Logbook

This is your logbook. Insert here all relevant information regarding the evolution of your project

Weekly Report

1st Week Report

After the whole week of meetings, Benedita divided us into groups. Our group: Maria, Toma, Iza and Aare. Our team choose the project. We know what we are going to do, it will be an interactive's wall project or something like that. We decided to do interactive ground. We want to offer this project for children in kindergardens, something like a toy. Children can put a feet and feel sound and see different lights.

2nd Week Report

We changed our idea. Right now we would like to do an interactive sound table, it is targeted at young adults. It will be nice furniture! After the whole week of reflection we put a lot of things which we have to choose (they are in the table).

Name and link	Short description	Price	Specification
QTR-8A Reflectance Sensor Array Model-POL-960 (Digital) http://www.inmotion.pt/store/qtr-8a-reflectance-sensor-array	The QTR-8RC reflectance sensor array is intended as a line sensor, but it can be used as a general-purpose proxim	12,95+23%	**Dimensions**: 2.95" x 0.5" x 0.125" (without header pins installed) **Operating voltage**: 3.3-5.0 V **Supply current**: 100 mA **Output format**: digital I/O compatible **Optimal sensing distance**: 0.125" (3 mm) **Maximum recommended sensing distance**: 0.375" (9.5 mm) **Weight without header pins**: 0.11 oz (3.09 g)
Infrared Sensor Sharp GP2Y0A21 Model: INM-0135 (Analog) http://www.inmotion.pt/store/infrared-sensor-sharp-gp2y0a21	Infrared proximity sensor made by Sharp. Part # GP2Y0A21 has an analog output that varies from 2.6V at 10cm to 0.4V at 80cm. The sensor has a Japanese Solderless Terminal (JST) Connector. We recommend purchasing the related JST connector or soldering wires directly to the back of the module.	11,48+23%	**Supply voltage** : Rating -0,3 to+7V **Output terminal voltage**: -0,3to Tcc+0,3V **Operating temperature**: -10 to +60C http://inmotion.pt/documentation/datasheets/components/GP2Y0A21YK.pdf
Music Instrument Shield http://www.sparkfun.com/products/10587	The Musical Instrument Shield is an easy way to add great sounding MIDI sound to your next Arduino project. This board is built around the VS1053 MP3 and MIDI codec IC, wired in MIDI mode. Simply connect a speaker/stereo/pair of headphones to the 1/8" stereo jack on the shied and pass the proper serial commands to the IC and you'll be playing music in no time!	29,95 +25%	http://inmotion.pt/documentation/sparkfun/DEV-10587/vs1053.pdf
MP3 player shield http://www.inmotion.pt/store/mp3-player-shield	This new revision of the MP3 player shield retains the awesome MP3 decoding abilities of the last version but adds the storage functionality of the SD card shield. Now you can pull MP3 files from an SD card and play them using only one shield, effectively turning any Arduino into a fully functional stand-alone MP3 player! The MP3 Shield still utilizes theVS1053B MP3 audio decoder IC to decode audio files. The VS1053 is also capable of decoding Ogg Vorbis/MP3/AAC/WMA/MIDI audio and encoding IMA ADPCM and user-loadable Ogg Vorbis.	29,95+23%	http://inmotion.pt/documentation/sparkfun/DEV-10628/vs1053.pdf
Speaker - 0.5W 8Ohm http://www.sparkfun.com/products/9151	A small speaker that is ideal for radio and amplifier projects and is small enough to fit in robot projects.	1,95$	**Small Size Power rating**: 0.5W **Impedance**: 8 ohm **Dimensions**: 50mm **Diameter**: 16mm High, 28mm base diameter

Name and link	Short description	Price	Specification
Super Bright LED – White- 10,000mcd	These are very bright LEDs. The LEDs are so bright that it hurts to look directly at them. Please take a look at the pictures to get an idea of the intensity. All lenses are clear.	0,70 EUR +23%	**Standard Size**: - T1 3/4 5mm 3.4V forward drop **Max current**: 20mA http://inmotion.pt/documentation/datasheets/components/YSL-R547W2C-A13.pdf
LED - infrared	This is a very simple, clear infrared LED. These devices operate between 940-950nm and work well for generic IR systems including remote control and touch-less object sensing. Pair them with any of our IR receivers (see Related Items below). 1.5VDC forward voltage and 50mA max forward current.	0,95$	http://www.sparkfun.com/datasheets/Sensors/Infrared/YSL-R531FR1C-F1.pdf
LED - Infrared 850nm (25 pack)http://www.sparkfun.com/products/9854	We all know that you can never get too many LEDs. Don't worry, we've got you covered. This is a pack of 25 LEDs all conveniently packaged in a nice reusable ESD safe bag. Make that next project shine!	$7.95	**Standard size**: - T1 3/4 5mm 1.4-1.6V forward drop **Max current**: 20mA
LED - Infrared 950nm (25 pack) http://www.sparkfun.com/products/10557	We all know that you can never get too many LEDs. Don't worry, we've got you covered. This is a pack of 25 LEDs all conveniently packaged in a nice reusable ESD safe bag. Make that next project shine!	$7.95	25 IR LEDs **Standard size**: - T1 3/4 5mm 1.4-1.6V forward drop **Max current**: 20mA
Infrared Emitters and Detectors http://www.sparkfun.com/products/241	Side-looking Infrared Emitters and IR Detectors. These simple devices operate at 940nm and work well for generic IR systems including remote control and touch-less object sensing. Using a simple ADC on any microcontroller will allow variable readings to be collected from the detector. The emitter is driven up to 50mA with a current limiting resistor as with any LED device. The detect is a NPN transistor that is biased by incoming IR light.	$1.95	http://www.sparkfun.com/datasheets/Components/LTE-302.pdf
Arduino mega 2560 REV. 3 Model: ARDU-0014 http://www.inmotion.pt/store/arduino-mega-2560-rev.-3	The Arduino Mega 2560 is a microcontroller board based on the ATmega2560 (datasheet). It has 54 digital input/output pins (of which 14 can be used as PWM outputs), 16 analog inputs, 4 UARTs (hardware serial ports), a 16 MHz crystal oscillator, a USB connection, a power jack, an ICSP header, and a reset button.	39EUR+23%	**Features**: ATmega2560 microcontroller **Input voltage**: - 7-12V 54 Digital I/O Pins (14 PWM outputs) 16 Analog Inputs 16Mhz Clock Speed 4 serial ports 256k Flash Memory 8KB SRAM 4KB EEPROM
Table – Lack http://www.ikea.com/pt/pt/catalog/products/90198412/ + plates or box		24,99+23%	**Product dimensions Length**: 55 cm **Width**: 55 cm **Height**: 45 cm **Maximum weight**: 25 kg
12 Volt 7.2 Ah Sealed Lead Acid Battery http://www.batterymart.com/p-12v-7ah-sealed-lead-acid-battery-f2.html?Category_Code=replacement-ups-batteries		12,82+23%	**12 Volt 7.2 Amp Hour (Ah) at 20HR Rate Length**: 5.95 in. **Width**: 2.56 in. **Height**: 3.71 in. F2 Terminals (1/4" wide)
12 Volt 18 Ah Sealed Lead Acid Battery http://www.batterymart.com/p-12v-18ah-sealed-lead-acid-battery-1.html?Category_Code=replacement-ups-batteries		26,43+23%	**Length** 7.13 in. **Width** 2.99 in. **Height** 6.57 in. Terminal BO
Plexiglass http://www.professionalplastics.com/pt/PLEXIGLASS-ACRYLICSHEET-CAST.html			

3rd Week Report

We made a list of some materials previous week, right now we are going to chose some of them, which one will be better for our product.

We decided to use:

- LEDs- only one colour (white) we, are not going to match colour with music
- batteries- we decided to use power connection
- plexiglass- it will be cover for our table
- 9 sensors
- musical instrument shield

We decided to break our table into nine sections. That's why we need 36 LED, 4 LED into one section.

4rd Week Report

We chose materials :

Name and link	Short description	Price	Specification
Infrared Sensor Sharp GP2Y0A21 Model: INM-0135 (Analog) http://www.inmotion.pt/store/infrared-sensor-sharp-gp2y0a21	Infrared proximity sensor made by Sharp. Part # GP2Y0A21 has an analog output that varies from 2.6V at 10cm to 0.4V at 80cm. The sensor has a Japanese Solderless Terminal (JST) Connector. We recommend purchasing the related JST connector or soldering wires directly to the back of the module.	11,48+23%	**Supply voltage** : Rating -0,3 to+7V **Output terminal voltage**: -0,3to Tcc+0,3V **Operating temperature**: -10 to +60C http://inmotion.pt/documentation/datasheets/components/GP2Y0A21YK.pdf
Music Instrument Shield http://www.sparkfun.com/products/10587	The Musical Instrument Shield is an easy way to add great sounding MIDI sound to your next Arduino project. This board is built around the VS1053 MP3 and MIDI codec IC, wired in MIDI mode. Simply connect a speaker/stereo/pair of headphones to the 1/8" stereo jack on the shied and pass the proper serial commands to the IC and you'll be playing music in no time!	29,95 +25%	http://inmotion.pt/documentation/sparkfun/DEV-10587/vs1053.pdf
Table – Lack http://www.ikea.com/pt/pt/catalog/products/90198412/ + plates or box		24,99+23%	**Product dimensions Length**: 55 cm **Width**: 55 cm **Height**: 45 cm **Maximum weight**: 25 kg
12 Volt 18 Ah Sealed Lead Acid Battery http://www.batterymart.com/p-12v-18ah-sealed-lead-acid-battery-1.html?Category_Code=replacement-ups-batteries		26,43+23%	**Length** 7.13 in. **Width** 2.99 in. **Height** 6.57 in. Terminal BO

But we are still thinking if they are going to work together, etc..

Supervisors told us that ISEP could give us:

1. leds
2. cover for the table
3. tools

We are finishing our list of materials, because deadline is on 30th of March!

5th Week Report

READY LIST OF MATERIALS:

Product + link	Price (€)	Quantity	Final Price (€)
Table – Lack (white) http://www.ikea.com/pt/pt/catalog/products/10198411/#/20211501	34.99	1	34.99
Plate (2) > 45 x 28,5 cm(white) http://www.ikea.com/pt/pt/catalog/products/70067558/#/60067554	38.00	1	46.74
Glass 55 x 55 X 0.5 cm		1	
Arduino mega http://www.inmotion.pt/store/arduino-mega-2560-rev.-3	39.00	1	47.97
IR proximity sensor Sharp GP2Y0A21 http://www.inmotion.pt/store/infrared-sensor-sharp-gp2y0a21	11.48	9	127.08
Music Instrument Shield http://www.inmotion.pt/store/music-instrument-shield	22.95	1	28.23
Arduino Stackable Header Kit http://www.inmotion.pt/store/arduino-stackable-header-kit	1.40	1	1.72
Jumper Wires http://www.inmotion.pt/store/jumper-wires-premium-6-pack-of-30-mm-20-mf-10-ff	14.30	1	17.59

Product + link	Price (€)	Quantity	Final Price (€)
Adapter/PC Power Supply NOX - Urano 450W ATX http://www.mbit.pt/catalogo/detalhes.php?id=39779&cat=520&nome=NOX+-+ATX+Urano+450W	28.99	1	28.99
TOTAL COSTS:			333.31

MATERIALS FROM SCHOOL:

Product	Quantity
LED (white)	36
L293	3
L7809	2

We started to think about our Interim Report.. because it is time to start writing it. We solve our work. Iza is going to write Marketing Plan, Aare State of The Art, Toma Introduction, Maria Eco-effiecency and Sustainability.

6th Week Report

In this week, we wrote whole Interim Report, because on 14th of April it was a deadline to upload it.

Izabela wrote Marketing Plan.

Toma wrote Introduction.

Aare wrote State of The Art.

Maria wrote Eco-Effiecency and Sustainablity.

Then we were discussing about all those things, changing it, talking to teachers and then we've got it!

We did schematic and put in on dropbox.

We are going to start presentation.

7th Week Report

In this week we were working on our interim report presentation. We were preparing ourselves to it.

Then on Thursday we presented our work on week meeting. We think that it was quite good, but we have to improve some details. Supervisors gave us such tips, for example we have to rewrite our Marketing Plan, think if we can sell our product like a service, a system..

8th Week Report

Toma did a scheme of our product, she was talking to Benedita about it. We have to improve it.

9th Week Report

In this week we arranged meeting on Monday with supervisor.

10th Week Report

11th Week Report

We did scheme:

http://img28.imageshack.us/img28/6906/scheme2z.jpg

We should start making video. We are going to put there 3 most important things: 1.our teamwork/ the way how we are working 2.process of doing our own project 3.project itself/what we are doing

We will do some photos and maybe a movie.

FOR NEXT WEEK : TASK- choose TABLE!!!

12th Week Report

We have started making video. We did something about our teamwork and process of doing our own project. We did some pictures and movies. We have started builidng. Next week we are going to buy the table. Finally !!! :)

We are working on poster and paper too.

We corrected our scheme: http://img842.imageshack.us/img842/948/schemecorrect.jpg

13th Week Report

Our project is developing day by day quicker and quicker. Right now we prepared poster. We are still making the video. We are writing project development, and of course we are building our product, what is the most exciting! :)

We draw some lines, points etc.. and next week we are going to the laboratory to make holes in our table.

Aare was this week in the laboratory to see what kind of tools we need, and where we can do everything , for example drilling.

Meetings

1st Meeting (2012-03-01)

Agenda:

1. Presentation
2. Modus operandi
3. Project proposal
4. Electronic Logbook

Minute:

At the meeting Benedita presented supervisors and the list of projects, which we are going to do. Each of group had to think about theirs projects, because we were divided into groups. Our group choose to do an interactive's wall project. But we put the idea, then we decided to do interactive ground. We want to offer this project for children in kindergardens, something like a game. Children can put a feet and feel sound and see different lights.

2nd Meeting (2011-03-08)

Agenda:

1. Materials for ineractive ground. Plastic is the best choice? Which we have to choose?
2. Sensors (which can feel a foot through the plastic), or springs? What is the best choice?
3. Computer programs. What kind of programs we need?
4. Light, light+sound or sound. Dangers & complications?
5. How high, wide and long it could be.
6. Programming? Dangers & complications?
7. How to connect both? Light and music?
8. What about the budget?
9. Which way we have to do the object? Starting from the programming or building?

Minute:

At the meeting we talked about our project. We decided to call it „ An interactive musical toy for children". We talked about :

1. batteries- what we need? Temporary supply with accumulators or constant supply of electricity? We decided to choose a temporary supply with accumulators because of children, it will be more safe.
2. sensors- what kind of sensors we should use, we have to think about it and choose the best ones for us. We have to do the table with all of examples (name, price, etc..) and write which material will be the best for each sensor
3. microphone- we can use it in every space, it will be very cheap, it will be musical advantage
4. materials-we talked only this that we will choose it, when we choose the sensors, so we have to wait with it, but it could be a lot of ideas (pillows, electricity blanket, etc..)
5. music- monophonic/ polyphonic?

6. light- led light gives different colours

3rd Meeting (2011-03-15)

Agenda:

1. Light and music work with the same sensor? Or with differents?
2. Which type of LEDs can we choose ?
3. Batteries- what kind of we need?
4. Other materials?
5. What type of glass..?

Minute:

We talked about our project. We decided to do a table. We talked about:

1. sensors- which we should use for the light an for the music
2. LEDs- that we need only one colour, or maybe two colour (white, blue) or we can match colour to music
3. batteries- we need batteries and permanent power connection
4. plexiglass- we need it to cover our table
5. we did a list of products, which we have to buy (batteries, speakers, IR Emitters, IR Detectors- sensors, Midi shield, LEDs, connection to main power)
6. we have to check which of those things are analog, and which are digital

4th Meeting (2011-03-22)

Agenda:

1. discussion about materials list
2. what parts we have in school?
3. what kind of tools are in school?

Minute:

We talked about different materials, which we had choosen. We heard that we can use some things from ISEP, for instance cover for our table, or some tools

5th Meeting (2011-03-29)

Agenda:

1. Final choice - glass or plexiglass?
2. Pluses and minuses adaptor and batteries?

3. Arduino internal 8k SRAM and 256 k flash memory it's enough ?
4. First steps for prototype building?
5. General outpult look.

Minute:

We discussed about :

1. tomorrow, on friday we will decide if we need glass or plexiglass, after our laboratory class
2. we followed agenda

6th Meeting (2011-04-12)

Agenda:

1. how to start drawing schematic ?
2. what should we write in Eco-eficiency Measures for Sustainibility ?
3. when we can go to laboratory to make some experiment ?
4. what about programming software? what we need?

Minute:

We talked about:

1. schematic, how we should do it, Benedita told us that we should draw it on the piece of paper. 1st - power (make small block of Arduino–>go to Data Sheet of it! –> which pin corespond to the power, we should identify Vcc /7 Ground Pin for IRS and LED
2. eco-efficiency and sustainability, that we have to ask Luis about it, discuss about it with him, but supervisors gave us a tip "we should calculate power which we are going to consume using our product all day"
3. we don't have to go to laboratory, we can do it in our class, but we should go to technicians and do this small experiment
4. programming software- everything is on arduino and musical instrument shield website

7th Meeting (2011-04-19)

Agenda:

1. Presentation - TEAM 2
2. Presentation - TEAM 3
3. Presentation - TEAM 4
4. Presentation - TEAM 1

Minute:

Everybody presented products, and then we discuss about our projects with supervisors.

8th Meeting (2011-04-26)

Agenda:

There was no meetings because, there were lots of people missed.

Minute:

9th Meeting (2011-05-03)

Agenda:

1. It's available to programme our Arduino with MATLAB?
2. How we could write a codes for arduino?
3. How to put the music in music instrument shield?
4. Which teachers could help us to programme, connection and all work next week ?

Minute:

We talked about:

1. Arranged meeting for Monady
2. Followed the agenda
3. Teacher showed an example of the music shield program code.

10th Meeting (2011-05-10)

Agenda:

1. When do we get all the parts we need?
2. What can we do until we get all the parts?

Minute:

1. ...

11th Meeting (2011-05-17)

Agenda:

1. What we should put in the video ?
2. Do we get any kind of table?

Minute:

We talked about:

1. video- Ana Barata is going to show us some video from different country, but right now we know that video must be about: 1.our teamwork/ the way how we are working 2.process of doing our own project 3.project itself/what we are doing

We can do some photos or a movie.

2.scheme- how to improve it ..

3.we've got TASK for next week.. choose TABLE!!!

12th Meeting (2011-05-24)

Agenda:

1. When we get wires for ir sensors
2. Do we have to go to buy the table ourselves?. when?

Minute:

There was no meeting

13th Meeting (2011-05-31)

Agenda:

1. Programming music instrument shield
2. Advices what we should write more in project develpment

Minute:

We talked about Project Development, how we have to write it step by step. We dedecided when we are going to laboratory (on Monday afternoon).

We talked about programming, and we have to read guide for music instrument shield (datasheet).

14th Meeting (2011-06-04)

Agenda:

Minute:

1. ...

15th Meeting (2011-06-14)

Agenda:

Minute:

1. ...

Activities

Please register here all project activities

Start	End	Task	Description	Who
13.03.2012	14.03.2012	Research of sensors	We did the research in the internet. Asked supervisors about them, what kind of them we should chose.	Aare, Toma, Iza, Maria
13.03.2012	14.03.2012	Making the list of sensors	When we had knowledge about types of sensors, it was easier to choose them and made a list.	Aare, Toma
16.03.2012	27.03.2012	Research of programs	We did the research in the internet.	Aare, Toma,Iza, Maria
16.03.2012	27.03.2012	Making the list of programs		Aare, Toma
16.03.2012	27.03.2012	Research of materials	We did the research in the internet and of course asked supervisors which materials which be the best ones' for our product.	Aare, Toma, Iza, Maria
16.03.2012	27.03.2012	Making the list of materials	When we had knowledge about whole materials, we did the list of materials and uploaded it into wikipedia	Aare, Toma
02.04.2012	13.04.2012	Making Introduction		Toma
02.04.2012	13.04.2012	Making State of The Art		Aare

Start	End	Task	Description	Who
02.04.2012	13.04.2012	Making Marketing Plan	It was a little chalange for me to make it, because always in Poland I was writing Marketing Plan for company, not for product, but I have learnt a lot of things making it.	Iza
02.04.2012	13.04.2012	Making Ecological Footprint and Sustainability		Maria, Iza
02.04.2012	13.04.2012	Making Proposed Solution and Bibliography chart		Aare, Toma, Iza, Maria
12.04.2012	19.04.2012	Making Power Point Presentation		Maria, Iza
16.04.2012	19.04.2012	Preparing for Presentation		Aare, Toma, Iza, Maria
01.05.2012		Making Video		Aare, Toma, Iza, Maria
		Making demo		Aare, Toma, Iza, Maria
01.05.2012		Making the paper		Aare, Toma, Iza, Maria
		Print the paper		
01.05.2012		Making the poster		Toma
		Print the poster		
23.04.2012		Building prototype		Aare, Toma, Iza, Maria
		Making amends in prototype		
		Making amends in report		
		Preparing Final Power Point Presentation		Iza, Maria
		Preparing for the presentation		Aare, Toma, Iza, Maria

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