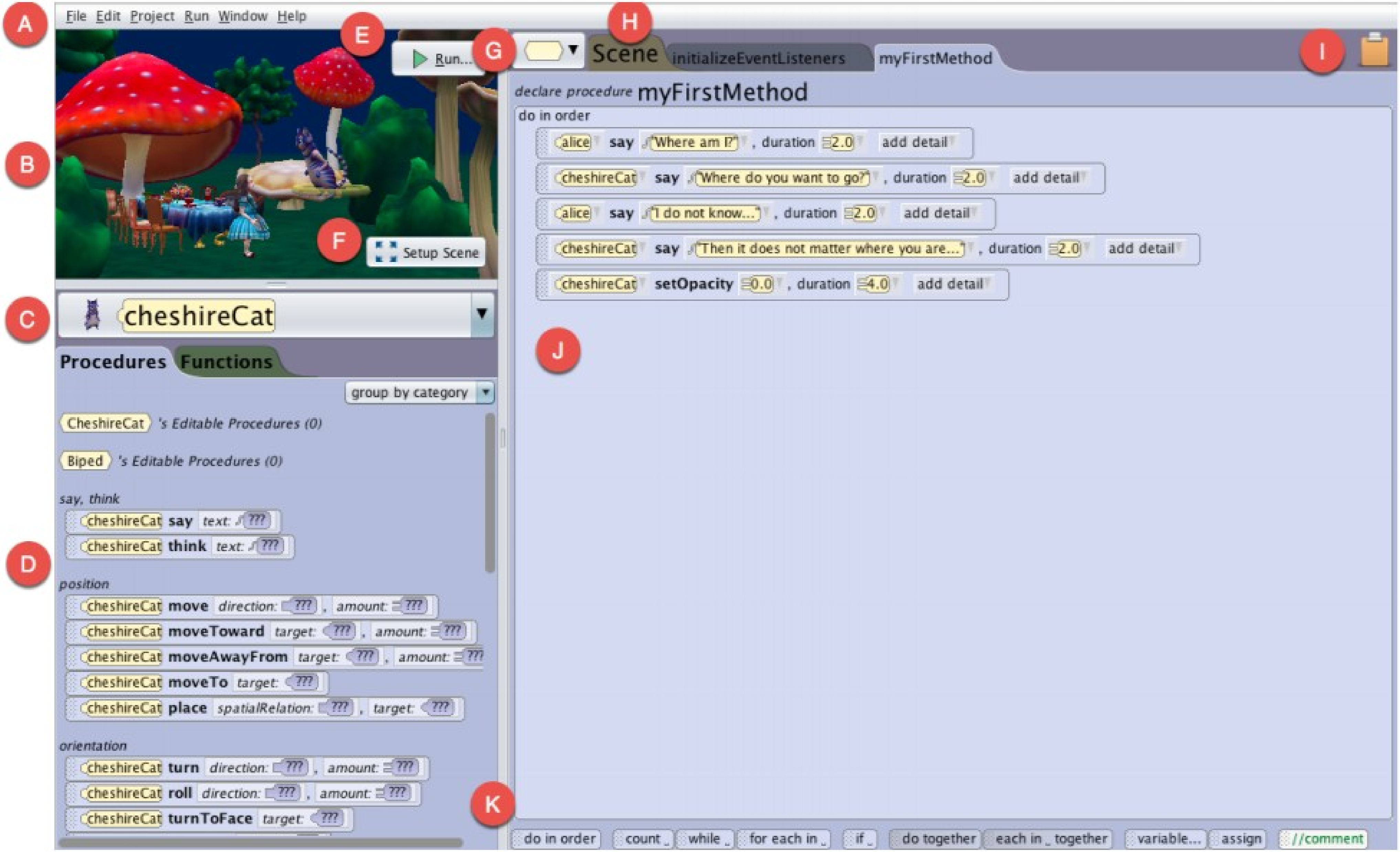
Stencyl





```
always
  if right is down
    set x-speed to 10 for Self
  otherwise if left is down
    set x-speed to -10 for Self
  otherwise
    set x-speed to 0 for Self
  if Self is alive = false
    Play Sound
```

Alice 3


A
B
C
D
E
F
G
H
I
J
K
File Edit Project Run Window Help
Run...
Setup Scene
Scene
initializeEventListeners
myFirstMethod
cheshireCat
Procedures
Functions
group by category
CheshireCat 's Editable Procedures (0)
Biped 's Editable Procedures (0)
say, think
cheshireCat say text: ???
cheshireCat think text: ???
position
cheshireCat move direction: ???, amount: ???
cheshireCat moveToward target: ???, amount: ???
cheshireCat moveAwayFrom target: ???, amount: ???
cheshireCat moveTo target: ???
cheshireCat place spatialRelation: ???, target: ???
orientation
cheshireCat turn direction: ???, amount: ???
cheshireCat roll direction: ???, amount: ???
cheshireCat turnToFace target: ???
do in order
count _
while _
for each in _
if _
do together
each in _ together
variable...
assign
//comment

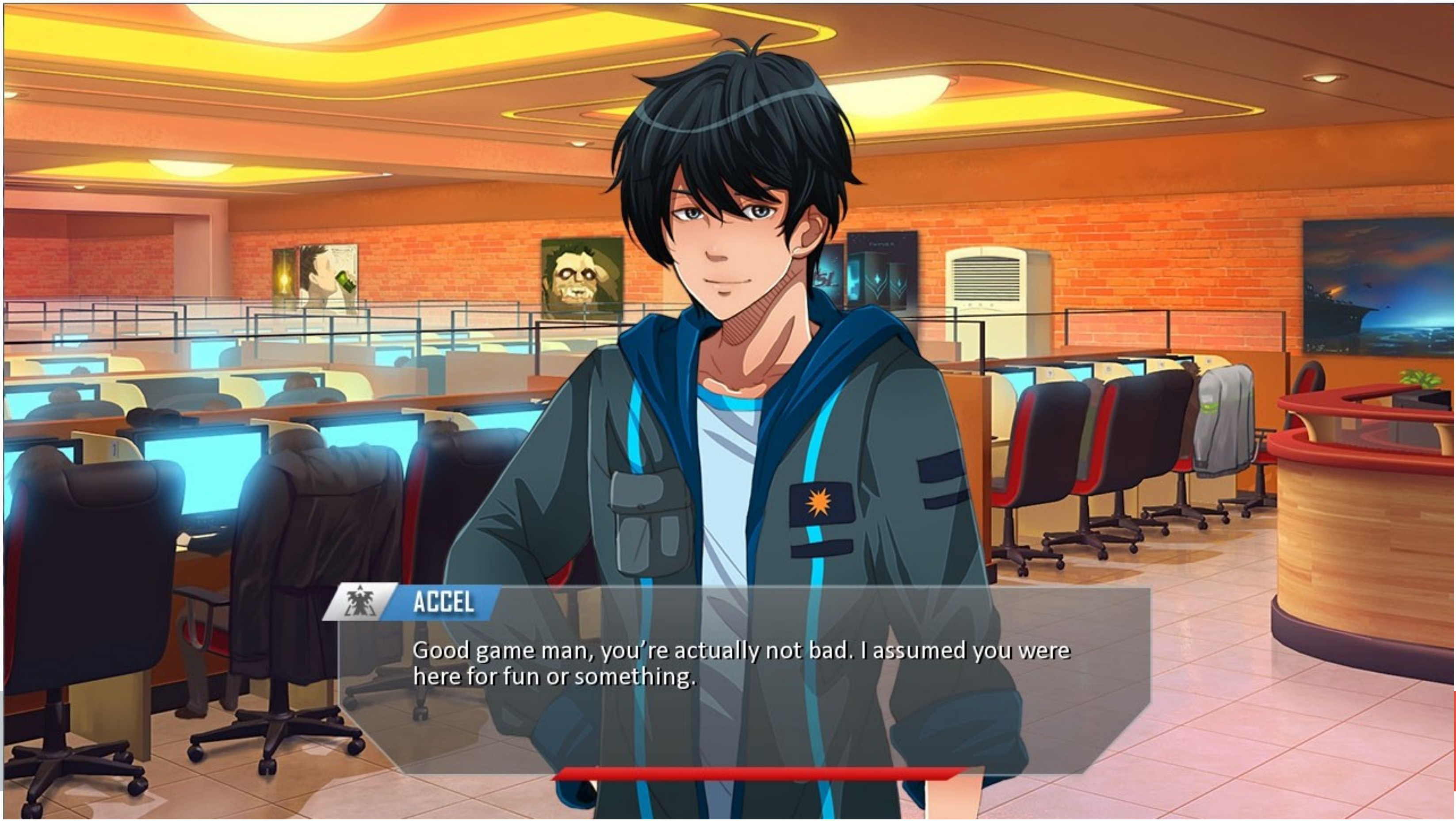
```
declare procedure myFirstMethod
do in order
    alice say "Where am I?", duration 2.0 add detail
    cheshireCat say "Where do you want to go?", duration 2.0 add detail
    alice say "I do not know...", duration 2.0 add detail
    cheshireCat say "Then it does not matter where you are...", duration 2.0 add detail
    cheshireCat setOpacity 0.0, duration 4.0 add detail
```

Ren’Py

Dialogue-based adventures (Visual Novels)

Python-inspired simplified syntax (with indentation)

Runs in Python



ACCEL

Good game man, you’re actually not bad. I assumed you were here for fun or something.

Others

Kodu: Design 3D games on Xbox (and PC)

Kodular: game editor

Construct: HTML5 game editor

Swift Playground: by Apple

MakeBlock: robots/microcontrollers + Scratch

Tynker: Scratch-inspired

… and many other game-editors