

CIT Journal: Instructions for the Preparation of a 2-column Format Camera-ready Paper in L^AT_EX

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Medical consultations between ambulances in rural areas and large medical centers are necessary for high quality health care. Often, patient transport is not acceptable due to a high risk for the patient. In addition, transport generates additional expense and is often impossible in winter months due to weather and sea conditions. In this paper, we describe a concept of a web-based system for medical teleconsultation. The system will be applied to communication between the islands of Cres, Losinj, and neighboring islands and university hospitals in Zagreb and Rijeka. The system consists of a teleconsultation module and a electronic Internet-based health record module. User interface is implemented in HTML and Python languages. WWW access to the system ensures platform independence, i.e. the system can be accessed using an ordinary Internet browser from any computer platform. The system is currently under development.

Keywords: volume visualization, interactive exploration, high performance computing, imaging, segmentation, anatomic localization

1. Introduction

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*Footnotes should appear on the first page only to indicate your present address (if different from your normal address), research grant, sponsoring agency, etc. These are obtained with the `\thanks` command.

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1.1. More in this subsection

Rural areas have always presented challenging tasks in providing health care services. Rural medical centers are typically smaller and do not have medical specialists available locally. The reason for this is that specialist practices are not self-sustainable in such areas with low concentration of population. For this reason it is necessary to conduct medical consultations with large medical centers. An example of such rural areas are islands, and in fact east coast of Adriatic sea is characterized by a large number of islands requiring consultation services from large medical centers. It is sometimes impossible to travel in winter months due to weather and sea conditions, not to mention discomfort to the patient. This serves as a motivation for development of a medical teleconsultation system.

1.1.1. This is a 3rd level

Internet has become a very powerful tool for a wide range of applications. In particular, medical uses of Internet pose many challenges. Web-based consultations has shown to be a logical application of WWW to medical field. In this paper, we describe a web-based system for teleconsultations between physicians. The system is currently under development. In Section 2, we describe the concept of the system. Finally, a conclusion is presented.

2. System architecture

The system is based on web technologies in order to be more universal when it comes to accessibility and usability. In this way, user access the system over the Internet or an intranet. The system consists of

two modules: a teleconsultation module and an electronic health-record module. The consultation module provides mechanism for exchange of multimedia medical information between referring physician and a specialist.

The referring physician sends request to the one or several specialists over the web server. The request is formed by picking the electronic health record of the patient in question and adding a request note. This data is stored in the database and a request for teleconsultation is sent to the specialist by e-mail and by GSM SMS (short message service) notification to ensure prompt response.

3. Introduction

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3.1. Modern Architecture

Rural areas have always presented challenging tasks in providing health care services. Rural medical centers are typically smaller and do not have medical specialists available locally. The reason for this is that specialist practices are not self-sustainable in such areas with low concentration of population. For this reason it is necessary to conduct medical consultations with large medical centers. An example of such rural areas are islands, and in fact east coast of Adriatic sea is characterized by a large number of islands requiring consultation services from large medical centers. It is sometimes impossible to travel in winter months due to weather and sea conditions, not to mention discomfort to the patient. This serves as a motivation for development of a medical teleconsultation system.

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4. Some other architecture

The system is based on web technologies in order to be more universal when it comes to accessibility and usability. In this way, user access the system over the Internet or an intranet. The system consists of two modules: a teleconsultation module and an electronic health-record module. The consultation module provides mechanism for exchange of multimedia

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5. Green green grass of home

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5.1. Less in this subsection

Rural areas have always presented challenging tasks in providing health care services. Rural medical centers are typically smaller and do not have medical specialists available locally. The reason for this is that specialist practices are not self-sustainable in such areas with low concentration of population. For this reason it is necessary to conduct medical consultations with large medical centers. An example of such rural areas are islands, and in fact east coast of Adriatic sea is characterized by a large number of islands requiring consultation services from large medical centers. It is sometimes impossible to travel in winter months due to weather and sea conditions, not to mention discomfort to the patient. This serves as a motivation for development of a medical teleconsultation system.

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6. Croatian architecture

The system is based on web technologies in order to be more universal when it comes to accessibility and usability. In this way, user access the system over the Internet or an intranet. The system consists of two modules: a teleconsultation module and an electronic health-record module. The consultation module provides mechanism for exchange of multimedia medical information between referring physician and a specialist.

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