

Unplugged Computing for Children

CHEP2019, Adelaide

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What?

“Unplugged” programming refers to programming without a computer.

Why?

- Strong **demand** for computing tutorials for children from parents and the general public
- Many individuals working in Computing are keen to encourage the **next generation** and address **pipeline diversity** issues
- Bringing computers adds logistical difficulty, cost, distraction and is an extra learning curve for some children
- Enables high degree of interaction with participants

How?

Tutorials developed primarily for 6 - 9 year olds. In **French** and **English**.

Tutorial

Summary

Introduction
to
Programming

Participants learn about logic, loops and conditional statements using only paper components.

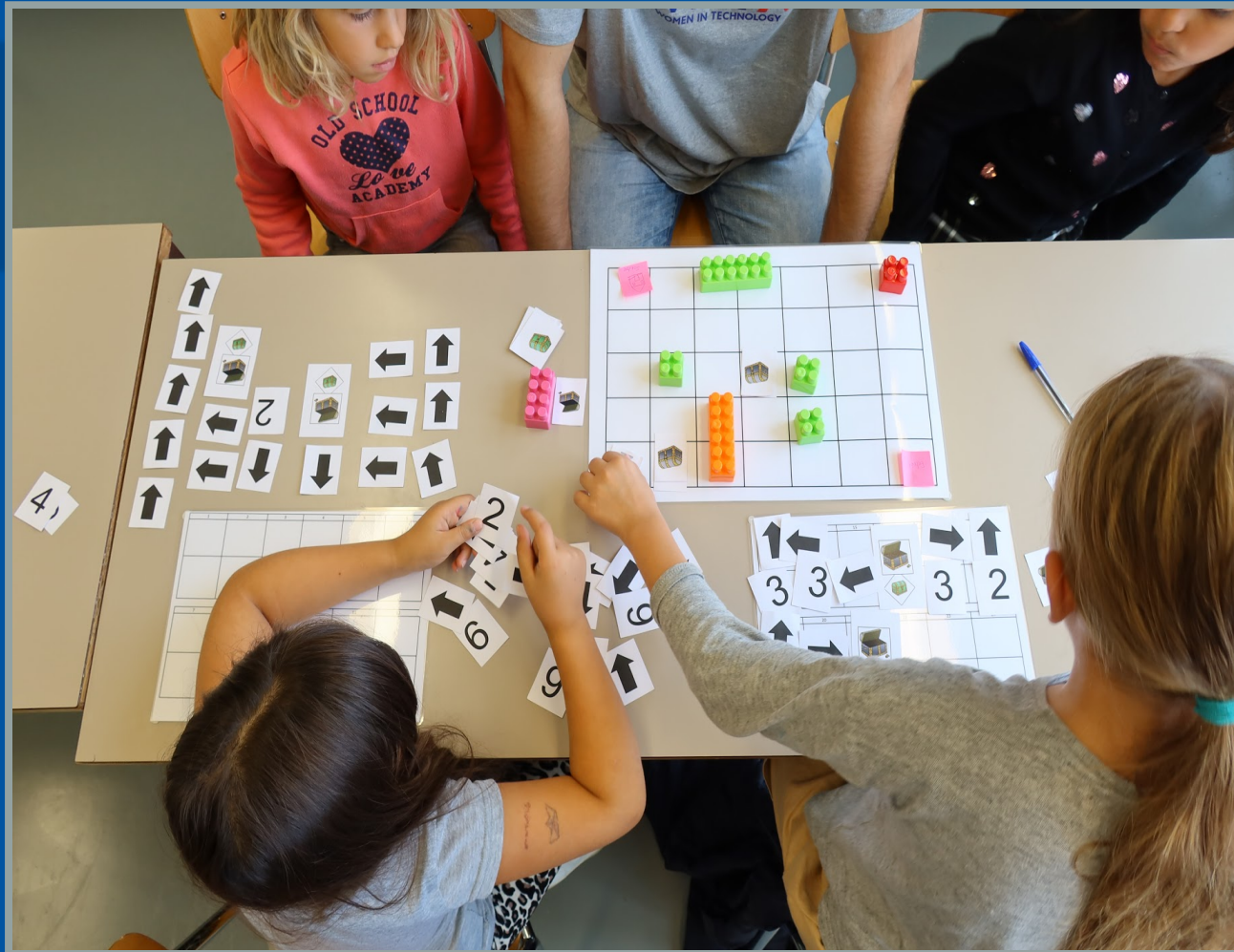
What's inside
a Computer?

A basic introduction to Memory, CPU and graphical processors. Participants build a paper model.

Introduction to Programming

- Based on [1,2,3 Codez](#), a French project to introduce students and teachers to computer science
- Supported by the foundation La main à la pâte, created in 2011 by the Académie des sciences and the Ecoles normales supérieures de Paris et de Lyon
- Participants take home a **booklet** containing further exercises





What's inside a computer?

- Inspired by [Hello Ruby Tutorial](#), [My First Computer](#)
- Role playing game extensions developed by CERN volunteers
- Participants take home a **paper model** of a computer





Who?

The Women in Technology Community at CERN has been driving this initiative. Visit cern.ch/wit/outreach



What have we done so far?

During 2019 we have tutored approximately 450 children. Volunteer pool of men and women comprised of CERN members and alumni.

- March 9: [Semaine de L'Egalité](#) (~80)
- April 25: [Girls in ICT Day](#) (~50)
- September 14-15: [CERN Open Days](#) (~250)
- October 5: [EU Code Week](#) (~80)

Lessons learnt

- Wide variation in computer literacy, must be able to adapt to children's level
 - School curriculum
 - Parental Engagement
- Interested children return - more material needed!
- Time consuming - incentives (e.g. free T-Shirt, recognition as official CERN activity...) aid volunteer recruiting
- Children and parents want to continue at home, more awareness needed of available resources

Next Steps

- Continue and expand to older age groups
- Hope that Science Gateway (see [Poster](#)) will provide venue and resources for sustained workshop agenda
- Workshop material to be improved and made available

Get involved!

Have ideas to share? Want to collaborate? Looking to volunteer?

- Visit <https://women-in-technology.web.cern.ch/outreach>
- Contact wit-matters-sc@cern.ch

P.S. Outreach activities enhance all CVs!