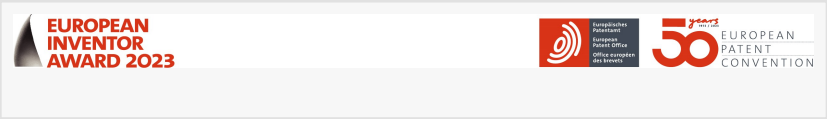
Portuguese Computer Engineer Named As A Finalist For The Young Inventors Prize 2023

Inclusive Digital Learning For Visually Impaired Children: Portuguese Computer Engineer Named As A Finalist For The Young Inventors Prize 2023



MADRID, SPAIN, June 21, 2023 /EINPresswire.com/ -- - Filipa de Sousa Rocha has developed a system that uses tangible blocks to teach digital literacy and eliminate educational barriers
- Using block-based programming, children with visual impairment can control a robot, similar to playing a drag-and-drop computer game
- Her work makes computational thinking and lifelong learning more accessible

Approximately 90 million children and teenagers worldwide live with some form of sight loss, according to the International Agency for the Prevention of Blindness (IAPB). Teachers and parents of children with visual impairments have difficulties finding mainstream educational tools and toys which they do not have to adapt. Filipa de Sousa Rocha has invented a block-based coding system to tackle the issue while democratising access to digital education.

De Sousa Rocha has been named as one of three finalists for the second edition of the Young Inventors Prize, which the European Patent Office (EPO) established to inspire the next generation of inventors. The prize recognises young innovators aged 30 or under who have developed technological solutions to tackle global problems and help reach the United Nations Sustainable Development Goals (SDGs). De Sousa Rocha's work in improving access to education contributes to UN SDG 4: Quality Education and UN SDG 10: Reduced Inequalities.

Like a drag-and-drop computer game

Block-based coding is a programming language where the developer builds sequences of instructions by dragging and dropping blocks on a monitor. The blocks are decorated with 3D foam icons. These icons represent directional movement or speaking functions used to command a robot's behaviour. Using these blocks, children with visual impairment can control the robot, as if they were playing a drag-and-drop computer game. De Sousa Rocha calls this invention 'Block-based Accessible Tangible Programming Systems' or BATS.

The prototype of the BATS learning tool took less than a year to create. It was tested remotely

with five families of visually impaired children between 6 and 12 years old during the Covid-19 pandemic. Having almost no funding for the project, de Sousa Rocha relied on building relationships with schools, associations, and families to bring her concept to life. Participating families suggested adding more blocks for training other concepts, like geography or mathematics. Rocha's work has made significant strides in making computational thinking accessible to all, particularly visually impaired and blind children.

Using technology’s potential for social benefits

De Sousa Rocha is a 27-year-old Portuguese computer engineer and researcher with a Bachelor of Science in computer engineering and a master’s in computer and information systems. She is currently pursuing her PhD in informatics at the Faculty of Sciences of the University of Lisbon and works as a teaching assistant at the Instituto Superior Técnico. De Sousa Rocha is sharing her passion for education by teaching digital literacy through play, bringing a smile to the faces of young learners as they pick up skills such as computer programming.

“I think it’s really important for us to create accessible and inclusive technologies for everyone, regardless of their abilities or disabilities. That means making sure that the technology we develop can be used by people who are visually impaired or blind, for example, or people who have mobility or dexterity issues”, she explained.

The Young Inventors Prize winner will be announced at the European Inventor Award 2023 hybrid ceremony on 4 July 2023 in Valencia (Spain). This ceremony will be broadcast online here.

Find more information about the invention’s impact, the technology and the inventor’s story here.

About the Young Inventors Prize

The European Patent Office established the Young Inventors Prize in 2021 to inspire the next generation of inventors. Aimed at innovators aged 30 or below from all around the world, it recognises initiatives that use technology to contribute toward the United Nation's Sustainable Development Goals. The winner will receive EUR 20 000, the second and third placed finalists will receive EUR 10 000 and EUR 5 000, respectively. An independent jury comprising former finalists of the European Inventor Award selects the finalists and winner. The EPO will confer the prize at the European Inventor Award 2023 hybrid ceremony on 4 July. Unlike the traditional Award categories, the Young Inventors Prize finalists do not need a granted European patent to be considered for the prize. Read more on the Young Inventors Prize eligibility and selection criteria.

About the EPO

With 6,300 staff members, the European Patent Office (EPO) is one of the largest public service institutions in Europe. Headquartered in Munich with offices in Berlin, Brussels, The Hague and Vienna, the EPO was founded with the aim of strengthening co-operation on patents in Europe. Through the EPO's centralised patent granting procedure, inventors are able to obtain high-quality patent protection in up to 44 countries, covering a market of some 700 million people. The EPO is also the world's leading authority in patent information and patent searching.

Loredana Domingo
MARCO
email us here
