PuppyIR Annual Report 2010

An Open Source Environment to Construct Information Services for Children

Project website: <u>http://www.puppyir.eu/</u>

Project duration: 1 April 2009 - 31 March 2012

I. Project Description

Younger children like to chat, play games and access social networking websites like Facebook. However, research shows they find the existing information access tools difficult to use. Information retrieval interfaces are typically created for adults: the interaction styles are based on adults' modes of thinking, and information services are typically constructed based on adults' information needs. In a world where internet and technology play such an important role, it is crucial that children can understand the information offered to them and engage in interaction with content. PuppyIR aims to facilitate the creation of child-centred information access, based on the understanding of the behaviour and needs of children.

To achieve this goal, PuppyIR will create an open source framework in which advanced functionalities can be developed and deployed to create information services tailored towards the unique information needs of children and their style of interaction.

PuppyIR will develop technology enabling children to search the internet in a tailored way. The PuppyIR open-source platform with child-friendly information services will be able to summarise content and moderate information for children, help children safely build social networks, and intelligently aggregate information for presentation to children. PuppyIR aims to facilitate the creation of child-centred information access, based on the understanding of the behaviour and needs of children. PuppyIR offers a package for designers to construct usable information retrieval systems for children and the opportunity for children to fully exploit the internet.

II.   Summary of Activities

In the second year of the project, the focus is on:
*   the design and implementation of demonstrators based on user scenarios
*   the implementation of the open source framework,
*   the design and implementation of user interfaces,
*   data collection to guide the design and implementation of information handling services,
*   validation of the ethics manual,
*   the dissemination and exploitation plan.

Each of these activities will be elaborated below.

Design and implementation of demonstrators based on user scenarios

Scenarios have been defined which form the basis for the design and implementation of demonstrators. Examples are:
*   a hospital demonstrator for the age category 10-12 years (intermediate and good reading capabilities) which will focus on questions about diseases, the hospital and human anatomy.

- a museum demonstrator based on Museon's permanent exhibition *Your World, My World,* providing information about subjects from natural history, history, technology and ethnology domains: a touch table displays key objects from the exhibition. Examples of touch table displays can be found below in the section on interface design.

Implementation Open Source Framework

First versions of the open source framework and the component-based architecture have been implemented. Central to the architecture is the use of a data flow language to marshal information from source to the user and transforming this information appropriately, depending on the needs of the user and the specification of the application. The architecture also utilizes layers to decouple the interaction between various levels in the application from the interface down to the information processing layer to the source layer. This means that development can proceed independently on each layer given the defined interface between layers.

Interfaces design

The design of interfaces suitable for children is of utmost importance. Children do not like to work with common interfaces found at Yahoo or Google: depending on the age level, it is difficult or impossible to input a query and the results are not presented in an appealing way.

A touch table will be used for the for the museum demonstrators; early results of such tables are shown below.

The touch table gives an impression of an interface designed for the museum demonstrator.

The touch table gives an impression of an interface specifically suitable for children.

Data collection

Data sets are selected to test particular services and associated tasks, such as person findings, classification, summarization, etc. Examples of data collected are:

- Material from the Emma children's hospital (Amsterdam), comprising a database of questions of children and their parents concerning their illness

- Material from the Belgian child's magazine Kits, which is issued for different age groups

- Material from various museums

Ethics

The Ethics Manual describes how to deal with data storage, data processing and data disposal, which are essential to ensure confidentiality and individual right to privacy, and how to run the experiments in terms of:
- the recruitment of participants via informed consent
- the code of practice and the overall behaviour required by evaluators in running the study
- the protocol to be followed in order to engage users in a safe and friendly atmosphere where participants are under no form of pressure

Dissemination and exploitation plan

A facetted dissemination strategy has been designed to raise awareness for the PuppyIR project, its objectives and expected results. Open Source software components have been released in SourceForge (a link to the repository can be found at the project website: http://www.puppyir.eu/) to create opportunities for other groups to work with the results and, for the project, to receive feedback from 'early adopters'.
The exploitation plan outlines the strategies and activities of both the consortium as a whole and the individual partners. The exploitation activities are meant to increase the chances for impact of the project results. It describes how interested parties will be identified that should be informed about the envisaged result of PuppyIR and the possibilities to exploit them either in the research domain and in the development of services, either in the profit and in the non-profit area.

III.   Important Work Area

In 2010 a major focus was on the specification of demonstrators that can Illustrate the workings of both the service oriented open source framework and the advanced interface design tuned towards children, and that can also play a role in the exploitation activities under preparation.

IV.   Future Work or Exploitation Prospects
The coming year, PuppyIR will continue to work on the development of the framework and a series of information services for children (including dedicated interfaces). In the longer run the focus will gradually shift to user validation studies and the development of evaluation metrics. In parallel, the project will start implementing the exploitation strategy which will target both the community of open source developers, and commercial parties for which the technology offered will be a good starting point for setting up business models, e.g., in the form of consultancy or additional service development.

V.   Further Information

Publications
An overview of project publications, including scientific articles, conference papers, presentations, links to open source components and databases, flyers, posters, etc., can be found at the project website: http://www.puppyir.eu/

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Administrative details
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