

# CARD-BASED ACTIVITY TO RAISE PEOPLE'S AWARENESS ABOUT HOW THE DIGITAL WORLD WORKS

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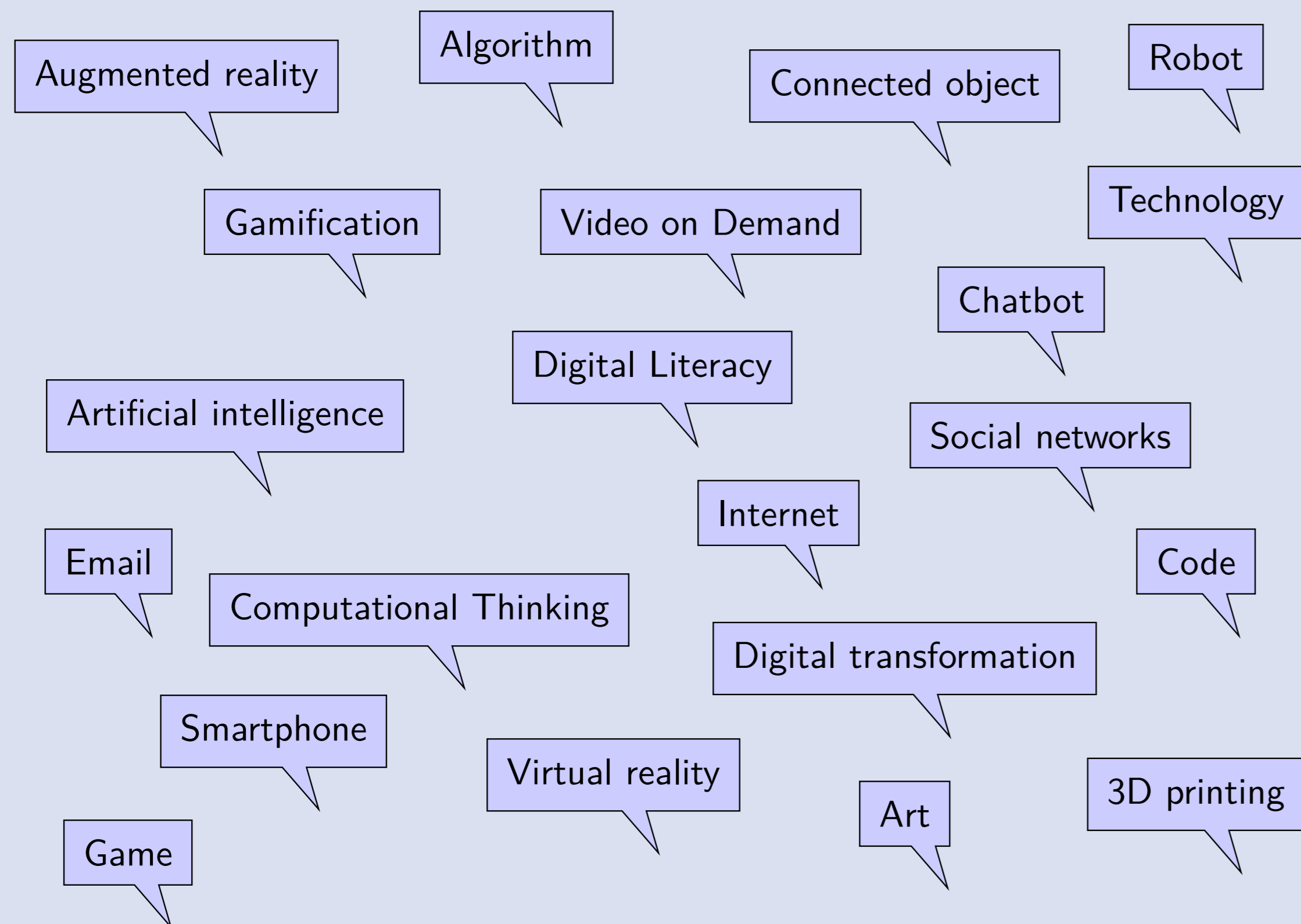


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## 1. Introduction

The aim of the proposed card-based unplugged activity is to raise people's awareness about what the digital world is and about how it works.



Three main goals for the proposed activity:

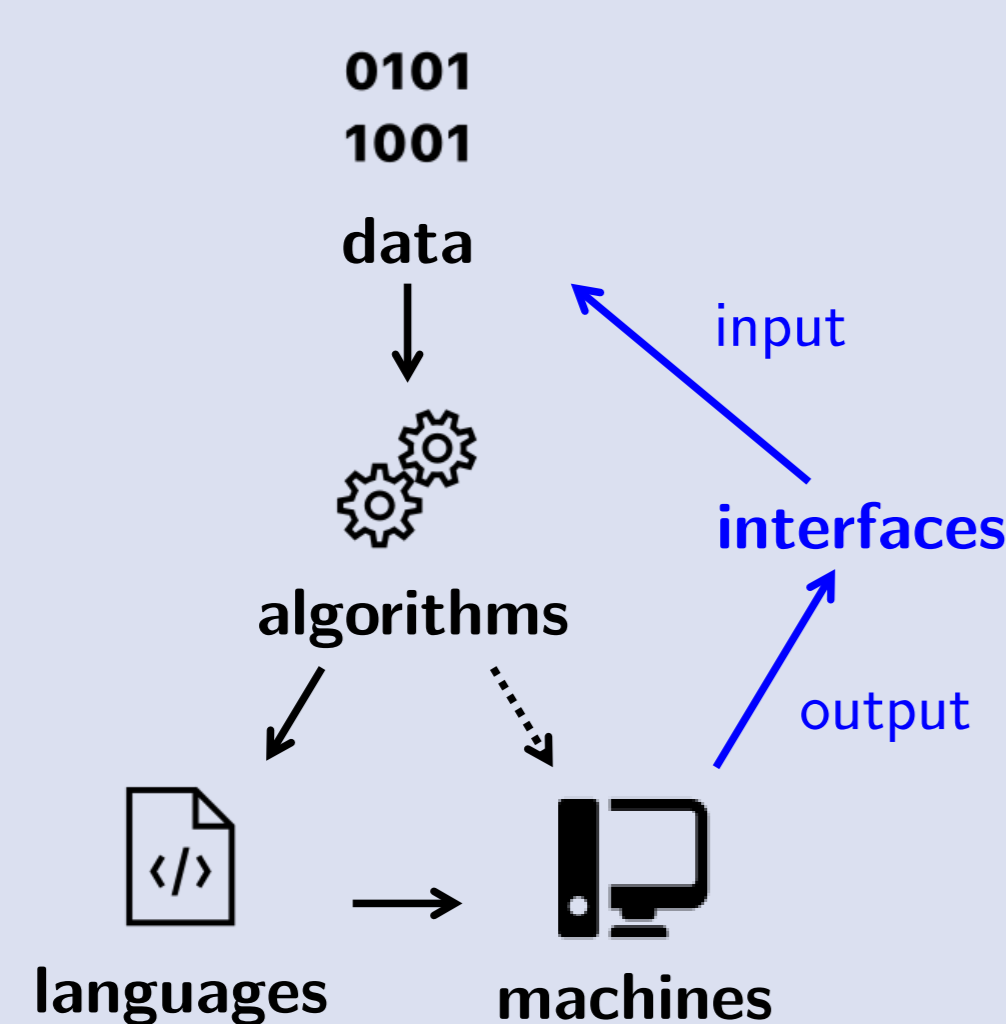
- Make people aware of **what** the digital world is,
- help them to understand **how** the digital world works,
- and show them **which** components computer systems are made of.

## 2. Card Game Design

The proposed activity meets several characteristics:

- Should be a card-based pen-and-paper activity,
- based on real-life situations with actual computer systems,
- that can be used with a limited amount of time,
- and that can be adapted to different age groups and learning goals.

Computer science can be defined as follows:



Computer science makes it possible to perform computations on **information** using **algorithms, programs, and machines.**

A computer system mainly performs three operations automatically:

- data retrieval, data processing and data storage

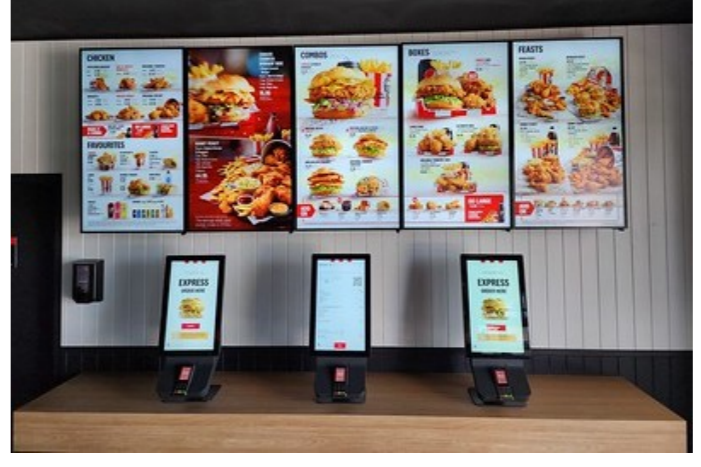
A computer system is made of the following components:

- hardware and software components,
- data (input and output),
- communication (between components),
- users (human beings and other systems).

## 3. Cards

The spirit of the proposed activity is to be connected to the real world. The starting point is a "situation card" with a name, a picture and a description.

**ORDERING TERMINAL**

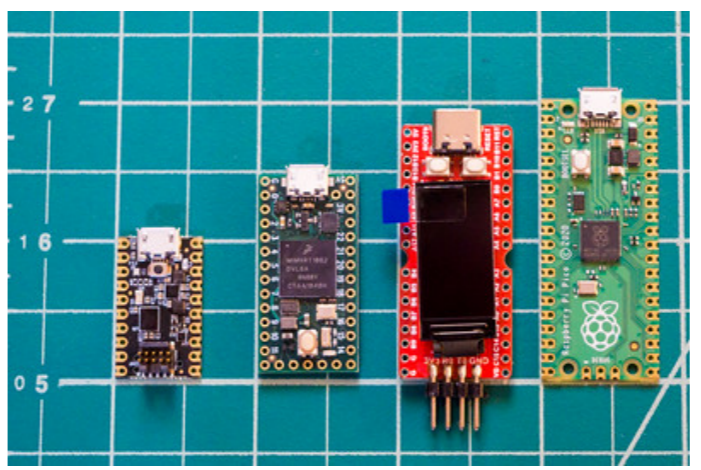


I am feeling a little hungry after a walk in town and I go to a fast-food restaurant where I place my order at an ordering terminal.

**SITUATION CARD**

Hardware and software cards are at the heart of the proposed activity and are used to make participants aware of invisible parts of computer systems.

**MICROCONTROLLER**



A microcontroller is a small computer, less powerful and consuming less energy. It is usually embedded in an object to give it some "intelligence."

**HARDWARE CARD**

**PROGRAM**



A program is a set of operations and instructions that are meant to be executed by a computer to perform a given task.

**SOFTWARE CARD**

## 4. Activity Board

Each group of activity receives an activity board on a sheet of paper to guide the activity. Four areas are defined to guide the participants in the analysis.

The parts of the computer system which I see and which I interact with		The hidden face of the computer system which I am not seeing	
Provided input	Produced output		

## 5. Conclusion and Future Work

- The proposed activity has been tested with three groups of adults
- Future work includes adding new cards and categories of cards
- Different levels of difficulty will be developed for different age groups
- Different activities will be designed to adapt to various audiences