SIMPLE SIMON SAYS GAME USING ARDUINO

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ABSTRACT

Simon Says (or **<u>Simple Simon</u> Says**) is a child's game for 3 or more players where 1 player takes the role of "Simon" and issues instructions (usually physical actions such as "jump in the air" or "stick out your tongue") to the other players, which should only be followed if prefaced with the phrase "Simon says", for example, "Simon says, jump in the air". Players are eliminated from the game by either following instructions that are not immediately preceded by the phrase, or by failing to follow an instruction which does include the phrase "Simon says". It is the ability to distinguish between ugly and pretty commands, rather than physical ability, that usually matters in the game; in most cases, the action just needs to be attempted.

The object for the player acting as Simon is to get all the other players out as quickly as possible; the winner of the game is usually the last player who has successfully followed all of the given commands. Occasionally however, 2 or more of the last players may all be eliminated by following a command without "Simon Says", thus resulting in Simon winning the game.

The game is well embedded in popular culture, with numerous references in films, music and literature.

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1.0 INTRODUCTION

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Arduino is an open-source computer hardware and software company, project and user community that designs and manufactures microcontroller-based kits for building digital devices and interactive objects that can sense and control the physical world.

The project is based on a family of microcontroller board designs manufactured primarily by SmartProjects in Italy, and also by several other vendors, using various 8-bit Atmel AVR microcontrollers or 32-bit Atmel ARM processors. These systems provide sets of digital and analog I/O pins that can be interfaced to various expansion boards ("shields") and other circuits. The boards feature serial communications interfaces, including USB on some models, for loading programs from personal computers. For programming the microcontrollers, the Arduino platform provides an integrated development environment (IDE) based on the Processing project, which includes support for C, C++ and Java programming languages.

The first Arduino was introduced in 2005, aiming to provide an inexpensive and easy way for novices and professionals to create devices that interact with their environment using sensors and actuators. Common examples of such devices intended for beginner hobbyists include simple robots, thermostats, and motion detectors.