



The future concept and reality of Social Robotics:
Challenges, Perception and Applications
Role of Social Robotics in current and future society
Brussels, Belgium - 10-12 June 2013



Pinocchio 2.0, robot and other stories
By Linda Giannini



Brussels, Belgium - 10-12 June 2013



Linda Giannini
calip@mbox.panservice.it



Pinocchio 2.0, robot and other stories

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*Hi, my name is Linda Giannini
and I'm nursery school teacher since thirty years.*

*I'm interested in ICT, web community, chat, 3D Worlds, European projects,
blogging, educational robotics, web 2.0. Especially I'm researching the impact
on education mediated by ICT and by robotics*

- 1983 => ICT, web community, chat
- 1987 => 3D worlds
- 1999 => European projects
- 2002 => blogging
- 2003 => educational robotics
- 2009 => social network
- ...



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calip@mbox.panservice.it



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Now I will introduce the project Pinocchio 2.0 ...

"Once upon a time ... - A king! - My little readers will say immediately.
No, guys, you are wrong. There was once a piece of wood" ...

and ... that piece of wood in our project **Pinocchio 2.0**, represents the **realization of ideas, dreams, aspirations, desires of children and adults**; becomes, therefore, any "object" or "subject" constructed and / or shared -in presence or through the network- by several traveling companions, who take the role of "Geppetto", because **they "make" concrete, alone and / or in a collaborative way, an art work, a story, a drawing, a video, a robot ... using recycled material and the potential offered by Web 2.0 and open source.**





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The project I planned some years ago, Pinocchio 2.0 is been aimed for years to create a community for learning and to develop skills of technological nature - science, including through the implementation of robotics labs; up to now it involves more than 2000 people (both at hospital and not):

*children (kindergarten, primary school);
adolescents (secondary school first and second degree);
teachers, both retired and not (from kindergarten to university);
trainees (university students);
externals observers (from research institutes, universities, ...);
parents, grandparents, ...;
experts
writers [1]*



[1] *Pinocchio 2.0 e le altre storie nello speciale di Education 2.0*
http://www.educationduepuntozero.it/speciali/pdf/speciale_dicembre2012_2.pdf



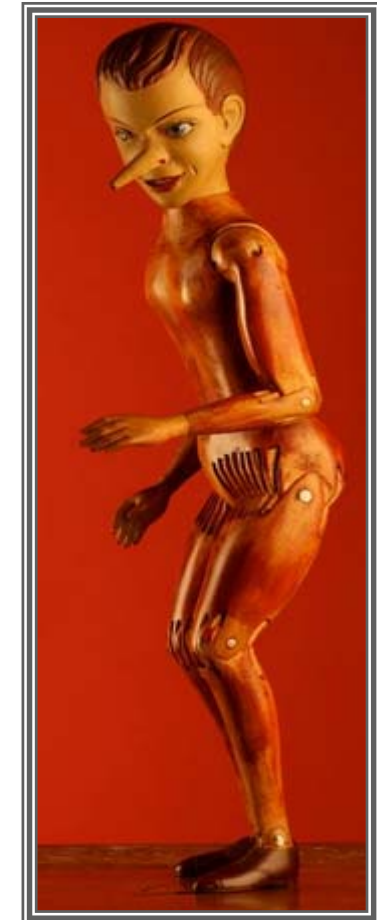


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Pinocchio 2.0 was chosen as the "fil rouge" able to connect educational and teaching proposals offered by the schools that form of the network. **Pinocchio was the first "robot"** that, becoming animated (not due to the results of technological research, of course, but for a strange and wonderful magic), taught something to the children.





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In our network there are some hospital schools

Pinocchio is the "representative" of the "fragility of childhood." About this, the children of the schools in the hospital taking part in the project are not in front of a super hero, but a "fellow traveler". Pinocchio, although subject to the mutation of its body - as well as the children, that see their own bodies change due to the "disease," and not only to the "growth" - turns out to also be able to find a way "out" and towards the "defeat" of the illness ...





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Pinocchio 2.0, the Robotics Education and ICT

Pinocchio 2.0 has approached the children to educational robotics and ICT in an attractive, balanced, creative, funny and easy, strongly supported by direct and concrete experiences resulting from the reality.





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Pinocchio 2.0 Web 2.0

Timetable:

- 2002 Pinocchio 2.0 in virtual worlds
- 2003 Pinocchio 2.0 and robotics
- 2008 Pinocchio 2.0 in eTwinning
- 2009 Pinocchio 2.0 social networks
- 2012 Pinocchio 2.0 in Segni di Segni
- ... to be continued



Today it is in Brussels...





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This project in October 2012 was awarded the prize of the President of the Italian Republic, which is to be awarded to the most innovative projects made by Italian schools.

<http://blog.edidablog.it/edidablog/segnidisegni/2012/10/>

<http://blog.edidablog.it/edidablog/segnidisegni/2012/10/21/>



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Activities:

Face to face meetings, e-mail, chat, mailing lists and other means of communication synchronous / asynchronous build bridges, nets. Social networks, wikis, blogs, podcasts, youtube videos are some of the many places in the project where there are imagination, creativity related to science, ICT, robotics and suggestions are welcomed, songs, movies, memories, trivia, games, links to material information, virtual images static, dynamic, photos, drawings, free software, "diverging stories", and much more. These sites also provide documentation (always available) of the path with the dual function of keeping the connections among the different components of the network and to always give new input to the attendees.





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This is our classroom



Linda Giannini
calip@mbox.panservice.it



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This is our classroom





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The project make use of:



Sending e-mail to schools that are part of the network design [by all those who are included in the mailing list of the project and use it in an active form];

Printing e-mails to colleagues who do not have access to email [by the project co-ordinator];

Collection of materials to be sent, even by post parcel, to schools belonging to network project [by the project co-ordinator];

Documentation online Blog MIUR project [ref. prg Web-X]
Use of microscopes Intel ® Play ™ QX3 ™, active worlds, of microworlds, kits mindstorm robotics, open source software and social networking.





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discover the difference between men and robot

<http://www.kizoa.it/slideshow/d4233727k1670263o2/romecup-2013---dis>





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Our study is about the research and analysis in three different environments of interaction, co-construction, learning and knowledge.

The main subjects of this study are children from 3 to 6 years old, and the "places" of action and participation, besides being represented by the classroom, are "bridge immaterial places": i.e. chat rooms.

We will present, for each environment, both the description and some related documents (textual, graphics and videos) about their educational use in children's schools.





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MSN Messenger: description prospectus

MSN Messenger Service is an instant messaging program (for Windows and Mac) that allows communication with everyone through synchronization audio/video in real time. To use this service it is necessary to create a profile or to have an e-mail address to login. Once the registration is done, it is possible to create a friend list.

<http://www.msgplus.net/>

<http://join.msn.com/messenger/overview>





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MSN Messenger: description prospectus

- Messages can be sent instantly; individually or with more participants at the same time in the same window (chat group).
- If you have a microphone and headsets an audio conversation can be held, making calls directed by a person to another computer in any part of the world, with no cost (pulsating "Call")
- It is possible to share files with other consumers
- A simple and attractive interface
- It checks the number of new messages received on Hotmail
- Emoticons can be used simply and neatly
- Good support on the site
- Available also for Macintosh and Pocket PC





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MSN Messenger at school

MSN Messenger, the chat that we used previously, has been proposed this year for two projects:

[“Il percorso Soave”](#)

[“Robot a Scuola”](#)

In our opinion the two projects take the origin from paths started in the previous years, and involved more than just our school and institutional research centres.

During the chats the children downloaded animated gifs, inserted emoticons, invented "games" and give brief written answers.



School year 2002/03 “Il percorso dei folletti” http://www.descrittiva.it/calip/0203/percorso_folletti.htm.
School year 2003/04 “Ispirati da Gessetto” http://www.descrittiva.it/calip/0304/percorso_gessetto.htm
School year 2004/05 “Ponte con Soave” http://www.descrittiva.it/calip/0405/percorso_soave.htm
Mattoncini ColorAnimati 2003/04 http://www.descrittiva.it/calip/0304/percorsi_lego.htm
Mattoncini ColorAnimati 2004/05 http://www.descrittiva.it/calip/0405/percorsi_lego.htm



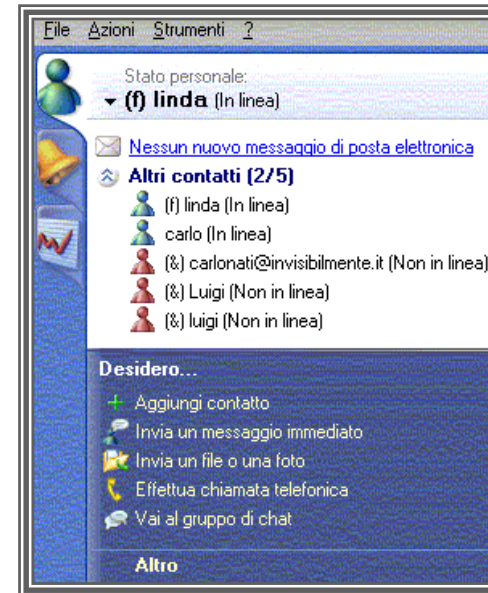


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Synchronous meeting example in 2002/2003



Synchronous meeting with an other teacher

http://www.descrittiva.it/calip/0203/edu_msn.htm





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Synchronous meeting example in 2005/2006



Synchronous meeting with teacher Patrizia

<http://www.descrittiva.it/calip/0506/incontro-chat.htm>



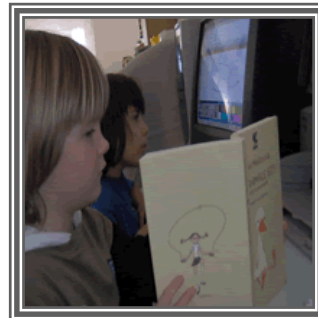


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In both cases the children met online two teachers involved in the project. We have noticed that often having adults "on the other side" the children are more coherent in the communication and the use of creative form of the chat increases. Returning to the project, the "Percorso Soave" has had the animals (real, fantastic, virtual) as background. On this matter there have been asynchronous exchanges [with the families](#) and the games online. In the class activities have been planned such as the reading of a story: "[Che animale sei? Storia di una pennuta](#)"





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MSN has been a bridge also with the “[Scuola di Robotica \(Genova\)](#)” for the national project “[Robot in the school](#)”. Next, we report some of the synchronous meeting log referring to the robot remote control, also present in the “Scatola delle Esperienze” ([log chat in PDF](#))

<http://www.descrittiva.it/calip/0506/06-03-30-chat-msn-ge.pdf>



Children in nursery school sending audio, written and picture (emoticons) information to the robot in Genova





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Skype: description prospectus

We received the beta Skype release in 2004 February; the 6.15 Mb software was kindly sent to us by our good friend Mario Nervi from DIE (in Italian for Electric Engineering Department) at Genova University, but the first approach with this tool, though interesting, was not as good. We did prefer the written chat, which leaves a “footprint” about itself and other interactions in order to follow the lines of thought, which are well shown, can be shared and co-created, broken up and re built again.





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Skype: description prospectus

Beside this we were curious to see the effect Skype should have had between children in the 3-5 years old age range. Skype was (and still is) simple and free software that can be run by many computers (Mac OS X, Windows, Linux and PocketPC operating system), permitting phoning all around the world. This means that the voice is running between 2 subjects. The voice ... so something that is hard to keep: "verba volant!" Skype was created by the KaZaA (a software able to share music and files) authors, and uses an innovative technology P2P (Peer to Peer) connecting more Skype users.

<http://www.skype.com/>

<http://web.skype.com/home.it.html>





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Skype at school

In the 2004 November, during [TED in Genova](#), [Jeff Earp](#) and we did think to give Skype a try to connect nursery school children at Latina with him. Following are some chats that can be seen (through video too) on the "[La Scatola delle Esperienze](#)".



Children 3-.4-5 years old meet Jeff Earp through Skype
http://www.descrittiva.it/calip/0405/chat_jeff02.htm



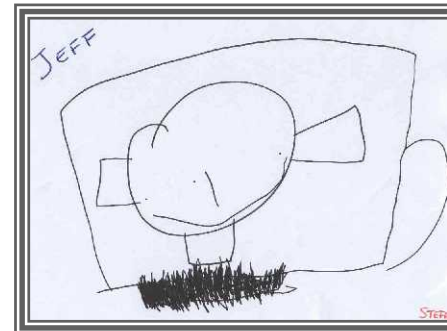


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In the beginning children thought to link with software or an online game and not with a person. This [idea about the “partner”](#), in the beginning, did not change even when text was written in a chat. Almost all the children thought that Jeff was living inside the computer and, like a virtual man, he had a virtual life with a family and children... of course, all inside the narrow and fantastic space inside the computer machine. This profile was better understood through [the children’s drawings](#) and the following descriptions.





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At this time Jeff started to send us [photos of himself](#), his daughter and him and [his family](#) so that he would become real to the children, with a real life and work. Later there were even presents online, such as a small though fine address book where you can reach games: [Topolina MIA](#) and [UpToTen Kids](#) It is important to underline how Jeff's game proposals have been, beyond Italian, in English too. With no particular language and interpretation problems, children did have a good time with Jeff (also with a pleasant chat meeting) as well as playing online. [Lucia Ferlino](#) did enjoy our group shortly afterwards (she works in the didactis software as well as Jeff <http://www.itd.cnr.it/SoDiLinux/>)

Children 3-5 years old meeting Lucia through Skype
http://www.descrittiva.it/calip/0405/chat_lucia01.htm





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From the beginning, Lucia was understood as a real living person; we realised that the first time *Jeff* had sounded a little bit strange and was not familiar as a name, as was his Australian way of talking. It was probably of some help to have shown Lucia's photo as she was coming online. Very interesting games were invented by the children with Lucia just in the chat time. These games were images exchange, guessing written words, and understanding numbers during download as well as the upload.

Download file from Lucia Ferlino [by Skype]

http://www.descrittiva.it/calip/0405/chat_lucia02.htm





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With Lucia, children co-created simple words using "[Someone keeps stealing my letters](#)" or drawn using an online shared blackboard



SnapShot 1 Name composition with: Someone keeps stealing my letters.

SnapShot 2 - Draw created using an online blackboard.
 We have been using this blackboard since 2001
<http://www.descrittiva.it/calip/0102/lavagna.htm>





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Unfortunately we don't have documentation of all the meeting chat between Genova and Latina, because we did not have a web-cam all the time. However, some of the [meeting is available on our site](#).

In the meanwhile (the school year 2005-06), as we wrote, we have connected through Skype to the Bari children that are playing [AwEdu](#) with us in the [3D world iCity](#) and we have built a new bridge with Genova thanks to the Robot Project@School.

[Skype video 1](#)

[Skype video 2](#)

[Skype video 3](#)





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You can find more about "[La Scatola delle Esperienze](#)":

* Poster: " who is on line?"

<http://www.descrittiva.it/calip/0506/ponte-It-ge.pdf>

* Meeting Skype 15-02-2006

<http://www.descrittiva.it/calip/0506/06-02-15-LT-GE-SKYPE.pdf>

* Meeting Skype 16-02-2006

<http://www.descrittiva.it/calip/0506/06-02-16-LT-GE-SKYPE.pdf>

* Meeting Skype 17-02-2006

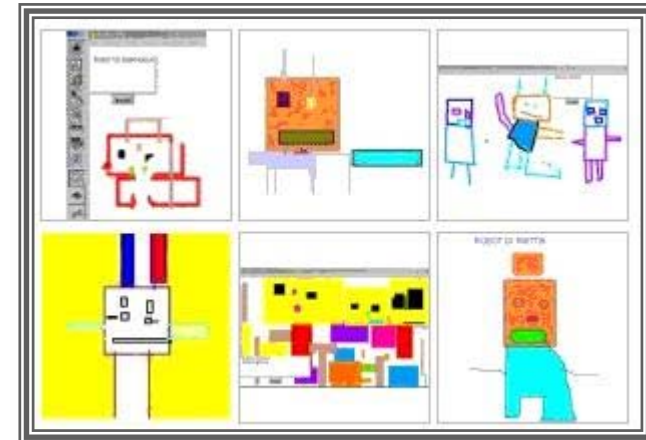
<http://www.descrittiva.it/calip/0506/06-02-17-LT-GE-SKYPE.pdf>

* Meeting Skype del 03-03-2006

<http://www.descrittiva.it/calip/0506/06-03-03-LT-GE-SKYPE.pdf>

* Meeting Skype del 27-03-2006

<http://www.descrittiva.it/calip/0506/06-03-27-LT-GE-SKYPE.pdf>





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Active Worlds: description prospectus

Home of the 3D Chat, Virtual Reality Building Platform; AW, the web's most powerful Virtual Reality experience, lets you visit and chat in incredible 3D worlds that are built by other users. Think you have what it takes to build your own world or Virtual Reality game? Active Worlds is the place for you, where in minutes you can create fascinating 3D worlds that others can visit and chat in. The AW Universe is a community of hundreds of thousands of users that chat and build 3D virtual reality environments in millions of square kilometres of virtual territory. Take a quick look at some of our [satellite maps](#) and see how our community has grown over the years. Launch the free software and come check us out for yourself. You'll be amazed at how vast our Virtual Reality universe is.

New solutions for the virtual (and real world) community for children

<http://www.descrittiva.it/calip/nir99.html>

Kids and virtual worlds

http://www.xplora.org/ww/en/pub/xplora/practice/examples/kids_and_virtual_worlds.htm





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Resources and materials needed by teachers to carry out activity

- Software ActiveWorlds <http://www.activeworlds.com>
- Camera to take photographs
- Digital camcorder
- Computer (in classroom)
- Internet (connection adsl in classroom)



http://www.descrittiva.it/calip/0203/edu_chat.htm





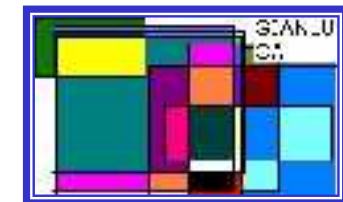
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In Active Worlds you can ([Info from: http://www.activeworlds.com](http://www.activeworlds.com))

- Build your own 3D virtual reality home on the Internet;
- Shop online in our own 3D virtual reality mall and chat with store clerks;
- Explore over 1000 unique virtual worlds;
- Make new friends and chat with people from all over the globe
- Play interactive 2D and 3D games;
- Choose from a vast range of avatar identities and chat with other avatars.





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Active Worlds at school

If during the simultaneous meeting we can even play in a three-dimensional space as the one we actually have, for instance in AW, then the experience may be more creative and stimulating. New solutions for virtual (and real) communities - Internet for the child

"What is real, what is virtual and what do we mean as an image of something which is real?"

Philosophers and scientists have long debated it, and we do not pretend to answer this question: we would only like, with the opportunity we have, to tell you how school-children aged three, four and five are working on these questions, and how they are interacting with a tri-dimensional chat: AW



Linda Giannini
calip@mbox.panservice.it



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On line documents

http://www.descrittiva.it/calip/aw_en/index.htm

http://www.descrittiva.it/calip/virtual_en/aw.htm

http://www.descrittiva.it/calip/99_00_virtual.htm

http://www.descrittiva.it/calip/tutto99_00.htm

http://www.descrittiva.it/calip/0203/narnia_aw.htm

http://www.descrittiva.it/calip/0304/percorso_mondi.htm

http://www.descrittiva.it/calip/0405/percorso_mondi.htm

http://www.descrittiva.it/calip/0506/percorso_mondi.htm





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On line videos

<http://www.descrittiva.it/calip/mondi.rm>

<http://www.descrittiva.it/calip/albert.rm>

http://www.descrittiva.it/calip/0203/video/pc_finto01.rm

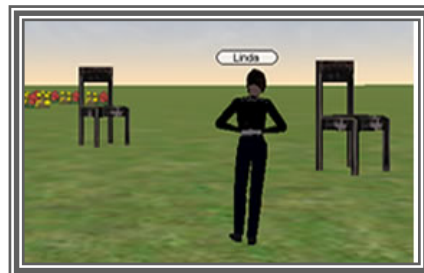
http://www.descrittiva.it/calip/0203/video/pc_finto02.rm

<http://www.descrittiva.it/calip/0203/video/edu01.rm>

<http://www.descrittiva.it/calip/0203/video/edu02.rm>

http://www.descrittiva.it/calip/0405/percorso_mondi.htm

http://www.descrittiva.it/calip/0506/percorso_mondi.htm



[Log in PDF chat building chairs](#)



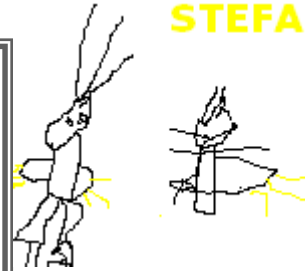


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Results to be uploaded to our portal

- Photographs
- Videos
- Reports



STEFANO



GIULIA



MELISSA



ARON



NAOMI



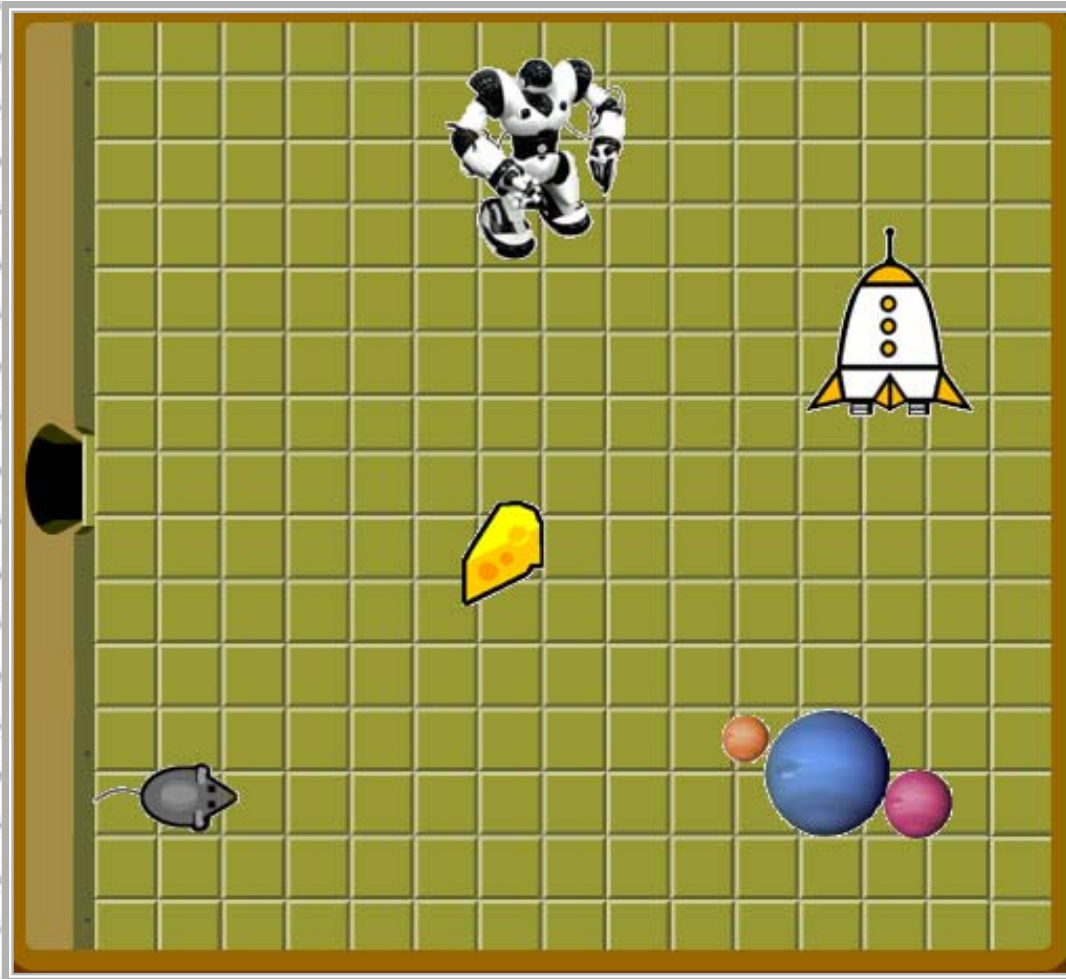
RoboTopo



Alla lavagna viene
riproposta graficamente
l'ambientazione
del racconto RoboTopo

On the blackboard the teacher and the
children draw the history and
the environment of the little
mouse robot. Antonio is moving
the mouse toward the cheese

RoboTopo



Blune PHPFreeChat

pb) gggg
* TIZY & FRANCY disconnected (timeout)
* pb disconnected (timeout)
* pb is connected
* pb disconnected (timeout)
* ema disconnected (timeout)
* Carlo is connected

<Carlo> 😊
<Carlo> 😊
<Carlo> 🌻
<Carlo> 🌻
<Carlo> 🌻

* Carlo disconnected (timeout)
* carlo is connected
* linda is connected

linda

phpFreeChat

B / U S @ C

La chat di Robot @ Scuola

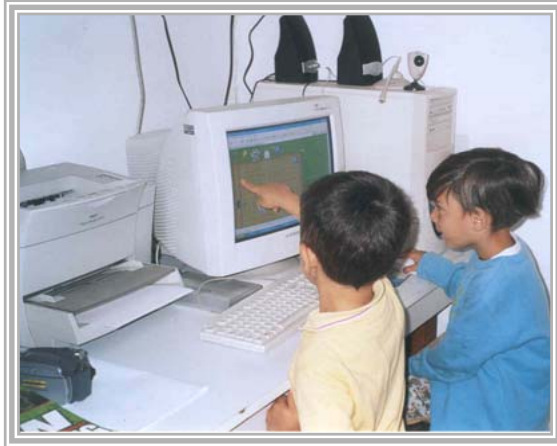


Linda Giannini
calip@mbox.panservice.it

Bambine/i in chat ponte Latina –
Genova con condivisione
dell'ambiente per il RoboTopo

Children are chatting with the
robotic school of Genova (Italy)

RoboTopo

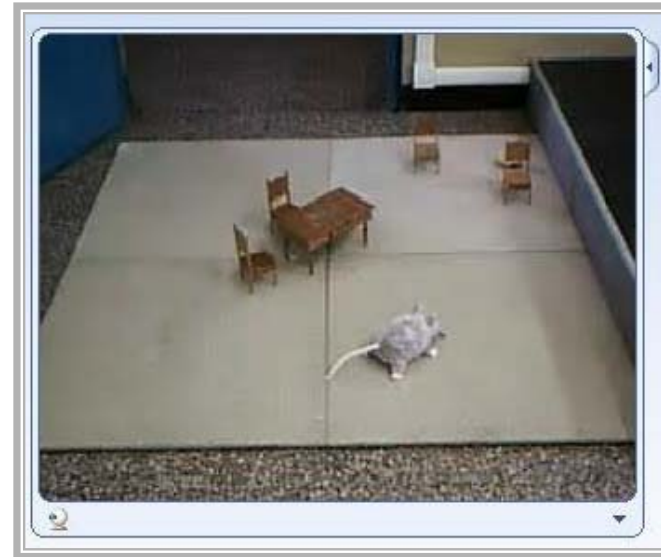


Linda Giannini
calip@mbox.panservice.it

Ad ogni indicazione data nel
microspazio-chat condiviso tra
Latina e Genova corrisponderà
quello del plastico posto a
Genova

RoboTopo

When the children - in Latina - move
something inside the graphic space
on the screen , in Genova Paolo and
Emanuele move the puppets on the
model



Linda Giannini
calip@mbox.panservice.it



Il topo si sposterà a mano su indicazione di bambine/i di Latina mentre il robot agirà su programmazione e bambine/i individueranno a quali comandi risponderà RoboSapiens.

RoboTopo

Next step: two kind of robots are moving under a sw code .
The children have to think about simple algorithms they are using.





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Conclusions

The project is in constant evolution and we do not consider it finished. At any rate the several micro paths started within Pinocchio 2.0 have broken down the barriers of distance, not only physical (thanks to ICT), but also that inherently due to the largely different ages of the participants [from childhood to adolescence].





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Conclusions

The advantage was the strengthening of comparison, the co-construction and sharing of different skills. We are happy to have working with us retired colleagues, experts, former students of SSIS and parents. About the students involved in the multiple paths, the project takes into account the needs of expression and communication of each, implemented by the use of various techniques.





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Conclusions

The different "Pinocchios" made in the form of stories, drawings, artworks, are also shared across the network. The project is based on pre-existing networks of schools with experience in educational robotics. Robotics becomes an instrument, a means to create and promote collaboration among different schools, among students of different cultures and ages, including teachers and experts in the field. The technologies used in addition to the robot (imagined, designed, built and programmed) are computers, open source software, webcams, websites, youtube^[i] social networks, blogs, chat audio-visual, mobile phones, cameras and digital cameras.

[i] Pinocchio 2.0 su youtube <http://www.youtube.com/user/calipcalip>





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The places of the project Pinocchio 2.0 change, born or die according to the will of individuals or groups. The flexibility of the instruments and, at the same time, their specificity allows different articulations of common speech and immediate access to resources.



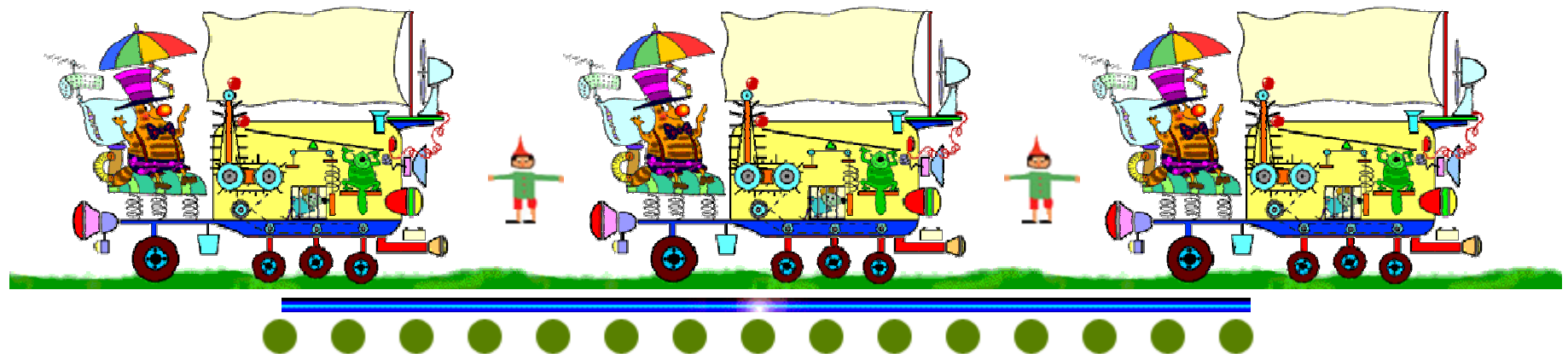


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THANK YOU ☺

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Linda Giannini
calip@mbox.panservice.it