



Internetopoli, an App to Discover the Internet

Giorgia Bassi¹, Beatrice Lami¹

Abstract

The present paper deals with the application “Internetopoli” (<http://www.internetopoli.it>), an app developed by the “Ludoteca del Registro .it” (<http://www.ludotecaregistro.it>) of the Institute of Informatics and Telematics of the CNR (National Research Council) in Pisa, with the aim of teaching children a safer and more responsible use of the Internet

1. Introduction

The “Ludoteca del Registro .it” (www.ludotecaregistro.it), sponsored by the “Garante per l’Infanzia e l’Adolescenza” (Authority for the Protection of Children), is a project conceived to promote the Internet culture in primary schools and help children understand what the Internet is and how to use it properly. The project met so far about 150 classes and 5000 children throughout Italy. The lessons on the Internet begin with the description of the underlying infrastructure and technologies that make it work and continues with the following topics: safe navigation, digital identity and privacy, new opportunities and the Future Internet (smart cities and Internet of things).

Furthermore, in order to promote, at the same time, the use of innovative didactic tools [1], two years ago, the Ludoteca developed “Internetopoli” (literally, “Internet City”), a multimedia application about the Internet world, freeware and suitable for interactive whiteboards, produced in collaboration with Giunti Os, a publishing house specialised in scholastic books.



Fig.1 Internetopoli home page

2. The metaphor of the city

Internetopoli is the Internet city, a metaphor that links all the macro themes together: this is very useful for a wide-ranging discussion on the Internet, as an instrument used in our daily life and as a global net.

The main topics, explained through the metaphor of the city are listed below:

- How the Internet works (*Internetopoli* is a city made up of streets, houses, addresses, just as the Internet is a net of computers and devices linked through special addresses called IPs);
- The domain names (addresses of the *Internetopoli* houses are the internet domain names, easy for the citizens to memorise);
- Governance and organisation of the Internet (*Internetopoli*, like all cities, is regulated and administered by local and international institutions);
- Safe and knowledgeable use (the citizens of *Internetopoli* must learn and respect rules in this city with awareness and responsibility, as to protect, for example, their privacy and respect that of other people);
- Opportunities of the Internet (*Internetopoli* is a city rich in resources and services, useful for working, studying, spending free time);

¹ Ludoteca del Registro .it- Istituto di Informatica e Telematica, Cnr Pisa



- Smart cities and the “Internet of things” (with *Internetopoli* daily life is improved by new technologies).

3. Navigation and tools

Internetopoli's world is made up of 8 thematic levels.

The user can decide to select just a few topics, clicking on one of the eight “dots” at the bottom that lead to different levels and then on the “hotspots” hidden in the city sceneries.

Internetopoli is also an educational game: the passage to successive levels occurs only after having made a quiz. The trend of the performance is visible in the percentage bar in the upper part of the screen.

The other tools are:

- “I” Points: a pop up that describes the general topic of the level;
- Hotspot: “interactive object” hidden in the city levels which open windows with more details;
- Keyword: technical terms, written in red, in order to study or links to external resources or videos;
- Video tutorials: introducing the group games to propose to the classroom;
- Cartoon: five funny episodes of the series “Let’s navigate safely with Professor Itti” on the Internet safety;

Quiz: a multiple choice test is launched by clicking on the “?” symbol (it appears only after clicking on all the hotspot).

4. Internetopoli and new teaching approaches

Internetopoli has currently been the main instrument for “Let’s Bit!”, a “peer education” project, launched this year, in which teenagers have conveyed educational messages on the Internet (the protection of online personal privacy, safe navigation) to primary school children.

Furthermore, *Internetopoli* might be a useful tool to support some other teaching and learning approaches, such as the “collaborative learning” and the so-called “flipped classroom” [2].

In both models, the typical lecture that happens in the classroom occurs at home, watching lectures on video. Then, in the classroom, the students discuss what they watched at home and/or have their questions answered by the teacher. *Internetopoli* might be used as homework study material to explore a significant question about the Internet in order to develop, in the classroom and through a team work, a meaningful project on a specific topic.

5. Future developments

The “Ludoteca del Registro .it” plans to organise for the 2016/2017 a cycle of meetings only for educators and teachers, throughout the Italian territory, to supply all the tools needed to acquire a full knowledge of *Internetopoli*.

In addition we are even planning to involve other second degree secondary schools, organising internships to train children in the role of *Internetopoli* “evangelist”.

6. Technical note

Internetopoli is developed using HTML5, which permits easy navigation even from tablets, and it is supported by the most recent versions of the most common browsers. Its excellent display quality has been tested on browsers such as Google Chrome, Mozilla Firefox, Apple Safari. The application is also compatible with iOS, Android and Windows operating systems.

References

[1] Ferri P., *La scuola digitale*, Mondadori, Milano 2008

[2] Maglioni M., Biscaro F., *La classe capovolta. Innovare la didattica con la flipped classroom*, Erikson, Trento 2014