

«Astronomy for the Blind and the Disabled - A4BD»

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A4BD SCOPE

A4BD project aims to develop a database of astronomical objects and special software to enable the visually impaired to get in touch with the science of astronomy.

The database will include photographs of astronomical objects (planets, nebulae, galaxies, etc.) sorted according to their specific characteristics to allow analysis and their representation by special software for the visually impaired. The special software will convert astronomical images into sounds that will allow the user not only to study astronomy but to grasp the beauty of the astronomical image as he could not do visually.

In order to achieve this goal, the consortium will include institutions for the education of persons with disabilities who will contribute to their experience, while the University of Patras, as technical and project coordinator, will develop the special software.

National Agency IKY
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End date: 31 August 2020

Coordinator of the project:
University of Patras
Dr. Ioannis Gialelis
More information:
www.a4bd.eu



ΠΑΝΕΠΙΣΤΗΜΙΟ
ΠΑΤΡΩΝ
UNIVERSITY OF PATRAS



Collège E. Adam De Villiers

ΕΙΔΙΚΟ ΣΧΟΛΕΙΟ ΠΑΙΔΙΚΟΥ ΑΝΑΡΡΩΤΗΡΙΟΥ
ΕΡΥΘΡΟΥ ΣΤΑΥΡΟΥ

A4BD CONSORTIUM

- ✓ Collège Emilien Adam de Villiers - France
<http://college-adam-de-villiers.ac-reunion.fr>
- ✓ CEIP La Jara - Spain
<https://sites.google.com/site/ceiplajarasanlucar>
- ✓ Dla Dobra - Poland
www.dladobra.pl
- ✓ Liepājas Neredzīgo biedrība - Latvia
www.redziqaismu.lv
- ✓ Special School for Children Red Cross Cyprus
<http://eid-paidiko-anarrotirio-lem.schools.ac.cy>
- ✓ Experimental High school of the University of Patras - Greece
- ✓ University of Patras - Greece
www.upatras.gr

A4BD BENEFITS

Besides the direct beneficiaries, those who are visually impaired, the project will produce tools that special education professionals can use as aids in teaching science to the visually impaired.

A4BD PRODUCTS

A4BD will have as its main technical products, a database of astronomical objects and software for converting astronomical images into sound.

The astronomical object **database** will contain classified astronomical images. The classification of the astronomical images will be analyzed and categorized in such a way as to identify their main visual components that will be transformed into sound signals and which will form the basis of the educational process for which the software will be used.

Astronomy-to-audio conversion software will be provided as freeware to the global educational community. Its tablet and touch screen operation will consist of interaction with touch-sensitive use. As the user touches the various parts of the astronomical image, different sounds will represent its shape, color and other basic elements.

A4BD IMPACT

The impact of the project lies mainly on the integration of the visually impaired in a scientific field such as Astronomy, in which the sense of vision plays an important role. In the context of the project, the concept of integration refers to the following:

- Equal opportunities in the education of astronomy science at basic level.
- Equal opportunities for the perception of the universe and the inspiration that astronomy has been giving for thousands of years in art, philosophy and science.
- Possibility to simultaneously study and enjoy astronomical images with friends and family as the software developed can be used simultaneously visually and aurally.

A4BD SUSTAINABILITY

Within the framework of the project, sustainable cooperation of all kinds will be established among all stakeholders to monitor and adapt the changes according to the needs of each sector, to facilitate transnational mobility between the sectors concerned and to provide transversal skills, as well as career guidance, career management skills and access to the labor market, thus improving the possibility of long-term employment.

A4BD ACTIVITIES

The objectives of the project will be achieved through the following activities:

- Three short-term educational events to be held at the headquarters of the Partner Coordinator, University of Patras.
- Five educational exchanges of students and teachers in France, Spain, Latvia, Cyprus and Poland.
- Two participations in innovation and technology exhibitions where the results of the project will be presented.
- Three short curricula in Latvia, Cyprus and Poland.
- A conference to disseminate the project's results and technical works to the project's themes.

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