Sweet Switches

Vinícius K. Daros, Luiz C. Vieira,
Adalberto B. C. Pereira, Flávio S. C. da Silva

Laboratory of Interactivity and Digital
Entertainment Technology (LIDET)

University of São Paulo - Brazil

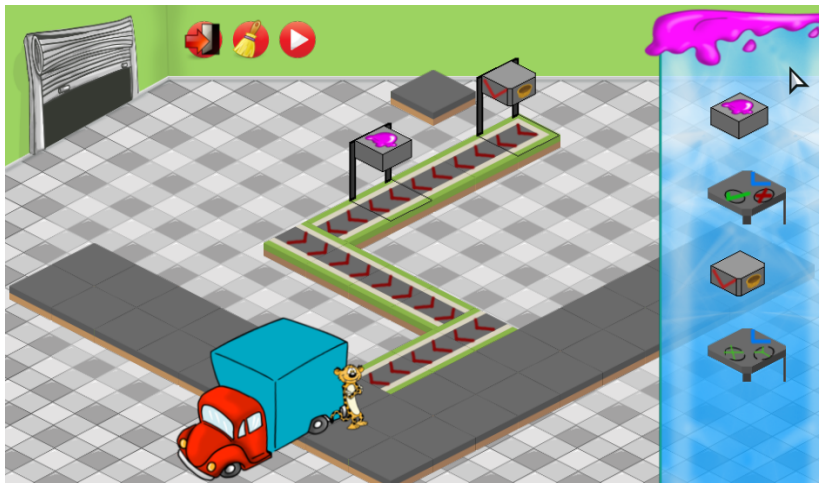
iGam4ER 2014

What is *Sweet Switches*?

What is *Sweet Switches*?

In *Sweet Switches* players will face a series of puzzles inside ice cream factories.

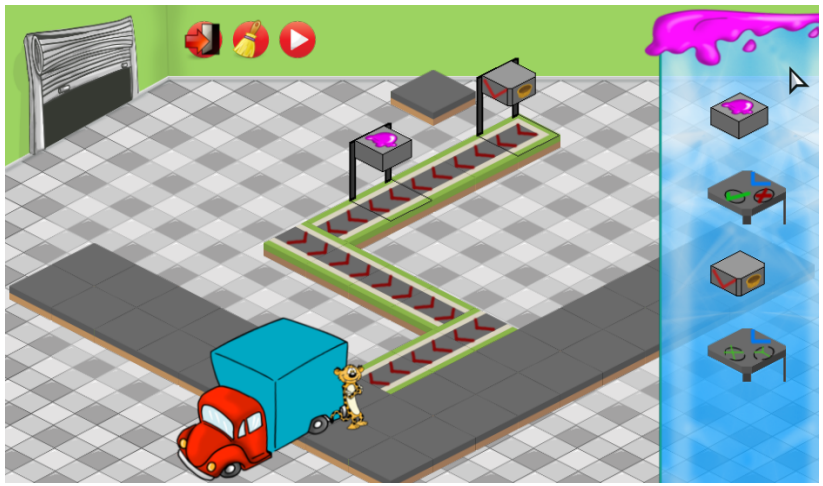
The objective is to attach devices to conveyor belts in order to respond to a production request.



What is *Sweet Switches*?

In *Sweet Switches* players will face a series of puzzles inside ice cream factories.

The objective is to attach devices to conveyor belts in order to respond to a production request.



Project objectives

Objectives

1. Be a fun puzzle game
2. Be engaging
3. Foster computational thinking (subliminally)

Objectives

1. Be a fun puzzle game
2. Be engaging
3. Foster computational thinking (subliminally)

Objectives

1. Be a fun puzzle game
2. Be engaging
3. Foster computational thinking (subliminally)

Motivations

Motivation 1

Then importance given to computer programming elements at primary school is notably increasing.

Skills required from programming computers are definitely valuable for other disciplines, since they involve[1]:

- Procedural thinking
- Problem solving through trial and error
- Creativity
- Thinking about thinking
- Analysis and exploration of data

[1] *The role of computer programming in education*, Ken Kahn, 1999

Motivation 2

Report prepared for the UK Computing Research Committee[2]:

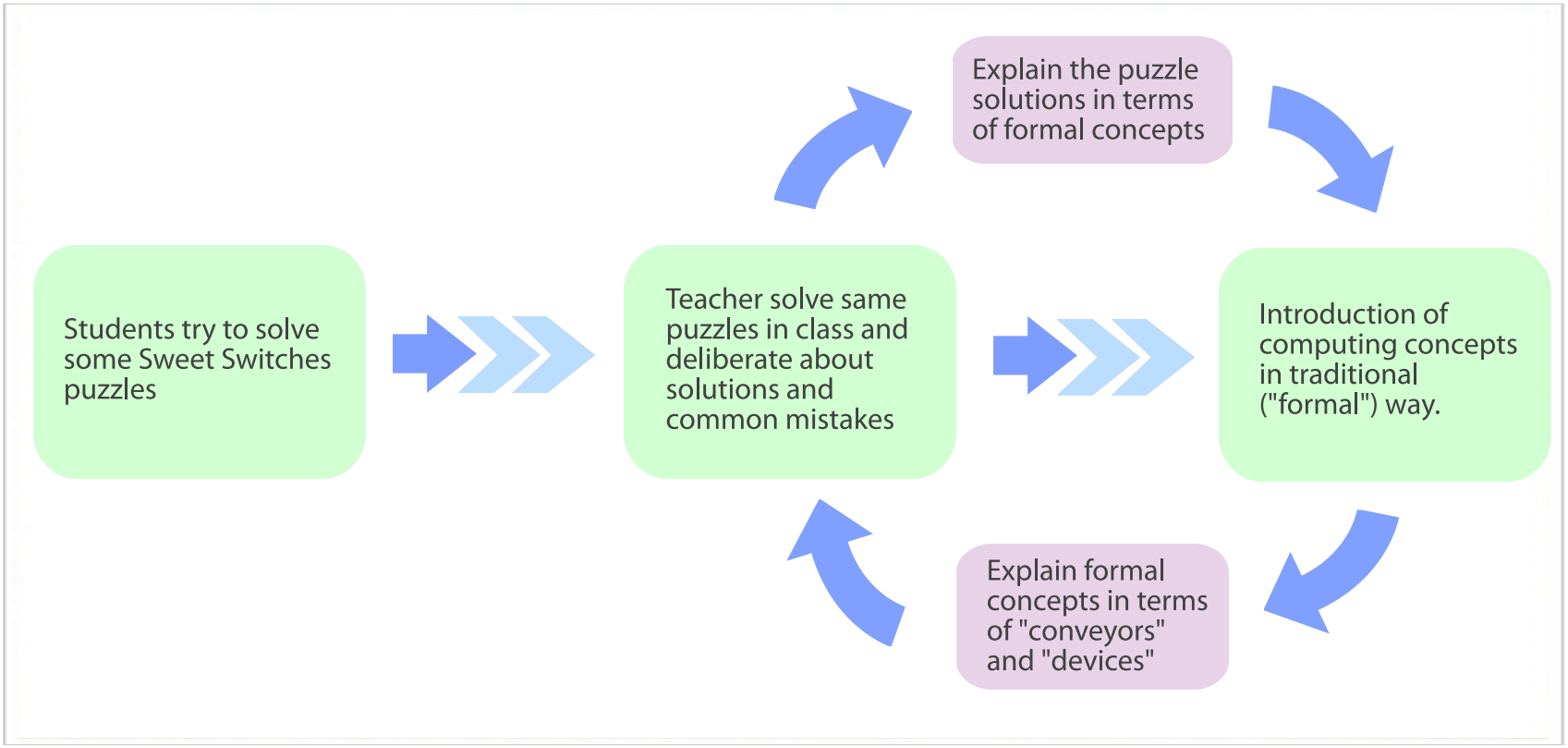
If on one hand learning how to use computers can be seen as to learning how to read, on the other hand learning how to program is similar to learning how to write.

They are both skills that everyone should have, even though a minority will become professionals (writers or programmers).

[2] *Computing at School: the state of the nation*, Simon P. Jones, 2009

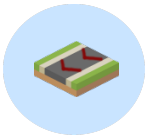
Application in class

Application in class



Game elements and analogies

Fixed



Conveyors

Transport cups* through devices along the factory

Truck

End point of factory production line

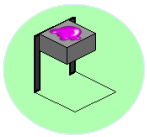
Truck Drivers

Animals from the Brazilian fauna that provide ice cream requests

Penguins

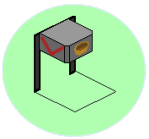
Comical references in game elements and mechanics as "workers"

Placed by Player



Dosers

Drop scoops of ice cream in cups* passing passing underneath it

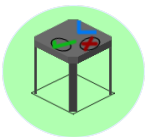


Dispensers

Place empty cups on the conveyor repeatedly while the factory is on

Switchers

Change alternately the path of cups* to different conveyors



Scales

Change the path of cups* on conveyors by their wheight (# of scoops)

** cups may be filled or not with ice cream*

So what we expect players will learn?

Direct learning

By solving the puzzles in *Sweet Switches*, players will probably understand:

- Operation order
- Conditional execution
- Repetitions
- Debugging

Tangential learning

Players may also learn indirectly about:

Geography: Brazilian cities on the map

Biology: Animals of the Brazilian fauna (penguins, jaguars, macaws, etc)

Art contributors

Special thanks to...

Danilo Gabriel Rios

and

Salvador Oliva Junior

Thank you!