The Onesys Navigator at the patient-doctor encounter interface

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INTRODUCTION

The Onesys Navigator (ON) [1] was developed as a novel graphical user interface for use with electronic patient records (EPR) during doctor-patient encounters to establish workspaces with links to essential information in health care system databases [2]. Preliminary tests indicate that the ON workspace can also serve as the patient's personal window to pertinent hospital files using patient health record systems (PHR) such as Google Health. Thus the ON can serve as a platform for not only accessibility but also pertinent content.

MATERIALS AND METHODS

The ON, including 3D image visualization, runs on off-the-shelf personal computers (1 GHz CPU, 512 MB RAM, 128 MB 3D graphics card, 180 MB hard disk) and mobile devices. Stored patient workspaces on the ON server are very light (less than 20kB) and include annotation notes describing the patient-doctor encounter and links to the chosen images and other information. When the ON Client is opened by the doctor from the EPR (Fig. 1), it is synchronized to the ON Server ensuring that the stored patient workspace is retrievable at any point of care.

The ON has been approved in the production version of the EPR at Oulu University Hospital. Initial tests have also been done in the USA. To test the concept of a patient wishing to access his/her own hospital ON workspaces, test patients' ON workspaces (Fig. 2) were uploaded to Google Health using the developer sandbox at www.google.com/h9.

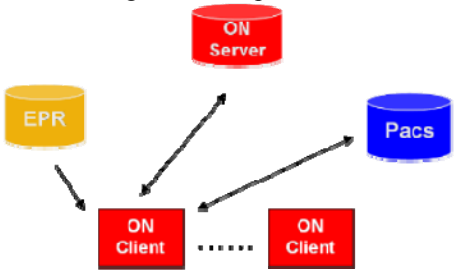

Fig. 1. Overall configuration of client-server version of Onesys Navigator in the hospital. The ON server can be further interfaced with Personal Health Records (PHR) such as Google Health.

Manuscript received January 28, 2010. This work was supported in part by TEKES, the Finnish Funding Agency for Technology and Innovation, Finnvera Oyj, and partly in collaboration with Nokia and Google Health.

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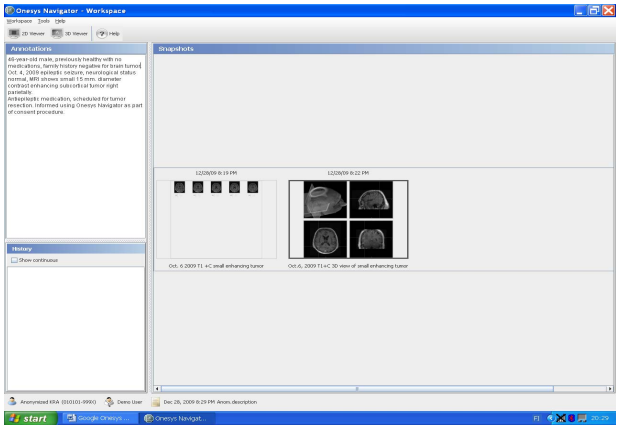

Fig. 2. The basic Onesys Navigator workspace, containing pertinent textual EPR information on the left and links to selected pertinent 2D and 3D images or other decision making supporting information on the right.

RESULTS AND CONCLUSION

- The Onesys Navigator could be accessed via hospital EPR and links established to pertinent information, including 2D and 3D image visualization. Picture archiving and communication systems (PACS) based on the DICOM standard were immediately accessible.

- ON integration with three prominent Scandinavian EPR solutions was straightforward.

- ON workspaces could be used as part of patient consent procedure (in accordance with Patients' Bill of Rights).

- ON workspaces could be readily accessed from the ON server at later patient visits and upgraded with new content.

- ON workspaces could be accessed by the patient from workspaces uploaded to the developer version of Google Health, for example, to obtain a digested presentation of information presented at patient information sessions.

The PHR concept is being further tested in conjunction with ON pilot studies in the US with participating partnering hospitals. HIPAA compliance is the responsibility of the provider so that the patient can use third-party PHR to access the ON workspace and pertinent information on hospital databases. Thus it seems that the ON can help to manage diverse information in the hospital information system (HIS) and also to integrate the latter to PHR such as Google Health.

REFERENCES

[1] Onesys Navigator (US patent pending) is a registered trademark of Onesys Oy/Inc.

[2] J. Koivukangas and S. K. Yrjänä, "Lessons from the development of low field IMRI biopsy" in *Intraoperative MR-guided Neurosurgery*, W. Hall, C. Nimsky and C. Truwit, Eds.: Thieme, 2010, in press.