universität innsbruck

Simulating and Interfacing with a Physical Coding Environment Using Blockly

Department for Quality Engineering

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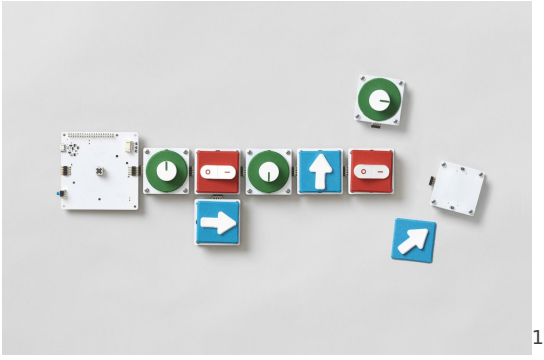
Ziel

Einführung programmierung für Kinder

- Einfach zu verwendete Webseite
- Darstellung und Simulation der physischen Blöcke
- Mögliche programmierung der physischen Blöcke

Physische Coding Blöcke

Entwickelt von David Rieser in seiner Bachelorarbeit

 [1]

[1] Steve Vranakis and Jayme Goldstein. *Project Bloks: Making code physical for kids*. 2016. URL: https://research.google/blog/project-bloks-making-code-physical-for-kids/ (visited on 06/03/2024).

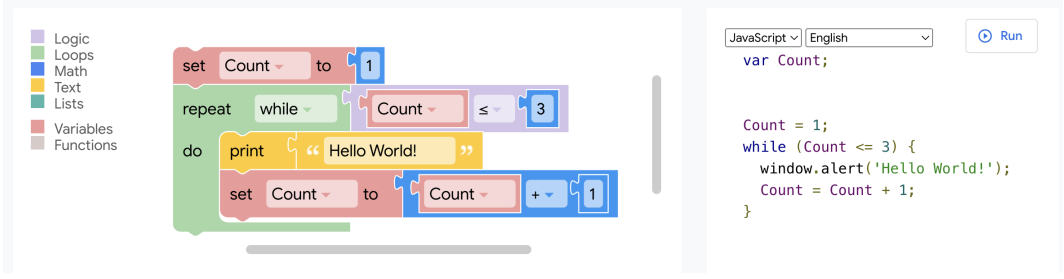
Physische Coding Blöcke - Challanges

- Verbindung Computer
- Zwei wege Interface, auslesen und programmierung

Interface wird kollaborativ mit David Rieser Entwickelt

Blockly

Blockly[2] is a visual programming editor by Google that uses drag-and-drop blocks.

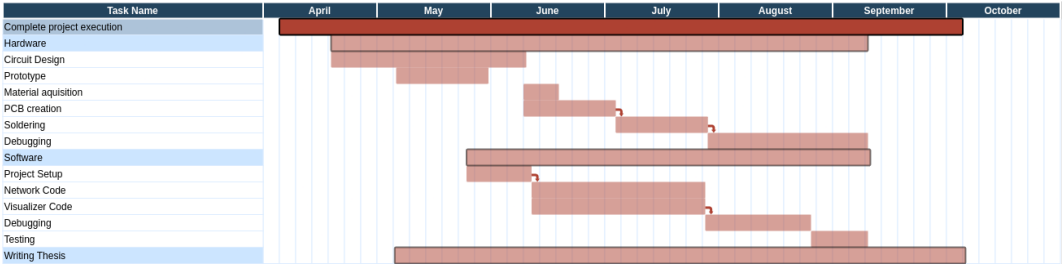


[2] *Blockly is a visual programming editor by Google that uses drag-and-drop blocks*. URL: https://developers.google.com/blockly/ (visited on 10/15/2024).

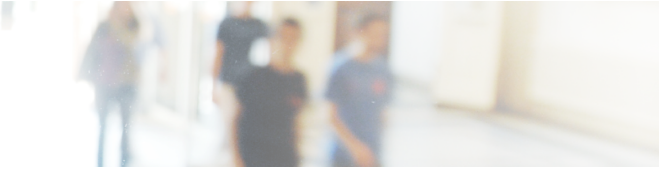
Blockly - Challanges

- Gute vordefinierte Code Strukturen um die Blöcke zu programmieren
- Korrekte Codegenerierung
- Silumation des Codes für klare Darstellung für Kinder was passiert

Time Table


Task Name
April
May
June
July
August
September
October
Complete project execution
Hardware
Circuit Design
Prototype
Material aquisition
PCB creation
Soldering
Debugging
Software
Project Setup
Network Code
Visualizer Code
Debugging
Testing
Writing Thesis

Thank you for your attention!



Related work

1. Project Bloks[3]
2. Blockly[4]

[3] Steve Vranakis and Jayme Goldstein. *Project Bloks: Making code physical for kids*. 2016. URL: https://research.google/blog/project-bloks-making-code-physical-for-kids/ (visited on 06/03/2024).

[4] *Blockly is a visual programming editor by Google that uses drag-and-drop blocks*. URL: https://developers.google.com/blockly/ (visited on 10/15/2024).

References I

[1] Steve Vranakis and Jayme Goldstein. *Project Bloks: Making code physical for kids*. 2016. URL: https://research.google/blog/project-bloks-making-code-physical-for-kids/ (visited on 06/03/2024).

[2] *Blockly is a visual programming editor by Google that uses drag-and-drop blocks*. URL: https://developers.google.com/blockly/ (visited on 10/15/2024).

Appendix 1

This slide does not increase the total number of slides and can hold additional information that you may be asked about after the end of the presentation.