

ACTIVITIES REPORT

September 2017 - February 2019

Activities related to Intellectual Output 1: Astronomical Objects Data Base

- Establishment of criteria that images of the database should meet.

Following extensive research in various astronomical databases as well as research on the special requirements of the project, the following criteria were established in order to select images.

- ✓ Images must be copyright-free or have a copyright that permits use for the purpose of the project.
- ✓ Images must be of high resolution and good quality without noise or artefacts.
- ✓ Images must be representative of the pool of astronomical objects i.e. to have images of all common astronomical object types (galaxies, clusters, planets, nebulae etc.)
- ✓ Images must be of variable complexity i.e. to have images that contain a single object, images that contain multiple objects, images with objects with clear outlines, images with objects with fine details etc.
- ✓ Images of variable magnification i.e. wide-field images (constellations, the Milky Way etc.) and hi magnification images through a telescope.
- ✓ Images must have available information about the way they were recorded, and the object contained in them.
- ✓ Images must originate from both hemispheres of the celestial sphere.

- Determination of astronomical image sources and agreements for image use

In order to have access to images, it was necessary to conduct agreements about use of images from various sources. Some internet sources already provide their images for free however it was necessary to establish a cooperation with image providers where a close collaboration could provide custom results. For this reason, cooperation were established with the following entities, agreeing to not only provide image but also assist the selection process.

- ✓ Online Greek astronomy/astrophotography community AstroVox.gr
- ✓ Astronomical Society of Patras Orion
- ✓ Association d'astronomie, Observatoire den Makes, La Réunion.

- Acquisition of images from the South Sky

In cooperation with the “Association d'astronomie, Observatoire den Makes, La Réunion”, images of the Southern Sky were acquired during the C2 event in the island of Reunion. The purpose of this activity was to also access the Southern Sky which is not possible from Europe but also to make good use of custom photography in a dark site and take images in line with the requirements of the project.

- Determination of the astronomical database structure

The structure of the database was established in order to not only fill the database with images but also provide information for the user.

Field	Description
Object common name	The common name of the object (e.g. Andromeda Galaxy)
Object official catalog name	The official name of the object from a catalog (e.g. M31, NGC7000 etc.)
Constellation	The constellation where the object is located.
Object type	Astronomical type of the object (galaxy, planet, cluster etc.)
Object sub-type	Subtype of the object e.g. for galaxies elliptical or spiral, for clusters open or globular, for stars double, variable etc.)
Magnitude	The visual apparent magnitude of the object.
Distance	The distance from Earth to the object in light years.
Age	The estimated age of the object in years.
Apparent size	The angular diameter of the object as seen from earth.
Description	Free text description of interesting facts about the object

Activities related to Intellectual Output 2: Software for aural interpretation of astronomical images

- Preparatory step 1 – questionnaire

A questionnaire was created in order to help understand the needs of the visually impaired. It consisted of 15 questions aiming to understand how the visually impaired would make use of the application. Examples questions included:

- ✓ What is the degree of your visual impairment?
- ✓ When did you acquire your visual impairment?

- ✓ Do you wish to have more astronomy content for the visually impaired with emphasis on education or on enjoyment?
- ✓ Which aspects of astronomy do you feel you have less understanding of due to vision impairment?
- ✓ In what degree do you have difficulty understanding the following attributes?
- ✓ How much time would you be willing to spend to understand the content of an astronomy photograph through sound?
- ✓ Do you find music based on physical instruments or digitally synthesized music more comfortable for audio learning resources?

The questionnaire was translated to all languages of the consortium. With great help from partners, we got 132 questionnaires completed from 5 countries. Results were very helpful in designing the software.

- Preparatory step 2 – finding end users and getting their feedback

The Western Greece Blind Association was contacted, and meetings were set in order to get their feedback and also agree to act as end users and demo testers for the software.

- Preparatory step 3 – identify aural-visual relations

Following extensive literature research, the theoretical model forming the basis of the software was created by identifying the main visual and aural characteristics of the model.

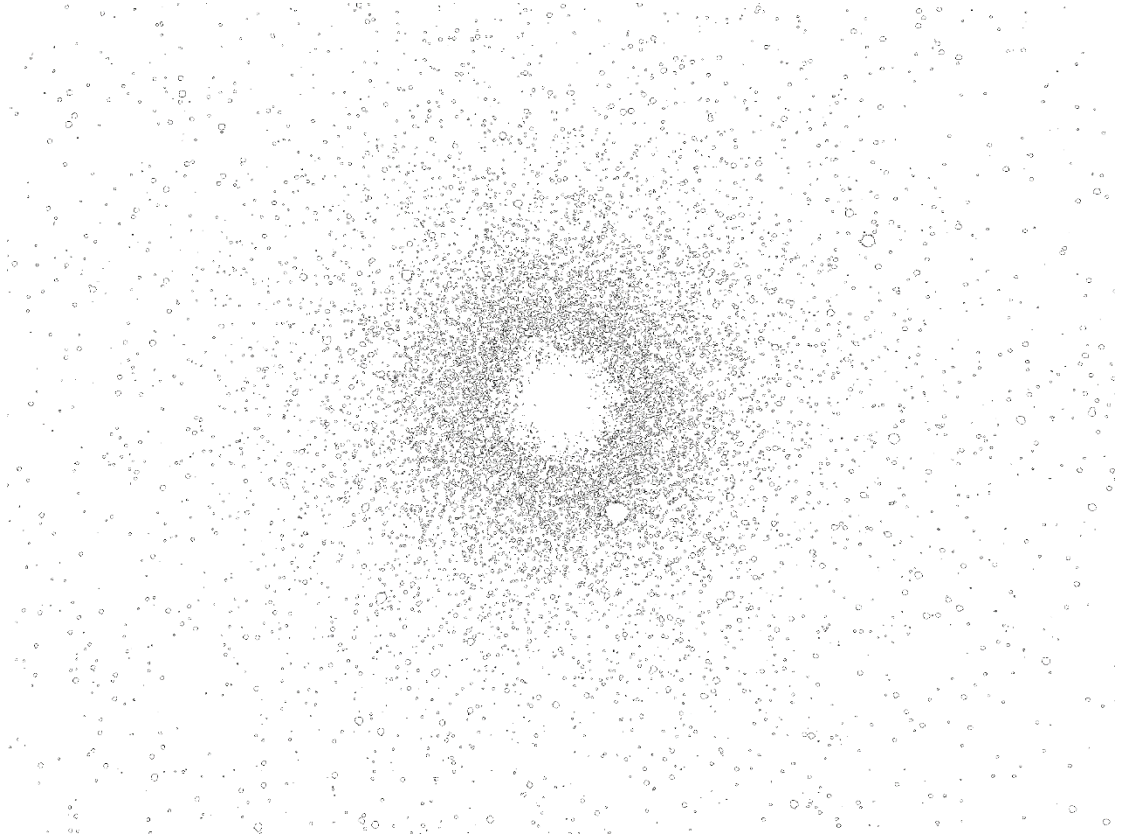
Visual characteristic	Description
Shape	The general form of the object i.e. circular, rectangle etc.
Brightness	How bright the object is
Color	The colors of the object
Contrast	The difference in brightness between successive image parts
Complexity	The amount of fine or coarse detail

Aural characteristic	Description
Loudness	The volume of the sound
Pitch	The frequency of the sound (also the note).
Timbre	The qualitative characteristics of the sound
Sounds succession	The way each sound succeeds the previous, just as the succession of notes in a musical piece.
Sound superimposition	The way more than one sounds are played simultaneously on top of each other.

- Implementation stage 1 – image preprocessing
Before actually implementing the software code, images needed to be preprocessed in order to identify the main characteristics to be converted to sound. These consisted of the following actions.

- Edge and contour detection

Making a contour of the object to act as a harsh guide for its location and shape.



- Image quantization (reducing complexity)

Reducing image color information in order to not overload the sound model

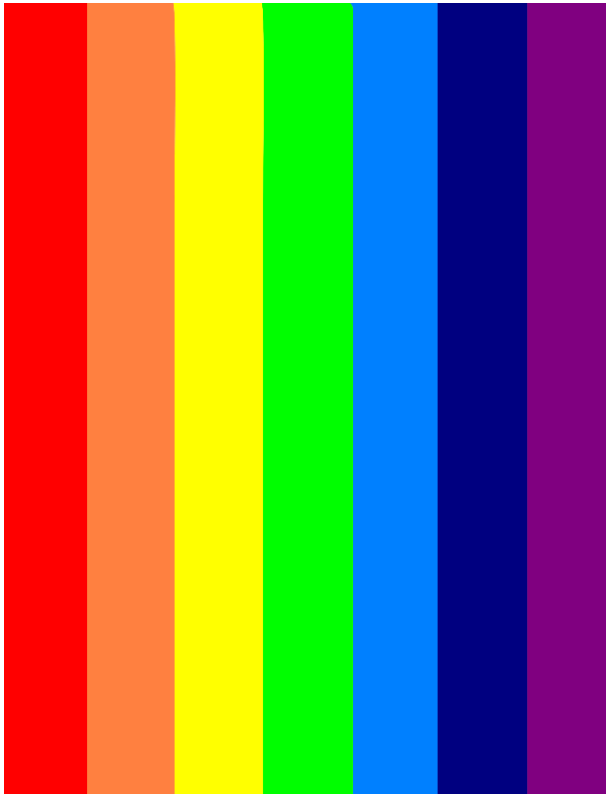


- Brightness level detection

Detecting brightness levels that would be converted to volume levels




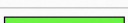
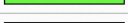


- Main color detection






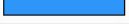


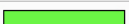



Detecting main colors by using the well-understood palette of the rainbow colors



- Implementation stage 2 – sound model

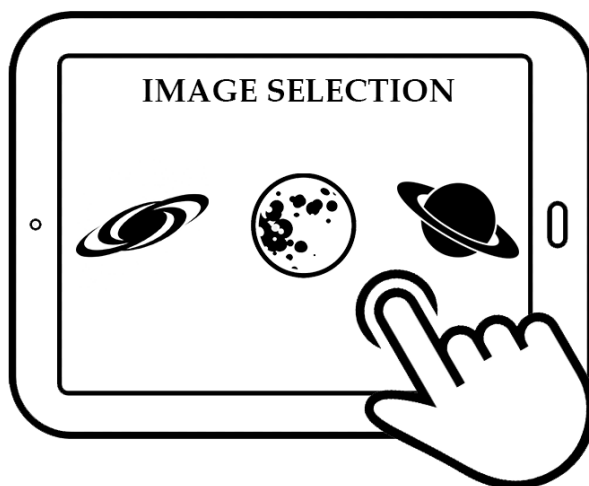
The sound model used for the sound generation was chosen, following extensive research, to be the sonochromatic model

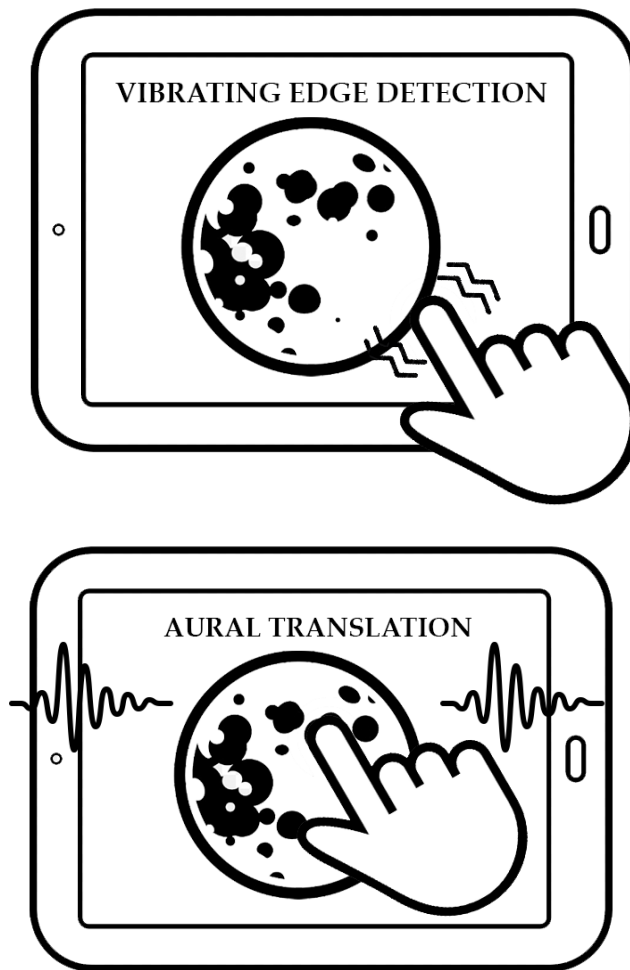
PURE SONOCHROMATIC SCALE		
(invisible)	Ultraviolet	Over 717.591 Hz
	Violet	607.542 Hz
	Blue	573.891 Hz
	Cyan	551.154 Hz
	Green	478.394 Hz
	Yellow	462.023 Hz
	Orange	440.195 Hz
	Red	363.797 Hz
(invisible)	Infrared	Below 363.797 Hz

SONOCHROMATIC MUSIC SCALE (basic 12/360)		
	Rose	E
	Magenta	D#
	Violet	D
	Blue	C#
	Azure	C
	Cyan	B
	Spring	A#
	Green	A
	Chartreuse	G#
	Yellow	G
	Orange	F#
	Red	F

- Implementation stage 3 – app design

The main screens and functionalities of the software were created. A mockup of the main functions appears below.





The user interface is very simple and consists of simple touch commands and some vibration feedback. All screens are voice-assisted but also present real images on the screen so that they can be used by users with no visual impairment or non-total visual impairment. When first launched, the app presents a voice-guided image selection screen. The user needs only to touch the right image which will be translated to sound. Once an image is selected, the user can use his finger to navigate the screen. A vibration function aids the user to detect the object edges. Inside the object edges the app produces sound as the finger is swiped across the image. The finder swiping speed detection algorithm in combination with the visual to aural translation algorithms produce sounds that correspond to the visual information at the point of touch.

- Implementation demos
Demonstration and feedback sessions were scheduled in order to get user feedback and improve the software.

- Demo 1

The first demonstration took place during the C3 meeting in Spain. Local users but also participants of the consortium evaluated the first version of the app.



- Demo 2

The second demonstration took place during the C4 meeting in Greece. Users from the Western Greece blind association evaluated the second version of the software providing valuable feedback on course to the final version.



- Project publicity efforts
- ✓ The project has a modern-looking and useful website found at the URL <https://www.a4bd.eu>
With the help of the partners, the website is fully translated to all 6 languages of the consortium.
- ✓ The project also has a facebook page found at <https://www.facebook.com/a4bd.eu>
The facebook page provided access to more people regarding project publicity
- ✓ The project has a threefold leaflet translated to all 6 languages of the consortium and available in PDF on the website. Partners can print the leaflet for publicity purposes in local events.



ACTIVITIES REPORT

CEIP La Jara

Sanlúcar de Barrameda

(Spain)

BLOG

September 2017 to the present

<http://colelajaralessismore.blogspot.com/>

Less is more

viernes, 7 de septiembre de 2018

Astronomy 4 Blind and Disabled WEBSITE

En este enlace podréis encontrar la página web de nuestro proyecto "Astronomy for Blind and Disabled" en todos los idiomas de los países participantes: francés, polaco, letón, griego, y además de en inglés también. Es muy interesante, aquí podréis ver todos los detalles de nuestro proyecto.



English

- English 1º
- English 2º

Archivo del blog

- 2019 (2)
- ▼ 2018 (14)
 - diciembre (2)
 - octubre (1)
 - ▼ septiembre (2)
 - Astronomy 4 Blind and Disabled WEBSITE
 - Welcome back to school !!
- mayo (3)
- abril (1)
- marzo (2)

LOGO CONTEST

January 2018



BOOK FAIR

April 2018



what does the moon taste like?



My alien friend



WORKSHOPS

April 2018



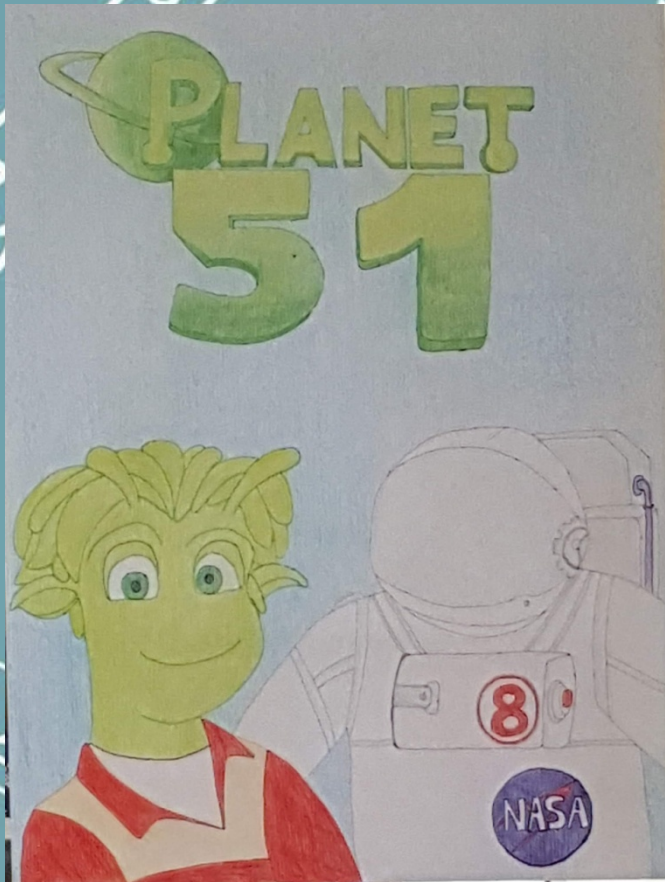
GYMKHANA

April 2018



CINEMA

May 2018



ACTIVITIES OF THE UNIVERSE

May 2018



END OF YEAR PARTY

June 2018



START OF THE COURSE

September 2018



C3

December 2018

- Software test.
- Gymkhana.
- Dissemination in the newspaper and local TV

<https://www.youtube.com/watch?v=HDnMasuI4I4>



DIARIO DE CADIZ

PROVINCIA

El colegio La Jara acoge esta semana a visitantes europeos del programa Erasmus



El colegio La Jara acoge esta semana a visitantes europeos del programa Erasmus.

F.J.F.

Sanlúcar, 12 Diciembre, 2018 - 19:15h



El colegio La Jara acoge esta semana a un grupo de visitantes de Letonia, Chipre,



Alumnos europeos visitan Sanlúcar invitados por el Colegio de la Jara

PEACE DAY

January 2019



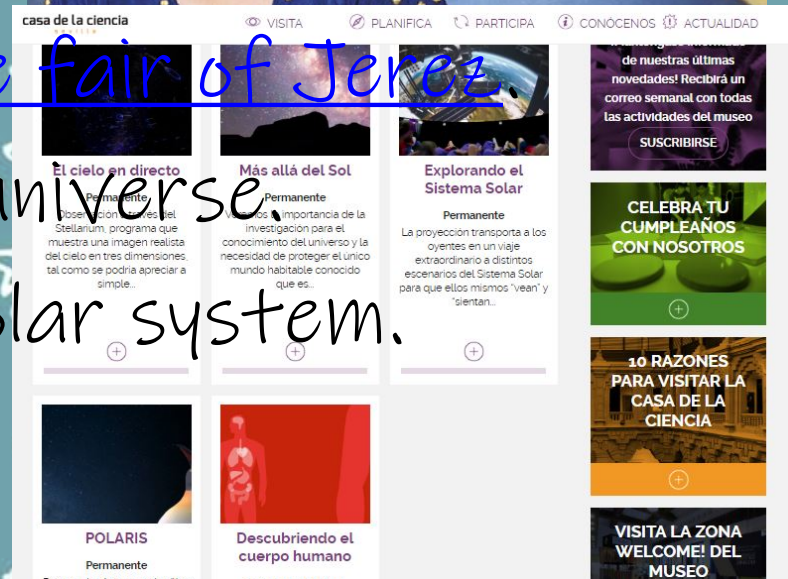
VALENTINE'S DAY

February 2019



FUTURE ACTIVITIES

- Study Wanda Díaz's profile.
- Visit to the Seville planetarium (<http://www.casadelaciencia.csic.es/es/planetario>) and presentation of the A4BD project.
- Take part to science fair of Jerez
- Scape Room of the universe.
- Keep working the Solar system.



ΕΙΔΙΚΟ ΣΧΟΛΕΙΟ ΠΑΙΔΙΚΟΥ ΑΝΑΡΡΩΤΗΡΙΟΥ
ΕΡΥΘΡΟΥ ΣΤΑΥΡΟΥ
ΤΑΧ.ΘΥΡΙΑ 55686 ΛΕΜΕΣΟΣ 3781
ΤΗΛ.25385229 ΦΑΞ: 25770694
E-mail: cid-paidiko-anarrotirio-lem@schools.ac.cy

EIDIKO SXOLEIO PAIDIKOY ANARROTIRIOY ERYTHROY STAVROY

Periodic Report 2

25 January 2019

Dr. Yiannis Gialelis

University of Patras

Electrical and Computer Engineering Dept

Applied Electronics Lab, University Campus

Rio, Patras 26504, Greece

Periodic Report 2

Project “Astronomy for Blind and Disabled”

1 September 2017 – 28 February 2019.

Goals and objectives that have been met since our school have started participating in the program Astronomy for Blind and Disabled.

- September 2017 the teachers and the therapists of the school were informed by the Erasmus coordinator team about our school’s participation in the program A4BD.
- November 2017 we organized the trip for C1 event in Patra, Greece.

**ΕΙΔΙΚΟ ΣΧΟΛΕΙΟ ΠΑΙΔΙΚΟΥ ΑΝΑΡΡΩΤΗΡΙΟΥ
ΕΡΥΘΡΟΥ ΣΤΑΥΡΟΥ
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ΤΗΛ.25385229 ΦΑΞ: 25770694
E-mail: cid-paidiko-anarrotirio-lem@schools.ac.cy**

- December 2017 we prepared our presentation of our school for the C1 event in Patra, Greece.
- The schools purchased the OmiBeam interactive Sensory system that will host the platform of Astronomy for Blind and Disabled.
- Participation in the kick-off event C1 Patra, Greece in February 2018. The headmistress with two therapists from the Eidiko Sxoleio Paidikou Anarrotiriou Erithrou Stavrou participated.
- Eidiko Sxoleio Paidikou Anarrotiriou Erithrou Stavrou established a very good cooperation with the school of Blind in Nicosia. A meeting between the two schools took place in Nicosia in May 2018. During that meeting the teachers and the therapist were informed about the A4BD.
- We translated the questioners in Greek and sent them at the school of Blind where they answered them and sent them back to us.
- June 2018 we organized the trip for C2 event in La Reunion.
- Participation in the event C2 La Reunion in September 2018. Three therapists from the Eidiko Sxoleio Paidikou Anarrotiriou Erithrou Stavrou participated.
- Our students with the help of our Special Education Teacher, the Occupational Therapist, the Music Therapist and the Physiotherapist created different projects of 3D solar system made by different textures in order our students to understand better the planets. These activities helped our students to interpret sensory input, understand its relevance and respond especially to external stimuli. These activities helped our students to interpret sensory input, understand its relevance and respond especially to external stimuli.
- The translated leaflet was sent to all the parents of our students, to the Ministry of Education, to our collaborators and the Cyprus Erasmus + .
- October 2018 we organized the trip for C3 event in Sanlucar de Barrameda, Spain.
- Participation in the event C3 in Sanlucar de Barrameda, Spain in December 2018. The headmistress and a teacher from the Eidiko Sxoleio Paidikou Anarrotiriou Erithrou Stavrou participated.
- A Wednesday afternoon in December 2018 the colleagues who travelled in La Reunion and Spain shared their experiences by PowerPoint presentation to the rest of the personnel.

**ΕΙΔΙΚΟ ΣΧΟΛΕΙΟ ΠΑΙΔΙΚΟΥ ΑΝΑΡΡΩΤΗΡΙΟΥ
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ΤΗΛ.25385229 ΦΑΞ: 25770694
E-mail: cid-paidiko-anarrotirio-lem@schools.ac.cy**

- In January 2019 we had another meeting with the school of Blind in Nicosia informing them about the progress of the A4BD program and reconfirming our future cooperation.
- In February 2019 we organized the trip for C4 event in Patra, Greece.
- An article about the project A4BD was published in Cyprus Alive.com and it was shared in different social networks such as Facebook, Instagram and schools websites.

<http://www.cyprusalive.com/el/i-ekpaideftiki-koinotita-tis-kiprou-tha-mporei-sintoma-na-diaxeirizetai-ena-dorean-logismiko-to-a4bd-to-opoio-apotelei-programma-erasmus>

The coordinator team of A4BD



PERIODIC REPORT **september 2017 - February 2019**

December 2017 :

organization of the trip to C1 event in Patras , Greece : purchase of the different tickets (planes , bus) , accomodation ...

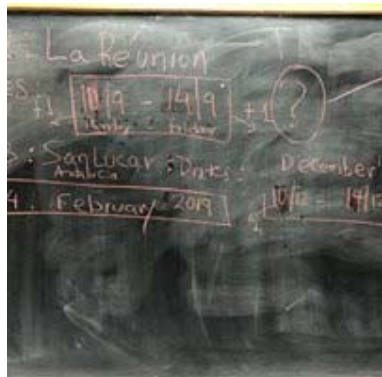
february 2018 :

Three representants of our school participated to the kick -off meeting in Patras , Greece (C1) : the vice headmaster , the school nurse and the teacher who have in charge disabled pupils



march to july 2018 :

- organization of the C2 in La Reunion for september



-
- realisation of keychain for the partners of A4BD (memory gift of their exchange in Réunion)



-
- realisation of drawing with guidelines (three words : Réunion / astronomy / Blind and disabled)



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April 2018:

- translation of the questionnaire to French language
- collaboration between ophthalmologist in the town for the questionnaire
the goal was to help us finding disabled people to complete the questionnaire
and have a list of people to give them after the links of the website
- the interview was done in person by the school nurse because of confidentiality issue

may 2108 : organization of a “ G astronomic “ barbecue : parents , pupils and all the members of our school were invited to observe stars and share a good moment around a barbecue

The goals were to build relationship between parents and teachers and to promote our project while watching the sky



May to June 2018 :

- during lunch time : animation around books of astronomy at the school's library



- meeting with the “ Réunion friend of astronomy “ to promote the project and make partnership between researchers and the association

June 2018 : translation of A4BD Leaflet to French language

The translated leaflet was sent to all the parents of our students

July/ August 2018 : working on the translation to French language of the website A4BD.eu



September 2018 : welcome the group in our island

-> monday : welcome reception and transfer to the observatory for the night observation of the stars





->tuesday : observation of the sun , snacking on the beach and visit of the sugar cane's museum



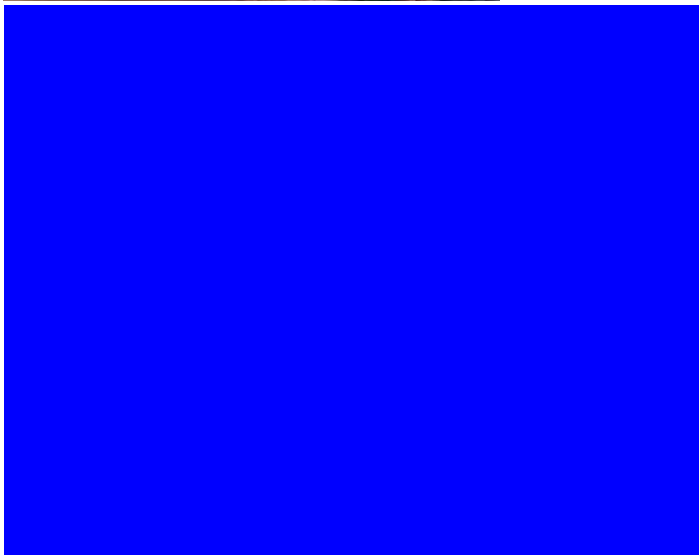


-> wednesday : working session

->thursday : visit of the lava road



Visit of the spices and flowers garden and lunch at a " table d'hôte " tasting the palm tree salad



-> friday : end of the meeting
interview of our Greek partners for the local newspaper



August to october 2018 : organization of the C3 in Spain but the cost of the flights were so expensive so we had to cancel this trip

november / december 2018 : organization of the C4 in Patras , Greece for three persons (the counselor of education instead of the teacher) activities at the school's library around astronomy

february 2019 : C4 in Patras: the vice headmaster , the nurse school and the counselor of education were there to present the activities done at school linked to the project





During the whole period of 18 months , we disseminated information about the project A4BD :

- meeting with school nurses of the academy
- meetings with parents
- project “ to the primary school to the secondary “ : meetings with inspectors and teachers of the primary level of education
- presentation each beginning of the new school year for all the members of the school community and during the administration council
- article on the website
- article in the local newspaper (youth section)



-
- article on our school newspaper

Periodic Report Nr2 in Pictures

Liepaja Society of the Blind

project “Astronomy for Blind and Disabled”

1. September, 2017 - 28. February, 2019.

Participation in C1 Event Meeting in Patras, Greece

5.-9. February 2018





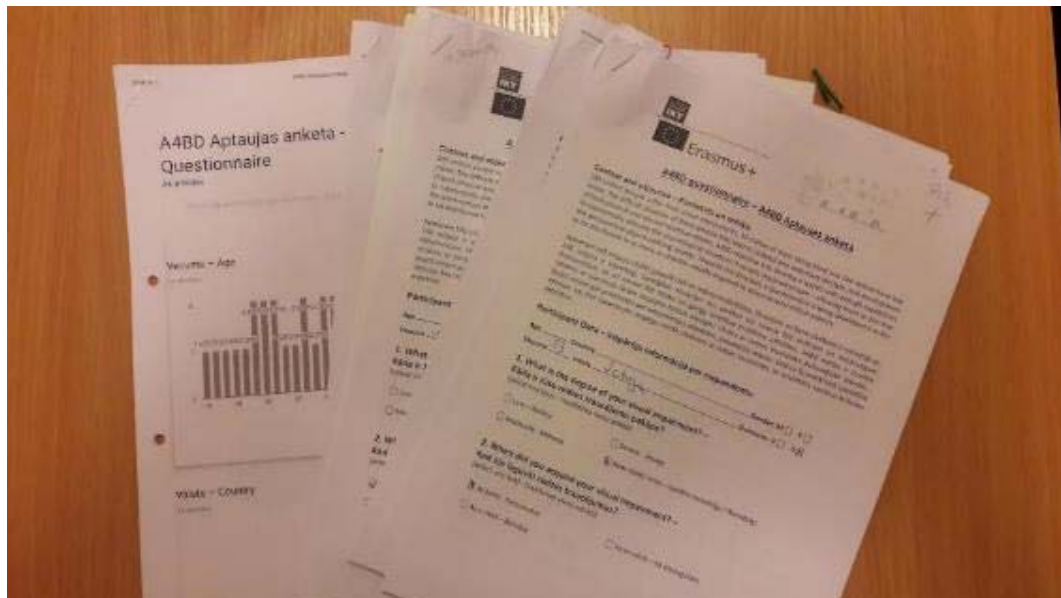






Working on A4BD Questionnaire

March – May 2018



A4BD Aptaujas anketa - A4BD Questionnaire

Projekts "Astronomija neredzīgajiem un cilvēkiem ar invaliditāti". A4BD
www.redziganu.lv/kat/projekts/projekts-astronomija-neredzīgajiem-un-cilvekiem-ar-invaliditati-2017-2020

Konteksts un mērķis

Apmēram 285 miljoni cilvēku pasaulē cieš no redzes invaliditātes, 39 miljoni no šiem cilvēkiem ir neredzīgi un 246 miljoni ir vārdredzīgi. Šādas situācijas dēļ cilvēki var novest līdz izolācijai un mazkustīgam dzīvesveidam, kā arī novest līdz fizisku un garīgu veselības problēmu attīstībai. A4BD mērķis ir izveidot sistēmu ar pietiekami lielām iespējām būtiski atvieglot cilvēku ar redzes invaliditāti psiholoģisko stāvokli – ļaujot viņiem gūt priekšstatu par astronomijas objektiem, izmantojot skaņas. Cēls uz šo mērķi tiek izstrādāta aptauja, kas tiek izplatīta pēc iespējas vairāk cilvēkiem ar redzes invaliditāti, lai novērtētu vairākus kritiskos aspektus.

Context and objective

285 million people suffer from visual impairments, 39 million of them being blind and 246 million have low vision. The difficult situation of these people may lead to isolated and sedentary lifestyle and development of both physical and mental health problems. A4BD objective is to develop a system with enough capabilities to substantially alleviate the psychological situation of visually impaired people – allowing them to perceive the astronomical objects utilizing sounds. Towards this direction, a questionnaire is being developed in order to be distributed as as many as possible visually impaired to assess several critical aspects.

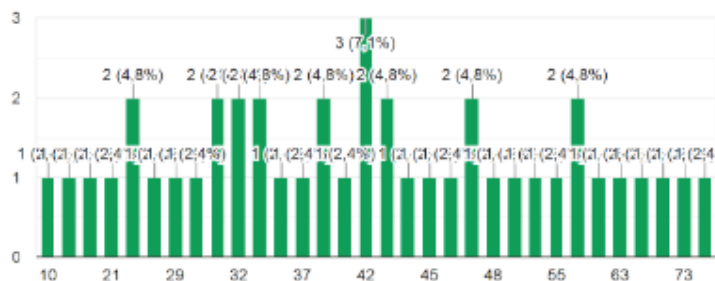
* Kupschekšams



Vispārēja informācija par dalībnieku - Participant Data

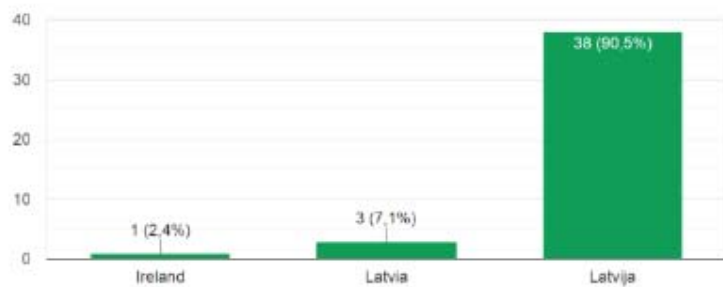
Vecums – Age

42 atbildes



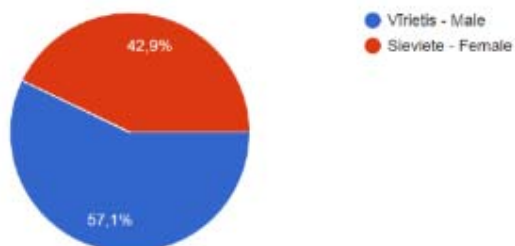
Valsts – Country

42 atbildes



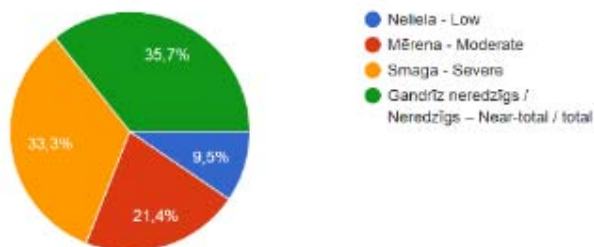
Dzimums – Gender

42 atbildes



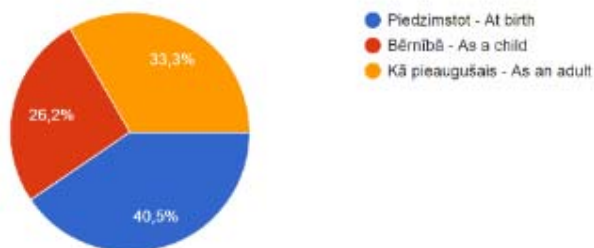
1. Kāda ir Jūsu redzes traucējumu pakāpe? – What is the degree of your visual impairment?

42 atbildes



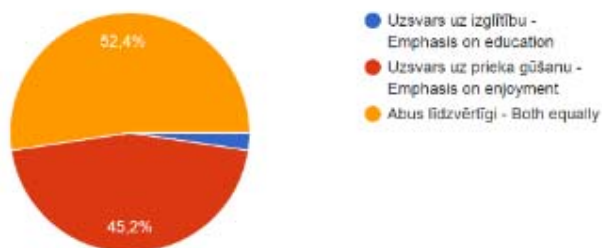
2. Kad Jūs ieguvāt redzes traucējumus? – When did you acquire your visual impairment?

42 atbildes



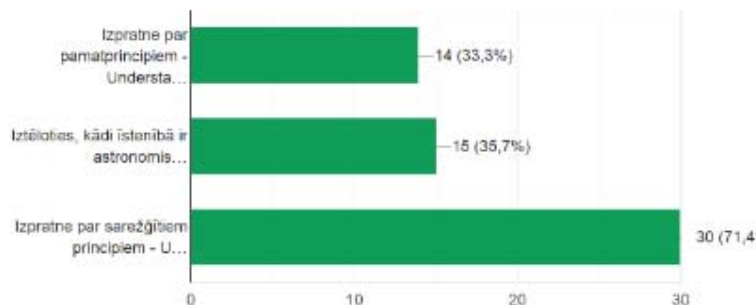
3. Vai jūs vēlētos uzzināt par astronomiju, vairāk liekot uzsvāru uz izglītību vai lai gūtu prieku? - Do you wish to have more astronomy content for the visually impaired with emphasis on education or on enjoyment?

42 atbildes



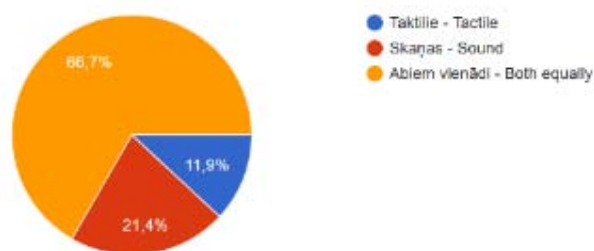
4. Kuru astronomijas aspektu Jūs mazāk varētu izprast redzes invaliditātes dēļ? - Which aspects of astronomy do you feel you have less understanding of due to vision impairment?

42 atbildes

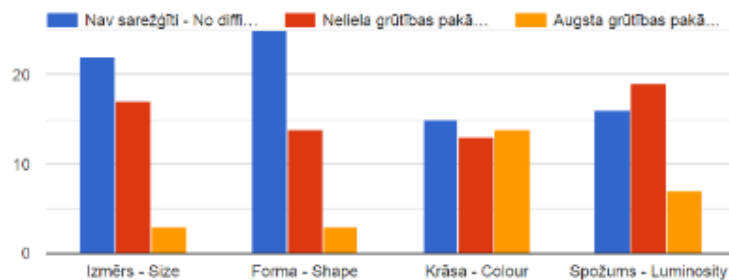


5. Vai Jūs uzskatāt, ka varētu saņemt vairāk informācijas no skaņas avotiem vai taktiliem avotiem? - Do you think that you can get more information from sound than from tactile feedback?

42 atbildes

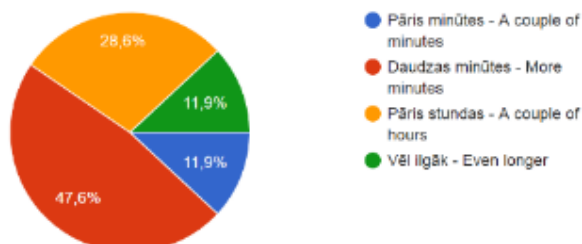


6. Cik lielā mērā Jums ir grūtības izprast sekojošās lietas? - In what degree do you have difficulty understanding the following



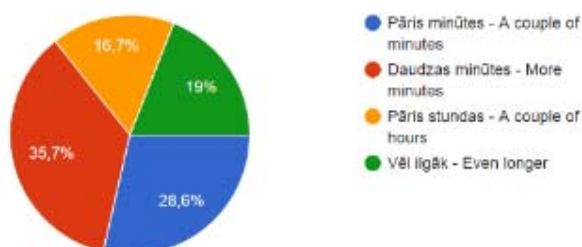
8. Cik daudz laika Jūs būtu gatavs pavadīt, lai saprastu astronomiska attēla saturu ar skaņas palīdzību? - How much time would you be willing to spend to understand the content of an astronomy photograph through sound?

42 atbildes



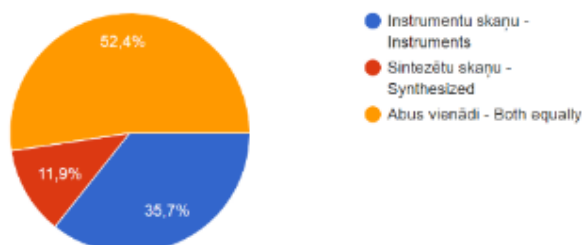
9. Cik daudz laika Jūs būtu gatavs pavadīt, lai saprastu astronomiska attēla saturu ar taktila palīdzību? - How much time would you be willing to spend to understand the content of an astronomy photograph through tactile?

42 atbildes



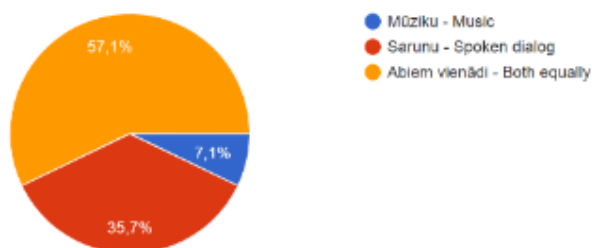
11. Vai mācoties, izmantojot skaņu resursus, Jūs dotu priekšroku dabisko instrumentu skaņai vai digitāli sintezētai skaņai? - Do you find music based on physical instruments or digitally synthesized music more comfortable for audio learning resources?

42 atbildes



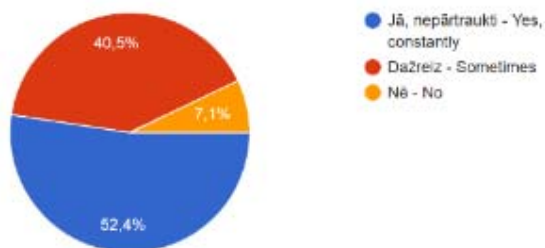
10. Vai Jūs jūtaties ērtāk, mācīšanās procesā lietojot resursus, kuri balstīti uz mūziku vai sarunu? - Are you more comfortable using educational resources based on music or on spoken dialog?

42 atbildes



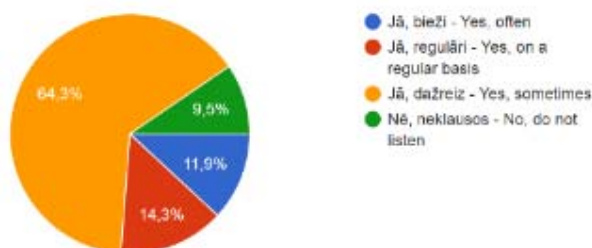
12. Vai jūs izmantojat dzirdes uztveri, orientējoties telpās un vidē? - Do you use the auditory perception to orient in the premises and in the environment?

42 atbildes



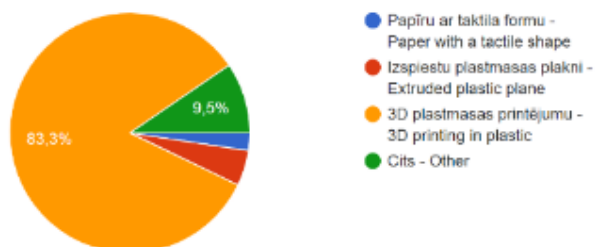
13. Vai Jūs klausāties instrumentālo mūziku? - Do you listen to instrumental music?

42 atbildes



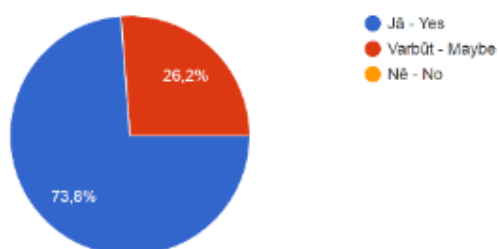
**14. No kāda materiāla veidotu astronomisko objektu taktilā
Jūs vēlētos saņemt? - From what material would you like to
receive a tactile form with an astronomical object?**

42 atbildes



**15. Vai jūs būtu ieinteresēti apvienot taktilo un akustisko
pieredzi, lai iepazītos ar astronomiskiem objektiem? - Would
you be interested in combined tactile and acoustic experience
for getting acquainted with astronomical objects?**

42 atbildes

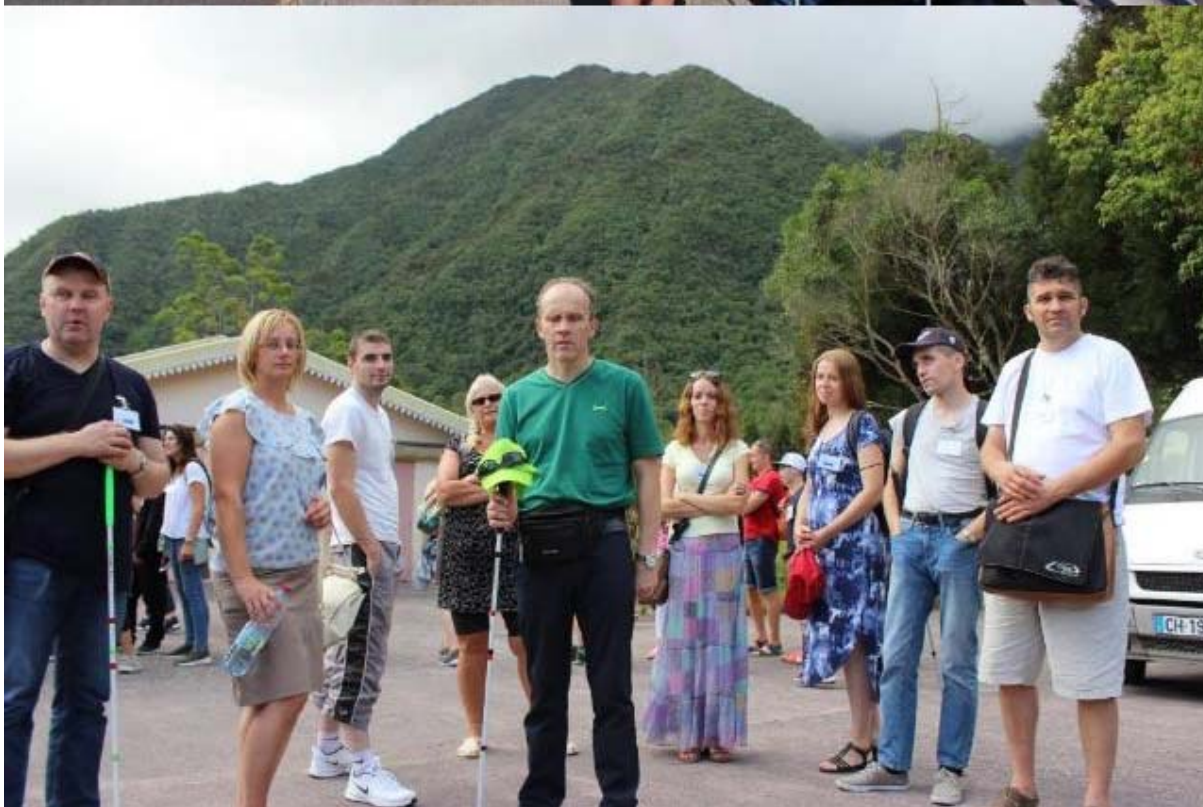


Participation in C2 Event Trip to La Reunion island, France

10.-.14. September 2018





















International Blind day event

13. November, 2018



During the November 13, International Blind day event which took place at Liepaja Society of the Blind, A4BD project participants shared their impressions of a trip to La Reunion Island, visit to the Makes Observatory as well as shared and promoted the ideas of the A4BD project to people with disabilities as well as other participants of the event.

Participation in C3 Event Trip to Sanlúcar da Barrameda, Spain

10.-14. December 2018



























Participation in C4 Event - Meeting in Patras, Greece

18.-22. February 2019
























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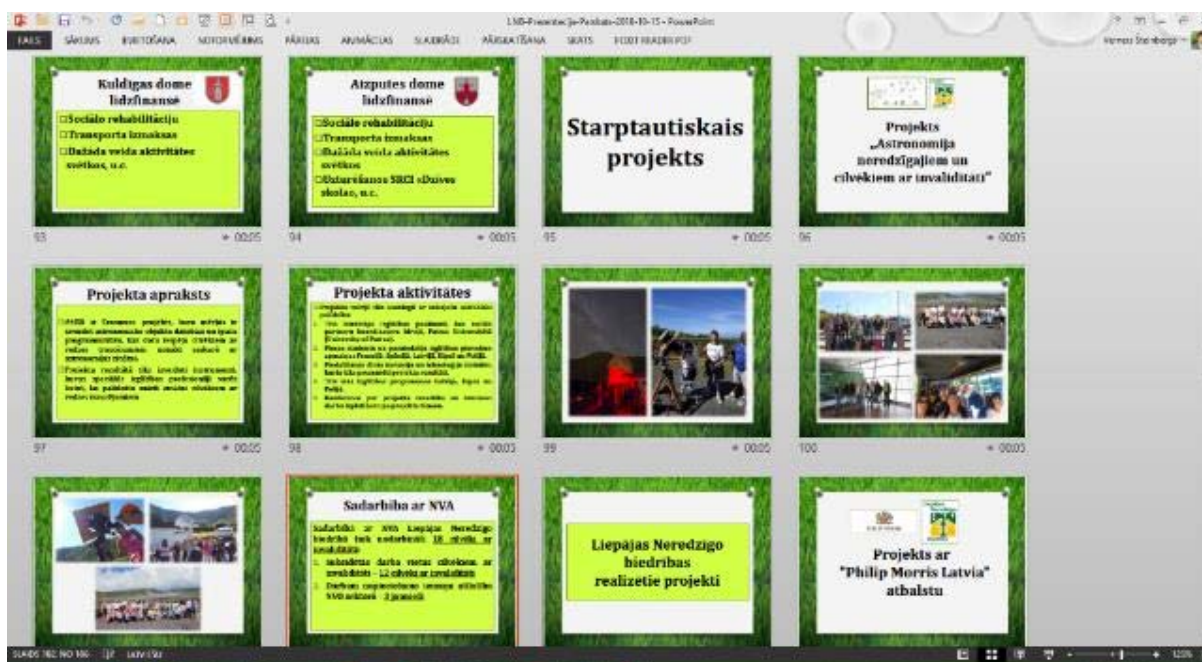
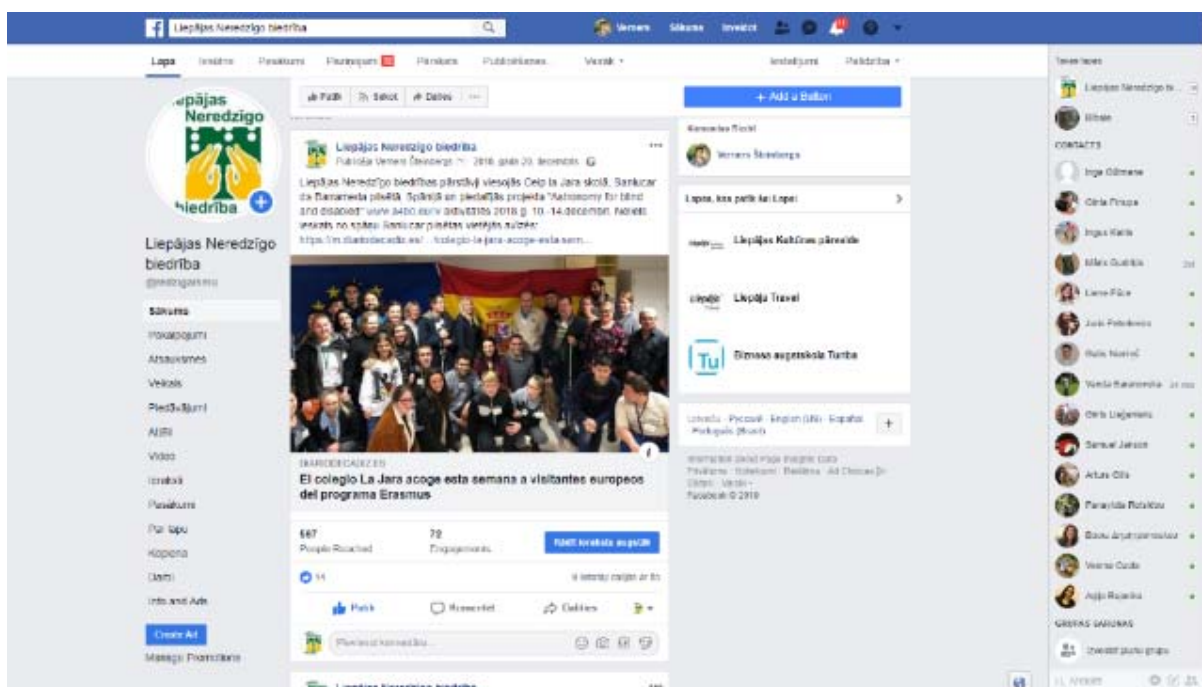



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Periodic Report No. 2

Dr. Yiannis Gialelis

University of Patras
Electrical and Computer Engineering Dept
Applied Electronics Lab, University Campus
Rio, Patras 26504, Greece

Periodic Report No. 2

Project “Astronomy for the Blind and the Disabled”

September, 2017 - 31. January, 2019.

Objectives of the project that we implemented during the first 18 months of the project:

- Organization of the trip to C1 event in Patras, Greece. Purchase of the tickets, accommodation, etc, January 2018.
- Participation in the kick-off event C1 Patras, Greece, February 2018. Three responsible persons from Stowarzyszenie „Dla Dobra” participated.
- Organization of the trip to C2 event in La Reunion, September 2018. Purchase of the tickets, accommodation, etc, March - August 2018.
- Working on the Questionnaire questions of the project A4BD, March - April 2018.
- Working on translation of the booklet for the A4BD project to Polish language, April 2018



- Working on translation and preparation of the project webpage Polish section <https://www.a4bd.eu/pl/> March - August 2018.
- Project webpage was promoted through our organizations webpage and in our social networks.
- Working on translation of the Questionnaire to Polish language, April 2018. Questionnaire in Polish language was printed and given to the students who did the interviewing.
- Interviewing of students with sight problems according to the project questionnaire, April - May 2018. Interviewing of the persons was effected in person.
- Multimedia presentation about the universe for students with disabilities in Zespół Szkół nr 6 w Rybniku <http://www.dladobra.pl/298-podroz-do-gwiazd>
- students visit in Planetary and Astronomical Observatory in Chorzów
- Participation in the C2 event in La Reunion island, France, 10.-14. September 2018. Organization of flights, transportation and assistance of persons with disability, accommodation, etc. Visit to St. Pierre town, visit to the Middle School Adam De Villiers, attending the Agora Observatory des Makes, visit to Stella Matutina sugar industry museum, visiting the Volcano way, visiting the Garden of Paradise in Ferme auberge Guimard, etc.
- Organization of the trip to C3 event in Sanlúcar da Barrameda, Spain. Purchase of the tickets, accommodation, etc, October - November 2018.
- Participation in the C3 event in Sanlúcar da Barrameda, Spain, 10.-14. December 2018. Organization of flights, transportation and assistance of students with disability, accommodation, etc. Visit to Jerez de Frontera Spanish association of the blind ONCE, visit the Sanlúcar da Barrameda town center and the most emblematic



monuments - the San Diego Castle, Medina Sidonia Palace,
visiting the CEIP La Jara school, visiting Nature Park Doñana etc.

- Organization of the trip to C4 event in Patras, Greece. Purchase of the tickets, accommodation, etc, December 2018.
- Organization of school competition for students - creating the model of solar system <http://www.zssrybnik.pl/uwaga-konkurs/>
- Participation in the kick-off event C4 Patras, Greece, February 2019. Two responsible persons from Stowarzyszenie „Dla Dobra” participated.
- During the whole period of 18 months we disseminated information about the project A4BD among people with disabilities regarding the project activities and outputs -
 - o during meetings with student’s parents;
 - o during meetings with students and teachers from Zespół Szkół nr 6 in Rybnik after mobility to La Reunion and Sanlucar;
 - o during the weekly meetings in Stowarzyszenie Przyjaciół i Wychowanków „Dla Dobra”;
 - o as well as published information in our webpage
<http://www.dladobra.pl/300-nasi-na-wyspie-la-reunionand>
<http://www.dladobra.pl/302-podziwiali-gwiazdy-na-la-reunion> <http://www.zssrybnik.pl/spotkanie-projektowe-w-ramach-projektu-erasmus-astronomy-for-blind-and-disabled/>
 - o social networks Facebook
(<https://www.facebook.com/stowarzyszeniedladobra>)

Project coordinator:

Barbara Bauerek-Matloch